BOARD:
Elizabeth M. Hagood
Chairman

Edwin H. Cooper, III
Vice Chairman

Steven G. Kisner
Secretary

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

BOARD:
Henry C. Scott

Paul C. Aughtry, III

Glenn A. McCall

Coleman F. Buckhouse, MD

FEB 26 2007

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Reports received February 22, 2007
Colleton County

Dear Mr. Nunn:

On February 6, 2007 and February 16, 2007, additional Aggressive Fluid Vapor Recovery events were completed on monitoring well MW-18. The free product thickness was 0.66 feet before the first event and 0.41 feet before the second event. 1.06 equivalent gallons of petroleum was removed on Feb 6 and 4.92 equivalent gallons on February 16. Additional Aggressive Fluid Vapor Recovery events will continue on approximately a weekly schedule. I will continue to provide additional AFVR reports as they become available.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

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

enc: Aggressive Fluid Vapor Recovery Reports

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

UST PROGRAM
DOCKETING #

BOARD:
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Henry C. Scott

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Glenn A. McCall

Coleman F. Buckhouse, MD

MAR 12 2007

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received March 6, 2007
Colleton County

Dear Mr. Nunn:

On February 27, 2007, an additional Aggressive Fluid Vapor Recovery event was completed on monitoring well MW-18. The free product thickness was 1.43 feet before the event and 3.76 equivalent gallons of petroleum was removed. Additional Aggressive Fluid Vapor Recovery events will continue on approximately a weekly schedule. I will continue to provide additional AFVR reports as they become available.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

BOARD:
Elizabeth M. Hagood
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D H E C

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BOARD:
Henry C. Scott

Paul C. Aughtry, III

Glenn A. McCall

Coleman F. Buckhouse, MD

MAR 2 8 2007

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received March 26, 2007
Colleton County

Dear Mr. Nunn:

On March 8, 2007, an additional Aggressive Fluid Vapor Recovery event was completed on monitoring well MW-18. The free product thickness was 0.23 feet before the event and 4.46 equivalent gallons of petroleum was removed. Additional Aggressive Fluid Vapor Recovery events will continue on approximately a weekly schedule. I will continue to provide additional AFVR reports as they become available.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

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

APR 05 2007

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received April 4, 2007
Colleton County

Dear Mr. Nunn:

On March 21, 2007, an additional Aggressive Fluid Vapor Recovery event was completed on monitoring well MW-18. The free product thickness was 0.14 feet before the event and 2.38 equivalent gallons of petroleum was removed. Additional Aggressive Fluid Vapor Recovery events will continue on approximately a weekly schedule. I will continue to provide additional AFVR reports as they become available.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

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

APR 13 2007

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received April 10, 2007
Colleton County

Dear Mr. Nunn:

On March 30, 2007, an additional Aggressive Fluid Vapor Recovery event was completed on monitoring well MW-18. The free product thickness was 0.30 feet before the event and 2.6 equivalent gallons of petroleum was removed. Additional Aggressive Fluid Vapor Recovery events will continue on approximately a weekly schedule. I will continue to provide additional AFVR reports as they become available.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

APR 10 2007

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

Re: Bid # IBF-30519-8/8/06-EMW; PO # 646282
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Aggressive Fluid Vapor Recovery (AFVR) event at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 646282 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit #	Facility	County	Release	Work Scope	Due Date*	CA #	Approved Amt
00877	Shelton Food Store # 5	Barnwell	1	2 AFVR	60 days	29156	2,425.00
01056	Beaufort Patrol Facility	Beaufort	1	2 AFVR	60 days	29284	2,375.00
00487	Former Ford Specialist	Anderson	1	1 AFVR	60 days	29271	1,155.00
18662	Bay Creek Villas	Colleton	1	6 AFVR	60 days	29241	6,555.00
15581	Stonewall Jackson Supermarket	Dillon	1	3 AFVR	60 days	29106	3,375.00

UST PROGRAM DOCKETING #

UST Permit #	Facility	County	Release	Work Scope	Due Date*	CA #	Approved Amt
08986	Johnnie's market & More	Union	1	3 AFVR	60 days	29228	2,375.00
05419	Food Chief 47	Kershaw	1	1 AFVR	60 days	29251	1,225.00
14325	Former Handy Pantry	York	1	1 AFVR	60 days	29216	1,230.00
09390	McConnells Corner Mart	York	1	1 AFVR	60 days	29314	1,275.00

*From receipt of letter

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

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval.

Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

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

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

Sincerely,

Maia Milenkova

Maia Milenkova, Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packets

cc: Technical File (w/copy of ACA)

SCDHEC/UST/04/05/07/MPM

Approved Cost Agreement 2[illegible]41

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	6.0000	350.00	2,100.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	1,800.0000	0.10	180.00
23 EFR						
		A	8 HOUR EVENT	6.0000	600.00	3,600.00
		C	OFF GAS TREATMENT	6.0000	100.00	600.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
				Total Amount		6,555.00

D H E C

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C. Earl Hunter, Commissioner

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

JUN 06 2007

RONNY LOWDER
EMERALD INC
PO BOX 3050
SUMTER SC 29151

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

Dear Mr. Lowder:

Based on the award of the referenced bid package, enclosed are the information packets to conduct seven (7) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order #574989 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	EMERALD CA#
18662	Bay Creek Villas	Colleton	18	R. Miner	ASAP	BTEXMN & DCA	29715	29716
01355	Pantry 3692	Charleston	10	J. Padgett	06/29/07	1-BTEXMN 10-Total Lead	29665	29664
10312	Oasis One Stop	Berkeley	8	R. Miner	06/29/07	BTEXMN & DCA	29515	29516
14496	RoyleRoad Assoc	Berkeley	10	R. Miner	06/29/07	BTEXMN, DCA, & EDB	29684	29685
07721	Monticello Amoco	Richland	12	S. Block	06/29/07	BTEXMN & Oxygenates	28962	28963
09390	McConnells Mart	York	26	D. Thoma	06/29/07	BTEXMN, DCA, & EDB	29626	29627
14325	Frm Handy Pantry	York	15	D. Thoma	06/29/07	BTEXMN & DCA	29628	29629

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

UST PROGRAM
DOCKETING # 3

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

Sincerely,

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

enc: Information Packets
Approved Cost Agreements

cc: Andy Stevens, PACE Analytical, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078 (w/ Approved CAs)
Technical Files

Approved Cost Agreement 29715

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	18.0000	23.00	414.00

Total Amount 414.00

Approved Cost Agreement 29716

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	1.0000	114.40	114.40
10 SAMPLE COLLECTION						
		D	GROUNDWATER NO-PURGE	18.0000	10.00	180.00
				Total Amount		294.40

Midlands
Environmental
Consultants, Inc.

June 4, 2007

RECEIVED
JUN 12 2007
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #29241
MECI Project Number 07-1216F

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on May 16, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.01 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected. in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 1.27 pounds or approximately 0.22 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.16 pounds per hour. Concentrations of off gas produced during the event were recorded from 46.3 parts per million by volume (PPM) to 214 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1F.

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

UST PROGRAM
DOCKETING #

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

A total of 25 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1F
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1216F
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	05/16/07	10:00	0.50	15.0	97.5	1320	118.80	0.14	0.07
	05/16/07	10:30	0.50	14.0	81.1	1440	129.60	0.13	0.06
	05/16/07	11:00	0.50	14.0	81.6	1390	125.10	0.12	0.06
	05/16/07	11:30	0.50	14.0	214	1550	139.50	0.36	0.18
	05/16/07	12:00	0.50	14.0	207	1360	122.40	0.30	0.15
	05/16/07	12:30	0.50	10.0	125	1890	170.10	0.26	0.13
	05/16/07	13:00	0.50	10.0	76.3	1780	160.20	0.15	0.07
	05/16/07	13:30	0.50	10.0	68.6	1820	163.80	0.13	0.07
	05/16/07	14:00	0.50	10.0	68.1	1850	166.50	0.14	0.07
	05/16/07	14:30	0.50	10.0	57.0	1800	162.00	0.11	0.06
	05/16/07	15:00	0.50	10.0	54.1	1820	163.80	0.11	0.05
	05/16/07	15:30	0.50	10.0	56.6	1750	157.50	0.11	0.05
	05/16/07	16:00	0.50	10.0	50.8	1890	170.10	0.10	0.05
	05/16/07	16:30	0.50	10.0	46.3	1850	166.50	0.09	0.05
	05/16/07	17:00	0.50	10.0	52.0	1850	166.50	0.10	0.05
	05/16/07	17:30	0.50	10.0	52.3	1750	157.50	0.10	0.05
	05/16/07	18:00	0.50	10.0	50.9	1820	163.80	0.10	0.05
									TOTAL 1.27

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Total Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-18	2"	10	5.59	5.60	0.01	***	6.86	***	1.27

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	6.00
Truck Operator:	R. Johnson		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18 =			5.59

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	1.27	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.22	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	25	Gallons

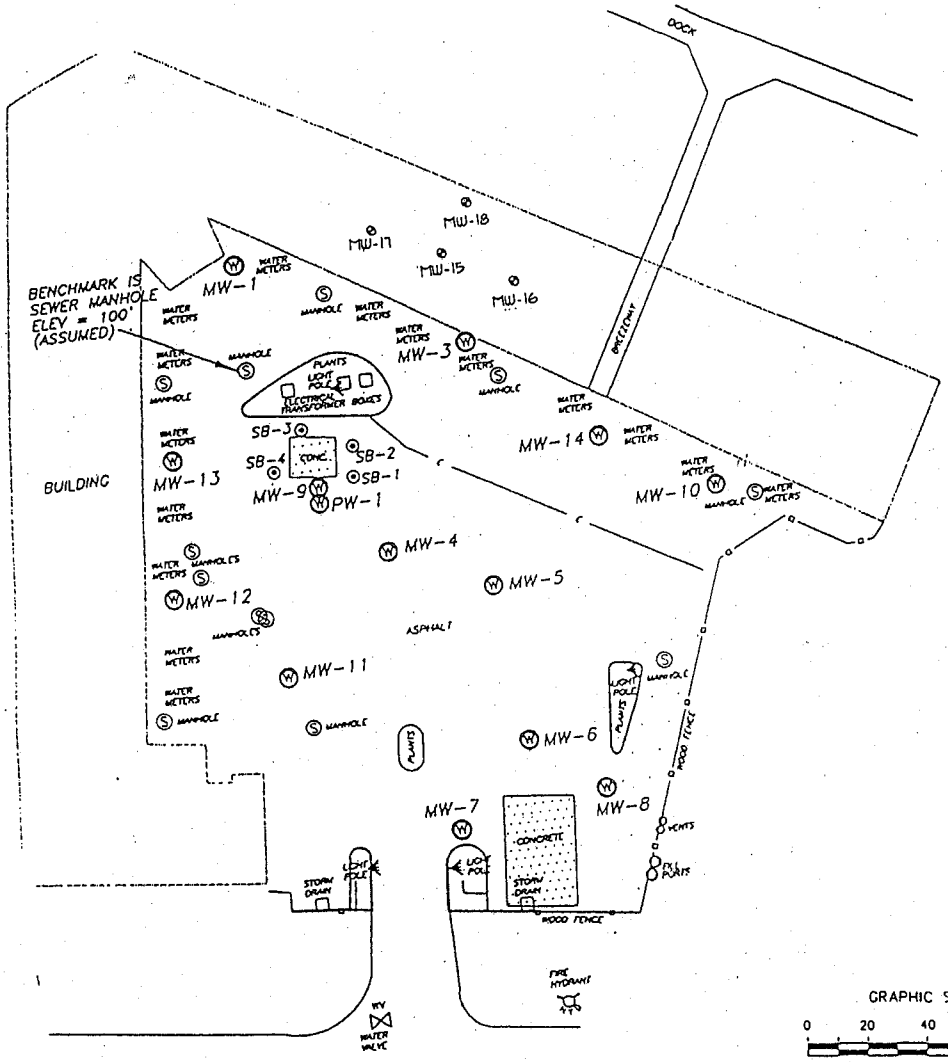
TABLE 2F
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1216F
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-3	MW-15	MW-17
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:00	0.0	0	0	0
10:30	0.5	0	0	0
11:00	1.0	0	0	0
11:30	1.5	0	0	0
12:00	2.0	0	0	0
12:30	2.5	0	0	0
13:00	3.0	0	0	0
13:30	3.5	0	0	0
14:00	4.0	0	0	0
14:30	4.5	0	0	0
15:00	5.0	0	0	0
15:30	5.5	0	0	0
16:00	6.0	0	0	0
16:30	6.5	0	0	0
17:00	7.0	0	0	0
17:30	7.5	0	0	0
18:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-3	MW-15	MW-17
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.41	4.89	4.73
14:00	4 hours	6.21	4.90	4.69
18:00	8 hours	6.71	4.90	4.69
Maximum Change:		-1.30	-0.01	0.04



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

C 112921

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address: Midlands Environmental, Turkpoint Rd, Lexington SC 29073

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation, 100 Richardson Drive, Lexington SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non-Hazardous & Non-Regulated Waste Water	001	TT	1147	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Bay Creek Villas (18662) 75gal: Webb's Exxon (14403) 25gal: Stonewall Jackson Supermarket (15581) 240gal
Powell's Grocery (03586): 135gal: Minick's Texaco (07467) 35gal: Cooley's Grocery (00420) 50gal: Spartan Spot (08541) 25gal
Former United Oil #126 (13137) 65gal: M&M Automotive Street (10250) 40gal.: Horton's Grocery (06768) 45gal
Saluda Wood (03109) 125gal: Friendly Marks (11693) 150gal: Johnnie's Market & More (08986) 52gal
Former Congress Quick Stop (00717) 5gal: Shade tree (04676) 30gal

TRANSPORTER

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

Printed/Typed Name	Signature	Month	Day	Year
No Signature Available				

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	Troy Backman	06	08	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

INVOICE COPY

Midlands
Environmental
Consultants, Inc.

June 4, 2007

RECEIVED
JUN 12 2007
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #29241
MECI Project Number 07-1216E

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on May 15, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.37 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. There was no free phase product detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 3.33 pounds or approximately 0.57 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.42 pounds per hour. Concentrations of off gas produced during the event were recorded from 96.4 parts per million by volume (PPM) to 1,258 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 14.0 to 21.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1E.

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

UST PROGRAM 4a
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Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2E. Monitoring well locations are depicted on attached Figure 1.

A total of 60 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1216E
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	05/15/07	10:00	0.50	21.0	1,258	700	63.00	0.95	0.48
	05/15/07	10:30	0.50	21.0	885	760	68.40	0.73	0.36
	05/15/07	11:00	0.50	21.0	846	720	64.80	0.66	0.33
	05/15/07	11:30	0.50	20.0	839	780	70.20	0.71	0.35
	05/15/07	12:00	0.50	20.0	625	760	68.40	0.51	0.26
	05/15/07	12:30	0.50	14.0	334	1420	127.80	0.51	0.26
	05/15/07	13:00	0.50	14.0	309	1380	124.20	0.46	0.23
	05/15/07	13:30	0.50	14.0	271	1390	125.10	0.41	0.20
	05/15/07	14:00	0.50	14.0	240	1390	125.10	0.36	0.18
	05/15/07	14:30	0.50	14.0	134	1440	129.60	0.21	0.10
	05/15/07	15:00	0.50	15.0	117	1330	119.70	0.17	0.08
	05/15/07	15:30	0.50	15.0	110	1350	121.50	0.16	0.08
	05/15/07	16:00	0.50	15.0	96.4	1360	122.40	0.14	0.07
	05/15/07	16:30	0.50	15.0	126	1350	121.50	0.18	0.09
	05/15/07	17:00	0.50	15.0	118	1350	121.50	0.17	0.09
	05/15/07	17:30	0.50	15.0	109	1390	125.10	0.16	0.08
	05/15/07	18:00	0.50	15.0	110	1350	121.50	0.16	0.08
									TOTAL 3.33

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	6.32	6.69	0.37	***	5.82	***	-0.56

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	7.00
Truck Operator:	R. Johnson		
Stack I.D. (feet)	0.33 feet		

Corrected depth to water before AFVR Event in MW-18 = 6.38

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	3.33	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.57	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	60	Gallons

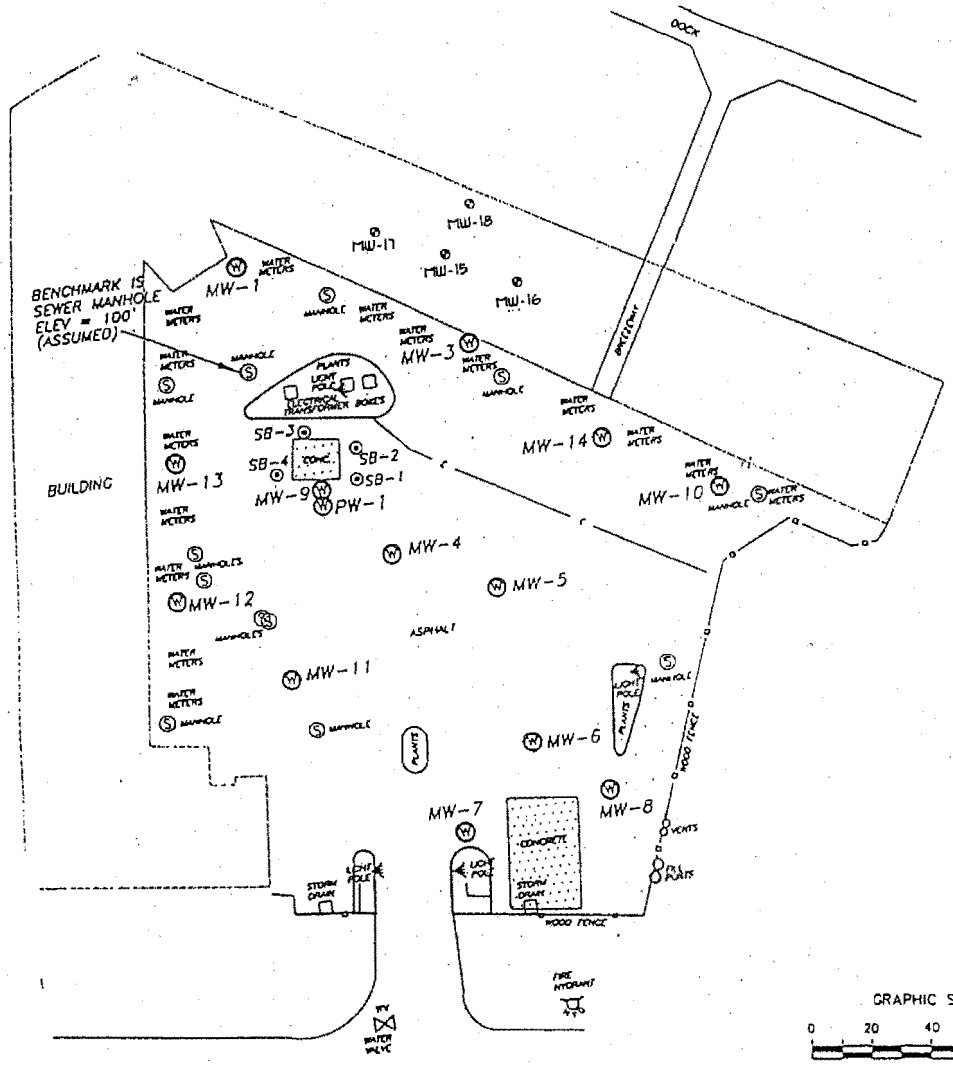
TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1216E
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:00	0.0	0	0	0
10:30	0.5	0	0	0
11:00	1.0	0	0	0
11:30	1.5	0	0	0
12:00	2.0	0	0	0
12:30	2.5	0	0	0
13:00	3.0	0	0	0
13:30	3.5	0	0	0
14:00	4.0	0	0	0
14:30	4.5	0	0	0
15:00	5.0	0	0	0
15:30	5.5	0	0	0
16:00	6.0	0	0	0
16:30	6.5	0	0	0
17:00	7.0	0	0	0
17:30	7.5	0	0	0
18:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.42	4.96	4.81
14:00	4 hours	6.43	4.97	4.76
18:00	8 hours	6.41	4.94	4.75
Maximum Change:		1.01	0.03	0.06



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

C 112921

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address: Midlands Environmental, Tuckahoe Rd, Lexington SC 29073

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation, 100 Richardson Drive, Lexington SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non-Hazardous & Non-Regulated Waste Water	001	TT	1147	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Bay Creek Villas (18662) 75gal: Webb's Exxon (14403) 25gal: Stonewall Jackson Supermarket (15581) 240gal
Powell's Grocery (03586): 135gal: Minick's Texaco (07967) 35gal: Cooley's Grocery (00420) 50gal: Spartan Spot (08541) 25gal
Former United Oil #126 (13137) 65gal: M&M Automotive Street (10250) 90gal.: Horton's Grocery (06768) 45gal
Saluda Wood (03109) 125gal: Friendly Marks (11693) 150gal: Johnnie's Market & More (08986) 52gal
Former Conoross Quick Stop (00717) 5gal: Shade tree (04676) 30gal

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

Printed/Typed Name	Signature	Month	Day	Year
No Signature Available				

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Jay Backman	Jay Backman	06	08	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

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

JUN 19 2007

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Reports received June 12, 2007
Colleton County

Dear Mr. Nunn:

On April 24 and 25, May 1 and 2, and May 15 and 16, 2007, Aggressive Fluid Vapor Recovery events were completed on monitoring well MW-18. The following table summarizes some of the recovery data.

	Depth to water prior to event	Product thickness	Gallons petroleum removed	Gallons fluids removed
April 24, 2007	7.32	0.01	0.23	100
April 25, 2007	7	0.2	0.22	125
May 1, 2007	6	0.1	0.06	75
May 2, 2007	6.16	0.29	0.99	100
May 15, 2007	6.69	0.37	0.57	60
May 16, 2007	5.6	0.01	0.22	25

In order to evaluate the effectiveness of the AFVR events, the monitoring wells will be sampled. The resulting data will be provided to you as soon as it becomes available.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

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

enc: Aggressive Fluid Vapor Recovery Reports
cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

UST PROGRAM
DOCKETING # 5

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June 30, 2007

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UNDERGROUND STORAGE TANK PROGRAM

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

RE: Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2007. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

The results relate only to samples in this report.

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

Sincerely,

Andy Stevens
andy.stevens@pacelabs.com
Project Manager

Enclosures

UST PROGRAM
DOCKETING # 6

Asheville Certification IDs

NC Wastewater	40
NC Drinking Water	37712
SC	99030
FL NELAP	E87648

REPORT OF LABORATORY ANALYSIS

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2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550516 | Project Sample Number: 92147329-001 | Date Collected: 06/22/07 12:15
Client Sample ID: MW-1 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	06/28/07 01:08	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	06/28/07 01:08	MCK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	06/28/07 01:08	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	06/28/07 01:08	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	06/28/07 01:08	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	06/28/07 01:08	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	06/28/07 01:08	MCK			
o-Xylene	ND	ug/l	5.0	1.0	06/28/07 01:08	MCK	95-47-6		
Toluene-d8 (S)	103	%		1.0	06/28/07 01:08	MCK	2037-26-5		
4-Bromofluorobenzene (S)	98	%		1.0	06/28/07 01:08	MCK	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	06/28/07 01:08	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	116	%		1.0	06/28/07 01:08	MCK	17060-07-0		

Asheville Certification IDs
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NC Drinking Water 37712
SC 99030
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Fax: 828.252.4618

Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550524 | Project Sample Number: 92147329-002 | Date Collected: 06/22/07 12:45
Client Sample ID: MW-3 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	3900	ug/l	100	20.0	06/30/07 09:44	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	100	20.0	06/30/07 09:44	MCK	107-06-2		
Ethylbenzene	1100	ug/l	100	20.0	06/30/07 09:44	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	100	20.0	06/30/07 09:44	MCK	1634-04-4		
Naphthalene	860	ug/l	100	20.0	06/30/07 09:44	MCK	91-20-3		
Toluene	110	ug/l	100	20.0	06/30/07 09:44	MCK	108-88-3		
m&p-Xylene	640	ug/l	200	20.0	06/30/07 09:44	MCK			
o-Xylene	99.	J ug/l	100	20.0	06/30/07 09:44	MCK	95-47-6		
Toluene-d8 (S)	101	%		1.0	06/30/07 09:44	MCK	2037-26-5		
4-Bromofluorobenzene (S)	100	%		1.0	06/30/07 09:44	MCK	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	06/30/07 09:44	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	108	%		1.0	06/30/07 09:44	MCK	17060-07-0		

Asheville Certification IDs
NC Wastewater 40
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SC 99030
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Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550532 | Project Sample Number: 92147329-003 | Date Collected: 06/22/07 12:00
Client Sample ID: MW-4 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	51.	ug/l	10.	2.0	06/28/07 05:04	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	10.	2.0	06/28/07 05:04	MCK	107-06-2		
Ethylbenzene	390	ug/l	10.	2.0	06/28/07 05:04	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	10.	2.0	06/28/07 05:04	MCK	1634-04-4		
Naphthalene	890	ug/l	250	50.0	06/28/07 05:04	MCK	91-20-3		
Toluene	14.	ug/l	10.	2.0	06/28/07 05:04	MCK	108-88-3		
m&p-Xylene	170	ug/l	20.	2.0	06/28/07 05:04	MCK			
o-Xylene	14.	ug/l	10.	2.0	06/28/07 05:04	MCK	95-47-6		
Toluene-d8 (S)	102	%		1.0	06/28/07 05:04	MCK	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	06/28/07 05:04	MCK	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	06/28/07 05:04	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	116	%		1.0	06/28/07 05:04	MCK	17060-07-0		

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Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550540 | Project Sample Number: 92147329-004 | Date Collected: 06/22/07 11:50
Client Sample ID: MW-5 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	06/28/07 01:31	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	06/28/07 01:31	MCK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	06/28/07 01:31	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	06/28/07 01:31	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	06/28/07 01:31	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	06/28/07 01:31	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	06/28/07 01:31	MCK			
o-Xylene	ND	ug/l	5.0	1.0	06/28/07 01:31	MCK	95-47-6		
Toluene-d8 (S)	103	%		1.0	06/28/07 01:31	MCK	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	06/28/07 01:31	MCK	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	06/28/07 01:31	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	117	%		1.0	06/28/07 01:31	MCK	17060-07-0		

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC 99030
FL NELAP E87648

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Fax: 828.252.4618

Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550557 | Project Sample Number: 92147329-005 | Date Collected: 06/22/07 11:20
Client Sample ID: MW-6 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	06/28/07 01:55	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	06/28/07 01:55	MCK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	06/28/07 01:55	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	06/28/07 01:55	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	06/28/07 01:55	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	06/28/07 01:55	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	06/28/07 01:55	MCK			
o-Xylene	ND	ug/l	5.0	1.0	06/28/07 01:55	MCK	95-47-6		
Toluene-d8 (S)	103	%		1.0	06/28/07 01:55	MCK	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	06/28/07 01:55	MCK	460-00-4		
Dibromofluoromethane (S)	108	%		1.0	06/28/07 01:55	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	118	%		1.0	06/28/07 01:55	MCK	17060-07-0		

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Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550565 | Project Sample Number: 92147329-006 | Date Collected: 06/22/07 11:10
Client Sample ID: MW-7 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	06/28/07 02:18	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	06/28/07 02:18	MCK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	06/28/07 02:18	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	06/28/07 02:18	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	06/28/07 02:18	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	06/28/07 02:18	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	06/28/07 02:18	MCK			
o-Xylene	ND	ug/l	5.0	1.0	06/28/07 02:18	MCK	95-47-6		
Toluene-d8 (S)	103	%		1.0	06/28/07 02:18	MCK	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	06/28/07 02:18	MCK	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	06/28/07 02:18	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	118	%		1.0	06/28/07 02:18	MCK	17060-07-0		

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Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550573 | Project Sample Number: 92147329-007 | Date Collected: 06/22/07 11:30
Client Sample ID: MW-8 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	06/28/07 02:42	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	06/28/07 02:42	MCK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	06/28/07 02:42	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	06/28/07 02:42	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	06/28/07 02:42	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	06/28/07 02:42	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	06/28/07 02:42	MCK			
o-Xylene	ND	ug/l	5.0	1.0	06/28/07 02:42	MCK	95-47-6		
Toluene-d8 (S)	102	%		1.0	06/28/07 02:42	MCK	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	06/28/07 02:42	MCK	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	06/28/07 02:42	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	118	%		1.0	06/28/07 02:42	MCK	17060-07-0		

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Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550631 | Project Sample Number: 92147329-008 | Date Collected: 06/22/07 12:10
Client Sample ID: MW-9 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	560	ug/l	50.	10.0	06/28/07 10:34	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	50.	10.0	06/28/07 10:34	MCK	107-06-2		
Ethylbenzene	1800	ug/l	50.	10.0	06/28/07 10:34	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	50.	10.0	06/28/07 10:34	MCK	1634-04-4		
Naphthalene	1200	ug/l	50.	10.0	06/28/07 10:34	MCK	91-20-3		
Toluene	85.	ug/l	50.	10.0	06/28/07 10:34	MCK	108-88-3		
m&p-Xylene	840	ug/l	100	10.0	06/28/07 10:34	MCK			
o-Xylene	69.	ug/l	50.	10.0	06/28/07 10:34	MCK	95-47-6		
Toluene-d8 (S)	103	%		1.0	06/28/07 10:34	MCK	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	06/28/07 10:34	MCK	460-00-4		
Dibromofluoromethane (S)	103	%		1.0	06/28/07 10:34	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	116	%		1.0	06/28/07 10:34	MCK	17060-07-0		

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Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550649 | Project Sample Number: 92147329-009 | Date Collected: 06/22/07 12:25
Client Sample ID: MW-10 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	06/28/07 07:25	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	06/28/07 07:25	MCK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	06/28/07 07:25	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	06/28/07 07:25	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	06/28/07 07:25	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	06/28/07 07:25	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	06/28/07 07:25	MCK			
o-Xylene	ND	ug/l	5.0	1.0	06/28/07 07:25	MCK	95-47-6		
Toluene-d8 (S)	103	%		1.0	06/28/07 07:25	MCK	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	06/28/07 07:25	MCK	460-00-4		
Dibromofluoromethane (S)	106	%		1.0	06/28/07 07:25	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	116	%		1.0	06/28/07 07:25	MCK	17060-07-0		

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Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550656 | Project Sample Number: 92147329-010 | Date Collected: 06/22/07 11:00
Client Sample ID: MW-11 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	06/28/07 03:06	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	06/28/07 03:06	MCK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	06/28/07 03:06	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	06/28/07 03:06	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	06/28/07 03:06	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	06/28/07 03:06	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	06/28/07 03:06	MCK			
o-Xylene	ND	ug/l	5.0	1.0	06/28/07 03:06	MCK	95-47-6		
Toluene-d8 (S)	103	%		1.0	06/28/07 03:06	MCK	2037-26-5		
4-Bromofluorobenzene (S)	98	%		1.0	06/28/07 03:06	MCK	460-00-4		
Dibromofluoromethane (S)	109	%		1.0	06/28/07 03:06	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	120	%		1.0	06/28/07 03:06	MCK	17060-07-0		

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Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550664 | Project Sample Number: 92147329-011 | Date Collected: 06/22/07 11:35
Client Sample ID: MW-12 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	06/28/07 03:29	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	06/28/07 03:29	MCK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	06/28/07 03:29	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	06/28/07 03:29	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	06/28/07 03:29	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	06/28/07 03:29	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	06/28/07 03:29	MCK			
o-Xylene	ND	ug/l	5.0	1.0	06/28/07 03:29	MCK	95-47-6		
Toluene-d8 (S)	102	%		1.0	06/28/07 03:29	MCK	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	06/28/07 03:29	MCK	460-00-4		
Dibromofluoromethane (S)	109	%		1.0	06/28/07 03:29	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	118	%		1.0	06/28/07 03:29	MCK	17060-07-0		

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Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550672 | Project Sample Number: 92147329-012 | Date Collected: 06/22/07 11:45
Client Sample ID: MW-13 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	06/28/07 03:53	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	06/28/07 03:53	MCK	107-06-2		
Ethylbenzene	11.	ug/l	5.0	1.0	06/28/07 03:53	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	06/28/07 03:53	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	06/28/07 03:53	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	06/28/07 03:53	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	06/28/07 03:53	MCK			
o-Xylene	ND	ug/l	5.0	1.0	06/28/07 03:53	MCK	95-47-6		
Toluene-d8 (S)	104	%		1.0	06/28/07 03:53	MCK	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	06/28/07 03:53	MCK	460-00-4		
Dibromofluoromethane (S)	109	%		1.0	06/28/07 03:53	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	118	%		1.0	06/28/07 03:53	MCK	17060-07-0		

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Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550680 | Project Sample Number: 92147329-013 | Date Collected: 06/22/07 12:35
Client Sample ID: MW-14 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	06/28/07 04:16	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	06/28/07 04:16	MCK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	06/28/07 04:16	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	06/28/07 04:16	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	06/28/07 04:16	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	06/28/07 04:16	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	06/28/07 04:16	MCK			
o-Xylene	ND	ug/l	5.0	1.0	06/28/07 04:16	MCK	95-47-6		
Toluene-d8 (S)	103	%		1.0	06/28/07 04:16	MCK	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	06/28/07 04:16	MCK	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	06/28/07 04:16	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	119	%		1.0	06/28/07 04:16	MCK	17060-07-0		

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Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550698 | Project Sample Number: 92147329-014 | Date Collected: 06/22/07 13:10
Client Sample ID: MW-15 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	410	ug/l	12.	2.5	06/28/07 09:47	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	12.	2.5	06/28/07 09:47	MCK	107-06-2		
Ethylbenzene	51.	ug/l	12.	2.5	06/28/07 09:47	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	12.	2.5	06/28/07 09:47	MCK	1634-04-4		
Naphthalene	18.	ug/l	12.	2.5	06/28/07 09:47	MCK	91-20-3		
Toluene	ND	ug/l	12.	2.5	06/28/07 09:47	MCK	108-88-3		
m&p-Xylene	46.	ug/l	25.	2.5	06/28/07 09:47	MCK			
o-Xylene	4.1	J ug/l	12.	2.5	06/28/07 09:47	MCK	95-47-6		
Toluene-d8 (S)	103	%		1.0	06/28/07 09:47	MCK	2037-26-5		
4-Bromofluorobenzene (S)	95	%		1.0	06/28/07 09:47	MCK	460-00-4		
Dibromofluoromethane (S)	106	%		1.0	06/28/07 09:47	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	116	%		1.0	06/28/07 09:47	MCK	17060-07-0		

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC 99030
FL NELAP E87648

REPORT OF LABORATORY ANALYSIS
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Charlotte Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006
FL NELAP E87627

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Pace Analytical Services, Inc.
2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

Lab Sample No: 928550706 | Project Sample Number: 92147329-015 | Date Collected: 06/22/07 13:00
Client Sample ID: MW-17 | Matrix: Water | Date Received: 06/23/07 10:30

Parameters	Results		Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles										
GC/MS VOCs by 8260	Method: EPA 8260									
Benzene	70.		ug/l	5.0	1.0	06/28/07 04:40	MCK	71-43-2		
1,2-Dichloroethane	ND		ug/l	5.0	1.0	06/28/07 04:40	MCK	107-06-2		
Ethylbenzene	31.		ug/l	5.0	1.0	06/28/07 04:40	MCK	100-41-4		
Methyl-tert-butyl ether	ND		ug/l	5.0	1.0	06/28/07 04:40	MCK	1634-04-4		
Naphthalene	3.1	J	ug/l	5.0	1.0	06/28/07 04:40	MCK	91-20-3		
Toluene	ND		ug/l	5.0	1.0	06/28/07 04:40	MCK	108-88-3		
m&p-Xylene	50.		ug/l	10.	1.0	06/28/07 04:40	MCK			
o-Xylene	9.1		ug/l	5.0	1.0	06/28/07 04:40	MCK	95-47-6		
Toluene-d8 (S)	102		%		1.0	06/28/07 04:40	MCK	2037-26-5		
4-Bromofluorobenzene (S)	97		%		1.0	06/28/07 04:40	MCK	460-00-4		
Dibromofluoromethane (S)	106		%		1.0	06/28/07 04:40	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	118		%		1.0	06/28/07 04:40	MCK	17060-07-0		

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Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

Method 9071B modified to use ASE.

All pH, Free Chlorine, Total Chlorine and Ferrous Iron analyses conducted outside of EPA recommended immediate hold time.

Depending on the moisture content the PRLs can be elevated for all soil samples reported on a dry weight basis.

2-Chloroethyl vinyl ether has been shown to degrade in the presence of acid.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate

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Fax: 828.252.4618

QUALITY CONTROL DATA

Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

QC Batch: 192249 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 928550516 928550524 928550532 928550540 928550557 928550565 928550573 928550631 928550649 928550656 928550664 928550672 928550680 928550698 928550706

METHOD BLANK: 928551498
Associated Lab Samples: 928550516 928550524 928550532 928550540 928550557 928550565 928550573 928550631 928550649 928550656 928550664 928550672 928550680 928550698 928550706

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
1,2-Dichloroethane	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	102		
4-Bromofluorobenzene (S)	%	96		
Dibromofluoromethane (S)	%	103		
1,2-Dichloroethane-d4 (S)	%	118		

LABORATORY CONTROL SAMPLE: 928551506

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	51.99	104	
1,2-Dichloroethane	ug/l	50.00	55.74	111	
Ethylbenzene	ug/l	50.00	51.77	104	
Methyl-tert-butyl ether	ug/l	50.00	49.23	98	
Naphthalene	ug/l	50.00	57.30	115	
Toluene	ug/l	50.00	51.17	102	
m&p-Xylene	ug/l	100.00	108.9	109	
o-Xylene	ug/l	50.00	53.96	108	
Toluene-d8 (S)				103	
4-Bromofluorobenzene (S)				100	
Dibromofluoromethane (S)				100	
1,2-Dichloroethane-d4 (S)				115	

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SC 99030
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Asheville, NC 28804
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Fax: 828.252.4618

QUALITY CONTROL DATA

Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 928551555 928551563

Parameter	Units	928550516 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	62.49	59.58	125	119	5	
Toluene	ug/l	0	50.00	60.75	57.85	122	116	5	
Toluene-d8 (S)						101	102		
4-Bromofluorobenzene (S)						97	96		
Dibromofluoromethane (S)						103	100		
1,2-Dichloroethane-d4 (S)						107	109		

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2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92147329
Client Project ID: Bay Creek 18662/CA:29715

QUALITY CONTROL DATA PARAMETER FOOTNOTES

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

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

1070374

Section A Required Client Information:

Company: SCDHEC-UST
Address: 3600 Bull St.
Columbia, SC 29201
Email To:
Phone: 803-896-6240 Fax: 803-896-6249
Requested Due Date/TAT: 7 Days

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 587465
Project Name: Bay Creek Villas
Project Number: 18662/CA: 29715

Section C Invoice Information:

Attention: Finance
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: AJS
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW WT; WATER WW P; WASTE WATER SL; PRODUCT OL; SOIL/SOLID WP; OIL AR; WIPE OT; AIR TS; OTHER; TISSUE

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Requested Analysis Filtered (Y/N): BTEX MN (8260B)	1,2 DCA (8260B)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N	N	N		
1	MW-1	WT	G	6/22/07	1215	–	–	–	3				3						✓	✓		Slight odor
2	~~MW-2~~	~~WT~~	~~G~~						~~3~~				~~3~~						✓	✓		
3	MW-3	WT	G		1245	–	–	–	3				3						✓	✓		Strong odor
4	MW-4	WT	G		1200	–	–	–	3				3						✓	✓		Mild odor
5	MW-5	WT	G		1150	–	–	–	3				3						✓	✓		Mild odor
6	MW-6	WT	G		1120	–	–	–	3				3						✓	✓		—
7	MW-7	WT	G		1110	–	–	–	3				3						✓	✓		—
8	MW-8	WT	G		1130	–	–	–	3				3						✓	✓		—
9	MW-9	WT	G		1210	–	–	–	3				3						✓	✓		Mild odor
10	MW-10	WT	G		1225	–	–	–	3				3						✓	✓		—
11	MW-11	WT	G		1100	–	–	–	3				3						✓	✓		—
12	MW-12	WT	G		1135	–	–	–	3				3						✓	✓		—

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Dalton Reames	6/22/07	1830	B. Fleam	6/23/07	10:30	2.5	Y	N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames

SIGNATURE of SAMPLER: Dalton Reames

DATE Signed (MM/DD/YY): 6/22/07

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

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

F-ALL-Q-020rev.06, 2-Feb-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

1070375

Section A
Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull St.
Columbia, SC 29201
Email To:
Phone: 803-896-6240 Fax: 803-896-6245
Requested Due Date/TAT: 7 Days

Section B
Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 587465
Project Name: Bay Creek Villas
Project Number: 18662/CA: 29715

Section C
Invoice Information:

Attention: Finance
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

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

Site Location STATE: SC

Section D
Required Client Information

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

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEXMN (8260B)	1,2 DCA (8260B)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-13	WT	G	6/22/07	1145	—	—	—	3				3						✓	✓		Slight Odor
2	MW-14	WT	G	6/22/07	1235	—	—	—	3				3						✓	✓		
3	MW-15	WT	G	6/22/07	1310	—	—	—	3				3						✓	✓		Slight Odor
4	~~MW-16~~	~~WT~~	~~G~~						3				3						✓	✓		
5	MW-17	WT	G	6/22/07	1300	—	—	—	3				3						✓	✓		Slight Odor
6	~~MW-18~~	~~WT~~	~~G~~						3				3						✓	✓		
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Dalton Reames	6/22/07	1830	B. Fleem	6/23/07	10:30	2.8	Y	N	Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Dalton Reames		
SIGNATURE of SAMPLER:	Dalton Reames	DATE Signed (MM/DD/YY):	6/22/07

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

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

F-ALL-Q-020rev.06, 2-Feb-2007

SITE ACTIVITY SUMMARY

UST PERMIT # 18662
FACILITY NAME BAY CREEK VILLAS
COUNTY COLLETON
NAME OF SAMPLER DALTON REAMES

Sample ID	sampled?	Date	Time	Depth of Well	Depth to Water	Depth to Product	FP Thickness	# gal purged	comments
MW-1	Y	6/22/07	1215	15.00	4.01	—	—	—	Slight Odor
~~MW-2~~				~~15.00~~					
MW-3	Y		1245	15.00	5.81	—	—	—	Strong Odor
MW-4	Y		1200	15.00	5.20	—	—	—	Mild Odor
MW-5	Y		1150	15.00	4.95	—	—	—	Mild Odor
MW-6	Y		1120	15.00	3.79	—	—	—	—
MW-7	Y		1160	10.00	3.90	—	—	—	—
MW-8	Y		1130	10.00	3.90	—	—	—	—
MW-9	Y		1210	10.00	5.15	—	—	—	Mild Odor
MW-10	Y		1225	12.00	5.47	—	—	—	— * see below
MW-11	Y		1100	12.00	4.42	—	—	—	—
MW-12	Y		1135	12.00	4.05	—	—	—	—
MW-13	Y		1145	12.00	3.93	—	—	—	~~Strong~~ Slight Odor
MW-14	Y		1235	12.00	5.27	—	—	—	—
MW-15	Y		1310	10.00	4.43	—	—	—	Slight Odor
MW-16	N		~~1250~~	10.00	6.09	6.06	0.03	—	observed Dark Product in Bailer x 1/2"
MW-17	Y		1300	10.00	4.19	—	—	—	Slight Odor
MW-18	N	—	—	10.00	5.92 ?	?	?	—	* See Below (0.29' in Bailer)

*MW-10: well cap will not fit between riser & cover.

*MW-18: Evidently, lack of light in bay where well is located affects the performance of Heron H.OIL interface probe. No product registered on probe, However, a measurable amount of ~~[illegible] visible [illegible]~~ was visible in bailer.
0.29'

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JUL 12 2007

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **Monitoring Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Report received July 5, 2007
Colleton County

Dear Mr. Nunn:

On June 22, 2007, the monitoring wells were sampled to check cleanup progress to date. A copy of the report and a table compiling the historical data are enclosed. The free product continues to persist underneath the building.

Excavation of soil beneath the building is still deemed too risky; therefore, the Underground Storage Tank Program is proposing to install three additional recovery wells under the building to expedite removal of the remaining free phase product. Midlands Environmental Consultants has been directed to contact Dann Nunn to schedule the work.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Monitoring Report
Historical Data Summary

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

UST PROGRAM
DOCKETING #

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JUL 23 2007

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

Re: Notice to Proceed
Bid # SB-28162-5/26/05-EMW; PO# 586441

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct an environmental assessment at one facility. The packet contains the necessary approval for work to begin. The facility has been assigned Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order # 586441 on the appropriate invoice submitted for payment against the facility. As specified in the referenced bid, **the completed invoice form and associated report (include contract certification number) is expected on or before the designated due date (see below).**

UST Permit#	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
18662	Bay Creek Villas	Colleton	1	MW installation	60 days	30092	$1,190.00

*From receipt of letter

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

The Bureau grants pre-approval for transportation of drums of virgin petroleum contaminated soil and drums of groundwater from the referenced site to a permitted treatment facility. The contaminated soil and/or groundwater must be properly stored in labeled 55-gallon drums or equivalent containers. The contaminated soil and/or groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. Please note, transportation of waste oil contaminated soil must receive preapproval from the Division of Waste Assessment & Emergency Response.

Please provide this office with a schedule of drilling dates and coordinate all work with me before commencing work at the facility. If you have any questions or need further assistance, please contact me at (803) 896-6323.

Sincerely,

Stephanie Briney

Stephanie Briney, Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc.: Approved Cost Agreement (ACA)
Information Packet

cc: Stephanie Briney, UST Program (w/out enc)
Technical File (w/out enc.)

UST PROGRAM
DOCKETING # 8

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

Monitoring Well Approval

Approval is hereby granted to: Midlands Environmental Consultants, Inc.
(On behalf of): Bay Creek Villas
Facility: Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC
UST Permit Number: 18662
County: Colleton

This approval is for the installation of 3 monitoring/recovery wells. 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 and recovery wells shall be labeled as required by R.61-71.H.2.c.

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

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

5. If any of the information provided to the Department changes, notification to Read Miner (tel: 803-896-6584 or e-mail: minerrs@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

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

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

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

Date of Issuance: **July 11, 2007** **Approval #:** **UMW-20918**

Read S. Miner

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

Approved Cost Agreement 30092

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	2.0000	110.00	220.00
09 WELL INSTALLATION						
		B	WATER TABLE (DRILLED)	30.0000	15.00	450.00
10 SAMPLE COLLECTION						
		E	GAUGE WELL ONLY	3.0000	20.00	60.00
16 SUBSEQUENT SURVEY						
			SUBSEQUENT SURVEY	1.0000	50.00	50.00
17 DISPOSAL						
		A1	WASTEWATER - PURGING/SAMPLING	1.0000	10.00	10.00
		C	SOIL (TREATMENT/DISPOSAL)	6.0000	50.00	300.00
23 EFR						
		D	SITE RECONNAISSANCE	1.0000	100.00	100.00
				Total Amount		1,190.00

Midlands
Environmental
Consultants, Inc.

August 29, 2007

RECEIVED

AUG 2 9 2007

UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern Corrective Action Section
Assessment & 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,
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662, CA # 30092
MECI Project Number 07-1303

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the following Report of Monitoring Well Installation. The activities and results described in this report are not intended to fully characterize the conditions at the subject site, but should be considered with respect to previous assessment activities performed. This report describes activities conducted at your request.

FIELD EXPLORATION

Four single cased watertable bracketing monitoring wells (MW-19, MW-20, MW-21, and MW-22) were installed at the subject site. Following the installation of the monitoring wells a subsequent survey was conducted by MECI personnel to locate the newly installed groundwater monitoring wells.

MONITORING WELL INSTALLATION

On August 23, 2007 monitoring wells MW-19, MW-20, MW-21 and MW-22 were installed at the site. These wells were installed by Geologic Exploration, Inc. (SCDHEC License – James Hess# D 1929). The wells were installed using a stainless steel hand augur to construct the borehole. Monitoring wells MW-19 and MW-21 were advanced to a depth of 10 feet below ground surface (BGS) with a screened interval of 2.5-9.5 feet (BGS). Monitoring wells MW-20 and MW-22 were advanced to depth of 10 feet (BGS) with a screened interval of 3-10 feet (BGS). Please find the attached Monitoring Well Installation Records for well construction details.

9

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

MW-22 was installed to define product plume. Free phase petroleum product was detected in newly installed MW-21 at a thickness of 0.25 feet immediately following installation.

Following the installation of these additional monitoring wells, a subsequent survey of the site was performed by MECI personnel to locate the additional monitoring wells. Please see Figure 2 for well locations. Top of casing (TOC) elevations for the additional monitoring wells are as follows: MW-19 = 100.33 feet, MW-20 = 100.31, MW-21 = 100.34 feet, and MW-22 = 100.31 feet. These elevations were determined using an elevation of 100.35 feet for MW-18 as a benchmark for surveying purposes.

WASTE DISPOSAL

Drill cuttings were containerized and later transported to Waste Management/Richland Landfill, Elgin, SC by MECI personnel. A total of 0.31 tons was disposed of in this manner. A disposal manifest for these soils is attached at the end of this report.

Following completion of the monitoring wells, the wells were developed by bailing at least three well volumes or until they were determined to be functioning properly and turbidity was reduced. The development water was drummed and treated onsite utilizing a Portable Granular Activated Carbon Unit. A total of one (1) drum of purge/development water was created during the development of monitoring wells. Test Boring Records showing soil descriptions are included in the Appendix. Monitoring well installation details are also provided in the Appendix.

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

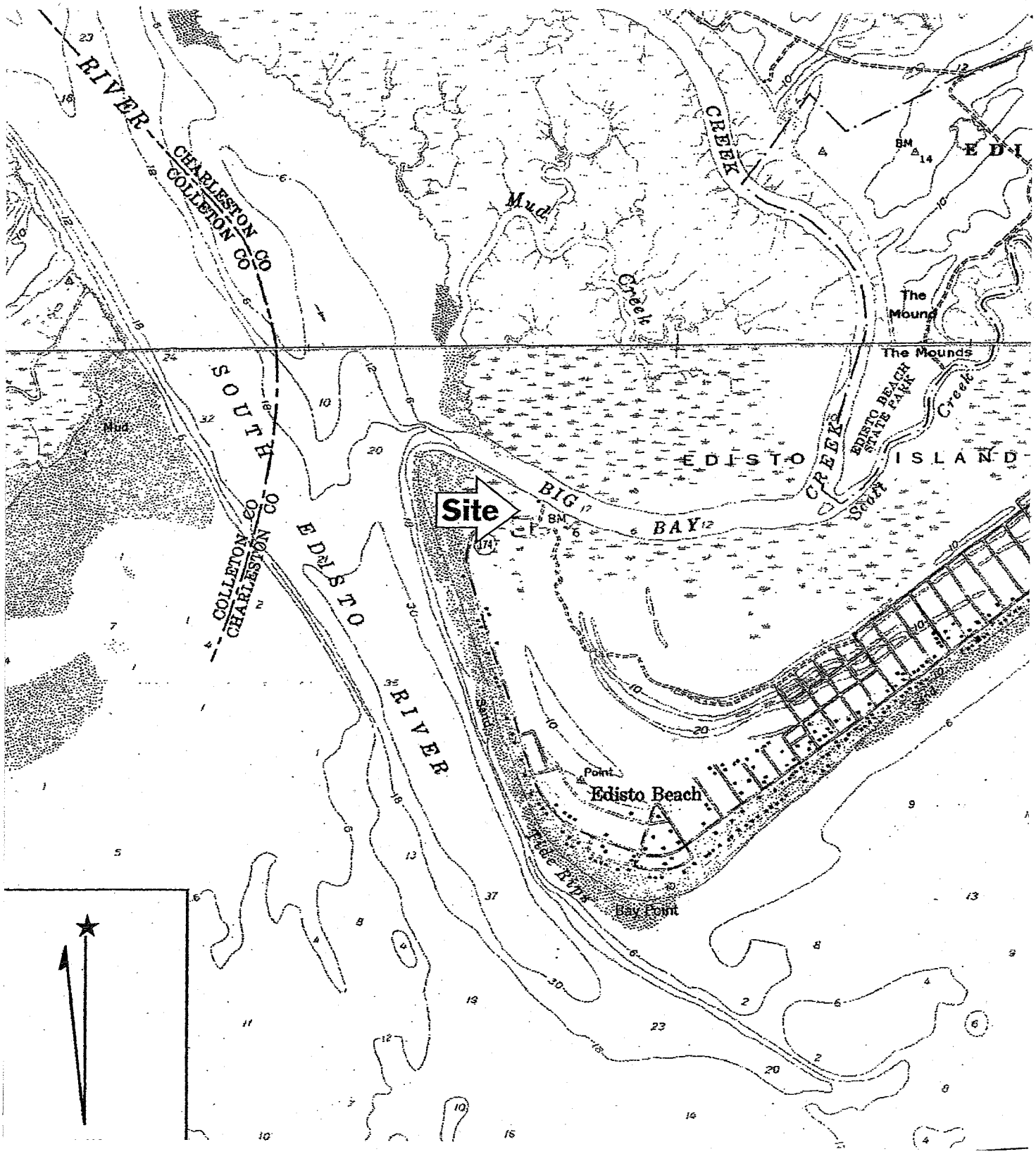
Sincerely,
Midlands Environmental Consultants, Inc.

Brendon P. Kelly
Staff Biologist

William C. McClary, P.G.
Senior Geologist

Attachments

FIGURES



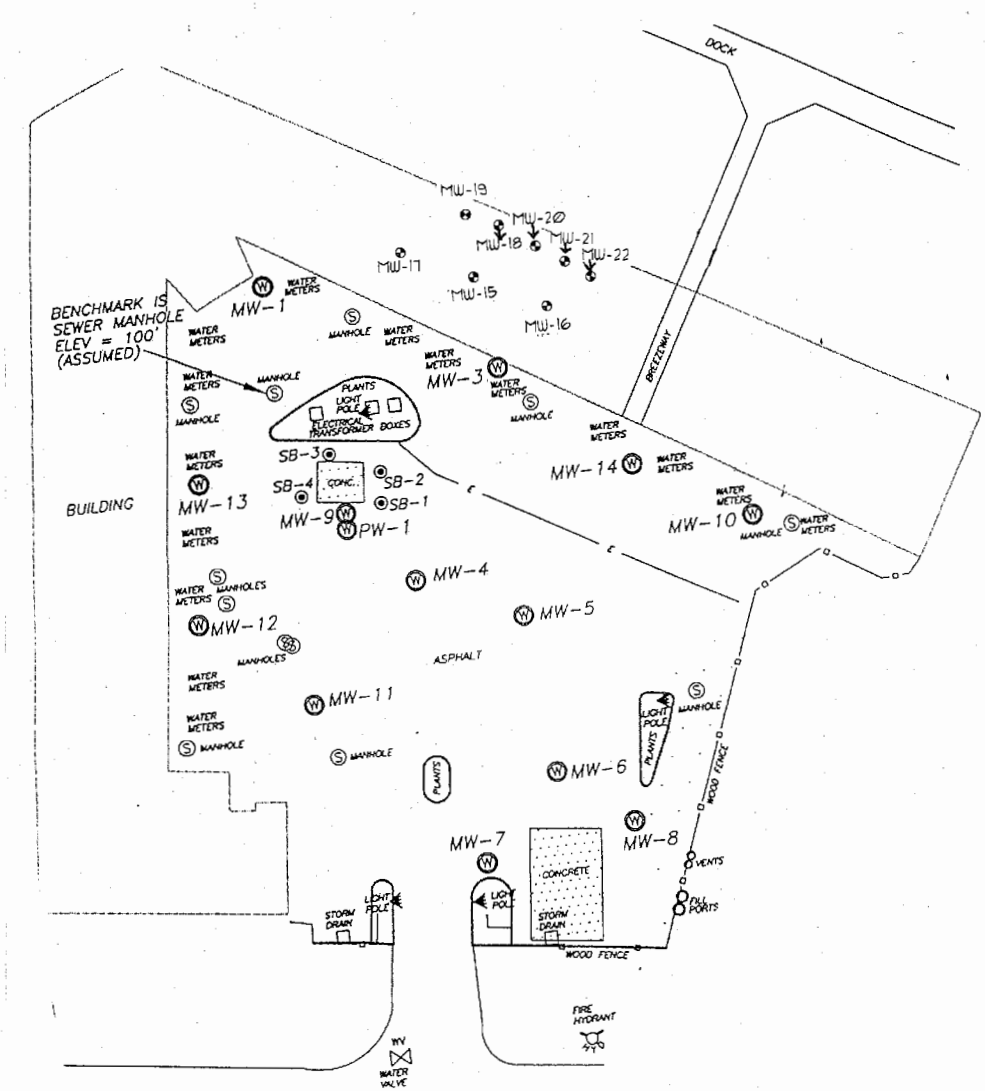
GRAPHIC SCALE

0 1000 2000 4000

1IN = 2000FT

Reference: Edisto Beach, SC
Edisto Island, SC
USGS 7.5 Min. Quad
Contour Interval – 10 Feet

Midlands Environmental Consultants, Inc.	Site Location
Bay Creek Villas 3701 Dockside Rd. SCDHEC Site 18662	
Figure 1	MECI 07-1303



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1303
DATE August 28, 2007
FIGURE 2

APPENDIX A

TEST BORING AND MONITORING WELL INSTALLATION RECORDS

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Asphalt with Stone Base			
	Possible Fill, Sampled As: Tan, Fine to Medium SAND with Shells			
	Grey, CLAY with Shells			NO BLOWCOUNTS RECORDED
5		27.4		
		495		
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 9.5 Feet. Groundwater Measured at 4.67 Feet Below Ground Surface on 8/23/2007.			
15				
20				
25				
30				
35				

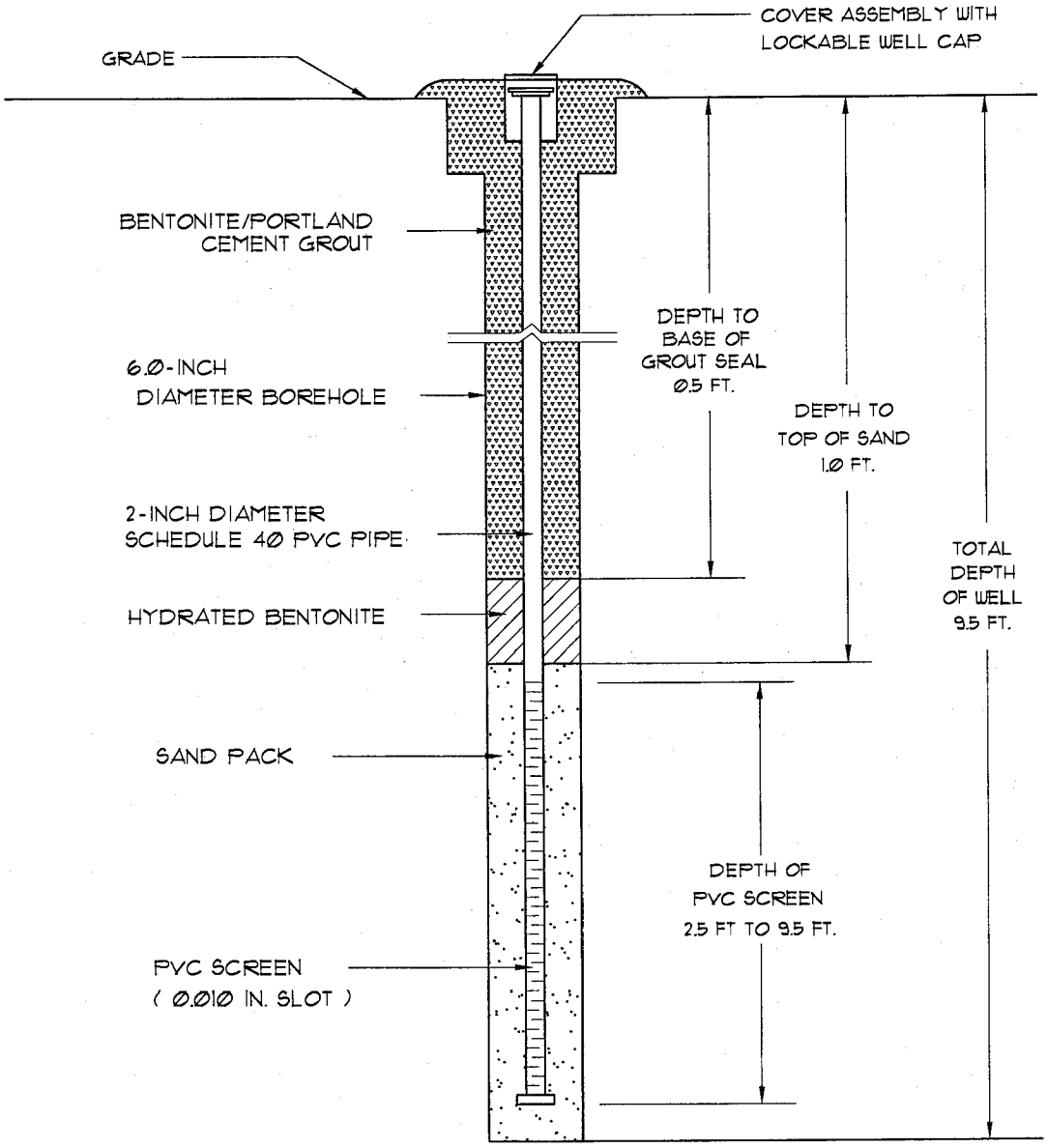
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1303

Boring Number:	MW-19
Date Drilled:	8/23/07
Drilled By:	Geologic Exploration Inc.
Logged By:	B. Kelly

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

MONITORING WELL INSTALLATION RECORD

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1303



Well Number:	MW-19
Date Drilled:	8/23/07
Drilled By:	Geologic Exploration Inc.
Driller: J. Hess	S.C. I.D. #: D 01929
Logged By:	B. Kelly

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

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Asphalt with Stone Base			
	Possible Fill, Sampled As: Tan, Fine to Medium SAND with Shells			
	Grey, CLAY with Shells			NO BLOWCOUNTS RECORDED
5		413		
10		476		
	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 4.53 Feet Below Groud Surface on 8/23/2007.			
15				
20				
25				
30				
35				

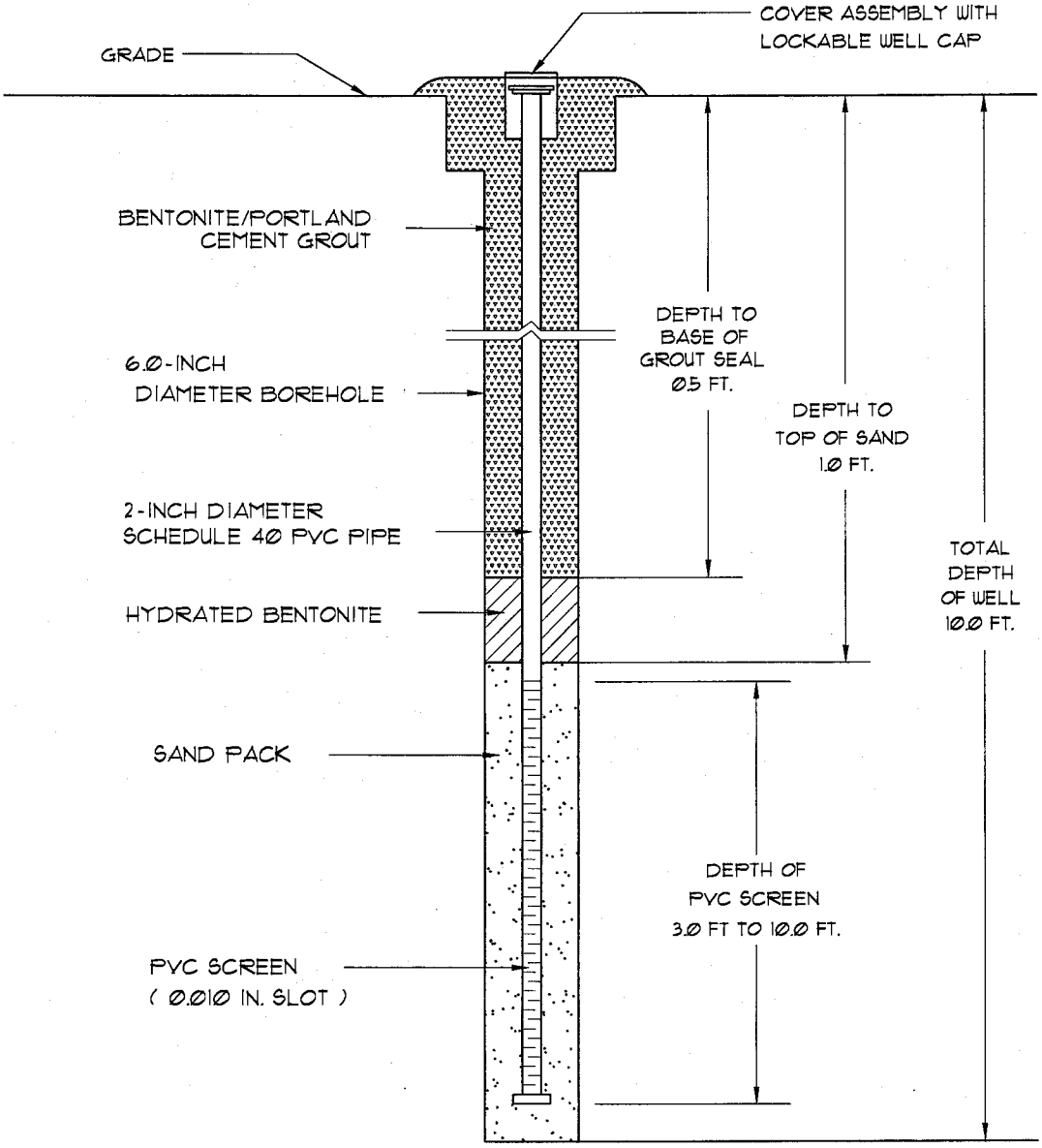
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1303

Boring Number:	MW-20
Date Drilled:	8/23/07
Drilled By:	Geologic Exploration Inc.
Logged By:	B. Kelly

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

MONITORING WELL INSTALLATION RECORD

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1303

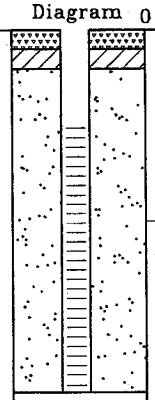


Well Number:	MW-20
Date Drilled:	8/23/07
Drilled By:	Geologic Exploration Inc.
Driller: J. Hess	S.C. I.D. #: D 01929
Logged By:	B. Kelly

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

Depth (Feet)	Description	OVA PPM
	Asphalt with Stone Base	
	Possible Fill, Sampled As: Tan, Fine to Medium SAND with Shells	
	Grey, Fine Sandy CLAY with Shells	
5		819
	Grey, Clayey Fine SAND with Shells	
		776
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 9.5 Feet. Groundwater Measured at 4.86 Feet Below Ground Surface on 8/23/2007.	
15		
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

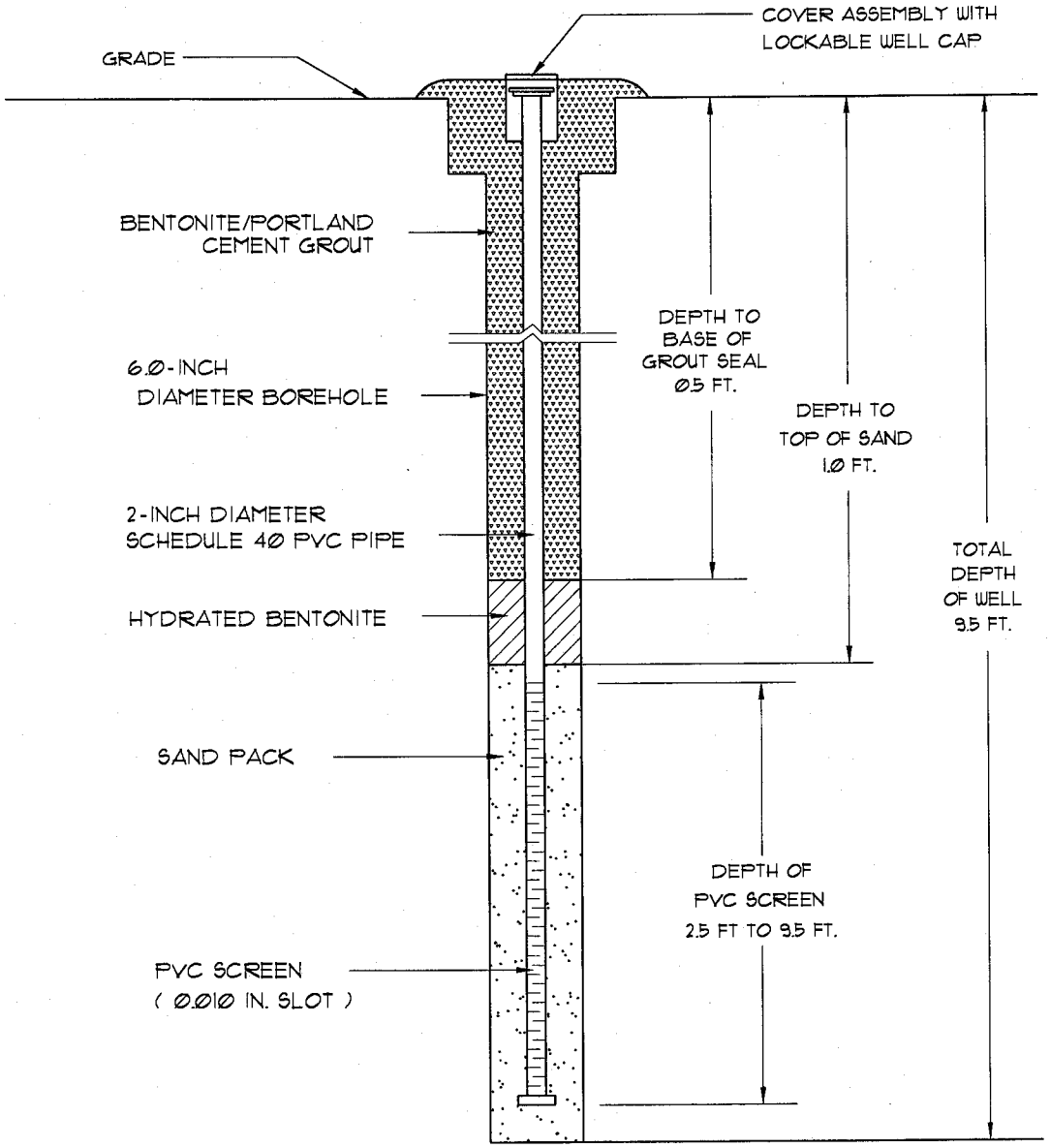
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1303

Boring Number:	MW-21
Date Drilled:	8/23/07
Drilled By:	Geologic Exploration Inc.
Logged By:	B. Kelly

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

MONITORING WELL INSTALLATION RECORD

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1303

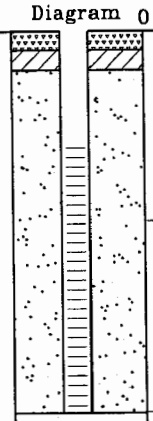


Well Number:	MW-21
Date Drilled:	8/23/07
Drilled By:	Geologic Exploration Inc.
Driller: J. Hess	S.C. I.D. #: D 01929
Logged By:	B. Kelly

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

Depth (Feet)	Description	OVA PPM
	Asphalt with Stone Base	
	Possible Fill, Sampled As: Tan, Fine to Medium SAND with Shells	
	Grey, CLAY with Shells	
5		431
	Grey, Clayey Fine to Medium SAND with Shells	
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 4.62 Feet Below Ground Surface on 8/23/2007.	BDL
15		
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

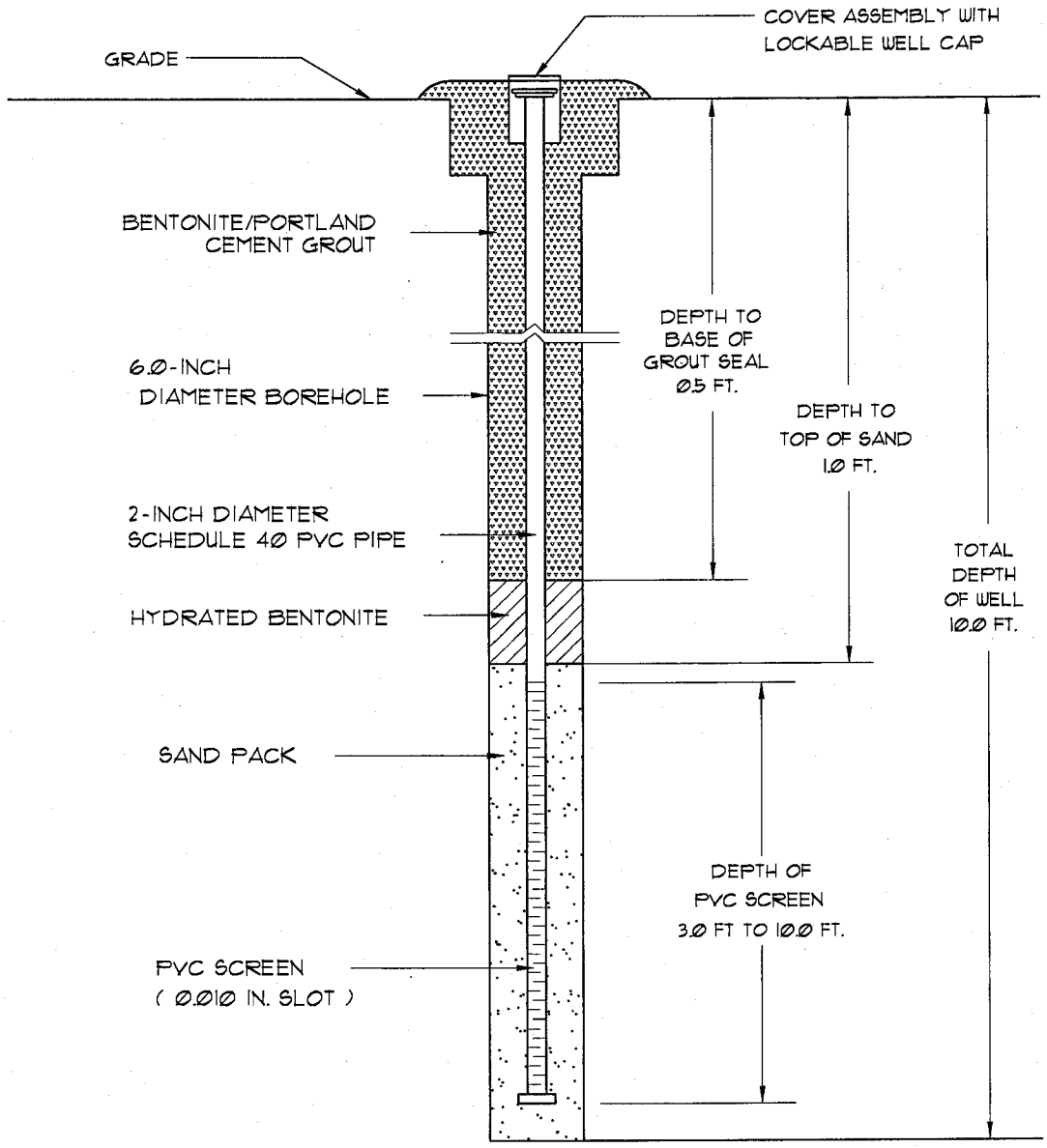
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1303

Boring Number:	MW-22
Date Drilled:	8/23/07
Drilled By:	Geologic Exploration Inc.
Logged By:	B. Kelly

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

MONITORING WELL INSTALLATION RECORD

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1303



Well Number:	MW-22
Date Drilled:	8/23/07
Drilled By:	Geologic Exploration Inc.
Driller: J. Hess	S.C. I.D. #: D 01929
Logged By:	B. Kelly

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

D H E C
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: BAY CREEK VILLAS (last) (first)
Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** COLLETON
Name: BAY CREEK VILLAS
Street Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH Zip:
Latitude: Longitude:

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

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

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TAN FILL SHELL/SAND	3.0	3.0
GRAY SHELL/GUMBO CLAY	6.5	9.5
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-19 BENTONITE SEAL FROM 0.5 TO 1.0 FT.

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

7. PERMIT NUMBER:

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

9. WELL DEPTH (completed) Date Started: 08/23/07
9.5 ft. Date Completed: 08/23/07

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 2.5 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 7.0 FEET
Set Between: 2.5 ft. and 9.5 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 3.0 ft. below land surface after 24 hours

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

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

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.0 ft. to 9.5 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 0.5 ft.

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

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

19. WELL DRILLER: JAMES HESS **CERT. NO.:** 01929
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

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

Signed: James T. Hess Jr. Date: 08/28/07
Well Driller

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

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

D H E C
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: BAY CREEK VILLAS (last) (first)
Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** COLLETON
Name: BAY CREEK VILLAS
Street Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH Zip:
Latitude: Longitude:

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

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

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TAN FILL SHELL/SAND	3.0	3.0
GRAY MUD/GUMBO CLAY	4.0	7.0
GRAY SHELLY FINE SAND	3.0	10.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-20 BENTONITE SEAL FROM 0.5 TO 1.0 FT.

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

7. PERMIT NUMBER:

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

9. WELL DEPTH (completed) Date Started: 08/23/07
10.0 ft. Date Completed: 08/23/07

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 3.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 7.0 FEET
Set Between: 3.0 ft. and 10.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 3.0 ft. below land surface after 24 hours

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

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

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.0 ft. to 10.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 0.5 ft.

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

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

19. WELL DRILLER: JAMES HESS **CERT. NO.:** 01929
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

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

Signed: James T. Hess Jr. Date: 08/28/07
Well Driller

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

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

D H E C
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: BAY CREEK VILLAS (last) (first)
Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** COLLETON
Name: BAY CREEK VILLAS
Street Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH Zip:
Latitude: Longitude:

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

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

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TAN FILL SHELL/SAND	3.0	3.0
GRAY SHELL/GUMBO CLAY	6.5	9.5
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-21 BENTONITE SEAL FROM 0.5 TO 1.0 FT.

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

7. PERMIT NUMBER:

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

9. WELL DEPTH (completed) Date Started: 08/23/07
9.5 ft. Date Completed: 08/23/07

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 2.5 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 7.0 FEET
Set Between: 2.5 ft. and 9.5 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 3.0 ft. below land surface after 24 hours

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

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

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.0 ft. to 9.5 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 0.5 ft.

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

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

19. WELL DRILLER: JAMES HESS **CERT. NO.:** 01929
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

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

Signed: James T. Hess Jr Date: 08/28/07
Well Driller

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

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

D H E C
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: BAY CREEK VILLAS (last) (first)
Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** COLLETON
Name: BAY CREEK VILLAS
Street Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH Zip:
Latitude: Longitude:

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

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

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TAN FILL SHELL/SAND	3.0	3.0
GRAY MUD/GUMBO CLAY	4.0	7.0
GRAY SHELLY FINE SAND	3.0	10.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-22 BENTONITE SEAL FROM 0.5 TO 1.0 FT.

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

7. PERMIT NUMBER:

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

9. WELL DEPTH (completed) Date Started: 08/23/07
10.0 ft. Date Completed: 08/23/07

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 3.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 7.0 FEET
Set Between: 3.0 ft. and 10.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 3.0 ft. below land surface after 24 hours

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

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

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.0 ft. to 10.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 0.5 ft.

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

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

19. WELL DRILLER: JAMES HESS **CERT. NO.:** 01929
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

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

Signed: James T. Hess Jr. Date: 08/28/07
Well Driller

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

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

WASTE DISPOSAL MANIFESTS

SPECIAL WASTE MANIFEST

WASTE ID # VA2718

EXPIRATION DATE: November, 8 2007

GENERATOR OF WASTE: MIDLAND ENV. CONSULTANTs,

CUSTOMER ACCOUNT: ACCT.#820-469 (M.E.I.C)

LOCATION OF WASTE : LEXINGTON, SC 29071

PHONE # 803-808-2043 CONTACT: BRYAN SHANE

FAX # 803-808-2048

GENERATOR'S SIGNATURE B.T. Shane DATE: 8-28-07

TRANSPORTER OF WASTE

DATE: 8-28-07 TRUCK NO. 1

DRIVER'S SIGNATURE

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

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

DESCRIPTION OF WASTE SOIL FROM UST ASSESSMENT

TICKET NO.# 827730 TONNAGE .62

RECEIVED BY

Bay Creek 1/2 & Jabs 1/2

WASTE MANAGEMENT

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

Original
Ticket# 827730

Customer Name MIDLANDSENVIRON MIDLANDS ENVI
Ticket Date 08/28/2007
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile VA2718 (SOIL FROM UST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

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

	Time	Scale	ScaleMaster		
In	08/28/2007 13:58:26	Scale1	bryon	Gross	10740 lb
Out	08/28/2007 14:41:24	Scale2	bryon	Tare	9500 lb
				Net	1240 lb
				Tons	0.62

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	SOIL-Cont. Soil -	100	0.62	Tons				32-LEXINGT
2	FUEL-Fuel Surcharg	100		%				32-LEXINGT
3	ENV-ENVIRONMENTAL	100		%				32-LEXINGT

Total Fees
Total Ticket

SIGNATURE

403WM

August 29, 2007

Midlands Environmental Consultants, Inc.

Re: Treatment of Purge Water
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 07-1303

To Whom it May Concern;

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

Applicability:

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

Conditions:

1. The worst-case well analysis was obtained before usage of the Activated Carbon Unit. The worst-case well analysis shows only petroleum hydrocarbon constituents in the purge/bail water with minimal, background concentrations of lead. The purge/bail water was containerized on site before treatment for less than 30 days prior to treatment.

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

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

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

5. Record of usage is maintained by Contractor.

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

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

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

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

One 55-gallon drum was treated on August 23, 2007 at the referenced site.

A total of one (1) 55-gallon drum was treated at the referenced site.

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Brendon P. Kelly
Staff Scientist

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment

AUG 30 2007

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **Monitoring Well Installation Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Well Installation Report received August 29, 2007
Colleton County

Dear Mr. Nunn:

On August 23, 2007, four additional monitoring/recovery wells were installed. They will be used to expedite the removal of free product from beneath the building. A directive is being mailed to Midlands Environmental to continue with the Aggressive Fluid Vapor Recovery (AFVR) events. They will be in touch with Dan Nunn for scheduling purposes.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Monitoring Well Installation Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST PROGRAM DOCKETING # 10

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

18662

SEP 05 2007

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

Re: Bid # IBF-30519-8/8/06-EMW; PO # 646282
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Aggressive Fluid Vapor Recovery (AFVR) event at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 646282 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit#	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
13889	Former Joye's Self Serve	Newberry	1	1 AFVR	60 days	30394	1,225.00
08986	Johnnie's Market & More	Union	1	2 AFVR	60 days	30450	2,375.00
01496	Charleston Commissioner of Public works	Charleston	1	2 AFVR	60 days	30459	2,485.00
09784	Charleston County General Services	Charleston	1	1 AFVR	60 days	30473	1,225.00

UST PROGRAM
DOCKETING # 11

UST Permit#	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
18662	Bay Creek Villas	Colleton	1	8 AFVR	60 days	30467	8,715.00
07686	Corner Pantry #103	Richland	1	2 AFVR	60 days	30483	2,275.00
001910	Gaffney DOT	Cherokee	1	2 AFVR	60 days	30498	2,175.00

*From receipt of letter

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

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval.

Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

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

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

Sincerely,

Maia Milenkova

Maia Milenkova, Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packets
cc: Technical File (w/copy of ACA)
SCDHEC/UST/08/30/07/MPM

Approved Cost Agreement 30467

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	8.0000	350.00	2,800.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	2,400.0000	0.10	240.00
23 EFR						
		A	8 HOUR EVENT	8.0000	600.00	4,800.00
		C	OFF GAS TREATMENT	8.0000	100.00	800.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
					Total Amount	8,715.00

Midlands
Environmental
Consultants, Inc.

November 5, 2007

RE
NOV 6
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #30467
MECI Project Number 07-1363B

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on October 17, 2007. The event was conducted on monitoring wells MW-16, MW-20, and MW-21 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was not detected in any of the monitoring wells prior to the AFVR event. Free phase petroleum product was detected in the monitoring wells prior to AFVR event 07-1363A. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 6.44 pounds or approximately 1.11 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.81 pounds per hour. Concentrations of off gas produced during the event were recorded from 1,153 parts per million by volume (PPM) to 128 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 11.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

UST PROGRAM
DOCKETING # 12

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2B. Additional differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3B. Monitoring well locations are depicted on attached Figure 1.

A total of 225 gallons of liquid was removed from the monitoring wells during this event. Free Phase Petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

John C. Bryant
Staff Geologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363B
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-16	10/17/07	6:15	0.50	10.0	1,048	1710	153.90	1.94	0.97
MW-20	10/17/07	6:45	0.50	10.0	1,153	1680	151.20	2.09	1.05
MW-21	10/17/07	7:15	0.50	10.0	591	1690	152.10	1.08	0.54
	10/17/07	7:45	0.50	10.0	593	1670	150.30	1.07	0.53
	10/17/07	8:15	0.50	10.0	548	1660	149.40	0.98	0.49
	10/17/07	8:45	0.50	10.0	489	1630	146.70	0.86	0.43
	10/17/07	9:15	0.50	11.0	521	1670	150.30	0.94	0.47
	10/17/07	9:45	0.50	11.0	349	1670	150.30	0.63	0.31
	10/17/07	10:15	0.50	11.0	356	1680	151.20	0.65	0.32
	10/17/07	10:45	0.50	11.0	296	1670	150.30	0.53	0.27
	10/17/07	11:15	0.50	11.0	178	1640	147.60	0.32	0.16
	10/17/07	11:45	0.50	11.0	148	1650	148.50	0.26	0.13
	10/17/07	12:15	0.50	11.0	128	1690	152.10	0.23	0.12
	10/17/07	12:45	0.50	11.0	163	1750	157.50	0.31	0.15
	10/17/07	13:15	0.50	11.0	174	1850	166.50	0.35	0.17
	10/17/07	13:45	0.50	11.0	151	1830	164.70	0.30	0.15
	10/17/07	14:15	0.50	11.0	182	1800	162.00	0.35	0.18
									TOTAL
									6.44

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-16	2"	10.00	***	5.43	***	***	5.25	***	-0.18
MW-20	2"	10.00	***	***	***	***	5.30	***	***
MW-21	2"	9.50	***	5.02	***	***	4.55	***	-0.47

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-16	6.00
Truck Operator:	J. Bryant	MW-20	9.00
Stack I.D. (feet)	0.33 feet	MW-21	6.00

Recovery / Disposal Information

Hydro carbons Removed (vapor):	6.44	Pounds
Hydro carbons Removed (liquid):	50	Gallons
Total Hydrocarbons Removed:	1.11	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	225	Gallons

TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 07-1363B
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-17**
Nearest Extraction Well:		MW-16	MW-20	MW-20
Approximate Distance:		25 ft	23 ft	43 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
9:45	0.0	0	0	0
10:15	0.5	0	0	0
10:45	1.0	0	0	0
11:15	1.5	0	0	0
11:45	2.0	0	0	0
12:15	2.5	0	0	0
12:45	3.0	0	0	0
13:15	3.5	0	0	0
13:45	4.0	0	0	0
14:15	4.5	0	0	0
14:45	5.0	0	0	0
15:15	5.5	0	0	0
15:45	6.0	0	0	0
16:15	6.5	0	0	0
16:45	7.0	0	0	0
17:15	7.5	0	0	0
17:45	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

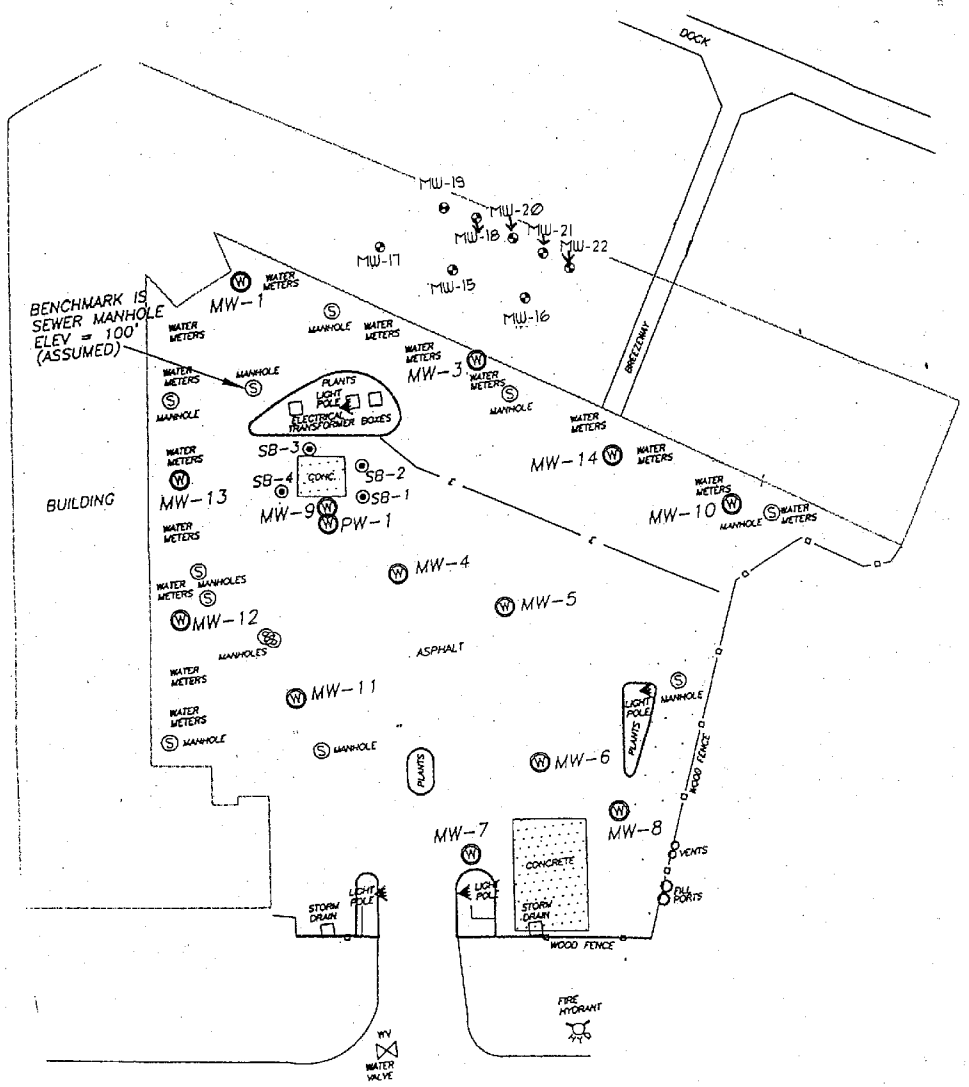
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-17**
Nearest Extraction Well:		MW-16	MW-20	MW-20
Approximate Distance:		25 ft	23 ft	43 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.04	4.28	4.10
13:45	4 hours	5.77	4.33	4.13
17:45	8 hours	5.64	4.29	4.13
Maximum Change:		-0.60	-0.01	-0.03

TABLE 3B
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363B
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-18		MW-19		MW-22	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
9:45	0.0	0	5.78	0	5.71	0	4.53
10:15	0.5	0	5.79	0	5.83	0	4.53
10:45	1.0	0	5.98	0	5.88	0	4.67
11:15	1.5	0	6.09	0	5.97	0	4.98
11:45	2.0	0	6.18	0	5.99	0	5.32
12:15	2.5	0	6.30	0	6.12	0	5.78
12:45	3.0	0	6.47	0	6.18	0	6.03
13:15	3.5	0	6.50	0	6.29	0	6.19
13:45	4.0	0	6.48	0	6.28	0	6.20
14:15	4.5	0	6.30	0	6.27	0	6.20
14:45	5.0	0	6.23	0	6.20	0	6.04
15:15	5.5	0	6.17	0	6.02	0	6.01
15:45	6.0	0	6.01	0	5.78	0	5.87
16:15	6.5	0	5.97	0	5.71	0	5.77
16:45	7.0	0	5.91	0	5.68	0	5.61
17:15	7.5	0	5.82	0	5.67	0	5.59
17:45	8.0	0	5.81	0	5.60	0	5.59



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1303
DATE	August 28, 2007
FIGURE	2

C 129746

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 14006	2. Page 1 of 1

GENERATOR

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

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non Hazardous Waste, oil/water	001	TT	1333	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information Countryside 2(06742) 120gal Avants(02578) 120gal McCoy(19002) gal 0.35 Cracker box(18287) 35 gal
Service Call ID: GLB0114006
Johnies market (08980) 40gal Bay Creek (18662) 225gal Bay Creek(18662) 225gal. Charleston CPW(01496) 70gal Friendly marks(11693) 80gal. Mathenys(00820) 100gal Newberry Co. Airport(15590) 25gals Pit Stop 23(07837) 60gal. JFFY(00583) 10gal
Emergency Response: Infotrac - 800-535-5053
Pelzer(00480) 60gal) Comm. Quick Shop(11694) 35 gal F+ME(10028) 70gal.
Caller must ID Crandall as registrant
F+ME(10028) 60 GAL Stonewall Jackson(15581) 50 GAL.

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

Printed/Typed Name	Signature	Month	Day	Year
No Signature Available		10	31	07

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Curtis Smith	[signature]	10	31	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	[signature]	11	01	07

ORIGINAL TO OFFICE

Midlands
Environmental
Consultants, Inc.

November 5, 2007

RECEIVED
NOV 0 8 2007
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #30467
MECI Project Number 07-1363A

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on October 17, 2007. The event was conducted on monitoring wells MW-18, MW-19, and MW-20 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring wells MW-18 at a thickness of 2.79 feet, MW-19 at a thickness of 1.47 feet, and in MW-20 at a thickness of 3.02 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the monitoring wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 14.09 pounds or approximately 2.43 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.76 pounds per hour. Concentrations of off gas produced during the event were recorded from 601 parts per million by volume (PPM) to 1,565 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 13.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

UST PROGRAM
DOCKETING # 13

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A. Additional groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3A. Monitoring well locations are depicted on attached Figure 1.

A total of 225 gallons of liquid was removed from the monitoring wells during this event. Free Phase Petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

John Bryant PG

John C. Bryant
Staff Geologist

William McClary

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363A
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	10/17/07	9:45	0.50	15.0	930	1620	145.80	1.63	0.81
MW-19	10/17/07	10:15	0.50	15.0	916	1600	144.00	1.58	0.79
MW-20	10/17/07	10:45	0.50	15.0	943	1590	143.10	1.62	0.81
	10/17/07	11:15	0.50	15.0	926	1590	143.10	1.59	0.80
	10/17/07	11:45	0.50	13.0	1,221	1630	146.70	2.15	1.07
	10/17/07	12:15	0.50	13.0	1,443	1660	149.40	2.59	1.29
	10/17/07	12:45	0.50	13.0	1,441	1630	146.70	2.54	1.27
	10/17/07	13:15	0.50	13.0	1,332	1620	145.80	2.33	1.17
	10/17/07	13:45	0.50	14.0	1,565	1250	112.50	2.11	1.06
	10/17/07	14:15	0.50	14.0	1,380	1230	110.70	1.83	0.92
	10/17/07	14:45	0.50	14.0	1,075	1360	122.40	1.58	0.79
	10/17/07	15:15	0.50	14.0	804	1350	121.50	1.17	0.59
	10/17/07	15:45	0.50	14.0	954	1370	123.30	1.41	0.71
	10/17/07	16:15	0.50	14.0	548	1690	152.10	1.00	0.50
	10/17/07	16:45	0.50	14.0	558	1630	146.70	0.98	0.49
	10/17/07	17:15	0.50	14.0	603	1600	144.00	1.04	0.52
	10/17/07	17:45	0.50	14.0	601	1580	142.20	1.03	0.51
									TOTAL
									14.09

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10.00	5.34	8.13	2.79	***	5.78	***	0.0215
MW-19	2"	9.50	5.32	6.79	1.47	***	5.71	***	0.1695
MW-20	2"	10.00	5.13	8.15	3.02	***	4.55	***	-1.033

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	9.00
Truck Operator:	J. Bryant	MW-19	8.00
Stack I.D. (feet)	0.33 feet	MW-20	9.00

Corrected Depth to Water for MW-18 = 5.76
Corrected Depth to Water for MW-19 = 5.54
Corrected Depth to Water for MW-20 = 5.58

Recovery / Disposal Information

Hydro carbons Removed (vapor):	14.09	Pounds
Hydro carbons Removed (liquid):	100	Gallons
Total Hydrocarbons Removed:	2.43	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	225	Gallons

TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 07-1363A
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-17**
Nearest Extraction Well:		MW-21	MW-18	MW-19
Approximate Distance:		43 ft	19 ft	25 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
9:45	0.0	0	0	0
10:15	0.5	0	0	0
10:45	1.0	0	0	0
11:15	1.5	0	0	0
11:45	2.0	0	0	0
12:15	2.5	0	0	0
12:45	3.0	0	0	0
13:15	3.5	0	0	0
13:45	4.0	0	0	0
14:15	4.5	0	0	0
14:45	5.0	0	0	0
15:15	5.5	0	0	0
15:45	6.0	0	0	0
16:15	6.5	0	0	0
16:45	7.0	0	0	0
17:15	7.5	0	0	0
17:45	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

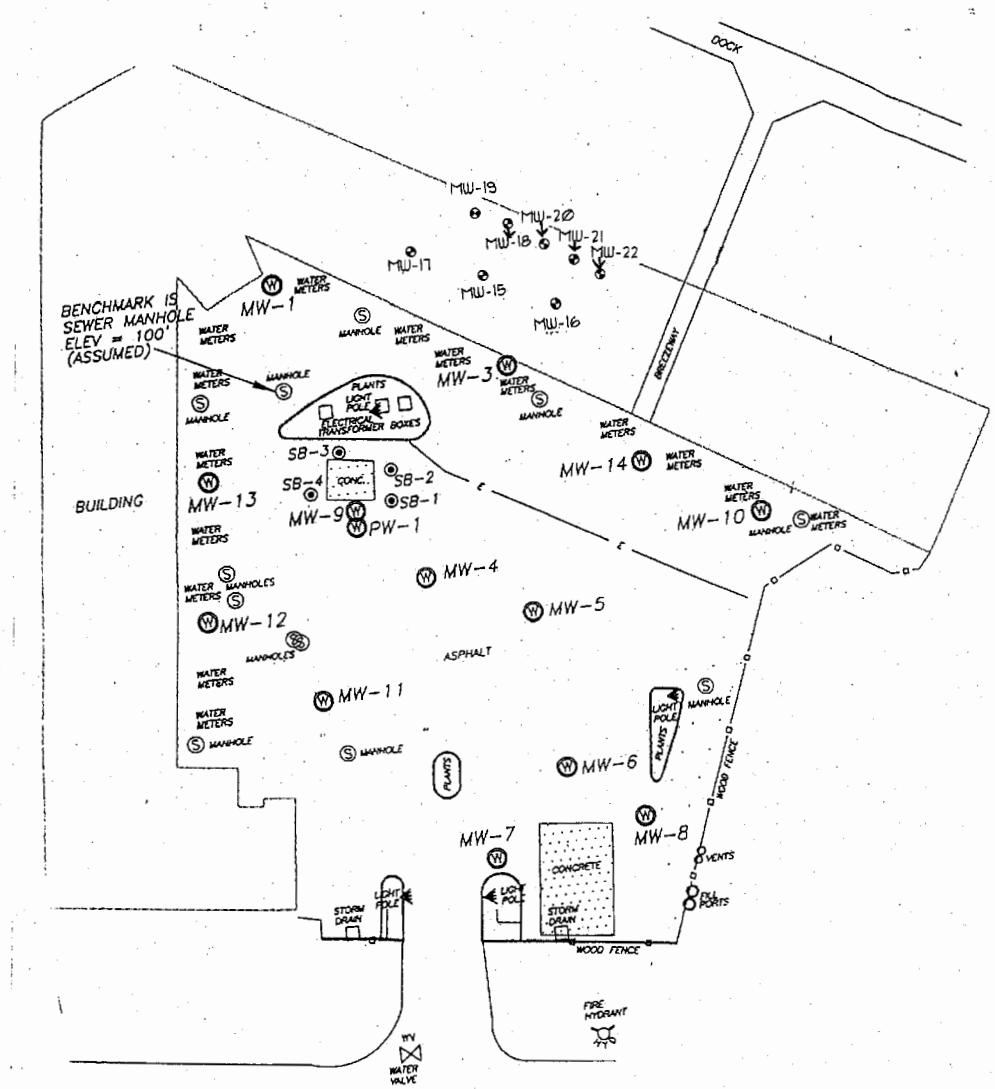
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-17**
Nearest Extraction Well:		MW-21	MW-18	MW-19
Approximate Distance:		43 ft	19 ft	25 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.64	4.35	4.15
13:45	4 hours	5.43	4.32	4.14
17:45	8 hours	5.04	4.28	4.10
Maximum Change:		0.60	0.07	0.05

TABLE 3A
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363A
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-16		MW-21		MW-22	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
9:45	0.0	5.03	6.41	5.21	7.98	5.31	5.43
10:15	0.5	5.03	6.41	5.21	7.98	5.31	5.43
10:45	1.0	4.98	6.21	5.01	6.73	5.12	5.38
11:15	1.5	4.96	5.98	4.97	6.13	0.00	5.38
11:45	2.0	4.83	5.44	4.57	5.89	0.00	5.37
12:15	2.5	4.74	5.13	4.46	5.22	0.00	5.26
12:45	3.0	4.61	4.89	4.34	4.89	0.00	5.15
13:15	3.5	4.53	5.86	4.15	5.14	0.00	5.05
13:45	4.0	0.00	5.85	0.00	5.14	0.00	4.95
14:15	4.5	0.00	5.76	0.00	5.13	0.00	4.93
14:45	5.0	0.00	5.75	0.00	5.13	0.00	4.92
15:15	5.5	0.00	5.69	0.00	5.10	0.00	4.78
15:45	6.0	0.00	5.53	0.00	5.09	0.00	4.77
16:15	6.5	0.00	5.51	0.00	5.09	0.00	4.63
16:45	7.0	0.00	5.51	0.00	5.07	0.00	4.60
17:15	7.5	0.00	5.49	0.00	5.06	0.00	4.57
17:45	8.0	0.00	5.43	0.00	5.02	0.00	4.53



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1303
DATE August 28, 2007
FIGURE 2

C - 129746

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 14006	2. Page 1 of 1

GENERATOR

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

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non Hazardous Waste, oil/water	001	TT	1333	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information Countryside 2(06742) 120gal Avants(02578) 120gal McCoy(19002) gal 0.35
Service Call ID: GLB0114006 Cracker box(18287) 35 gal
Johnies market(08980) 40gal Bay Creek(18662) 225gal Bay Creek(18662) 225gal.
Charleston CPW(01496) 70gal Friendly marks(11693) 80gal. Mathenys(00820) 100gal
Newberry Co. Airport(15590) 25gals Pit Stop 23(07837) 60gal. JFFY(00583) 10gal
Emergency Response: Infotrac - 800-535-5053
Pelzer(00480) 60gal) Comm. Quick Shop(11694) 35 gal F+ME(10028) 70gal.
Caller must ID Crandall as registrant
F+ME(10028) 60 GAL Stonewall Jackson(15581) 50 GAL.

TRANSPORTER

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

Printed/Typed Name	Signature	Month	Day	Year
No Signature Available		10	31	07

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Curtis Smith	[signature]	10	31	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	[signature]	11	01	07

ORIGINAL TO OFFICE

Midlands
Environmental
Consultants, Inc.

November 16, 2007

UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #30467
MECI Project Number 07-1363D

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on November 8 through 9, 2007. The event was conducted on monitoring wells MW-16, MW-18, and MW-21 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was not detected in any of the monitoring wells prior to the AFVR event. Free phase petroleum product was detected in the monitoring wells prior to AFVR event 07-1363C. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 6.85 pounds or approximately 1.18 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.86 pounds per hour. Concentrations of off gas produced during the event were recorded from 178 parts per million by volume (PPM) to 1,358 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at 10.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1D.

UST PROGRAM
DOCKETING # 14

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2D. Additional differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3D. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from the monitoring wells during this event. Free Phase Petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363D
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-16	11/08/07	17:45	0.50	10.0	1,358	1760	158.40	2.58	1.29
MW-18	11/08/07	18:15	0.50	10.0	1,110	1710	153.90	2.05	1.02
MW-21	11/08/07	18:45	0.50	10.0	1,081	1810	162.90	2.11	1.06
	11/08/07	19:15	0.50	10.0	987	1680	151.20	1.79	0.90
	11/08/07	19:45	0.50	10.0	401	1710	153.90	0.74	0.37
	11/08/07	20:15	0.50	10.0	163	1690	152.10	0.30	0.15
	11/08/07	20:45	0.50	10.0	168	1610	144.90	0.29	0.15
	11/08/07	21:15	0.50	10.0	179	1670	150.30	0.32	0.16
	11/08/07	21:45	0.50	10.0	181	1620	145.80	0.32	0.16
	11/08/07	22:15	0.50	10.0	203	1670	150.30	0.37	0.18
	11/08/07	22:45	0.50	10.0	201	1680	151.20	0.36	0.18
	11/08/07	23:15	0.50	10.0	198	1690	152.10	0.36	0.18
	11/08/07	23:45	0.50	10.0	294	1700	153.00	0.54	0.27
	11/09/07	0:15	0.50	10.0	304	1710	153.90	0.56	0.28
	11/09/07	0:45	0.50	10.0	188	1680	151.20	0.34	0.17
	11/09/07	1:15	0.50	10.0	178	1690	152.10	0.32	0.16
	11/09/07	1:45	0.50	10.0	179	1690	152.10	0.33	0.16
									TOTAL
									6.85

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-16	2"	10.00	***	***	***	***	5.33	***	***
MW-20	2"	10.00	***	5.11	***	***	5.61	***	0.50
MW-21	2"	9.50	***	***	***	***	5.14	***	***

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-16	6.00
Truck Operator:	J. Bryant	MW-18	6.00
Stack I.D. (feet)	0.33 feet	MW-21	7.00

Recovery / Disposal Information

Hydro carbons Removed (vapor):	6.85	Pounds
Hydro carbons Removed (liquid):	20	Gallons
Total Hydrocarbons Removed:	1.18	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	150	Gallons

TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 07-1363D
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-17**	**MW-22**
Nearest Extraction Well:		MW-16	MW-20	MW-20
Approximate Distance:		25 ft	23 ft	43 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
17:45	0.0	0	0	0
18:15	0.5	0	0	0
18:45	1.0	0	0	0
19:15	1.5	0	0	0
19:45	2.0	0	0	0
20:15	2.5	0	0	0
20:45	3.0	0	0	0
21:15	3.5	0	0	0
21:45	4.0	0	0	0
22:15	4.5	0	0	0
22:45	5.0	0	0	0
23:15	5.5	0	0	0
23:45	6.0	0	0	0
0:15	6.5	0	0	0
0:45	7.0	0	0	0
1:15	7.5	0	0	0
1:45	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

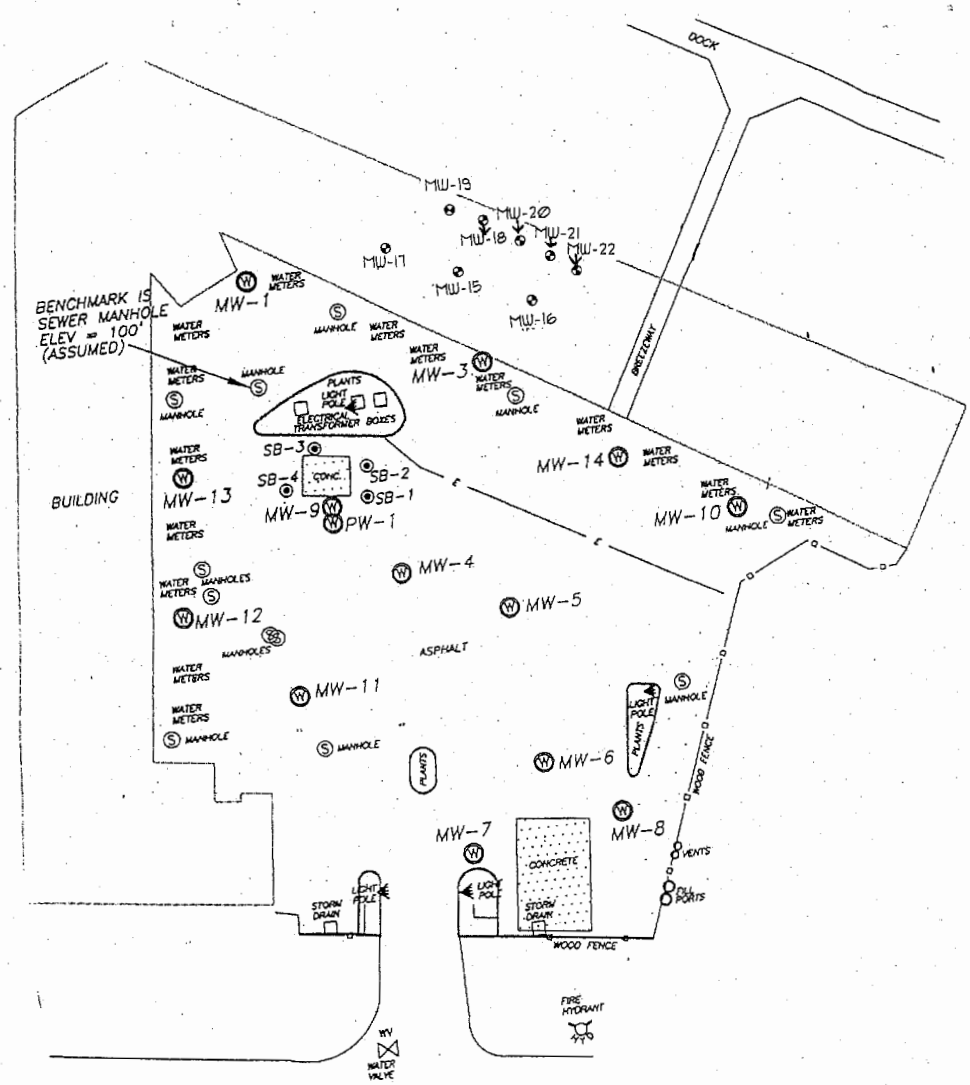
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-17**	**MW-22**
Nearest Extraction Well:		MW-16	MW-20	MW-20
Approximate Distance:		25 ft	23 ft	43 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.63	4.45	6.21
21:45	4 hours	4.69	4.55	3.50
1:45	8 hours	4.68	4.50	6.31
Maximum Change:		-0.06	-0.05	2.71

TABLE 3D
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363D
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-19		MW-20		MW-22	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
17:45	0.0	0	6.30	0	6.27	0	6.21
18:15	0.5	0	3.21	0	6.13	0	6.18
18:45	1.0	0	6.13	0	6.02	0	6.01
19:15	1.5	0	5.98	0	5.87	0	5.78
19:45	2.0	0	5.93	0	5.81	0	5.48
20:15	2.5	0	5.79	0	5.73	0	5.30
20:45	3.0	0	5.73	0	5.61	0	4.31
21:15	3.5	0	5.69	0	5.40	0	3.76
21:45	4.0	0	5.68	0	5.30	0	3.50
22:15	4.5	0	5.71	0	5.45	0	3.61
22:45	5.0	0	5.81	0	5.48	0	3.89
23:15	5.5	0	5.88	0	5.61	0	3.92
23:45	6.0	0	5.94	0	5.89	0	4.23
0:15	6.5	0	6.12	0	6.01	0	4.98
0:45	7.0	0	6.31	0	6.12	0	5.89
1:15	7.5	0	6.40	0	6.38	0	6.21
1:45	8.0	0	6.51	0	6.45	0	6.31



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1303
DATE	August 28, 2007
FIGURE	2

C 130331

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 14704

2. Page 1 of 1

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073
(803) 808-2043

4. Generator's Phone ( )

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non Hazardous Waste, oil/water	01	TT	1020	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Service Call ID: GLB0114704
P.H Stop #23 (SCDHEC #07837) = 60 gal; Avants Auto (02578) = 175 g
Webb's Exxon = 150 gal; Lebanon Quick Stop (#15445) = 80 gal;
Best Buy Quality Foods = 60 gal; Citgo Fast Mart = 20 gal;
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant
Minnick's Texaco (A)(07967) = 40 gal;
Fmr. Joyes Self Service (13888) = 60 gal;
(18662) → Bay Creek Villas (c) = 225 gal; Bay Creek Villas (D) = 150 ga

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

Printed/Typed Name | Signature | Month 11 Day 15 Year 07

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Shawn DeSpain | Signature | Month 11 Day 15 Year 07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

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

Printed/Typed Name | Signature | Month Day Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

Midlands
Environmental
Consultants, Inc.

November 16, 2007

RECEIVED
NOV 19 2007
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #30467
MECI Project Number 07-1363C

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on November 8, 2007. The event was conducted on monitoring wells MW-20 and MW-21 to remove free phase petroleum product. Additionally, the event was conducted on MW-16 to reduce dissolved CoC concentrations. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring wells MW-20 at a thickness of 2.35 feet and in MW-21 at a thickness of 2.32 feet prior to the AFVR event. Free phase petroleum product was not detected in MW-16 prior to the event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the monitoring wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 9.64 pounds or approximately 1.67 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.21 pounds per hour. Concentrations of off gas produced during the event were recorded from 429 parts per million by volume (PPM) to 687 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 13.0 to 14.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1C.

DOCKETING # 15

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2C. Additional groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3C. Monitoring well locations are depicted on attached Figure 1.

A total of 225 gallons of liquid was removed from the monitoring wells during this event. Free Phase Petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1C
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363C
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-16	11/08/07	9:45	0.50	14.0	687	1730	155.70	1.28	0.64
MW-20	11/08/07	10:15	0.50	14.0	581	1710	153.90	1.07	0.54
MW-21	11/08/07	10:45	0.50	14.0	573	1690	152.10	1.05	0.52
	11/08/07	11:15	0.50	13.0	631	2010	180.90	1.37	0.68
	11/08/07	11:45	0.50	13.0	630	2230	200.70	1.52	0.76
	11/08/07	12:15	0.50	13.0	667	2140	192.60	1.54	0.77
	11/08/07	12:45	0.50	13.0	681	1890	170.10	1.39	0.70
	11/08/07	13:15	0.50	13.0	653	1850	166.50	1.30	0.65
	11/08/07	13:45	0.50	13.0	521	1840	165.60	1.04	0.52
	11/08/07	14:15	0.50	13.0	586	1820	163.80	1.15	0.58
	11/08/07	14:45	0.50	13.0	429	1880	169.20	0.87	0.44
	11/08/07	15:15	0.50	13.0	544	1810	162.90	1.06	0.53
	11/08/07	15:45	0.50	13.0	530	1720	154.80	0.98	0.49
	11/08/07	16:15	0.50	13.0	489	1720	154.80	0.91	0.45
	11/08/07	16:45	0.50	13.0	463	1680	151.20	0.84	0.42
	11/08/07	17:15	0.50	10.0	450	1890	170.10	0.92	0.46
	11/08/07	17:45	0.50	10.0	486	1880	169.20	0.99	0.49
									TOTAL
									9.64

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-16	2"	10.00	***	5.98	***	***	5.33	***	-0.65
MW-20	2"	10.00	4.63	6.98	2.35	***	6.36	***	1.38
MW-21	2"	9.50	4.71	7.03	2.32	***	5.14	***	0.08

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-16	6.00
Truck Operator:	J. Bryant	MW-20	7.00
Stack I.D. (feet)	0.33 feet	MW-21	7.00

Corrected depth to water before AFVR Event in MW-20 = 4.98
Corrected depth to water before AFVR Event in MW-21 = 5.06

Recovery / Disposal Information

Hydro carbons Removed (vapor):	9.64	Pounds
Hydro carbons Removed (liquid):	50	Gallons
Total Hydrocarbons Removed:	1.67	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	225	Gallons

TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 07-1363C
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-17**	**MW-22**
Nearest Extraction Well:		MW-16	MW-20	MW-20
Approximate Distance:		25 ft	23 ft	43 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
9:45	0.0	0	0	0
10:15	0.5	0	0	0
10:45	1.0	0	0	0
11:15	1.5	0	0	0
11:45	2.0	0	0	0
12:15	2.5	0	0	0
12:45	3.0	0	0	0
13:15	3.5	0	0	0
13:45	4.0	0	0	0
14:15	4.5	0	0	0
14:45	5.0	0	0	0
15:15	5.5	0	0	0
15:45	6.0	0	0	0
16:15	6.5	0	0	0
16:45	7.0	0	0	0
17:15	7.5	0	0	0
17:45	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

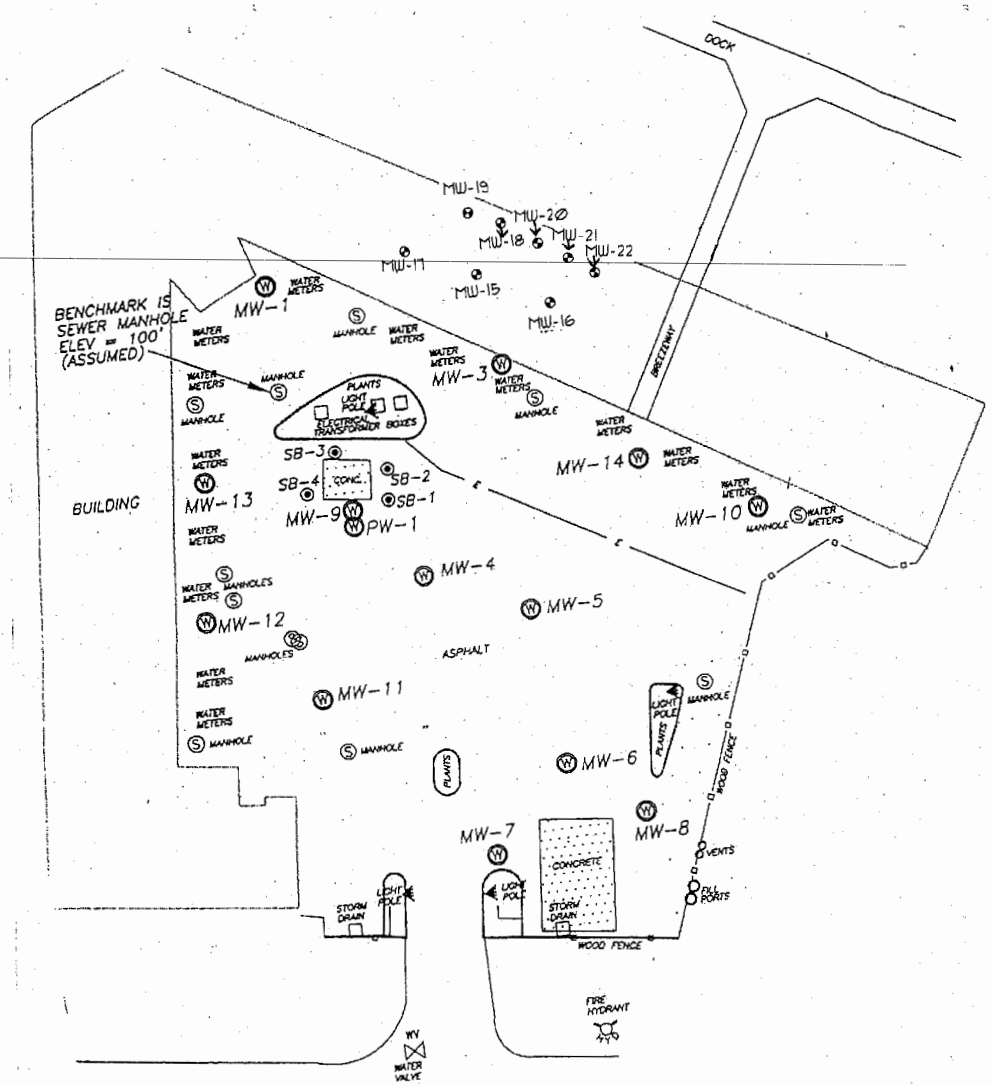
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-17**	**MW-22**
Nearest Extraction Well:		MW-16	MW-20	MW-20
Approximate Distance:		25 ft	23 ft	43 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.63	4.50	5.23
13:45	4 hours	5.62	4.44	6.78
17:45	8 hours	4.63	4.45	6.25
Maximum Change:		-0.99	0.05	-1.02

TABLE 3C
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363C
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-18		MW-19		MW-22	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
9:45	0.0	5.20	6.15	5.01	5.23	0	5.23
10:15	0.5	5.97	6.23	5.21	5.43	0	5.27
10:45	1.0	6.30	6.60	5.77	5.87	0	5.33
11:15	1.5	6.61	6.78	5.78	5.91	0	5.39
11:45	2.0	0	6.81	5.90	6.19	0	5.48
12:15	2.5	0	6.93	5.98	6.43	0	5.64
12:45	3.0	0	6.98	6.10	6.63	0	6.71
13:15	3.5	0	7.01	6.41	6.78	0	6.72
13:45	4.0	0	7.02	6.85	7.00	0	6.78
14:15	4.5	0	7.13	6.86	7.01	0	6.77
14:45	5.0	0	7.12	0	6.76	0	6.69
15:15	5.5	0	7.00	0	6.43	0	6.61
15:45	6.0	0	6.91	0	6.41	0	6.54
16:15	6.5	0	6.66	0	6.37	0	6.48
16:45	7.0	0	6.41	0	6.30	0	6.41
17:15	7.5	0	6.35	0	6.28	0	6.34
17:45	8.0	0	6.30	0	6.27	0	6.21



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1303
DATE August 28, 2007
FIGURE 2

C 130331

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 14704

2. Page 1 of 1

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073
(803) 808-2043

4. Generator's Phone ( )

5. Transporter 1 Company Name Crandall Corporation

6. US EPA ID Number 3CD981864499

A. Transporter's Phone (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number 3CD981864499

C. Facility's Phone (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non Hazardous Waste, oil/water	01	TT	1020	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Service Call ID: GLB0114704
P.H Stop #23 (SCDHEC #07837) = 60 gal; Avants Auto (02578) = 175 g
Webb's Exxon = 150 gal; Lebanon Quick Stop (#15445) = 80 gal;
Best Buy Quality Foods = 60 gal; Citgo Fast Mart = 20 gal;
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant
Minnick's Texaco (A)(07967) = 40 gal;
Fmr. Joyes Self Service (13888) = 60 gal;
(18662) → Bay Creek Villas (c) = 225 gal; Bay Creek Villas (D) = 150 ga

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

Printed/Typed Name | Signature | Month 11 Day 15 Year 07

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name Shawn DeSpain | Signature | Month 11 Day 15 Year 07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

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

Printed/Typed Name | Signature | Month Day Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

NOV 28 2007

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Reports received November 6, 2007
Aggressive Fluid Vapor Recovery Reports received November 19, 2007
Colleton County

Dear Mr. Nunn:

On October 17 and again on November 8, 2007, 16-hour Aggressive Fluid Vapor Recovery (AFVR) events were completed at the referenced facility. The installation of the additional recovery wells has significantly improved the free product recovery. More than 150 gallons of free product was removed on October 17 and more than 70 gallons of free product was removed on November 8. Copies of the reports are enclosed. Additional AFVR events will take place to continue with the free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: AFVR Reports

UST PROGRAM
DOCKETING # 16

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

Midlands
Environmental
Consultants, Inc.

December 18, 2007

RECEIVED
DEC 28 2007
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #30467
MECI Project Number 07-1363F

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on December 11, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. Additionally, the event was conducted on MW-21 and MW-22 to reduce dissolved CoC concentrations. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.50 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the monitoring wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 3.44 pounds or approximately 0.59 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.07 pounds per hour. Concentrations of off gas produced during the event were recorded from 96.7 parts per million by volume (PPM) to 753 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1F.

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

UST PROGRAM
DOCKETING # 17

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2F. Additional groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3F. Monitoring well locations are depicted on attached Figure 1.

A total of 300 gallons of liquid was removed from the monitoring wells during this event. Free Phase Petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Clark S. Baer
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1F
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363F
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	12/11/07	18:00	0.50	15.0	753	1430	128.70	1.16	0.58
MW-21	12/11/07	18:30	0.50	10.0	531	1910	171.90	1.10	0.55
MW-22	12/11/07	19:00	0.50	10.0	167	1890	170.10	0.34	0.17
	12/11/07	19:30	0.50	10.0	131	1910	171.90	0.27	0.14
	12/11/07	20:00	0.50	10.0	148	1880	169.20	0.30	0.15
	12/11/07	20:30	0.50	10.0	121	1930	173.70	0.25	0.13
	12/11/07	21:00	0.50	10.0	143	1940	174.60	0.30	0.15
	12/11/07	21:30	0.50	10.0	119	1980	178.20	0.25	0.13
	12/11/07	22:00	0.50	10.0	128	1940	174.60	0.27	0.13
	12/11/07	22:30	0.50	10.0	139	1910	171.90	0.29	0.14
	12/11/07	23:00	0.50	15.0	501	1400	126.00	0.76	0.38
	12/11/07	23:30	0.50	15.0	484	1380	124.20	0.72	0.36
	12/12/07	0:00	0.50	10.0	96.7	1990	179.10	0.21	0.10
	12/12/07	0:30	0.50	10.0	97.8	1980	178.20	0.21	0.10
	12/12/07	1:00	0.50	10.0	101	2010	180.90	0.22	0.11
	12/12/07	1:30	0.50	10.0	110	1940	174.60	0.23	0.12
									TOTAL 3.44

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Total Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-18	2"	10.00	8.10	8.60	0.50	***	5.95	***	-2.23
MW-21	2"	9.50	***	***	***	***	7.45	***	***
MW-22	2"	10.00	***	***	***	***	6.25	***	***

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	6.00
Truck Operator:	J. Bryant	MW-22	5.50
Stack I.D. (feet)	0.33 feet	MW-20	5.50

Corrected Depth to Water for MW-18 = 8.18

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	3.44	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.59	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	300	Gallons

TABLE 2F
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 07-1363F
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-22	MW-20
Approximate Distance:		21 ft	19 ft	45 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
18:00	0.0	0	0	0
18:30	0.5	0	0	0
19:00	1.0	0	0	0
19:30	1.5	0	0	0
20:00	2.0	0	0	0
20:30	2.5	0	0	0
21:00	3.0	0	0	0
21:30	3.5	0	0	0
22:00	4.0	0	0	0
22:30	4.5	0	0	0
23:00	5.0	0	0	0
23:30	5.5	0	0	0
0:00	6.0	0	0	0
0:30	6.5	0	0	0
1:00	7.0	0	0	0
1:30	7.5	0	0	0
		0	0	0
Maximum Change:		**0**	**0**	**0**

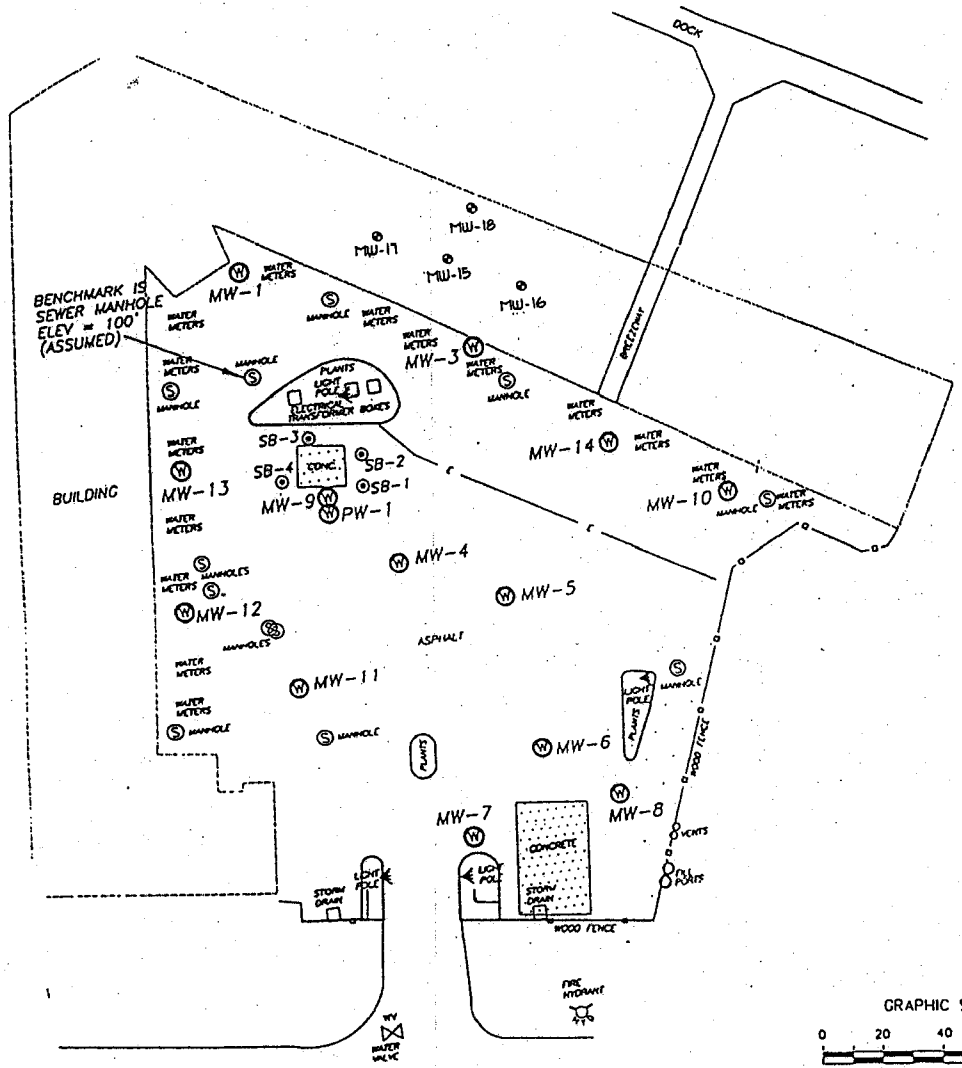
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-22	MW-20
Approximate Distance:		21 ft	19 ft	45 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.16	7.70	5.03
22:00	4 hours	5.18	6.23	5.05
0:00	8 hours	5.15	6.06	5.03
Maximum Change:		0.03	1.64	0.02

TABLE 3F
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363F
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

		MW-20		MW-19	
Time	**Elapsed Time**	**Depth to Product (FT)**	**Depth to Water (FT)**	**Depth to Product (FT)**	**Depth to Water (FT)**
18:30	0.0	0	6.40	7.81	8.15
19:30	1.0	0	6.53	6.87	7.68
20:30	2.0	6.40	6.59	6.43	7.03
21:30	3.0	6.40	6.6	6.14	6.30
22:30	4.0	6.51	6.71	6.14	6.41
23:30	5.0	6.66	6.89	6.23	6.58
0:30	6.0	6.91	7.41	6.41	7.03
1:30	7.0	7.15	7.50	6.85	7.10



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

C 125269

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 16055

2. Page 1 of 1

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

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

5. Transporter 1 Company Name Crandall Corporation

6. US EPA ID Number 3CD981864499

A. Transporter's Phone (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number 3CD981864499

C. Facility's Phone (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non Hazardous Waste, oil/water	01	TT	990	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0116055

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

Richland County Public Works (SCDHEC # 11805) 160 gal;
Richland County Landfill (SCDHEC # 11808) 100 gal;
Beaufort Patrol Facility (01056) 80 gal
Minick's Texaco (07967) 120 gal
Bay Creek Villas (18662) 210 gal (Event E)
Bay Creek Villas (18662) 300 gal (Event F)

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

Printed/Typed Name: CLARK BAG | Signature | Month 12 Day 14 Year 07

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Shawn DeSpain | Signature | Month 12 Day 14 Year 07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

19. Discrepancy Indication Space

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

Printed/Typed Name | Signature | Month | Day | Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

Midlands
Environmental
Consultants, Inc.

December 18, 2007

RECEIVED
DEC 2 8 2007
UNDER[illegible] [illegible]HAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #30467
MECI Project Number 07-1363E

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on December 11, 2007. The event was conducted on monitoring wells MW-20 and MW-21hours to remove free phase petroleum product. Additionally, the event was conducted on MW-22 to reduce dissolved CoC concentrations. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring wells MW-20 at a thickness of 1.70 feet, and MW-21 at a thickness of 0.66 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the monitoring wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 13.69 pounds or approximately 2.36 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.71 pounds per hour. Concentrations of off gas produced during the event were recorded from 781 parts per million by volume (PPM) to 1,448 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 11.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1E.

UST PROGRAM
DOCKETING # 18

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2E. Additional groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3E. Monitoring well locations are depicted on attached Figure 1.

A total of 210 gallons of liquid was removed from the monitoring wells during this event. Free Phase Petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

JC

John C. Bryant
Staff Geologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363E
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	12/11/07	9:30	0.50	15.0	1,448	1350	121.50	2.11	1.06
MW-21	12/11/07	10:00	0.50	15.0	1,422	1400	126.00	2.15	1.08
MW-22	12/11/07	10:30	0.50	15.0	1,357	1360	122.40	1.99	1.00
	12/11/07	11:00	0.50	15.0	1,403	1370	123.30	2.08	1.04
	12/11/07	11:30	0.50	15.0	1,393	1410	126.90	2.12	1.06
	12/11/07	12:00	0.50	15.0	1,014	1430	128.70	1.57	0.78
	12/11/07	12:30	0.50	15.0	987	1420	127.80	1.51	0.76
	12/11/07	13:00	0.50	11.0	1,096	1330	119.70	1.57	0.79
	12/11/07	13:30	0.50	11.0	1,131	1300	117.00	1.59	0.79
	12/11/07	14:00	0.50	11.0	1,094	1330	119.70	1.57	0.79
	12/11/07	14:30	0.50	11.0	986	1410	126.90	1.50	0.75
	12/11/07	15:00	0.50	11.0	876	1430	128.70	1.35	0.68
	12/11/07	15:30	0:50	11.0	905	1390	125.10	1.36	0.68
	12/11/07	16:00	0.50	11.0	893	1310	117.90	1.26	0.63
	12/11/07	16:30	0.50	11.0	921	1330	119.70	1.32	0.66
	12/11/07	17:00	0.50	11.0	951	1350	121.50	1.39	0.69
	12/11/07	17:30	0.50	11.0	781	1090	98.10	0.92	0.46
									TOTAL 13.69

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-20	2"	10.00	5.64	7.34	1.70	***	6.40	***	0.51
MW-21	2"	9.50	5.55	6.21	0.66	***	***	***	***
MW-22	2"	10.00	***	5.68	***	***	***	***	***

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-21	5.50
Truck Operator:	J. Bryant	MW-22	5.50
Stack I.D. (feet)	0.33 feet	MW-20	6.00

Corrected Depth to Water for MW-20 = 5.90

Recovery / Disposal Information

Hydro carbons Removed (vapor):	13.69	Pounds
Hydro carbons Removed (liquid):	100	Gallons
Total Hydrocarbons Removed:	2.36	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	210	Gallons

TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 07-1363E
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-22	MW-20
Approximate Distance:		21 ft	19 ft	45 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
9:30	0.0	0	0	0
10:00	0.5	0	0	0
10:30	1.0	0	0	0
11:00	1.5	0	0	0
11:30	2.0	0	0	0
12:00	2.5	0	0	0
12:30	3.0	0	0	0
13:00	3.5	0	0	0
13:30	4.0	0	0	0
14:00	4.5	0	0	0
14:30	5.0	0	0	0
15:00	5.5	0	0	0
15:30	6.0	0	0	0
16:00	6.5	0	0	0
16:30	7.0	0	0	0
17:00	7.5	0	0	0
17:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

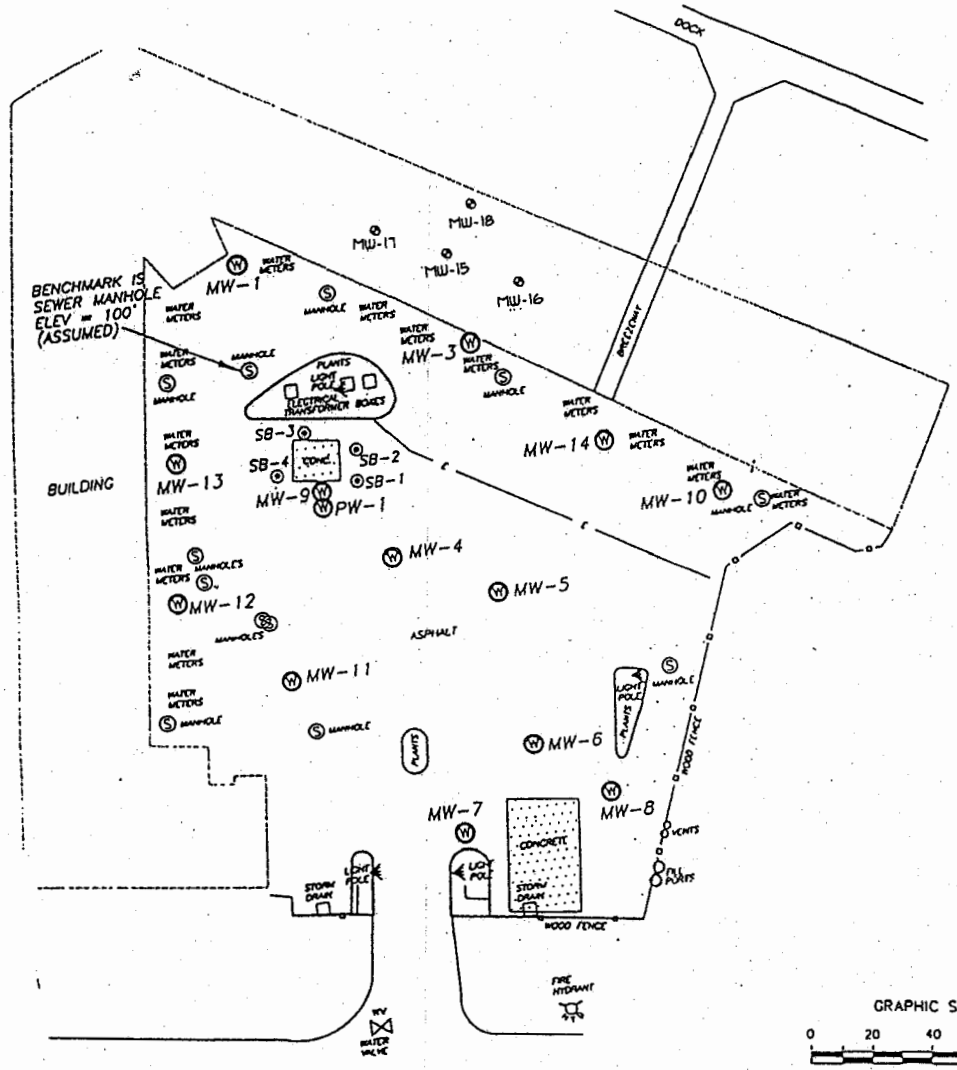
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-22	MW-20
Approximate Distance:		21 ft	19 ft	45 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.16	5.62	5.06
13:30	4 hours	5.12	6.24	5.02
17:30	8 hours	5.16	7.70	5.03
Maximum Change:		0.04	-2.08	0.04

TABLE 3E
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363E
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-18		MW-19	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
9:30	0.0	0	5.80	0	5.60
10:30	1.0	0	5.91	0	5.61
11:30	2.0	6.01	6.13	0	5.89
12:30	3.0	6.32	6.87	5.72	5.98
13:30	4.0	6.95	7.17	5.58	6.01
14:30	5.0	6.98	7.24	5.72	6.23
15:30	6.0	7.14	7.93	6.38	7.14
16:30	7.0	7.48	8.14	7.01	7.94
17:30	8.0	8.10	8.60	7.86	8.15



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

C 125269

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 16055	2. Page 1 of 1

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073
4. Generator's Phone ((803) 808-2043)

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non Hazardous Waste, oil/water	01	TT	990	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0116055

Richland County Public Works (SCDHEC# 11805) 160 gal;
Richland County Landfill (SCDHEC# 11808) 100 gal;
Beaufort Patrol Facility (01056) 80 gal
Minick's Texaco (07967) 120 gal
Bay Creek Villas (18662) 210 gal (Event E)
Bay Creek Villas (18662) 300 gal (Event F)

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

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

Printed/Typed Name	Signature	Month	Day	Year
CLARK BAG	[signature]	12	14	07

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Shawn DeSpain	[signature]	12	14	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JAN 04 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Reports received December 28, 2007
Colleton County

Dear Mr. Nunn:

On December 11, 2007, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed at the referenced facility. The installation of the additional recovery wells has significantly improved the free product recovery. More than 100 gallons of free product was removed during this event. Copies of the reports are enclosed. Additional AFVR events will take place to continue with the free product recovery.

It has also been noted that the thickness of free product in monitoring well 19 has been increasing. This suggests additional free product along the sea wall west of MW-19. A directive is being prepared for Midlands to install 2 or 3 additional recovery wells west of MW-19.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S Miner

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

enc: AFVR Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST PROGRAM
DOCKETING # 19

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JAN 18 2008

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

Re: Bid # IBF-30519-8/8/06-EMW; PO # 646282
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Aggressive Fluid Vapor Recovery (AFVR) event at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 646282 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit#	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
18662	Bay Creek Villas	Colleton	1	8 AFVR	60 days	31488	8,640.00
07704	Pitt Stop 40	Richland	1	2 AFVR	60 days	31497	2,275.00
08650	George Souther's Grocery	Spartanburg	1	4 AFVR	60 days	31550	4,375.00

*From receipt of letter

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

UST PROGRAM
DOCKETING # 20

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval.

Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

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

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

Sincerely,

Maia Milenkova

Maia Milenkova, Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packets

cc: Technical File (w/copy of ACA)

SCDHEC/UST/01/17/08/MPM

Approved Cost Agreement 31488

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	8.0000	350.00	2,800.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	2,400.0000	0.10	240.00
23 EFR						
		A	8 HOUR EVENT	8.0000	600.00	4,800.00
		C	OFF GAS TREATMENT	8.0000	100.00	800.00
				Total Amount		8,640.00

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JAN 04 2008

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

Re: Bid # SB-28162-5/26/05-EMW; PO# 586441
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct assessments at several facilities. The packets contain the necessary approval for work to begin. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 586441 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit#	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
18662	Bay Creek Villas	Colleton	1	Monitoring well installation	60 days	31447	$610.00
19356	Kelly Property	Lancaster	1	IGWA	60 days	31384	$275.00

21

1

*From receipt of letter

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

The Bureau grants preapproval for transportation of drums of virgin petroleum contaminated soil and drums of groundwater from the referenced site to a permitted treatment facility. The contaminated soil and/or groundwater must be properly stored in labeled 55-gallon drums or equivalent containers. The contaminated soil and/or groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. Please note, transportation of waste oil contaminated soil must receive preapproval from the Division of Waste Assessment & Emergency Response.

UST PROGRAM
DOCKETING # _____

Please provide this office with a schedule of drilling dates and coordinate all work with me before commencing work at the facility. If you have any questions or need further assistance, please contact me at (803) 896-6323.

Sincerely,

Stephanie Briney

Stephanie Briney, Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

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

cc: Stephanie Briney, UST Program (w/out enc)
Technical Files (w/ copy of MWA)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

Monitoring Well Approval

Approval is hereby granted to: Midlands Environmental Consultants, Inc.
(On behalf of): Bay Creek Villas
Facility: Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC
UST Permit Number: 18662
County: Colleton

This approval is for the installation of 3 monitoring/recovery wells. 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 and recovery wells shall be labeled as required by R.61-71.H.2.c.

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

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

5. If any of the information provided to the Department changes, notification to Read Miner (tel: 803-896-6584 or e-mail: minerrs@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

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

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

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

Date of Issuance: **January 3, 2008** **Approval #:** **UMW-21410**

Read S. Miner

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

Midlands
Environmental
Consultants, Inc.

January 18, 2008

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
JAN 23 2008
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #30467
MECI Project Number 07-1363G

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on January 15, 2007. The event was conducted on monitoring wells MW-18, MW-20, and MW-21 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring wells MW-18 at a thickness of 0.08 feet, in MW-20 at a thickness of 0.20 feet, and in MW-21 at a thickness of 0.09 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 10.36 pounds or approximately 1.79 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.30 pounds per hour. Concentrations of off gas produced during the event were recorded from 437 parts per million by volume (PPM) to 1,568 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 14.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1G.

UST PROGRAM
DOCKETING #

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2G. Additional differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3G. Monitoring well locations are depicted on attached Figure 1.

A total of 200 gallons of liquid was removed from monitoring wells MW-18, MW-20, and MW-21 during this event. Free Phase Petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1G
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363G
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	01/15/07	9:30	0.50	14.0	1,568	***	100.00	1.88	0.94
MW-20	01/15/07	10:00	0.50	14.0	1,470	***	100.00	1.76	0.88
MW-21	01/15/07	10:30	0.50	14.0	1,524	***	100.00	1.83	0.91
	01/15/07	11:00	0.50	14.0	1,498	***	100.00	1.80	0.90
	01/15/07	11:30	0.50	14.0	1,278	***	100.00	1.53	0.77
	01/15/07	12:00	0.50	14.0	1,268	***	100.00	1.52	0.76
	01/15/07	12:30	0.50	14.0	1,104	***	110.00	1.46	0.73
	01/15/07	13:00	0.50	10.0	998	***	120.00	1.44	0.72
	01/15/07	13:30	0.50	10.0	754	***	120.00	1.09	0.54
	01/15/07	14:00	0.50	10.0	862	***	120.00	1.24	0.62
	01/15/07	14:30	0.50	10.0	717	***	120.00	1.03	0.52
	01/15/07	15:00	0.50	10.0	587	***	120.00	0.85	0.42
	01/15/07	15:30	0.50	10.0	456	***	120.00	0.66	0.33
	01/15/07	16:00	0.50	10.0	501	***	120.00	0.72	0.36
	01/15/07	16:30	0.50	10.0	437	***	120.00	0.63	0.31
	01/15/07	17:00	0.50	10.0	448	***	120.00	0.65	0.32
	01/15/07	17:30	0.50	10.0	449	***	120.00	0.65	0.32
									TOTAL 10.36

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10.00	7.49	7.57	0.08	***	6.41	***	-1.09
MW-20	2"	10.00	7.18	7.38	0.20	***	5.90	***	-1.31
MW-21	2"	9.50	7.42	7.51	0.09	***	6.85	***	-0.58

Vacuum Truck Information

		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	7.50
Truck Operator:	J. Bryant	MW-20	7.50
Stack I.D. (feet)	0.33 feet	MW-21	7.50

Corrected Depth to Water for MW-18 = 7.50
Corrected Depth to Water for MW-20 = 7.21
Corrected Depth to Water for MW-21 = 7.43

Recovery / Disposal Information

Hydro carbons Removed (vapor):	10.36	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.79	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	200	Gallons

Note: Due to tidal change, stinger depth was re-adjusted at 13:00 EST on January 15, 2007. (see below)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Depth (ft)
MW-18	***	6.58	6.50
MW-20	***	6.43	6.50
MW-21	***	6.61	6.50

TABLE 2G
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 07-1363G
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-22	**MW-16**	**MW-15**
Nearest Extraction Well:		MW-21	MW-21	MW-18
Approximate Distance:		10 ft	15 ft	20 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
9:30	0.0	0	0	0
10:00	0.5	0	0	0
10:30	1.0	0	0	0
11:00	1.5	0	0	0
11:30	2.0	0	0	0
12:00	2.5	0	0	0
12:30	3.0	0	0	0
13:00	3.5	0	0	0
13:30	4.0	0	0	0
14:00	4.5	0	0	0
14:30	5.0	0	0	0
15:00	5.5	0	0	0
15:30	6.0	0	0	0
16:00	6.5	0	0	0
16:30	7.0	0	0	0
17:00	7.5	0	0	0
17:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

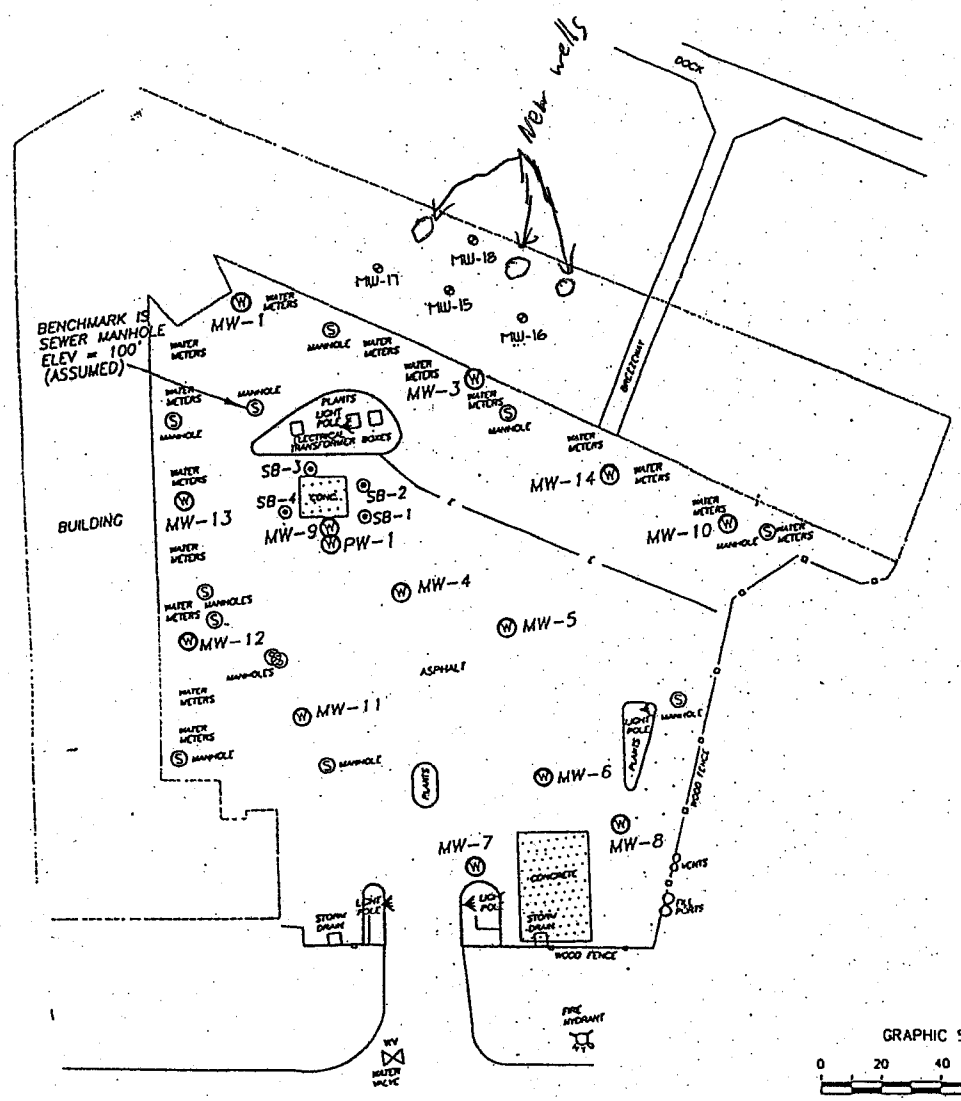
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-22	**MW-16**	**MW-15**
Nearest Extraction Well:		MW-21	MW-21	MW-18
Approximate Distance:		10 ft	15 ft	20 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		7.25	7.36	4.98
13:30	4 hours	6.28	6.25	4.96
17:30	8 hours	7.18	7.13	4.99
Maximum Change:		0.97	1.11	0.02

TABLE 3G
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363G
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-17		MW-19		MW-23		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
9:30	0.0	0	5.89	0	7.48	0	8.61	0	9.40	0	5.89
10:00	0.5	0	5.78	0	7.38	0	8.61	0	9.41	0	5.78
10:30	1.0	0	5.73	0	7.12	0	8.61	0	9.41	0	5.73
11:00	1.5	0	5.69	0	7.11	0	8.71	0	9.41	0	5.69
11:30	2.0	0	5.61	0	7.01	0	8.71	0	9.41	0	5.61
12:00	2.5	0	5.11	0	6.93	0	8.72	0	9.42	0	5.11
12:30	3.0	0	4.91	0	6.87	0	8.73	0	9.44	0	4.91
13:00	3.5	0	4.74	0	6.71	0	8.73	0	9.44	0	4.74
13:30	4.0	0	4.83	0	6.66	0	8.73	0	9.45	0	4.93
14:00	4.5	0	4.81	0	6.54	0	8.73	0	9.44	0	4.81
14:30	5.0	0	4.74	0	6.43	0	8.74	0	9.44	0	4.74
15:00	5.5	0	4.81	0	6.58	0	8.73	0	9.43	0	4.81
15:30	6.0	0	4.89	0	6.78	0	8.73	0	9.43	0	4.89
16:00	6.5	0	4.98	0	6.91	0	8.73	0	9.41	0	4.98
16:30	7.0	0	5.02	0	7.14	0	8.72	0	9.40	0	5.02
17:00	7.5	0	5.11	0	7.21	0	8.71	0	9.40	0	5.11
17:30	8.0	0	5.19	0	7.38	0	8.69	0	9.40	0	5.19



Explanation:

⊗ Location of Waterable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 3, 2006
FIGURE 1

C 123882

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 17396	2. Page 1 of 1

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073
(803) 808-2043
4. Generator's Phone ( )

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	2075	G
b.				
c.				
d. Community Quick Shop (11694) 125gal. Cousars Superette (08897) 40gal. Lebanon Quick Shop (15445) 80gal. Cousars Superette (08897) 30gal. Freindly Marks (A) (11693) 0gal. Chester School bus Stop (02159) 150gal. Constan Car wash (07871) 110gal.				

D. Additional Descriptions for Materials Listed Above
United Oil 126 (06097) 80gal. Country Side 26 (06742) 140gal.
Glovers Service Station (06994) 10gal. Fmr. Ford Specialist (05487) 40gal.
Fmr. Fast Fare (18131) 100gal. Smiths Gulf Service (00466) 80gal.
Handy Pantry (04732) 60gal. Pitt Stop 23 (07837) 80gal.
Country Side 2H (06742) 100gal. Charleston County (09784) 60gal.
Bay Creek (18662) 200gal.
Beaufort patrol (01056) 100gal.
Jacksonboro-Force (Webbs) (14403) 100gal.
Minicks Texaco (07967) 15gal. Randy auto parts (30730) 145gal.
Arants (02578) 155gal.
Stonewall Jackson (15581) 75gal.

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Service Call ID: GLB0117396
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

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

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman (for Michaels)	Troy Backman	01	23	02

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	Troy Backman	01	23	02

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

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

JAN 28 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Reports received January 23, 2008
Colleton County

Dear Mr. Nunn:

On January 15, 2008, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed at the referenced facility. A copy of the report is enclosed. The thickness of free product has significantly decreased in monitoring wells MW-18, MW-20, and MW-21. Accordingly, the volume of free product removed during the event has dropped to 1.79 gallons. Free product was not found in the three additional wells installed this month. It appears that the AFVR is successfully reducing the area and volume of free product. Additional AFVR events will take place to continue with the free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: AFVR Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST PROGRAM
...TING # 23

Midlands
Environmental
Consultants, Inc.

January 31, 2008

RECEIVED
FEB 0 6 2008
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern Corrective Action Section
Assessment & 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,
Bay Creek Villas
3701 Dockside Road
Edisto Beach, South Carolina
SCDHEC Site ID# 18662, CA # 31447
MECI Project Number 07-1489

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the following Report of Monitoring Well Installation. The activities and results described in this report are not intended to fully characterize the conditions at the subject site, but should be considered with respect to previous assessment activities performed. This report describes activities conducted at your request.

FIELD EXPLORATION

Three single cased watertable bracketing monitoring wells (MW-23, MW-24, and MW-25) were installed at the subject site. Following the installation of the monitoring wells a subsequent survey was conducted by MECI personnel to locate the newly installed groundwater monitoring wells.

MONITORING WELL INSTALLATION

On January 14, 2008, monitoring wells MW-23, MW-24, and MW-25 were installed at the site. These wells were installed by Geologic Exploration, Inc. (SCDHEC License – Jason Mantak# 1494). The wells were installed using a stainless steel hand augur to construct the borehole. Monitoring wells MW-23, MW-24, and MW-25 were advanced to a depth of 10.0 feet below ground surface (BGS) with a screened interval of 3.0 to 10.0 feet (BGS). Please find the attached Monitoring Well Installation Records for well construction details.

UST PROGRAM
DOCKETING # 24

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

Following the installation of these additional monitoring wells, a subsequent survey of the site was performed by MECI personnel to locate the additional monitoring wells. Please see Figure 2 for well locations. Top of casing (TOC) elevations for the additional monitoring wells are as follows: MW-23 = 100.29 feet, MW-24 = 100.37 and MW-25 = 100.40 feet. These elevations were determined using an elevation of 100.33 feet for MW-19 as a benchmark for surveying purposes.

WASTE DISPOSAL

Drill cuttings were containerized and later transported to Waste Management/Richland Landfill, Elgin, SC by MECI personnel. A total of 0.21 tons was disposed of in this manner. A disposal manifest for these soils is attached at the end of this report.

Following completion of the monitoring wells, the wells were developed by bailing at least three well volumes or until they were determined to be functioning properly and turbidity was reduced. The development water was drummed and treated onsite utilizing a Portable Granular Activated Carbon Unit. A total of one (1) drum of purge/development water was created during the development of monitoring wells. Test Boring Records showing soil descriptions are included in the Appendix. Monitoring well installation details are also provided in the Appendix.

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

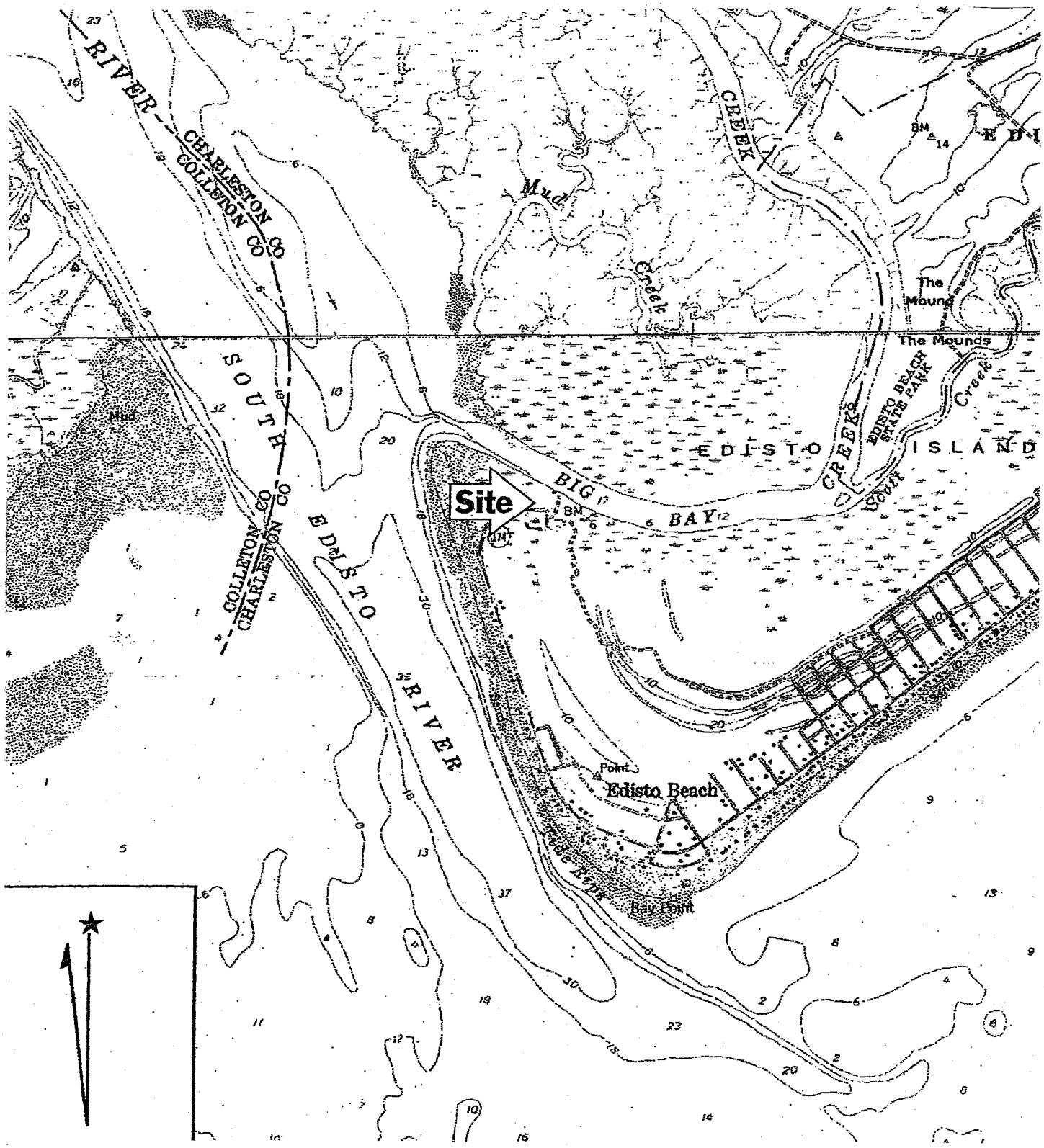
Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary, P.G.
Senior Geologist

Attachments

FIGURES



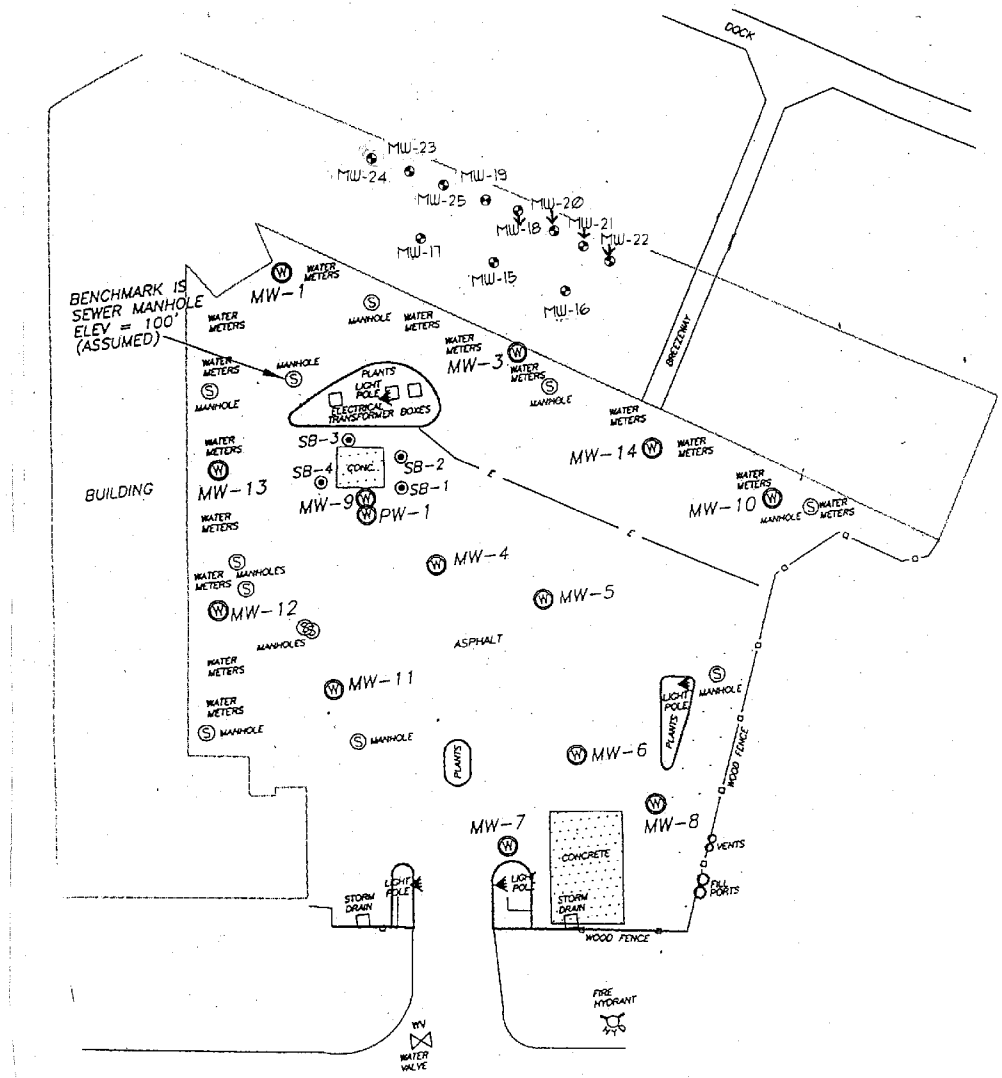
GRAPHIC SCALE

0 1000 2000 4000

1IN = 2000FT

Reference: Edisto Beach, SC
Edisto Island, SC
USGS 7.5 Min. Quad
Contour Interval – 10 Feet

Midlands Environmental Consultants, Inc.	Site Location
Bay Creek Villas 3701 Dockside Rd. SCDHEC Site 18662	
Figure 1	MECI 08-1489



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

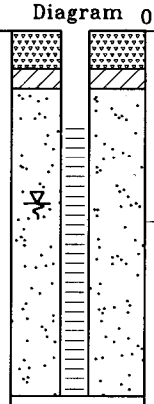
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

BORING LOGS

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot 0 5 10 20 40 60 80 100
	Asphalt with Stone Base			
	Black, SILT			NO BLOWCOUNTS RECORDED
5				
	Black, CLAY with Shell Fragments			
10	Boring Terminated at 9.5 Feet. Monitoring Well Installed to 9.5 Feet. Groundwater Measured 4.34 Feet Below Ground Surface on 1/29/2008.			
15				
20				
25				
30				
35				



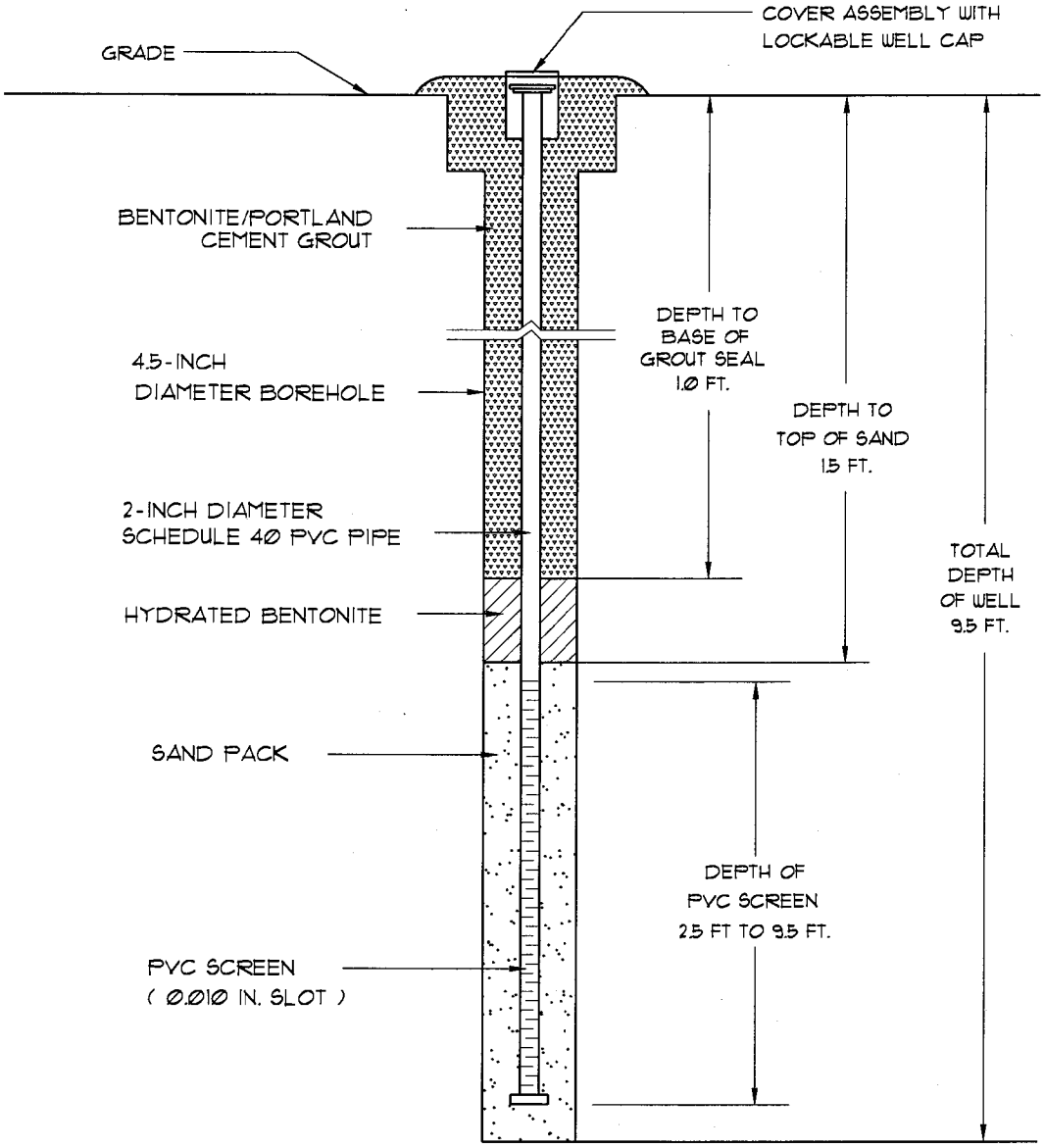
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1489

Boring Number:	MW-23
Date Drilled:	1/14/08
Drilled By:	Geologic Exploration Inc.
Logged By:	J. Coleman

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

MONITORING WELL INSTALLATION RECORD

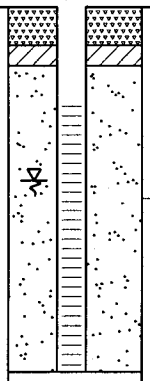
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1489



Well Number:	MW-23
Date Drilled:	1/14/08
Drilled By:	Geologic Exploration Inc.
Driller: R. Wilkie	S.C. I.D. #: D 01941
Logged By:	J. Coleman

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

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot 0 5 10 20 40 60 80 100
	Asphalt with Stone Base			
	Black, SILT			NO BLOWCOUNTS RECORDED
5				
	Black, CLAY with Shell Fragments			
10	Boring Terminated at 9.5 Feet. Monitoring Well Installed to 9.5 Feet. Groundwater Measured 4.32 Feet Below Ground Surface on 1/29/2008.			
15				
20				
25				
30				
35				



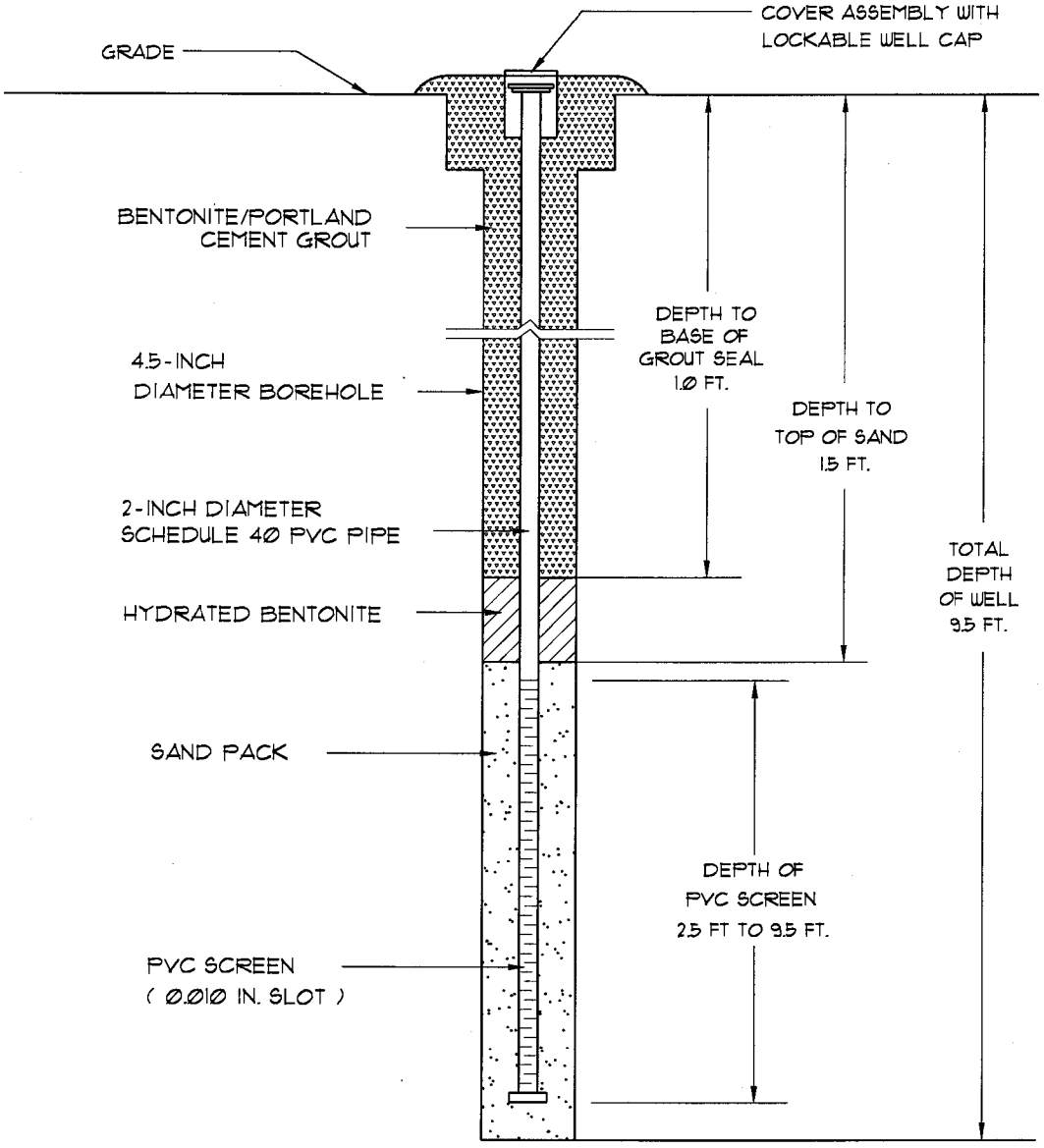
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1489

Boring Number:	MW-24
Date Drilled:	1/14/08
Drilled By:	Geologic Exploration Inc.
Logged By:	J. Coleman

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

MONITORING WELL INSTALLATION RECORD

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1489



Well Number:	MW-24
Date Drilled:	1/14/08
Drilled By:	Geologic Exploration Inc.
Driller: R. Wilkie	S.C. I.D. #: D 01941
Logged By:	J. Coleman

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

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Asphalt with Stone Base			
	Black, SILT			NO BLOWCOUNTS RECORDED
5				
	Black, CLAY with Shell Fragments			
10	Boring Terminated at 9.5 Feet. Monitoring Well Installed to 9.5 Feet. Groundwater Measured 6.60 Feet Below Ground Surface on 1/29/2008.			
15				
20				
25				
30				
35				

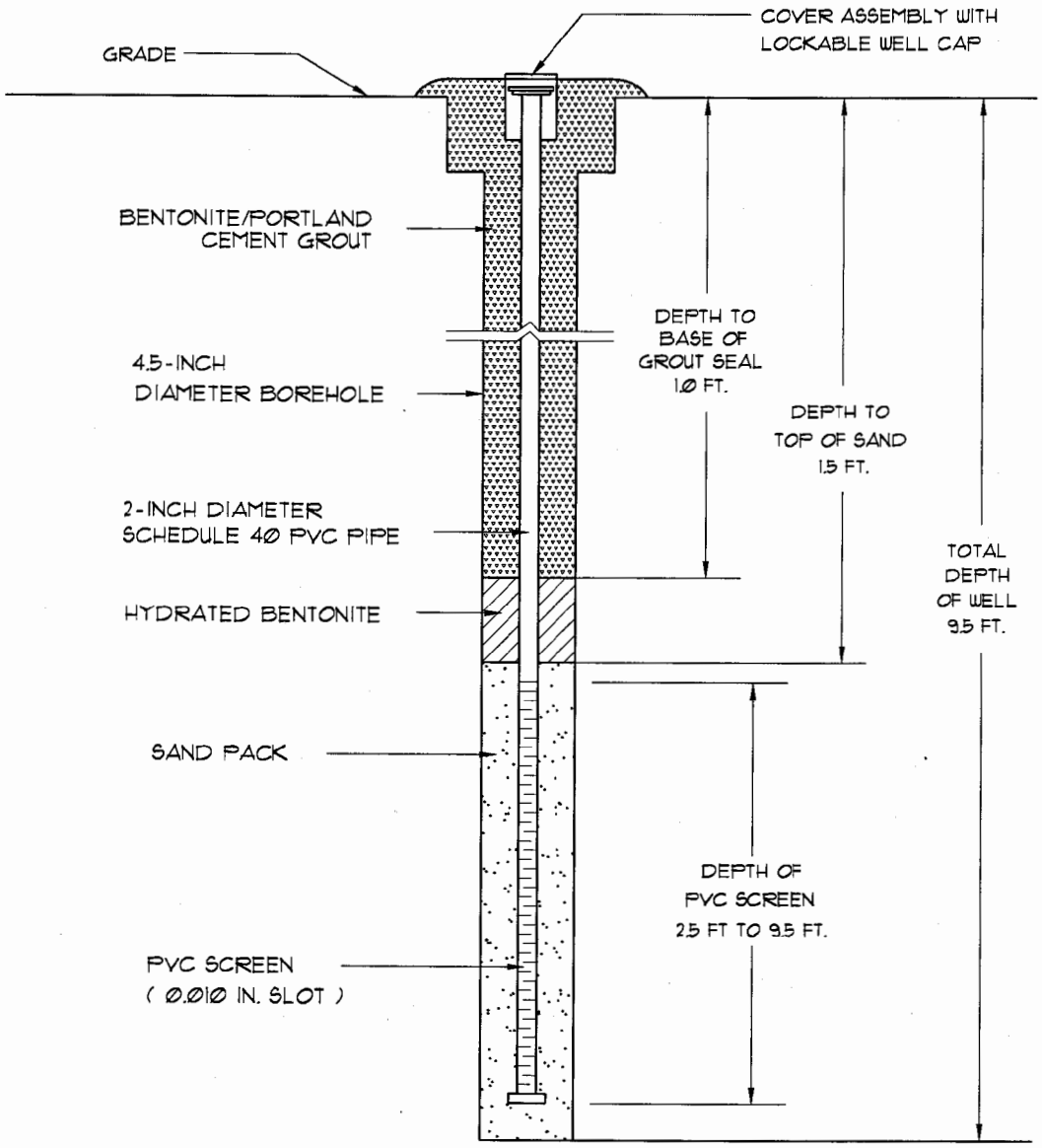
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1489

Boring Number:	MW-25
Date Drilled:	1/14/08
Drilled By:	Geologic Exploration Inc.
Logged By:	J. Coleman

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

MONITORING WELL INSTALLATION RECORD

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 07-1489



Well Number:	MW-25
Date Drilled:	1/14/08
Drilled By:	Geologic Exploration Inc.
Driller: R. Wilkie	S.C. I.D. #: D 01941
Logged By:	J. Coleman

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

D H E C
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: BAY CREEK VILLAS (last) (first)
Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH State: SC Zip: 29438
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** COLLETON
Name: BAY CREEK VILLAS
Street Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH Zip:
Latitude: Longitude:

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

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

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
BROWN SANDY SHELL	4.0	4.0
GREEN CLAYEY SANDY SHELL	5.5	9.5
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-~~22~~ 23 BENTONITE SEAL FROM 1.0 TO 1.5 FT.

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

7. PERMIT NUMBER:

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

9. WELL DEPTH (completed) Date Started: 01/14/08
9.5 ft. Date Completed: 01/14/08

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 2.5 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 7.0 FEET
Set Between: 2.5 ft. and 9.5 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 6.0 ft. below land surface after 24 hours

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

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

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.5 ft. to 9.5 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 1.0 ft.

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

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

19. WELL DRILLER: RUSS WILKIE **CERT. NO.:** 01941
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

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

Signed: Robert R Wilkie Jr. Date: 02/04/08
Well Driller

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

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

D H E C
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: BAY CREEK VILLAS (last) (first)
Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH State: SC Zip: 29438
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** COLLETON
Name: BAY CREEK VILLAS
Street Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH Zip:
Latitude: Longitude:

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

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

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
BROWN SANDY SHELL	4.0	4.0
GREEN CLAYEY SANDY SHELL	5.5	9.5
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-~~25~~ 24 BENTONITE SEAL FROM 1.0 TO 1.5 FT.

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

7. PERMIT NUMBER:

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

9. WELL DEPTH (completed) Date Started: 01/14/08
9.5 ft. Date Completed: 01/14/08

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 2.5 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 7.0 FEET
Set Between: 2.5 ft. and 9.5 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 6.0 ft. below land surface after 24 hours

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

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

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.5 ft. to 9.5 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 1.0 ft.

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

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

19. WELL DRILLER: RUSS WILKIE **CERT. NO.:** 01941
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

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

Signed: Robert R Wilkie Jr Date: 02/04/08
Well Driller

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

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

DHEC
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: BAY CREEK VILLAS (last) (first)
Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH State: SC Zip: 29438
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** COLLETON
Name: BAY CREEK VILLAS
Street Address: 3701 DOCKSIDE ROAD
City: EDISTO BEACH Zip:
Latitude: Longitude:

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

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

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
BROWN SANDY SHELL	4.0	4.0
GREEN CLAYEY SANDY SHELL	5.5	9.5

*Indicate Water Bearing Zones
(Use a 2nd sheet if needed)

5. REMARKS:
MW-~~24~~ 25 BENTONITE SEAL FROM 1.0 TO 1.5 FT.

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

7. PERMIT NUMBER:

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

9. WELL DEPTH (completed) Date Started: 01/14/08
9.5 ft. Date Completed: 01/14/08

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 2.5 ft. depth
______ in. to ______ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight ______ lb./ft.
Drive Shoe? ☑ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 7.0 FEET
Set Between: 2.5 ft. and 9.5 ft. **NOTE: MULTIPLE SCREENS**
______ ft. and ______ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 6.0 ft. below land surface after 24 hours

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

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

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.5 ft. to 9.5 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From 0.0 ft. to 1.0 ft.

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

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

19. WELL DRILLER: RUSS WILKIE **CERT. NO.:** 01941
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

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

Signed: Hobert R Wilkie Jr Date: 02/04/08
Well Driller

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

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

WASTE DISPOSAL MANIFEST

WASTE MANAGEMENT

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

Original
Ticket# 862020

Customer Name MIDLANDSENVIRON MIDLANDS ENVI
Ticket Date 01/29/2008
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile VA2718 (SOIL FROM UST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

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

Volume

	Time	Scale	ScaleMaster		
In	01/29/2008 15:10:28	Scale1	Devin	Gross	12580 lb
Out	01/29/2008 15:39:24	Scale2	Devin	Tare	10920 lb
				Net	1660 lb
				Tons	0.83

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	SOIL-Cont. Soil -	100	0.83	Tons				40-RICHLAN
2	FUEL-Fuel Surcharg	100		%				40-RICHLAN
3	ENV-ENVIRONMENTAL	100		%				40-RICHLAN

Total Fees
Total Ticket

SIGNATURE

403WM

WASTE MANAGEMENT

SPECIAL WASTE MANIFEST

WASTE ID # VA2718

EXPIRATION DATE: November 14, 2008

RICHLAND LANDI
1047 Hwy Church Rd
Elgin, SC 29045
(803)788-3054
(803)736-0995-Fax

PREPARED BY CAROL WELDON (205)-652-8186

GENERATOR OF WASTE: M.E.I.C. (Midlands Environmental Consultants, Inc)

CUSTOMER ACCOUNT: MIDLANDS ENV/ 820-489

LOCATION OF WASTE: 1144 Old Two Notch Road

PHONE # 803-808-2043 CONTACT: Bryan Shane

FAX # 803-808-2048

GENERATOR'S SIGNATURE B Shane DATE: 1/29/08

TRANSPORTER OF WASTE MECI

DATE: 1/29/08 TRUCK NO. 1

DRIVER'S SIGNATURE

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

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

DESCRIPTION OF WASTE SOIL from UST Assessment Soil

TICKET NO.# 662020 TONNAGE 0.83

RECEIVED BY

1/4 Bay Creek
1/4 - Youngs 18
1/2 - Poziers Grocery

January 31, 2008

Midlands Environmental Consultants, Inc.

Re: Treatment of Purge Water
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 07-1489

To Whom it May Concern;

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

Applicability:

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

Conditions:

1. The worst-case well analysis was obtained before usage of the Activated Carbon Unit. The worst-case well analysis shows only petroleum hydrocarbon constituents in the purge/bail water with minimal, background concentrations of lead. The purge/bail water was containerized on site before treatment for less than 30 days prior to treatment.

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

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

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

5. Record of usage is maintained by Contractor.

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

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

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

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

One 55-gallon drum was treated on January 14, 2008 at the referenced site.

A total of one (1) 55-gallon drum was treated at the referenced site.

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

FEB 07 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **Well Installation Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Well Installation Report received February 6, 2008
Colleton County

Dear Mr. Nunn:

On January 14, 2008, three additional recovery wells were installed at the referenced facility. A copy of the report is enclosed. Free product was not observed on the date of installation. However, these wells will be periodically gauged and included in the Aggressive Fluid Vapor Recovery (AFVR) events as appropriate.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Monitoring Well Installation Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST PROGRAM DOCKETING # 25

Midlands
Environmental
Consultants, Inc.

February 12, 2008

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
FEB 13 2008
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #30467
MECI Project Number 07-1363H

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on January 29, 2008. The event was conducted on monitoring wells MW-18, MW-20, and MW-21 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.04 feet, in MW-20 at a thickness of 0.49 feet, and in MW-21 at a thickness of 0.11 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 7.04 pounds or approximately 1.22 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.88 pounds per hour. Concentrations of off gas produced during the event were recorded from 374 parts per million by volume (PPM) to 801 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 11.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1H.

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

UST PROGRAM
DOCKETING # 26

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2H. Additional differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3H. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from monitoring wells MW-18, MW-20, and MW-21 during this event. Free Phase Petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Clark S. Baer (REG)

Clark S. Baer
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1H
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363H
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	01/29/08	11:30	0.50	12.0	801	***	130.00	1.25	0.62
MW-20	01/29/08	12:00	0.50	12.0	748	***	130.00	1.17	0.58
MW-21	01/29/08	12:30	0.50	15.0	708	***	110.00	0.93	0.47
	01/29/08	13:00	0.50	15.0	694	***	110.00	0.92	0.46
	01/29/08	13:30	0.50	15.0	699	***	110.00	0.92	0.46
	01/29/08	14:00	0.50	15.0	711	***	110.00	0.94	0.47
	01/29/08	14:30	0.50	15.0	704	***	110.00	0.93	0.46
	01/29/08	15:00	0.50	15.0	598	***	110.00	0.79	0.39
	01/29/08	15:30	0.50	15.0	589	***	110.00	0.78	0.39
	01/29/08	16:00	0.50	15.0	621	***	110.00	0.82	0.41
	01/29/08	16:30	0.50	15.0	609	***	110.00	0.80	0.40
	01/29/08	17:00	0.50	15.0	583	***	110.00	0.77	0.38
	01/29/08	17:30	0.50	11.0	386	***	130.00	0.60	0.30
	01/29/08	18:00	0.50	11.0	374	***	130.00	0.58	0.29
	01/29/08	18:30	0.50	11.0	391	***	130.00	0.61	0.30
	01/29/08	19:00	0.50	11.0	401	***	130.00	0.63	0.31
	01/29/08	19:30	0.50	11.0	408	***	130.00	0.64	0.32
									TOTAL 7.04

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10.00	6.48	6.52	0.04	***	5.13	***	-1.36
MW-20	2"	10.00	5.90	6.39	0.49	***	4.81	***	-1.16
MW-21	2"	9.50	7.28	7.39	0.11	***	5.89	***	-1.41

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	6.50
Truck Operator:	J. Bryant	MW-20	6.00
Stack I.D. (feet)	0.33 feet	MW-21	7.00

Corrected Depth to Water for MW-18 = 6.49
Corrected Depth to Water for MW-20 = 5.97
Corrected Depth to Water for MW-21 = 7.30

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	7.04	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.22	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	150	Gallons

Note: Due to tidal change, stinger depth was re-adjusted at 15:30 EST on January 29, 2008. (see below)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Depth (ft)
MW-18	***	5.91	6.00
MW-20	***	4.83	4.50
MW-21	***	6.12	6.00

TABLE 2H
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 07-1363H
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-17	**MW-16**	**MW-15**
Nearest Extraction Well:		MW-21	MW-21	MW-18
Approximate Distance:		10 ft	15 ft	20 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:30	0.0	0	0	0
12:00	0.5	0	0	0
12:30	1.0	0	0	0
13:00	1.5	0	0	0
13:30	2.0	0	0	0
14:00	2.5	0	0	0
14:30	3.0	0	0	0
15:00	3.5	0	0	0
15:30	4.0	0	0	0
16:00	4.5	0	0	0
16:30	5.0	0	0	0
17:00	5.5	0	0	0
17:30	6.0	0	0	0
18:00	6.5	0	0	0
18:30	7.0	0	0	0
19:00	7.5	0	0	0
19:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

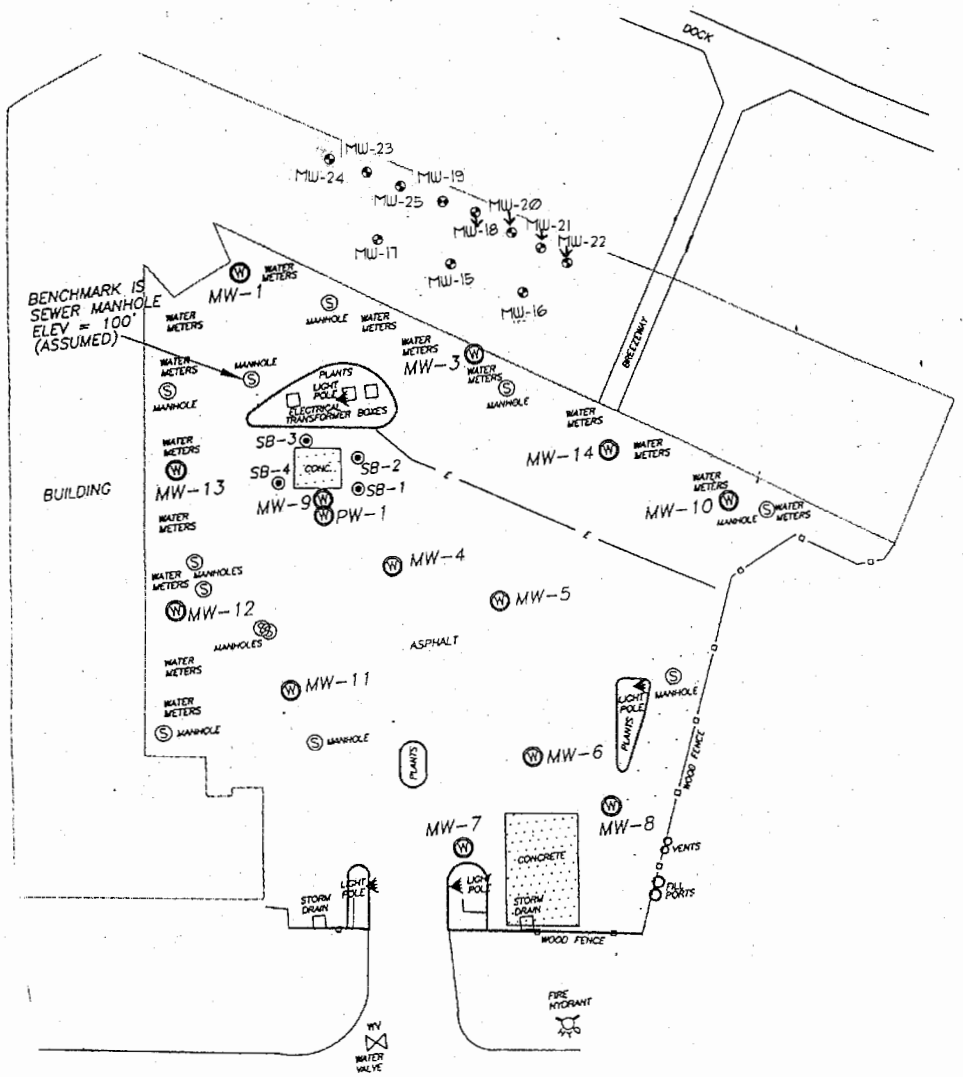
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-17	**MW-16**	**MW-15**
Nearest Extraction Well:		MW-21	MW-21	MW-18
Approximate Distance:		10 ft	15 ft	20 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.50	6.11	4.60
15:30	4 hours	4.45	4.60	4.61
19:30	8 hours	4.61	6.21	4.62
Maximum Change:		0.05	1.51	-0.01

TABLE 3H
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1363H
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-19		MW-22		MW-23		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
11:30	0.0	0	6.44	0	6.25	0	4.34	0	4.32	0	6.60
12:00	0.5										
12:30	1.0	0	6.41	0	6.13	0	4.34	0	4.32	0	6.50
13:00	1.5										
13:30	2.0	0	6.12	0	6.01	0	4.33	0	4.68	0	5.98
14:00	2.5										
14:30	3.0	0	5.93	0	5.91	0	4.32	0	4.98	0	5.13
15:00	3.5										
15:30	4.0	0	5.78	0	5.80	0	4.32	0	5.51	0	4.99
16:00	4.5										
16:30	5.0	0	5.61	0	5.85	0	4.31	0	5.47	0	5.02
17:00	5.5										
17:30	6.0	0	5.91	0	5.91	0	4.32	0	5.31	0	5.81
18:00	6.5										
18:30	7.0	0	6.01	0	6.13	0	4.32	0	5.08	0	5.99
19:00	7.5										
19:30	8.0	0	6.31	0	6.28	0	4.33	0	4.76	0	6.41



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1 IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

C 123749

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 18563	2. Page 1 of 1

GENERATOR

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

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	2400	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above: Lowes Grocery B(00720)20gal. Friendly marks A(11693)50gal. bubbse bait + Food(08843)140gal. Austin Moving + storage(04038)80gal. Scbot Newberry A(10492)30gal. Hornes General(12641)150gal. Constan R1B(07871)210gal. chester school bus shop(02159)100gal. Scbot Newberry B(10492)35gal.

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information: Bay Creek Villas H(18662)150gal. Beuforrt patrol C(01056)20 Service Call ID: GLB0118563 United Oil 126B(06097)60gal. Shelton Food A(00877)140gal. Shelton Food B(00877)80gal. Lucky's corner mart(11369)160gal. Newberry Co Law(15591)160gal Scbot Newberry C(10492)160gal. Pit Stop 40(07704)120gal. Hughes Well drill(00358)120gal Emergency Response: Infotrac - 800-535-5053 Newberry Co. Airport(15590)140gal Caller must ID Crandall as registrant Cooper auto sales(18009)20gal. Pit stop 23(07837)25gal. Food Chief 47(05419)30gal. George Southers(08650)20gal.

TRANSPORTER

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

Printed/Typed Name	Signature	Month	Day	Year
Korey E Garnett	Korey E Garnett	02	11	08

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Shawn DeSpain	[signature]	02	11	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR COPY

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

FEB 19 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received February 13, 2008
Colleton County

Dear Mr. Nunn:

On January 29, 2008, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed at the referenced facility. A copy of the report is enclosed. The thickness of free product has significantly decreased in monitoring wells MW-18, MW-20, and MW-21. Accordingly, the volume of free product removed during the event has dropped to 1.22 gallons. Free product was not found in any of the other wells. It appears that the AFVR is successfully reducing the area and volume of free product. Additional AFVR events will take place to continue with the free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S Miner

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

enc: AFVR Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST PROGRAM
DOCKETING # 27 Med

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

FEB 19 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received February 13, 2008
Colleton County

Dear Mr. Nunn:

On January 29, 2008, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed at the referenced facility. A copy of the report is enclosed. The thickness of free product has significantly decreased in monitoring wells MW-18, MW-20, and MW-21. Accordingly, the volume of free product removed during the event has dropped to 1.22 gallons. Free product was not found in any of the other wells. It appears that the AFVR is successfully reducing the area and volume of free product. Additional AFVR events will take place to continue with the free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S Miner

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

enc: AFVR Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST PROGRAM
DOCKETING # 27 Med

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

MAR 04 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received March 3, 2008
Colleton County

Dear Mr. Nunn:

On February 18, 2008, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed at the referenced facility. A copy of the report is enclosed. The thickness of free product has significantly decreased in monitoring wells MW-18, MW-19, MW-20, and MW-21. Accordingly, the volume of free product removed during the event has dropped to 1.85 gallons. Free product was not found in any of the other wells. It appears that the AFVR is successfully reducing the area and volume of free product. Additional AFVR events will take place to continue with the free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: AFVR Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST PROGRAM
DOCKETING # 29

Midlands
Environmental
Consultants, Inc.

March 17, 2008

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #31488
MECI Project Number 08-1509B

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 10, 2008. The event was conducted on monitoring wells MW-20, and MW-21 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.25 feet, and in MW-21 at a thickness of 0.14 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 7.88 pounds or approximately 1.36 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.99 pounds per hour. Concentrations of off gas produced during the event were recorded from 211 parts per million by volume (PPM) to 1,908 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 15.0 to 18.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

UST PROGRAM
DOCKETING # 30tech

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2B. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3B. Monitoring well locations are depicted on attached Figure 1.

A total of 200 gallons of liquid was removed from monitoring wells MW-20 and MW-21 during this event. Free phase petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Brandon T. Guiles
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509B
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	03/10/08	10:00	0.50	15.0	287	1350	121.50	0.42	0.21
MW-21	03/10/08	10:30	0.50	15.0	268	1380	124.20	0.40	0.20
	03/10/08	11:00	0.50	16.0	851	1030	92.70	0.95	0.47
	03/10/08	11:30	0.50	18.0	901	700	63.00	0.68	0.34
	03/10/08	12:00	0.50	18.0	890	740	66.60	0.71	0.36
	03/10/08	12:30	0.50	18.0	870	830	74.70	0.78	0.39
	03/10/08	13:00	0.50	18.0	958	810	72.90	0.84	0.42
	03/10/08	13:30	0.50	18.0	1,908	700	63.00	1.44	0.72
	03/10/08	14:00	0.50	15.0	1,483	1310	117.90	2.10	1.05
	03/10/08	14:30	0.50	15.0	1,124	1320	118.80	1.60	0.80
	03/10/08	15:00	0.50	15.0	1,012	1380	124.20	1.51	0.75
	03/10/08	15:30	0.50	15.0	954	1370	123.30	1.41	0.71
	03/10/08	16:00	0.50	15.0	783	1410	126.90	1.19	0.60
	03/10/08	16:30	0.50	15.0	211	1450	130.50	0.33	0.17
	03/10/08	17:00	0.50	15.0	308	1470	132.30	0.49	0.24
	03/10/08	17:30	0.50	15.0	294	1490	134.10	0.47	0.24
	03/10/08	18:00	0.50	15.0	281	1450	130.50	0.44	0.22
									TOTAL
									7.88

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-20	2"	10.00	5.94	6.19	0.25	***	5.83	***	-0.15
MW-21	2"	9.50	6.01	6.15	0.14	***	5.94	***	-0.09

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-20	6.50
Truck Operator:	J. Bryant	MW-21	6.50
Stack I.D. (feet)	0.33 feet		

Corrected Depth to Water for MW-20 = 5.98
Corrected Depth to Water for MW-21 = 6.03

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	7.88	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.36	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	200	Gallons

Note: Due to tidal change, stinger depth was re-adjusted at 14:00 EST on March 10, 2008. (see below)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Depth (ft)
MW-20	***	6.01	6.00
MW-21	***	5.99	6.00

TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 08-1509B
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		17 ft	25 ft	38 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:00	0.0	0	0	0
10:30	0.5	0	0	0
11:00	1.0	0	0	0
11:30	1.5	0	0	0
12:00	2.0	0	0	0
12:30	2.5	0	0	0
13:00	3.0	0	0	0
13:30	3.5	0	0	0
14:00	4.0	0	0	0
14:30	4.5	0	0	0
15:00	5.0	0	0	0
15:30	5.5	0	0	0
16:00	6.0	0	0	0
16:30	6.5	0	0	0
17:00	7.0	0	0	0
17:30	7.5	0	0	0
18:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

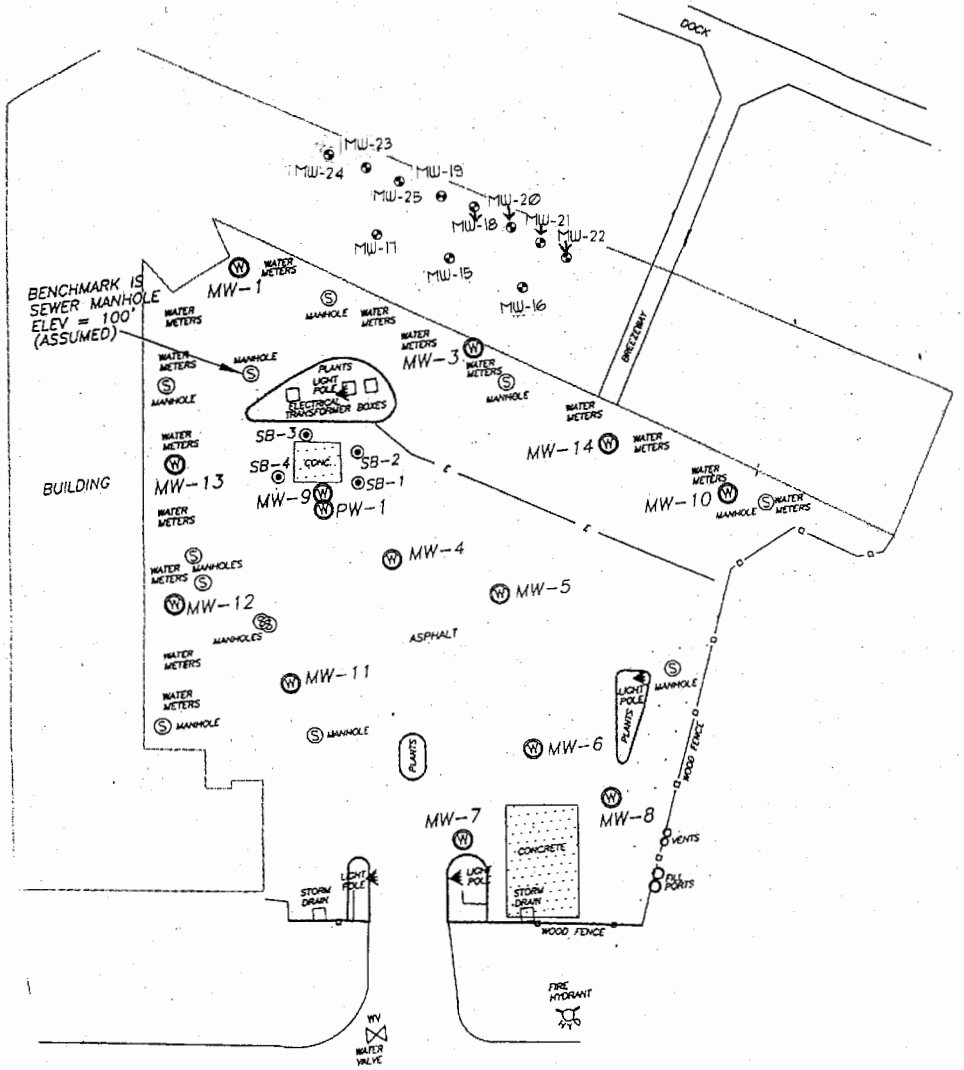
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		17 ft	25 ft	38 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.70	6.25	4.57
14:00	4 hours	6.45	6.90	4.57
18:00	8 hours	4.89	6.32	4.57
Maximum Change:		-1.75	-0.65	0.00

TABLE 3B
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509B
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-18		MW-19		MW-22		MW-23		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
10:00	0.0	0	6.20	0	6.31	0	6.11	0	4.43	0	4.75	0	6.41
10:30	0.5												
11:00	1.0	0	6.31	0	6.31	0	6.18	0	4.57	0	4.73	0	6.68
11:30	1.5												
12:00	2.0	0	6.48	0	6.29	0	6.31	0	4.89	0	4.71	0	6.91
12:30	2.5												
13:00	3.0	0	6.71	0	6.29	0	6.44	0	5.73	0	7.68	0	7.13
13:30	3.5												
14:00	4.0	0	6.95	0	6.29	0	6.45	0	6.15	0	4.61	0	7.32
14:30	4.5												
15:00	5.0	0	6.96	0	6.29	0	6.37	0	5.91	0	4.74	0	7.12
15:30	5.5												
16:00	6.0	0	6.73	0	6.35	0	6.21	0	5.12	0	4.80	0	6.98
16:30	6.5												
17:00	7.0	0	6.41	0	6.38	0	6.18	0	4.44	0	4.80	0	6.71
17:30	7.5												
18:00	8.0	0	6.18	0	6.41	0	6.08	0	4.42	0	4.81	0	6.67



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

C 129378

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 19941	2. Page 1 of 1

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

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	0.01	TT	3385	G
b.				
c.				
d. • York County School bus shop (09164) (100 gals) • Bay Creek Villas (18662) (200 gals) • Webb's Exxon (14403) (150 gals) • Burrows Service Center (12487) (450 gal.)				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

FIELD SERVICE

Newberry maint facility (10492) (80 gals) • Pittstop 40 (07704) (150 gals)
Edgefield Water & Sewer (17 gal) (11136) • Rockland Parking Lot (15475) (140 gals)

15. Special Handling Instructions and Additional Information

• Fmr. Fast Fare (18131) (1300 gals) • Charleston Comm. of Public Works (01496) (200 gals)
Service Call ID: GLB0119941 • Avants (02578) (125 gals) • Cousars #1 (08897) (0 gals)
• Charleston County General Service (09784) (175 gals) • Shelton C (00877) (150 gals)
• Best Buy Quality Foods (Fac. id #09069052) (550 gals) • Shelton B (00877) (150 gals)
Emergency Response: Infotrac - 800-535-5053 • Richland Co. landfill (11808) (150 gals)
Caller must ID Crandall as registrant • Cousars 2 (08897) (340 gals)

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

Printed/Typed Name	Signature	Month	Day	Year
T. Backman for Midlands	[signature]	03	12	08

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	[signature]	03	12	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

MAR 27 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received March 18, 2008
Colleton County

Dear Mr. Nunn:

On March 10, 2008, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed at the referenced facility. A copy of the report is enclosed. Free product was only found in monitoring wells MW-20 and MW-21, and the volume of free product removed during the event was 1.36 gallons. It appears that the AFVR events are successfully reducing the area and volume of free product. Additional AFVR events will take place to continue with the free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: AFVR Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST PROGRAM DOCKETING # 31 Ted

Midlands
Environmental
Consultants, Inc.

April 2, 2008

RECEIVED
APR 0 4 2008
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #31488
MECI Project Number 08-1509C

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 10, 2008. The event was conducted on monitoring wells MW-20, MW-21, and MW-22 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.27 feet, in MW-21 at a thickness of 0.19 feet, and in MW-22 at a thickness of 0.02 feet prior to the AFVR event. At 12:30 EST on March 25, 2008, free phase petroleum product was detected in MW-18 at a thickness of 0.01 feet. MECI personnel began to extract from MW-18, MW-10, MW-21, and MW-22 at 12:30 EST on March 25, 2008. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 5.91 pounds or approximately 1.02 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.74 pounds per hour. Concentrations of off gas produced during the event were recorded from 208 parts per million by volume (PPM) to 1,590 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 20.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1C.

UST PROGRAM
DOCKETING # 32T

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2C. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3C. Monitoring well locations are depicted on attached Figure 1.

A total of 175 gallons of liquid was removed from monitoring wells MW-18, MW-20, MW-21 and MW-22 during this event. Free phase petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Brendon P. Kelly
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1C
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509C
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	03/25/08	10:30	0.50	12.0	558	990	89.10	0.60	0.30
MW-21	03/25/08	11:00	0.50	17.0	1,590	810	72.90	1.39	0.70
MW-22	03/25/08	11:30	0.50	18.0	884	830	74.70	0.79	0.40
	03/25/08	12:00	0.50	19.0	485	800	72.00	0.42	0.21
	03/25/08	12:30	0.50	20.0	306	780	70.20	0.26	0.13
MW-18	03/25/08	13:00	0.50	12.0	263	1540	138.60	0.44	0.22
MW-20	03/25/08	13:30	0.50	13.0	208	1390	125.10	0.31	0.16
MW-21	03/25/08	14:00	0.50	13.0	324	1240	111.60	0.43	0.22
MW-22	03/25/08	14:30	0.50	13.0	765	1230	110.70	1.02	0.51
	03/25/08	15:00	0.50	13.0	844	1300	117.00	1.18	0.59
	03/25/08	15:30	0.50	13.0	652	1310	117.90	0.92	0.46
	03/25/08	16:00	0.50	13.0	604	1330	119.70	0.87	0.43
	03/25/08	16:30	0.50	13.0	455	1330	119.70	0.65	0.33
	03/25/08	17:00	0.50	12.5	534	1330	119.70	0.77	0.38
	03/25/08	17:30	0.50	12.5	418	1320	118.80	0.60	0.30
	03/25/08	18:00	0.50	11.0	426	1300	117.00	0.60	0.30
	03/25/08	18:30	0.50	10.0	411	1310	117.90	0.58	0.29
									TOTAL 5.91

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-20	2"	10.00	6.16	6.43	0.27	***	5.79	***	-0.41
MW-21	2"	9.50	6.19	6.38	0.19	***	6.23	***	0.01
MW-22	2"	10.00	6.17	6.19	0.02	***	6.25	***	0.08
MW-18	2"	10.00	5.89	5.90	0.01	***	6.63	***	0.74

Vacuum Truck Information

Subcontrator: MECI
Truck Operator: B. Kelly
Stack I.D. (feet) 0.33 feet

Well ID	Stinger Depth
MW-20	6.00
MW-21	6.00
MW-22	6.00
MW-18	5.50

Corrected Depth to Water for MW-20 = 6.20
Corrected Depth to Water for MW-21 = 6.22
Corrected Depth to Water for MW-22 = 6.17
Corrected Depth to Water for MW-18 = 5.89

Recovery / Disposal Information

Hydro carbons Removed (vapor):	5.91	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.02	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	175	Gallons

Note: Due to tidal change, stinger depth was re-adjusted at 16:30 EST on March 25, 2008. (see below)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Depth (ft)
MW-18	***	7.01	7.00
MW-20	***	7.01	7.00
MW-21	***	7.03	7.00
MW-22	***	6.89	7.00

TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 08-1509C
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		17 ft	25 ft	38 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

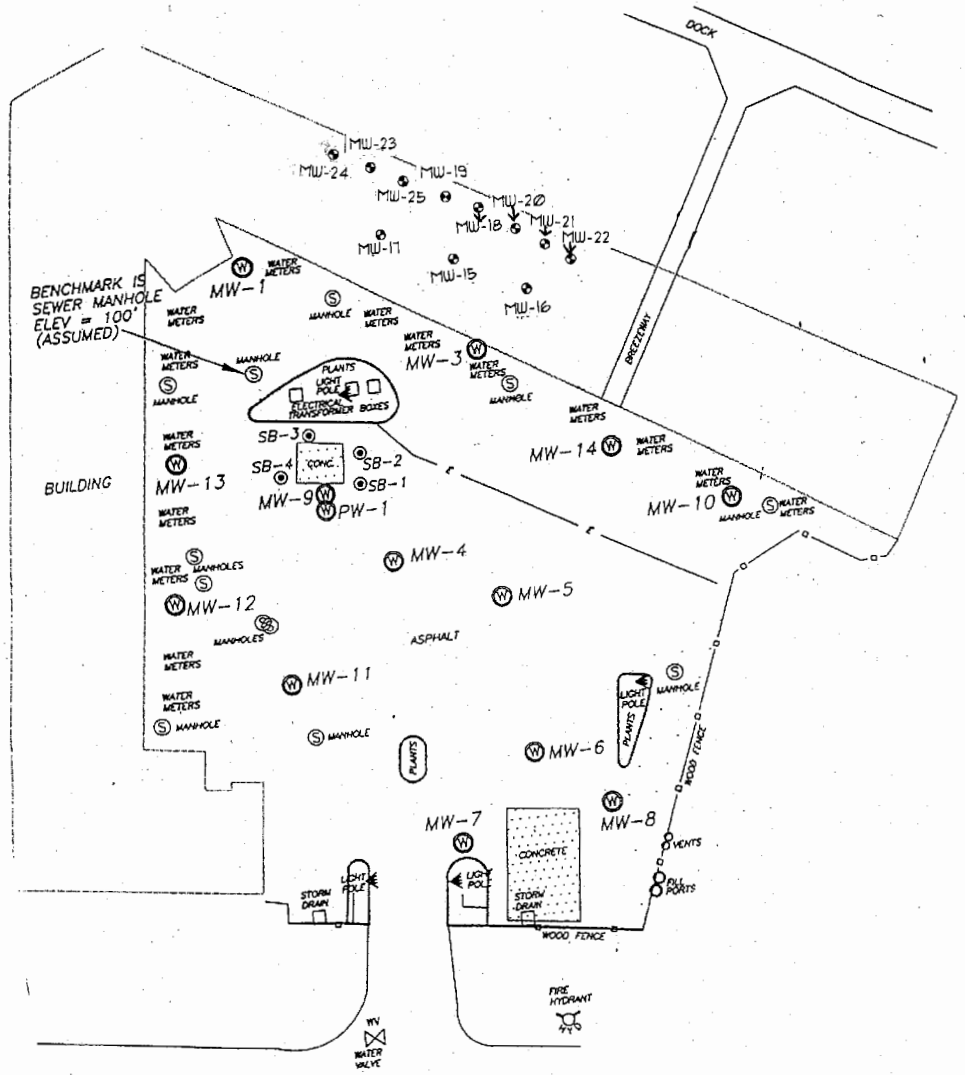
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		17 ft	25 ft	38 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.77	5.98	4.68
14:30	4 hours	4.74	5.95	4.65
18:30	8 hours	4.75	7.32	4.64
Maximum Change:		0.03	-1.34	0.04

TABLE 3C
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509C
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-18		MW-19		MW-23		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
10:30	0.0	0	6.35	0	6.39	0	4.49	0	4.57	0	6.53
11:00	0.5										
11:30	1.0	0	5.95	0	5.90	0	4.50	0	4.58	0	5.99
12:00	1.5										
12:30	2.0	5.98	5.90	0	5.72	0	4.50	0	4.57	0	5.79
13:00	2.5										
13:30	3.0			0	5.93	0	4.49	0	4.58	0	5.79
14:00	3.5										
14:30	4.0			0	6.41	0	4.49	0	4.59	0	6.02
15:00	4.5										
15:30	5.0			0	6.92	0	4.49	0	4.60	0	6.37
16:00	5.5										
16:30	6.0			0	7.41	0	4.49	0	4.60	0	6.85
17:00	6.5										
17:30	7.0			0	7.78	0	4.50	0	4.60	0	7.28
18:00	7.5										
18:30	8.0			0	8.02	0	4.50	0	4.60	0	7.55



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1469
DATE January 31, 2008
FIGURE 2

C 121992

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 20683

2. Page 1 of 1

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

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

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	3120	G
b.				
c. •Costal mart 105(11776)(240gal) •Pelzer Gas mart(00480)(160gal) •Horton's Grocery A(06768)(50gal) •Hughes well drilling(00358)(170gal) •Durhams Grocery(06699)(190gal) •Macks Camp(01253)(750gal)				
d. •Kings Texaco(04783)(200gal) •George Southers L(08650)(0 gals) •Fmr action Chevy(02970)(750gal) •southerfield used(14212)(130gal) •Brown Brothers Gulf(04145)(300gal) •Smith's Service Station(15774)(40gal)				

D. Additional Descriptions for Materials Listed Above
•George Southers D(08650)(250gal)
•Newberry Airport B(15590)(110gal)
•Rockland Parking Lot B(15475)(120gal)
•Mathews(00820)(300gal)

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
•Bay Creek Villas C(18662)(200gal)
•Burrows Service center(12481)(325gal) •Weather Service B(03073)(70gal)
Service Call ID: GLB0120683
•Allendale maint. fac.(00316)(125gal) •Fmr Fast Fare(18131)(100gal)
•Pantry 640(07435)(280gal) •Avants(02578)(100gal)
Emergency Response: Infotrac - 800-535-5053 •Handy Pantry 89(04733)(100gal)
Caller must ID Crandall as registrant
•Weathers Service A(03073)(90gal)

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

Printed/Typed Name | Signature | Month Day Year 03 31 08

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Shawn DeSpain | Signature | Month Day Year 03 31 08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

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

Printed/Typed Name | Signature | Month Day Year

GENERATOR TRANSPORTER FACILITY

GENERATOR COPY

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

APR 14 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received April 4, 2008
Colleton County

Dear Mr. Nunn:

On March 25, 2008, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed at the referenced facility. A copy of the report is enclosed. Free product was found in monitoring wells MW-18, MW-20, MW-21, and MW-22, and the volume of free product removed during the event was 1.02 gallons. It appears that the AFVR events are successfully reducing the area and volume of free product. Additional AFVR events will take place to continue with the free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: AFVR Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST PROGRAM
DOCKETING # 33

Midlands
Environmental
Consultants, Inc.

April 24, 2008

RECEIVED
APR 2 4 2008
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #31488
MECI Project Number 08-1509D

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on April 8, 2008. The event was conducted on monitoring wells MW-21 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-21 at a thickness of 0.01 feet prior to the AFVR event. At 14:30 EST on April 8, 2008, free phase petroleum product was detected in MW-18 at a thickness of 0.02 feet. MECI personnel began to extract from MW-18 and MW-21 at 14:30 EST on April 8, 2008. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 13.65 pounds or approximately 2.36 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.71 pounds per hour. Concentrations of off gas produced during the event were recorded from 561 parts per million by volume (PPM) to 2,795 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 14.0 to 19.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1D.

UST DOCKET

Attach

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2D. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3D. Monitoring well locations are depicted on attached Figure 1.

A total of 200 gallons of liquid was removed from monitoring wells MW-18 and MW-21 during this event. Free phase petroleum product was observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509D
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Removal Lbs
MW-21	04/08/08	10:30	0.50	17.0	860	1030	92.70	0.96	0.48
	04/08/08	11:00	0.50	17.0	877	1110	99.90	1.05	0.53
	04/08/08	11:30	0.50	17.0	973	1060	95.40	1.11	0.56
	04/08/08	12:00	0.50	17.0	1,040	1110	99.90	1.25	0.62
	04/08/08	12:30	0.50	17.0	983	1210	108.90	1.28	0.64
	04/08/08	13:00	0.50	17.0	947	1150	103.50	1.18	0.59
	04/08/08	13:30	0.50	17.0	875	1090	98.10	1.03	0.52
	04/08/08	14:00	0.50	17.0	836	1220	109.80	1.10	0.55
MW-18	04/08/08	14:30	0.50	17.0	802	1110	99.90	0.96	0.48
MW-21	04/08/08	15:00	0.50	14.0	561	1450	130.50	0.88	0.44
	04/08/08	15:30	0.50	15.0	569	1250	112.50	0.77	0.38
	04/08/08	16:00	0.50	19.0	2,700	900	81.00	2.62	1.31
	04/08/08	16:30	0.50	19.0	2,795	1020	91.80	3.08	1.54
	04/08/08	17:00	0.50	18.0	2,716	970	87.30	2.85	1.42
	04/08/08	17:30	0.50	18.0	2,526	970	87.30	2.65	1.32
	04/08/08	18:00	0.50	18.0	2,215	1000	90.00	2.39	1.20
	04/08/08	18:30	0.50	18.0	1,949	1020	91.80	2.15	1.07
									TOTAL 13.65

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-21	2"	2.5-9.5	4.99	5.00	0.01	***	7.15	***	2.16
MW-18	2"	3-10	5.91	5.93	0.02	***	7.43	***	1.52

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-21	5.00
Truck Operator:	B. Kelly	MW-18	6.00
Stack I.D. (feet)	0.33 feet		

Corrected Depth to Water for MW-21 = 4.99
Corrected Depth to Water for MW-18 = 5.91

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	13.65	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	2.36	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	200	Gallons

Note: Due to tidal change, stinger depth was re-adjusted at 14:30 EST on April 8, 2008. (see below)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Depth (ft)
MW-21	***	5.86	6.00

TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 08-1509D
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-21	MW-21	MW-21
Approximate Distance:		52 ft	15 ft	38 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

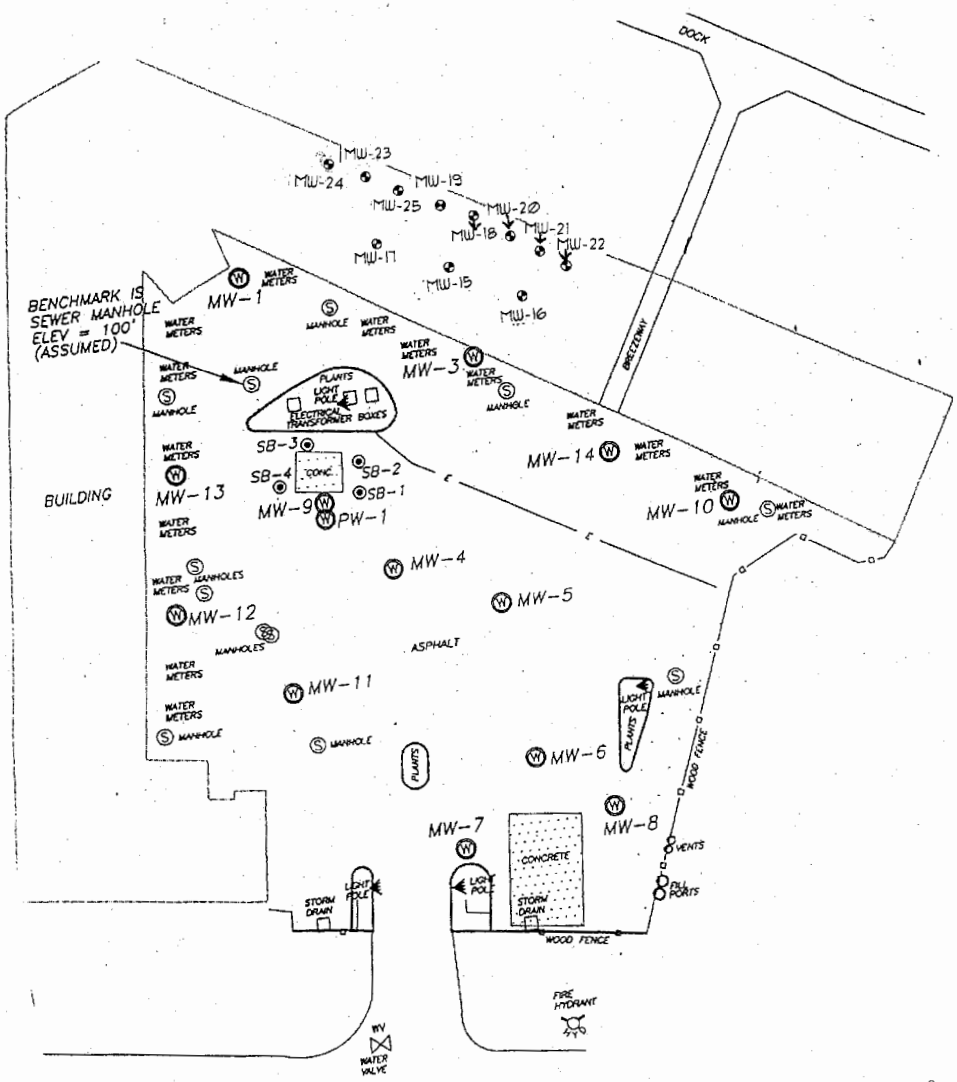
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-21	MW-21	MW-21
Approximate Distance:		52 ft	15 ft	38 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.88	5.00	4.77
14:30	4 hours	4.88	5.16	4.77
18:30	8 hours	4.89	7.03	4.77
Maximum Change:		-0.01	-2.03	0.00

TABLE 3D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
(ADDITIONAL DATA)
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509D
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-18		MW-19		MW-20		MW-22		MW-23		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
10:30	0.0	0	5.08	0	5.17	0	5.11	0	5.01	0	4.58	0	4.64	0	5.40
11:00	0.5														
11:30	1.0	0	4.79	0	4.74	0	4.86	0	4.79	0	4.56	0	4.63	0	4.83
12:00	1.5														
12:30	2.0	0	4.94	0	4.67	0	4.95	0	4.86	0	4.58	0	4.63	0	4.68
13:00	2.5														
13:30	3.0	0	5.35	0	4.89	0	5.32	0	5.12	0	4.58	0	4.64	0	4.79
14:00	3.5														
14:30	4.0	5.91	5.93	0	5.31	0	5.82	0	5.46	0	4.58	0	4.64	0	5.01
15:00	4.5														
15:30	5.0	***	***	0	5.84	0	6.55	0	6.00	0	4.58	0	4.64	0	5.54
16:00	5.5														
16:30	6.0	***	***	0	6.96	0	7.48	0	6.66	0	4.58	0	4.64	0	6.33
17:00	6.5														
17:30	7.0	***	***	0	7.44	0	7.78	0	6.92	0	4.58	0	4.63	0	6.77
18:00	7.5														
18:30	8.0	***	***	0	7.63	0	7.71	0	6.89	0	4.58	0	4.63	0	7.04



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

C 138744

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 21662

2. Page 1 of 1

3. Generator's Name and Mailing Address: Midlands Environmental
1144 Old Two Notch
Lexington, SC 29072

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

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	3135	G
b.				
c.				
d.				

Gambrell's (11982) (150 gal) •

D. Additional Descriptions for Materials Listed Above

Mack's Camp B (01253) (100 gal) • Donahue Grocery A (04581) (10 gal) •
By Rite Petroleum (01869) (175 gal) • Lowe's Grocery A (00720) (20 gal) •
Joye's Self Service (13889) (150 gal) • Pelzer Gas Mart (00480) (350 gal) •
Pit Stop #40 A (07704) (125 gal) • Bull Mart 1 (03527) (175 gal)
Constan R2 B (07871) (100 gal.) • Jiffy Food Center (00583) (200 gal) • Burrow's Service Center C
(12487) (300 gal) • Bay Creek Villas D (18662) (200 gal) • Durham's Grocery B (06699) (225 gal) •
Country C's (09449) (0 gal) • Horton's Grocery A
(06768) (125 gal) • Newberry Maintenance Facility
(06456) (A = 30 gal; B = 125 gal; C = 220 gal; D = 30 gal, E = 200 gal; F = 125 gal)

E. Handling Codes for Wastes Listed Above

FIELD SERVICE

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0121662
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

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

Printed/Typed Name	Signature	Month	Day	Year
T. Bachman (for Midlands)	[signature]	4	18	08

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
[signature]	[signature]	4	18	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

APR 29 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received April 28, 2008
Colleton County

Dear Mr. Nunn:

On April 8, 2008, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed at the referenced facility. A copy of the report is enclosed. Free product was found in monitoring wells MW-18 and MW-21 and the volume of free product removed during the event was 2.36 gallons. It appears that the AFVR events are successfully reducing the area and volume of free product. Additional AFVR events will take place to continue with the free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: AFVR Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET 35 tech

Midlands
Environmental
Consultants, Inc.

May 12, 2008

RECEIVED
MAY 14 2008
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #31488
MECI Project Number 08-1509E

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on April 23, 2008. The event was conducted on monitoring wells MW- 18, MW- 20, and MW-21 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.01 feet, in MW-20 at a thickness of 0.40, and in MW-21 at a thickness of 0.24 feet prior to the AFVR event. Due to tidal change, at 11:30 EST on April 23, 2008, stinger depths were changed. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 10.72 pounds or approximately 1.85 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.34 pounds per hour. Concentrations of off gas produced during the event were recorded from 260 parts per million by volume (PPM) to 1,468 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 12.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1E.

UST DOCKET 36 tech

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2E. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3E. Monitoring well locations are depicted on attached Figure 1.

A total of 130 gallons of liquid was removed from monitoring wells MW-18 , MW-20, and MW-21 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509E
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Removal Lbs
MW-18	04/23/08	7:30	0.50	10.0	1,182	1480	133.20	1.89	0.94
MW-20	04/23/08	8:00	0.50	12.0	1,468	1600	144.00	2.54	1.27
MW-21	04/23/08	8:30	0.50	12.0	1,009	1620	145.80	1.77	0.88
	04/23/08	9:00	0.50	12.0	1,002	1620	145.80	1.75	0.88
	04/23/08	9:30	0.50	12.0	1,012	1600	144.00	1.75	0.87
	04/23/08	10:00	0.50	12.0	1,188	1620	145.80	2.08	1.04
	04/23/08	10:30	0.50	12.0	822	1600	144.00	1.42	0.71
	04/23/08	11:00	0.50	12.0	608	1620	145.80	1.06	0.53
	04/23/08	11:30	0.50	12.0	596	1620	145.80	1.04	0.52
	04/23/08	12:00	0.50	12.0	590	1610	144.90	1.03	0.51
	04/23/08	12:30	0.50	10.0	251	1820	163.80	0.49	0.25
	04/23/08	13:00	0.50	12.0	421	1690	152.10	0.77	0.38
	04/23/08	13:30	0.50	12.0	500	1630	146.70	0.88	0.44
	04/23/08	14:00	0.50	12.0	520	1590	143.10	0.89	0.45
	04/23/08	14:30	0.50	12.0	579	1640	147.60	1.03	0.51
	04/23/08	15:00	0.50	10.0	279	1780	160.20	0.54	0.27
	04/23/08	15:30	0.50	10.0	260	1870	168.30	0.53	0.26
									TOTAL 10.72

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	2.5-9.5	6.61	6.62	0.01	***	5.31	***	-1.30
MW-20	2"	3-10	6.48	6.88	0.40	***	5.21	***	-1.33
MW-21	2"	3-10	6.50	6.74	0.24	***	5.23	***	-1.31

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	7.00
Truck Operator:	R. Garnett	MW-20	7.00
Stack I.D. (feet)	0.33 feet	MW-21	7.00

Corrected Depth to Water for MW-18 = 6.61
Corrected Depth to Water for MW-20 = 6.54
Corrected Depth to Water for MW-21 = 6.54

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	10.72	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.85	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	130	Gallons

Note: Due to tidal change, stinger depth was re-adjusted at 11:30 EST on April 23, 2008. (see below)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Depth (ft)
MW-18	***	5.41	4.00
MW-20	***	6.01	4.00
MW-21	***	6.79	4.00

TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 08-1509E
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-23	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		74 ft	100 ft	52 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
7:30	0.0	0	0	0
8:00	0.5	0	0	0
8:30	1.0	0	0	0
9:00	1.5	0	0	0
9:30	2.0	0	0	0
10:00	2.5	0	0	0
10:30	3.0	0	0	0
11:00	3.5	0	0	0
11:30	4.0	0	0	0
12:00	4.5	0	0	0
12:30	5.0	0	0	0
13:00	5.5	0	0	0
13:30	6.0	0	0	0
14:00	6.5	0	0	0
14:30	7.0	0	0	0
15:00	7.5	0	0	0
15:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

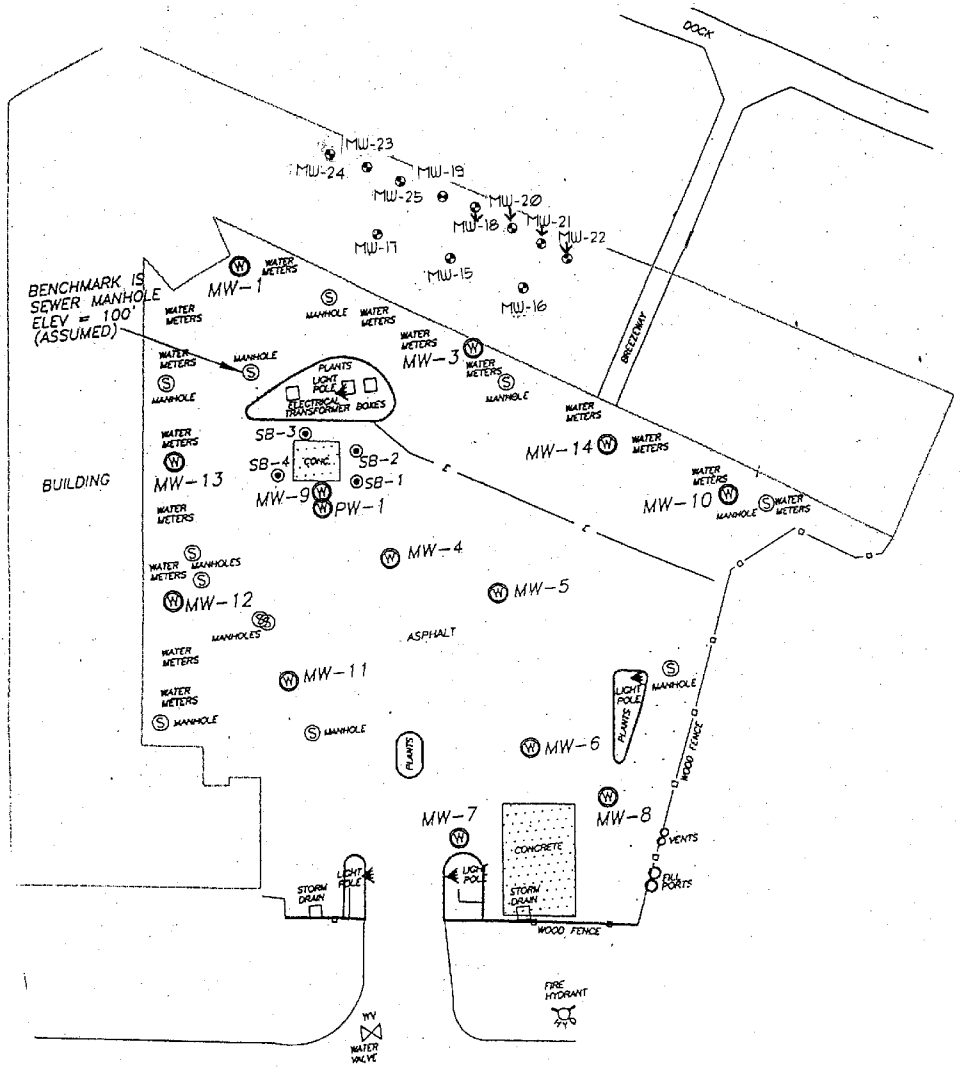
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-23	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		74 ft	100 ft	52 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.58	4.55	6.54
11:30	4 hours	4.64	4.57	5.33
15:30	8 hours	4.64	4.56	5.73
Maximum Change:		0.06	0.02	0.81

TABLE 3E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
(ADDITIONAL DATA)
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509E
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-15		MW-16		MW-17		MW-19		MW-22	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
7:30	0.0	0	4.91	0	6.31	0	4.83	0	6.43	0	6.08
8:00	0.5										
8:30	1.0	0	4.90	0	6.34	0	4.83	0	6.43	0	6.09
9:00	1.5										
9:30	2.0	0	4.91	0	5.84	0	4.83	0	5.97	0	5.75
10:00	2.5										
10:30	3.0	0	4.91	0	5.46	0	4.83	0	5.52	0	5.40
11:00	3.5										
11:30	4.0	0	4.91	0	5.27	0	4.83	0	5.30	0	5.30
12:00	4.5										
12:30	5.0	0	4.91	0	5.15	0	4.83	0	5.18	0	5.24
13:00	5.5										
13:30	6.0	0	4.90	0	5.26	0	4.83	0	5.30	0	5.26
14:00	6.5										
14:30	7.0	0	4.90	0	5.50	0	4.83	0	5.60	0	5.70
15:00	7.5										
15:30	8.0	0	4.90	0	5.83	0	4.83	0	5.85	0	6.03



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

C 139386

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: . . . . . .

Manifest Document No.: 22427

2. Page 1 of 1

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

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

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: .SCD981864499 . . .

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name:

8. US EPA ID Number: . . . . . .

B. Transporter's Phone:

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: .SCD981864499 . . .

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	3020	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

FIELD SERV

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information Rockland Parking lot (15475) 150 gal, Best Buy Quality Foods - 550 gal, Avents Automotive (02578) 230 gal, Bay Creek Villas (18662) - 130 gal, Pitt Stop 40 (07704) 125 gal, Spartan Spot A Service Call ID: GLB0122427 (08591) 100 gal, Spartan Spot B 100 gal, Selma Convenience (16844) 250 gal, M&M Automotive - 400 gal, Hughes Well Drilling (00358) - 230 gal, Johnnies Market & More (08986) 55 gal, Continental Machine Company (15813) 300 gal, By Rite Petroleum (01869) - 200 gal, Mack's Camp (01253) - 50 gal, Emergency Response: Infotrac - 800-535-5053 Weathers BP A (03073) 50 (B) 100 gal, Caller must ID Crandall as registrant

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

Printed/Typed Name: Russell Owen | Signature: [signature] | Month Day Year: 05 05 08

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Shawn DeSpain | Signature: [signature] | Month Day Year: 05 05 08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

19. Discrepancy Indication Space

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

Printed/Typed Name | Signature | Month Day Year

GENERATOR TRANSPORTER FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

MAY 15 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received May 14, 2008
Colleton County

Dear Mr. Nunn:

On April 23, 2008, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed at the referenced facility. A copy of the report is enclosed. Free product was found in monitoring wells MW-18, MW-20, and MW-21 and the volume of free product removed during the event was 1.85 gallons. It appears that the AFVR events are successfully reducing the area and volume of free product. Additional AFVR events will take place to continue with the free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: AFVR Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET
37 tal

Midlands
Environmental
Consultants, Inc.

May 30, 2008

RECEIVED
JUN 0 4 2008
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #31488
MECI Project Number 08-1509F

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on May 6, 2008. The event was conducted on monitoring wells MW- 18, MW-19, MW- 20, and MW-21 to reduce dissolved COC concentrations. The event was conducted continuously for eight hours. Free phase petroleum product was not detected in any of the monitoring wells prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 5.42 pounds or approximately 0.94 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.68 pounds per hour. Concentrations of off gas produced during the event were recorded from 118 parts per million by volume (PPM) to 503 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 11.0 to 13.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1F.

UST DOCKET
38 tech

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2F. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3F. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, and MW-21 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Rorey E. Garnett
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1F
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509F
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Removal Lbs
MW-18	05/06/08	8:00	0.50	11.0	118	1730	155.70	0.22	0.11
MW-19	05/06/08	8:30	0.50	11.0	366	1650	148.50	0.65	0.33
MW-20	05/06/08	9:00	0.50	11.0	223	1660	149.40	0.40	0.20
MW-21	05/06/08	9:30	0.50	11.0	252	1630	146.70	0.44	0.22
	05/06/08	10:00	0.50	11.0	294	1690	152.10	0.54	0.27
	05/06/08	10:30	0.50	11.0	346	1700	153.00	0.64	0.32
	05/06/08	11:00	0.50	11.0	364	1700	153.00	0.67	0.33
	05/06/08	11:30	0.50	11.0	346	1710	153.90	0.64	0.32
	05/06/08	12:00	0.50	11.0	292	1720	154.80	0.54	0.27
	05/06/08	12:30	0.50	13.0	363	1570	141.30	0.62	0.31
	05/06/08	13:00	0.50	13.0	465	1570	141.30	0.79	0.39
	05/06/08	13:30	0.50	12.0	482	1640	147.60	0.85	0.43
	05/06/08	14:00	0.50	12.0	503	1680	151.20	0.91	0.46
	05/06/08	14:30	0.50	11.0	408	1710	153.90	0.75	0.38
	05/06/08	15:00	0.50	11.0	412	1690	152.10	0.75	0.38
	05/06/08	15:30	0.50	11.0	396	1700	153.00	0.73	0.36
	05/06/08	16:00	0.50	11.0	382	1690	152.10	0.70	0.35
									TOTAL
									5.42

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	2.5-9.5	***	5.57	***	***	4.76	***	-0.81
MW-19	2"	2.5-9.5	***	5.76	***	***	3.61	***	-2.15
MW-20	2"	3-10	***	5.63	***	***	7.62	***	1.99
MW-21	2"	3-10	***	5.61	***	***	4.23	***	-1.38

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	3.00
Truck Operator:	R. Owen	MW-19	2.50
Stack I.D. (feet)	0.33 feet	MW-20	3.00
		MW-21	2.50

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	5.42	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.94	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	150	Gallons

TABLE 2F
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECIPROJECT NUMBER 08-1509F
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-22**	**MW-25**
Nearest Extraction Well:		MW-18	MW-21	MW-19
Approximate Distance:		20 ft	16 ft	24 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
8:00	0.0	0	0	0
8:30	0.5	0	0	0
9:00	1.0	0	0	0
9:30	1.5	0	0	0
10:00	2.0	0	0	0
10:30	2.5	0	0	0
11:00	3.0	0	0	0
11:30	3.5	0	0	0
12:00	4.0	0	0	0
12:30	4.5	0	0	0
13:00	5.0	0	0	0
13:30	5.5	0	0	0
14:00	6.0	0	0	0
14:30	6.5	0	0	0
15:00	7.0	0	0	0
15:30	7.5	0	0	0
16:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

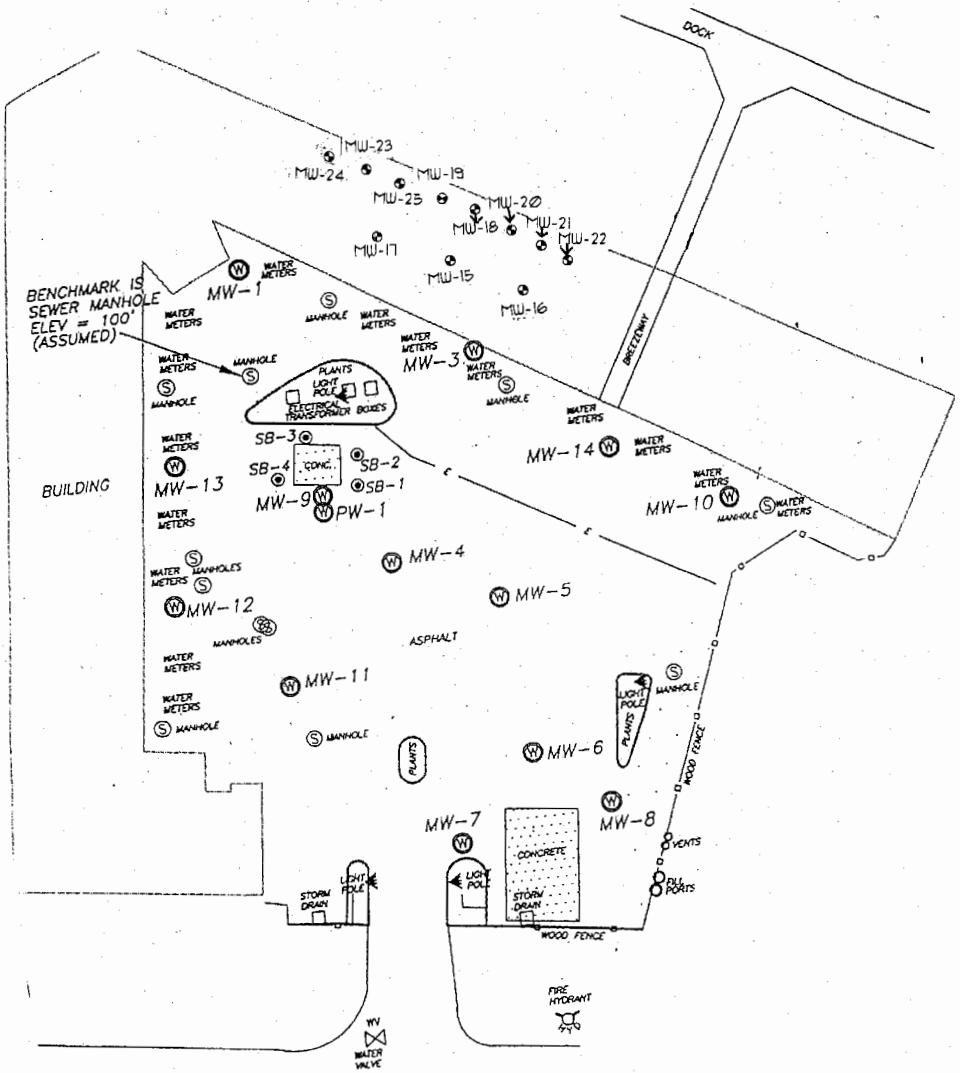
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-22**	**MW-25**
Nearest Extraction Well:		MW-18	MW-21	MW-19
Approximate Distance:		20 ft	16 ft	24 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.03	5.44	6.02
12:00	4 hours	5.03	5.32	5.08
16:00	8 hours	5.03	6.97	6.74
Maximum Change:		0.00	-1.53	-0.72

TABLE 3F
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
(ADDITIONAL DATA)
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509F
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-20		MW-16		MW-17	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
8:00	0.0	***	***	***	***	***	***
8:30	0.5						
9:00	1.0	***	***	***	***	***	***
9:30	1.5						
10:00	2.0	0	5.13	0	4.94	0	4.94
10:30	2.5						
11:00	3.0	0	5.23	0	4.91	0	4.95
11:30	3.5						
12:00	4.0	0	5.60	0	5.07	0	4.95
12:30	4.5						
13:00	5.0	0	6.09	0	5.35	0	4.94
13:30	5.5						
14:00	6.0	0	6.79	0	5.82	0	4.94
14:30	6.5						
15:00	7.0	0	7.41	0	6.43	0	4.93
15:30	7.5						
16:00	8.0	0	7.62	0	6.69	0	4.94



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

C 135096

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 23305

2. Page 1 of 1

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

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

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	2630	G
b.				
c.				

d. Richland Public Works (11805)(225 gals) - Bay Creek (18662)(150 gals)
- Lathan Oil (08869)(300 gals) - Carsons Amaco (A)(03027)(75 gals)
- Gasques (18929)(150 gals)
- Marion Maint. Facility (06715)(60 gals) - Carsons Amaco (B)(03027)(100 gal)

D. Additional Descriptions for Materials Listed Above
- Selma Conv. (A)(16844)(150 gals) - Newberry Co. Maint. (G)(06456)(50 gals)
- Stonewall Jackson (A)(15581)(275 gals) - Newbery Co. Maint. (H)(06456)(10 gals)
- Richland Co. Landfill (A)(11808)(150 gals) - Newberry Co. Maint (06456)(110 gals)
- Pantry Express 640 (A)(07435)(260 gals) - Food Chief (05419)(20 gals)
- Newberry Co. Maint. (I)(06456)(20 gals)

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
- Newberry Co. Maint. (L)(06456)(50 gals) - Don [illegible] (15581)(30 gals)
- For. Lowes - (00720)(30 gals)
Service Call ID: GLB0123305
- Newberry Co. Maint (K)(06456)(125 gals) - Frm. Fast Fare (18131)(100 gals)
- Lucky's Corner Mart (11369)(50 gals) - Frm. Handy Pantry (04733)(90 gals)
- Johnny Market & More (08986)(50 gals)

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

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

Printed/Typed Name	Signature	Month	Day	Year
Jeff Coleman	[signature]	05	22	08

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Shawn DeSpain	[signature]	05	22	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JUN 05 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received June 4, 2008
Colleton County

Dear Mr. Nunn:

On May 6, 2008, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed at the referenced facility. A copy of the report is enclosed. Free product was not found in any of the monitoring wells on this day. The volume of free product removed as a vapor during the event was 0.94 gallons. It appears that the AFVR events are successfully reducing the area and volume of free product. Additional AFVR events will take place to continue with the free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: AFVR Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET 397 ecl

Midlands
Environmental
Consultants, Inc.

June 9, 2008

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
JUN 10 2008
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #31488
MECI Project Number 08-1509H

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on June 4, 2008. The event was conducted on monitoring wells MW- 18, MW-19, MW- 20, and MW-21 to reduce dissolved COC concentrations and remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-21 at a thickness of 0.16 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 36.66 pounds or approximately 6.33 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 4.58 pounds per hour. Concentrations of off gas produced during the event were recorded from 373 parts per million by volume (PPM) to 3,496 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 12.0 to 18.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1H.

UST DOCKET
40 tech

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2H. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3H Monitoring well locations are depicted on attached Figure 1.

A total of 325 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, and MW-21 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Rorey E. Garnett
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1H
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509H
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Removal Lbs
MW-18	06/04/08	7:30	0.50	18.0	1,774	1800	162.00	3.45	1.72
MW-19	06/04/08	8:00	0.50	17.0	2,463	1880	169.20	5.00	2.50
MW-20	06/04/08	8:30	0.50	17.0	2,976	1890	170.10	6.07	3.04
MW-21	06/04/08	9:00	0.50	17.0	2,757	1920	172.80	5.72	2.86
	06/04/08	9:30	0.50	17.0	2,731	1950	175.50	5.75	2.88
	06/04/08	10:00	0.50	17.0	3,470	1950	175.50	7.31	3.65
	06/04/08	10:30	0.50	17.0	3,496	1960	176.40	7.40	3.70
	06/04/08	11:00	0.50	17.0	3,443	1960	176.40	7.29	3.64
	06/04/08	11:30	0.50	16.0	3,079	1970	177.30	6.55	3.28
	06/04/08	12:00	0.50	15.0	2,515	1940	174.60	5.27	2.63
	06/04/08	12:30	0.50	15.0	1,803	1890	170.10	3.68	1.84
	06/04/08	13:00	0.50	15.0	1,762	1810	162.90	3.44	1.72
	06/04/08	13:30	0.50	12.0	1,237	1820	163.80	2.43	1.22
	06/04/08	14:00	0.50	12.0	782	1700	153.00	1.44	0.72
	06/04/08	14:30	0.50	12.0	593	1690	152.10	1.08	0.54
	06/04/08	15:00	0.50	12.0	418	1680	151.20	0.76	0.38
	06/04/08	15:30	0.50	12.0	373	1670	150.30	0.67	0.34
									TOTAL 36.66

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	2.5-9.5	***	5.71	***	***	6.59	***	0.88
MW-19	2"	2.5-9.5	***	5.83	***	***	6.23	***	0.40
MW-20	2"	3-10	***	5.69	***	***	7.24	***	1.55
MW-21	2"	3-10	5.71	5.87	0.16	***	6.12	***	0.39

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	3.00
Truck Operator:	R. Owen	MW-19	2.50
Stack I.D. (feet)	0.33 feet	MW-20	3.00
		MW-21	6.30
Corrected Depth to Water in MW-21 Before AFVR Event			5.73

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	36.66	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	6.33	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	325	Gallons

TABLE 2H
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECIPROJECT NUMBER 08-1509H
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-20	MW-19
Approximate Distance:		17 ft	20 ft	24 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
7:30	0.0	0	0	0
8:00	0.5	0	0	0
8:30	1.0	0	0	0
9:00	1.5	0	0	0
9:30	2.0	0	0	0
10:00	2.5	0	0	0
10:30	3.0	0	0	0
11:00	3.5	0	0	0
11:30	4.0	0	0	0
12:00	4.5	0	0	0
12:30	5.0	0	0	0
13:00	5.5	0	0	0
13:30	6.0	0	0	0
14:00	6.5	0	0	0
14:30	7.0	0	0	0
15:00	7.5	0	0	0
15:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

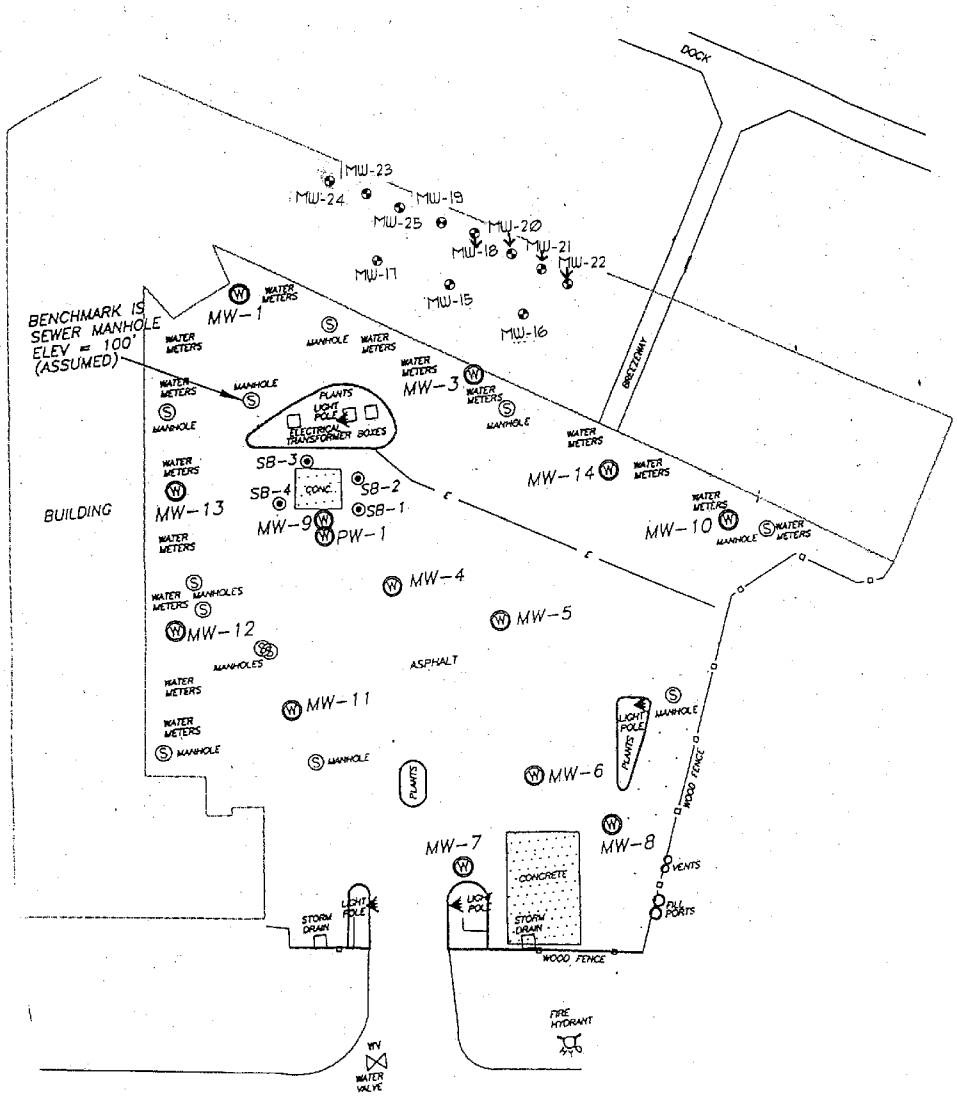
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-20	MW-19
Approximate Distance:		17 ft	20 ft	24 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.08	5.78	4.48
11:30	4 hours	5.09	5.44	5.07
15:30	8 hours	5.08	5.41	5.03
Maximum Change:		-0.01	0.37	-0.59

TABLE 3H
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
(ADDITIONAL DATA)
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509H
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-22		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
7:30	0.0	0	5.56	0	4.79	0	6.32
8:00	0.5						
8:30	1.0	0	5.56	0	4.79	0	6.07
9:00	1.5						
9:30	2.0						
10:00	2.5	0	5.55	0	4.79	0	5.93
10:30	3.0						
11:00	3.5						
11:30	4.0	0	5.54	0	4.79	0	5.85
12:00	4.5						
12:30	5.0						
13:00	5.5	0	5.55	0	4.79	0	5.83
13:30	6.0						
14:00	6.5						
14:30	7.0	0	5.55	0	4.79	0	5.85
15:00	7.5						
15:30	8.0	0	5.55	0	4.79	0	5.90



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1469
DATE	January 31, 2008
FIGURE	2

C 132657

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 24068	2. Page 1 of 1

GENERATOR

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

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	3165	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
- Causars (08897) - 200 gals
- Gaston Food Mart (05986) - 325 gals
- St. Matthews (01262) - 250 gals
- Richland Co. Landfill - (11808) 0 gals
- Causars (08897) - 170 gals.
- Sonnys grocery (08605) - 3[illegible]
- Duhams Groc[illegible] (06699) - 100 gals
- Gaston Food Mart - (05986) - 325 gals.

SHIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
- Carsons amaco (03027) - 150 gals.
- Service Call ID: GLB0124068
- Carsons amaco (03027) - 150 gals
- Baycreek (18662) 325 gals.
- Health self service (08937) - 250 gals
- Macks (01253) - 75 gals.
- Zee Mart (07176) - 55 gals
- Zee Mart (07176) - 75 gals

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

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

Printed/Typed Name	Signature	Month	Day	Year
X Korey Garnett	Korey Garnett	06	06	08

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
TROY BACKMAN	Troy Backman	06	06	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR COPY

Midlands
Environmental
Consultants, Inc.

June 9, 2008

RECEIVED
JUN 10 2008
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #31488
MECI Project Number 08-1509G

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on May 22, 2008. The event was conducted on monitoring wells MW- 18, MW-19, MW- 20, and MW-21 to reduce dissolved COC concentrations and remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.01 feet and in monitoring well MW-21 at a thickness of 0.04 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 18.38 pounds or approximately 3.18 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 2.30 pounds per hour. Concentrations of off gas produced during the event were recorded from 526 parts per million by volume (PPM) to 2,039 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 9.0 to 11.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1G.

UST DOCKET

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

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

A total of 175 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, and MW-21 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Clark S. Baer
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1G
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1509G
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Removal Lbs
MW-18	05/22/08	7:30	0.50	9.0	1,275	1800	162.00	2.48	1.24
MW-19	05/22/08	8:00	0.50	9.0	849	1880	169.20	1.72	0.86
MW-20	05/22/08	8:30	0.50	9.0	810	1890	170.10	1.65	0.83
MW-21	05/22/08	9:00	0.50	9.0	773	1920	172.80	1.60	0.80
	05/22/08	9:30	0.50	9.0	636	1950	175.50	1.34	0.67
	05/22/08	10:00	0.50	9.0	526	1950	175.50	1.11	0.55
	05/22/08	10:30	0.50	9.0	659	1960	176.40	1.39	0.70
	05/22/08	11:00	0.50	9.0	743	1960	176.40	1.57	0.79
	05/22/08	11:30	0.50	9.0	879	1970	177.30	1.87	0.94
	05/22/08	12:00	0.50	9.0	836	1940	174.60	1.75	0.88
	05/22/08	12:30	0.50	9.0	804	1890	170.10	1.64	0.82
	05/22/08	13:00	0.50	10.0	1,328	1810	162.90	2.60	1.30
	05/22/08	13:30	0.50	10.0	1,470	1820	163.80	2.89	1.44
	05/22/08	14:00	0.50	10.0	1,363	1700	153.00	2.50	1.25
	05/22/08	14:30	0.50	11.0	1,991	1690	152.10	3.63	1.82
	05/22/08	15:00	0.50	11.0	2,039	1680	151.20	3.70	1.85
	05/22/08	15:30	0.50	11.0	1,832	1670	150.30	3.30	1.65
									TOTAL
									18.38

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-18	2"	2.5-9.5	***	6.41	***	***	6.33	***	-0.08
MW-19	2"	2.5-9.5	***	6.43	***	***	6.55	***	0.12
MW-20	2"	3-10	6.39	6.40	0.01	***	6.49	***	0.10
MW-21	2"	3-10	6.37	6.41	0.04	***	7.28	***	0.90

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	3.00
Truck Operator:	R. Owen	MW-19	2.50
Stack I.D. (feet)	0.33 feet	MW-20	7.00
		MW-21	7.00
Corrected Depth to Water in MW-20 Before AFVR Event			6.39
Corrected Depth to Water in MW-21 Before AFVR Event			6.38

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	18.38	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	3.18	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	175	Gallons

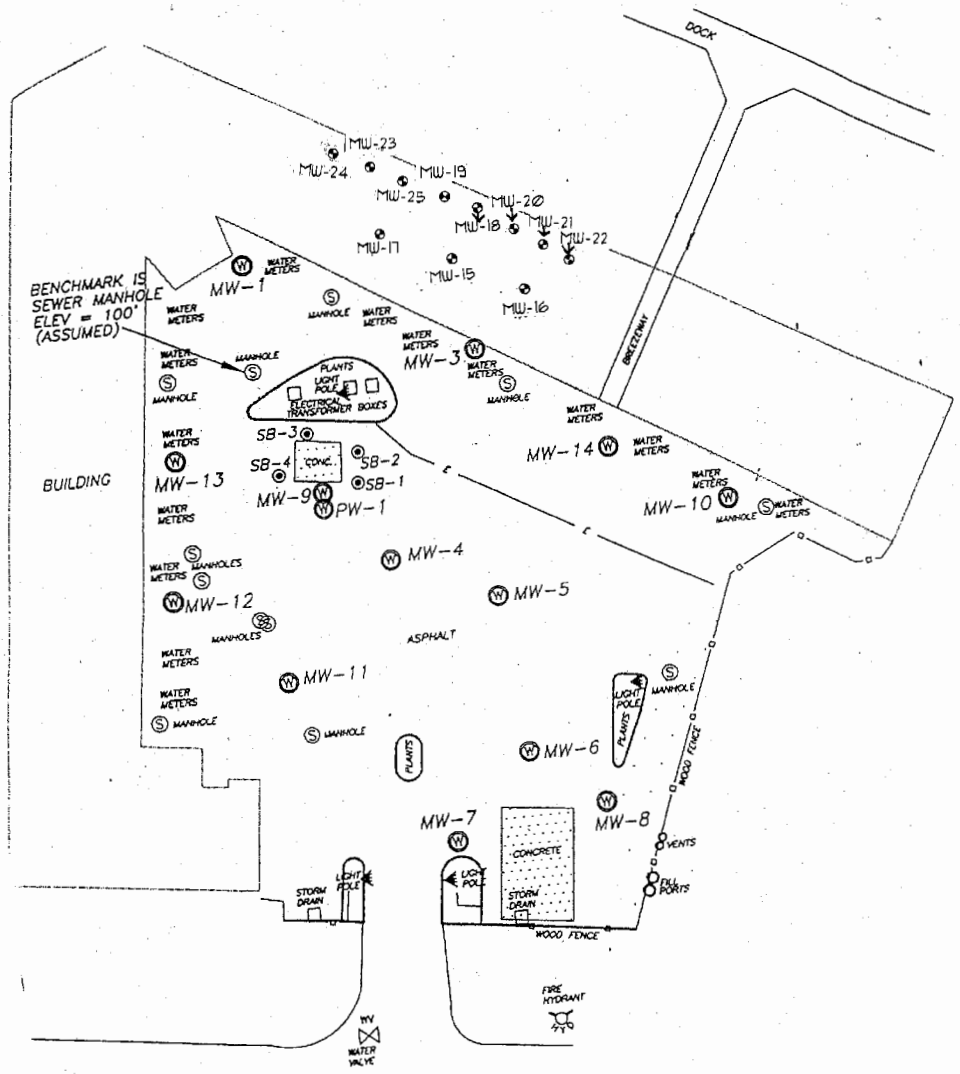
TABLE 2G
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECIPROJECT NUMBER 08-1509G
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-16	**MW-22**	**MW-25**
Nearest Extraction Well:		MW-18	MW-21	MW-19
Approximate Distance:		20 ft	16 ft	24 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
7:30	0.0	0	0	0
8:00	0.5	0	0	0
8:30	1.0	0	0	0
9:00	1.5	0	0	0
9:30	2.0	0	0	0
10:00	2.5	0	0	0
10:30	3.0	0	0	0
11:00	3.5	0	0	0
11:30	4.0	0	0	0
12:00	4.5	0	0	0
12:30	5.0	0	0	0
13:00	5.5	0	0	0
13:30	6.0	0	0	0
14:00	6.5	0	0	0
14:30	7.0	0	0	0
15:00	7.5	0	0	0
15:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-16	**MW-22**	**MW-25**
Nearest Extraction Well:		MW-18	MW-21	MW-19
Approximate Distance:		20 ft	16 ft	24 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		6.41	6.23	6.83
11:30	4 hours	5.94	6.00	6.51
15:30	8 hours	6.30	6.18	6.51
Maximum Change:		0.47	0.23	0.32



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

C 132657

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 24068	2. Page 1 of 1

GENERATOR

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

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	3165	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
- Cousars (08897) - 200 gals
- Gaston Food Mart (05986) - 325 gals
- St. Matthews (01262) - 250 gals
- Richland Co. Landfill - (11808) 0 gals
- Cousars (08897) - 170 gals.
- Sonnys Grocery (08605) - 3 FIELD SERVICE
- Duhams Grocery (06699) - 100 gals
- Gaston Food Mart - (05986) - 325 gals.

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
- Carsons Amaco (03027) - 150 gals.
- Service Call ID: GLB0124068
- Carsons Amaco (03027) - 150 gals
- Baycreek (18662) 325 gals.
- Health Self Service (08937) - 250 gals
- Macks (01253) - 75 gals.
- Zee Mart (07176) - 55 gals
- Zee Mart (07176) - 75 gals

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

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

Printed/Typed Name	Signature	Month	Day	Year
X Korey Garnett	Korey Garnett	06	06	08

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	Troy Backman	06	06	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR COPY

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

JUN 13 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Reports received June 10, 2008
Colleton County

Dear Mr. Nunn:

On May 22 and June 4, 2008, 8-hour Aggressive Fluid Vapor Recovery (AFVR) event were completed at the referenced facility. A copy of the reports is enclosed. A nominal thickness of free product was found in monitoring wells MW-20 and MW-21 on May 22 and in MW-21 on June 4, 2008. The volume of free product removed as a vapor during the events was 9.51 gallons. A sampling event will be completed to more fully evaluate the progress of the AFVR events.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: AFVR Reports

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

UST DOCKET 4 Steel

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JUN 17 2008

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

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

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct seven (7) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order # 719459 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	MECI CA#
08663	Sumter Municipal	Sumter	7	D. Thoma	07/09/08	BTEXMN, DCA, Trimethyl, butyl, isopropyl & n-propyl benzenes	32581	32582
18991	Sexton Dental	Florence	10	M. Jaspers	07/16/08	BTEXMN	32589	32588
14567	SC 39 & Lee St	Aiken	24	T. Jaspers	07/16/08	BTEXMN & EDB	32647	32646
00140	Majik Market	Aiken	26	T. Jaspers	07/16/08	BTEXMN & EDB	32654	32653
09080	Edwards Grocery	Georgetown	29	D. Thoma	07/16/08	BTEXMN, DCA, EDB & Oxygenates	32566	32567
01253	Mack's Camp	Berkeley	10	R. Miner	07/16/08	BTEXMN, DCA, & EDB	32664	32665
18662	Bay Creek Villas	Colleton	17	R. Miner	07/16/08	BTEXMN & DCA	32666	32667

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

UST DOCKET 43 tech

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

Sincerely,

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

enc: Information Packets
Approved Cost Agreements

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

Approved Cost Agreement 32666

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	17.0000	23.00	391.00
				Total Amount		391.00

Approved Cost Agreement 32667

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	1.0000	150.00	150.00
10 SAMPLE COLLECTION						
		D	GROUNDWATER NO-PURGE	17.0000	10.00	170.00
				Total Amount		320.00

Midlands
Environmental
Consultants, Inc.

June 20, 2008

RECEIVED

JUN 2 6 2008

UNDERGROUND STORAGE
TANK PROGRAM

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

Subject: Report of Groundwater Sampling
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662, CA # 32667
MECI Project Number 08-1679

Dear Ms. Thoma,

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

On June 19, 2008, thirteen monitoring wells (MW-3, MW-4, MW-6 through MW-9, MW-15 through MW-17, MW-19, and MW-22 through MW-24). Four monitoring wells (MW-18, MW-20, MW-21, and MW-25) were gauged and determined to contain free phase petroleum product. Groundwater samples obtained were transported to Pace Analytical Services, Inc. of Huntersville, NC for analysis.

No purge water was produced at this site.

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

Sincerely,
Midlands Environmental Consultants, Inc.

JC

Brandon T. Guiles
Staff Scientist

William C. McClary, P.G.
Senior Geologist

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

UST PROGRAM
DOCKETING # 44

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: Russell Owen, Brandon Guiles

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	Depth to Water	Product Thickness	# Gals. Purged	Comments
MW-3	Y	6/19/08	10:51	2.5-15	***	5.34	***	***	Sheen/Odor
MW-4	Y	6/19/08	11:10	2.5-15	***	5.43	***	***	Odor
MW-6	Y	6/19/08	11:24	2.5-15	***	4.61	***	***	No Odor
MW-7	Y	6/19/08	11:22	1.5-10	***	4.95	***	***	Slight Odor
MW-8	Y	6/19/08	11:29	1.5-10	***	4.83	***	***	No Odor
MW-9	Y	6/19/08	11:13	1.5-10	***	5.02	***	***	Sheen/Odor
MW-15	Y	6/19/08	10:41	3-10	***	5.11	***	***	No Odor
MW-16	Y	6/19/08	9:47	3-10	***	5.53	***	***	Strong Odor
MW-17	Y	6/19/08	10:49	3-10	***	5.02	***	***	No Odor
MW-18	N	6/19/08	9:50	3-10	5.51	5.53	0.02	***	Free Product Thickness = 0.02 ft./1 bolt needed
MW-19	Y	6/19/08	10:29	2.5-9.5	***	5.43	***	***	Odor
MW-20	N	6/19/08	9:54	3-10	5.34	5.36	0.02	***	Free Product Thickness = 0.02 ft.
MW-21	N	6/19/08	9:56	2.5-9.5	5.40	5.44	0.04	***	Free Product Thickness = 0.04 ft.
MW-22	Y	6/19/08	10:14	3-10	***	5.44	***	***	No Odor
MW-23	Y	6/19/08	10:34	2.5-9.5	***	7.79	***	***	No Odor
MW-24	Y	6/19/08	10:37	2.5-9.5	***	4.32	***	***	No Odor
MW-25	N	6/19/08	10:31	2.5-9.5	5.72	5.75	0.03	***	Free Product Thickness = 0.03 ft.
								0.0	**TOTAL GALLONS PURGED**

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June 30, 2008

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JUL 0 2 2008
UNDERGROUND STORAGE
TANK PROGRAM

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

RE: Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on June 20, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

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

Sincerely,

Kevin Godwin

kevin.godwin@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Charlotte Certification IDs

Florida/NELAP Certification Number: E87627
Kansas Certification Number: E-10364
Louisiana/LELAP Certification Number: 04034
North Carolina Drinking Water Certification Number: 37706
North Carolina Wastewater Certification Number: 12
North Carolina Field Services Certification Number: 5342
South Carolina Certification Number: 990060001
South Carolina Bioassay Certification Number: 990060003
Tennessee Certification Number: 04010
Virginia Certification Number: 00213

Asheville Certification IDs

Florida/NELAP Certification Number: E87648
Louisiana/LELAP Certification Number: 03095
New Jersey Certification Number: NC011
North Carolina Drinking Water Certification Number: 37712
North Carolina Wastewater Certification Number: 40
North Carolina Bioassay Certification Number: 9
Pennsylvania Certification Number: 68-03578
South Carolina Certification Number: 99030001
South Carolina Bioassay Certification Number: 99030002
Tennessee Certification Number: 2980
Virginia Certification Number: 00072

Eden Certification IDs

North Carolina Drinking Water Certification Number: 37738
Virginia Drinking Water Certification Number: 00424
North Carolina Wastewater Certification Number: 633

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-3 **Lab ID: 9221850001** Collected: 06/19/08 10:51 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	**4150**	ug/L	250	50		06/21/08 19:37	71-43-2	
1,2-Dichloroethane	ND	ug/L	250	50		06/21/08 19:37	107-06-2	
Ethylbenzene	**1080**	ug/L	250	50		06/21/08 19:37	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	250	50		06/21/08 19:37	1634-04-4	
Naphthalene	**697**	ug/L	250	50		06/21/08 19:37	91-20-3	
Toluene	ND	ug/L	250	50		06/21/08 19:37	108-88-3	
Xylene (Total)	ND	ug/L	750	50		06/21/08 19:37	1330-20-7	
m&p-Xylene	ND	ug/L	500	50		06/21/08 19:37	1330-20-7	
o-Xylene	ND	ug/L	250	50		06/21/08 19:37	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109	50		06/21/08 19:37	460-00-4	
Dibromofluoromethane (S)	108	%	85-115	50		06/21/08 19:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	79-120	50		06/21/08 19:37	17060-07-0	
Toluene-d8 (S)	101	%	70-120	50		06/21/08 19:37	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-4 **Lab ID: 9221850002** Collected: 06/19/08 11:10 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	**46.4**	ug/L	10.0	2		06/22/08 17:38	71-43-2	
1,2-Dichloroethane	ND	ug/L	10.0	2		06/22/08 17:38	107-06-2	
Ethylbenzene	**260**	ug/L	10.0	2		06/22/08 17:38	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	10.0	2		06/22/08 17:38	1634-04-4	
Naphthalene	**206**	ug/L	10.0	2		06/22/08 17:38	91-20-3	
Toluene	ND	ug/L	10.0	2		06/22/08 17:38	108-88-3	
Xylene (Total)	ND	ug/L	30.0	2		06/22/08 17:38	1330-20-7	
m&p-Xylene	ND	ug/L	20.0	2		06/22/08 17:38	1330-20-7	
o-Xylene	ND	ug/L	10.0	2		06/22/08 17:38	95-47-6	
4-Bromofluorobenzene (S)	97	%	87-109	2		06/22/08 17:38	460-00-4	
Dibromofluoromethane (S)	101	%	85-115	2		06/22/08 17:38	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	79-120	2		06/22/08 17:38	17060-07-0	
Toluene-d8 (S)	101	%	70-120	2		06/22/08 17:38	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-6 **Lab ID: 9221850003** Collected: 06/19/08 11:24 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	ND	ug/L	5.0	1		06/22/08 16:16	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		06/22/08 16:16	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		06/22/08 16:16	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		06/22/08 16:16	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		06/22/08 16:16	91-20-3	
Toluene	ND	ug/L	5.0	1		06/22/08 16:16	108-88-3	
Xylene (Total)	ND	ug/L	15.0	1		06/22/08 16:16	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		06/22/08 16:16	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		06/22/08 16:16	95-47-6	
4-Bromofluorobenzene (S)	92	%	87-109	1		06/22/08 16:16	460-00-4	
Dibromofluoromethane (S)	103	%	85-115	1		06/22/08 16:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	79-120	1		06/22/08 16:16	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		06/22/08 16:16	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-7 **Lab ID: 9221850004** Collected: 06/19/08 11:22 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	ND	ug/L	5.0	1		06/21/08 14:57	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		06/21/08 14:57	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		06/21/08 14:57	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		06/21/08 14:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		06/21/08 14:57	91-20-3	
Toluene	ND	ug/L	5.0	1		06/21/08 14:57	108-88-3	
Xylene (Total)	ND	ug/L	15.0	1		06/21/08 14:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		06/21/08 14:57	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		06/21/08 14:57	95-47-6	
4-Bromofluorobenzene (S)	102	%	87-109	1		06/21/08 14:57	460-00-4	
Dibromofluoromethane (S)	105	%	85-115	1		06/21/08 14:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	79-120	1		06/21/08 14:57	17060-07-0	
Toluene-d8 (S)	102	%	70-120	1		06/21/08 14:57	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-8 **Lab ID: 9221850005** Collected: 06/19/08 11:29 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	ND	ug/L	5.0	1		06/21/08 15:14	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		06/21/08 15:14	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		06/21/08 15:14	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		06/21/08 15:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		06/21/08 15:14	91-20-3	
Toluene	ND	ug/L	5.0	1		06/21/08 15:14	108-88-3	
Xylene (Total)	ND	ug/L	15.0	1		06/21/08 15:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		06/21/08 15:14	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		06/21/08 15:14	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109	1		06/21/08 15:14	460-00-4	
Dibromofluoromethane (S)	103	%	85-115	1		06/21/08 15:14	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	79-120	1		06/21/08 15:14	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		06/21/08 15:14	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-9 **Lab ID: 9221850006** Collected: 06/19/08 11:13 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	**757**	ug/L	50.0	10		06/21/08 17:57	71-43-2	
1,2-Dichloroethane	ND	ug/L	50.0	10		06/21/08 17:57	107-06-2	
Ethylbenzene	**1690**	ug/L	50.0	10		06/21/08 17:57	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	50.0	10		06/21/08 17:57	1634-04-4	
Naphthalene	**699**	ug/L	50.0	10		06/21/08 17:57	91-20-3	
Toluene	**92.0**	ug/L	50.0	10		06/21/08 17:57	108-88-3	
Xylene (Total)	**298**	ug/L	150	10		06/21/08 17:57	1330-20-7	
m&p-Xylene	**275**	ug/L	100	10		06/21/08 17:57	1330-20-7	
o-Xylene	ND	ug/L	50.0	10		06/21/08 17:57	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109	10		06/21/08 17:57	460-00-4	
Dibromofluoromethane (S)	105	%	85-115	10		06/21/08 17:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	79-120	10		06/21/08 17:57	17060-07-0	
Toluene-d8 (S)	100	%	70-120	10		06/21/08 17:57	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-15 **Lab ID: 9221850007** Collected: 06/19/08 10:41 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	ND	ug/L	5.0	1		06/21/08 15:32	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		06/21/08 15:32	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		06/21/08 15:32	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		06/21/08 15:32	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		06/21/08 15:32	91-20-3	
Toluene	ND	ug/L	5.0	1		06/21/08 15:32	108-88-3	
Xylene (Total)	ND	ug/L	15.0	1		06/21/08 15:32	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		06/21/08 15:32	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		06/21/08 15:32	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109	1		06/21/08 15:32	460-00-4	
Dibromofluoromethane (S)	104	%	85-115	1		06/21/08 15:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	79-120	1		06/21/08 15:32	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		06/21/08 15:32	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-16 **Lab ID: 9221850008** Collected: 06/19/08 09:47 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	**1590**	ug/L	50.0	10		06/22/08 18:21	71-43-2	
1,2-Dichloroethane	ND	ug/L	50.0	10		06/22/08 18:21	107-06-2	
Ethylbenzene	**859**	ug/L	50.0	10		06/22/08 18:21	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	50.0	10		06/22/08 18:21	1634-04-4	
Naphthalene	**502**	ug/L	50.0	10		06/22/08 18:21	91-20-3	
Toluene	**370**	ug/L	50.0	10		06/22/08 18:21	108-88-3	
Xylene (Total)	**1830**	ug/L	150	10		06/22/08 18:21	1330-20-7	
m&p-Xylene	**1450**	ug/L	100	10		06/22/08 18:21	1330-20-7	
o-Xylene	**378**	ug/L	50.0	10		06/22/08 18:21	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109	10		06/22/08 18:21	460-00-4	
Dibromofluoromethane (S)	102	%	85-115	10		06/22/08 18:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	79-120	10		06/22/08 18:21	17060-07-0	
Toluene-d8 (S)	100	%	70-120	10		06/22/08 18:21	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-17 **Lab ID: 9221850009** Collected: 06/19/08 10:49 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	**50.4**	ug/L	5.0	1		06/22/08 15:58	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		06/22/08 15:58	107-06-2	
Ethylbenzene	**15.6**	ug/L	5.0	1		06/22/08 15:58	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		06/22/08 15:58	1634-04-4	
Naphthalene	**6.3**	ug/L	5.0	1		06/22/08 15:58	91-20-3	
Toluene	ND	ug/L	5.0	1		06/22/08 15:58	108-88-3	
Xylene (Total)	**21.0**	ug/L	15.0	1		06/22/08 15:58	1330-20-7	
m&p-Xylene	**16.6**	ug/L	10.0	1		06/22/08 15:58	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		06/22/08 15:58	95-47-6	
4-Bromofluorobenzene (S)	94	%	87-109	1		06/22/08 15:58	460-00-4	
Dibromofluoromethane (S)	101	%	85-115	1		06/22/08 15:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	115	%	79-120	1		06/22/08 15:58	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		06/22/08 15:58	2037-26-5	

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Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-19 **Lab ID: 9221850010** Collected: 06/19/08 10:29 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	**4940**	ug/L	1250	250		06/27/08 08:35	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		06/21/08 15:49	107-06-2	
Ethylbenzene	**1250**	ug/L	5.0	1		06/21/08 15:49	100-41-4	E
Methyl-tert-butyl ether	ND	ug/L	5.0	1		06/21/08 15:49	1634-04-4	
Naphthalene	**678**	ug/L	5.0	1		06/21/08 15:49	91-20-3	E
Toluene	**2480**	ug/L	1250	250		06/27/08 08:35	108-88-3	
Xylene (Total)	**4610**	ug/L	3750	250		06/27/08 08:35	1330-20-7	
m&p-Xylene	**3000**	ug/L	2500	250		06/27/08 08:35	1330-20-7	
o-Xylene	**1610**	ug/L	1250	250		06/27/08 08:35	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109	1		06/21/08 15:49	460-00-4	
Dibromofluoromethane (S)	102	%	85-115	1		06/21/08 15:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	79-120	1		06/21/08 15:49	17060-07-0	
Toluene-d8 (S)	103	%	70-120	1		06/21/08 15:49	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-22 **Lab ID: 9221850011** Collected: 06/19/08 10:14 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	**7.3**	ug/L	5.0	1		06/21/08 16:06	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		06/21/08 16:06	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		06/21/08 16:06	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		06/21/08 16:06	1634-04-4	
Naphthalene	**158**	ug/L	5.0	1		06/21/08 16:06	91-20-3	
Toluene	**5.7**	ug/L	5.0	1		06/21/08 16:06	108-88-3	
Xylene (Total)	**23.8**	ug/L	15.0	1		06/21/08 16:06	1330-20-7	
m&p-Xylene	**17.6**	ug/L	10.0	1		06/21/08 16:06	1330-20-7	
o-Xylene	**6.2**	ug/L	5.0	1		06/21/08 16:06	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109	1		06/21/08 16:06	460-00-4	
Dibromofluoromethane (S)	104	%	85-115	1		06/21/08 16:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	79-120	1		06/21/08 16:06	17060-07-0	
Toluene-d8 (S)	102	%	70-120	1		06/21/08 16:06	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-23 **Lab ID: 9221850012** Collected: 06/19/08 10:34 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	**60.6**	ug/L	5.0	1		06/22/08 15:02	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		06/22/08 15:02	107-06-2	
Ethylbenzene	**8.8**	ug/L	5.0	1		06/22/08 15:02	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		06/22/08 15:02	1634-04-4	
Naphthalene	**10.9**	ug/L	5.0	1		06/22/08 15:02	91-20-3	
Toluene	ND	ug/L	5.0	1		06/22/08 15:02	108-88-3	
Xylene (Total)	**16.9**	ug/L	15.0	1		06/22/08 15:02	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		06/22/08 15:02	1330-20-7	
o-Xylene	**9.6**	ug/L	5.0	1		06/22/08 15:02	95-47-6	
4-Bromofluorobenzene (S)	93	%	87-109	1		06/22/08 15:02	460-00-4	
Dibromofluoromethane (S)	101	%	85-115	1		06/22/08 15:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	79-120	1		06/22/08 15:02	17060-07-0	
Toluene-d8 (S)	99	%	70-120	1		06/22/08 15:02	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

Sample: MW-24 **Lab ID: 9221850013** Collected: 06/19/08 10:37 Received: 06/20/08 14:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Benzene	ND	ug/L	5.0	1		06/22/08 15:20	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		06/22/08 15:20	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		06/22/08 15:20	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		06/22/08 15:20	1634-04-4	
Naphthalene	**5.3**	ug/L	5.0	1		06/22/08 15:20	91-20-3	
Toluene	ND	ug/L	5.0	1		06/22/08 15:20	108-88-3	
Xylene (Total)	ND	ug/L	15.0	1		06/22/08 15:20	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		06/22/08 15:20	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		06/22/08 15:20	95-47-6	
4-Bromofluorobenzene (S)	89	%	87-109	1		06/22/08 15:20	460-00-4	
Dibromofluoromethane (S)	99	%	85-115	1		06/22/08 15:20	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	79-120	1		06/22/08 15:20	17060-07-0	
Toluene-d8 (S)	102	%	70-120	1		06/22/08 15:20	2037-26-5	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

QC Batch: MSV/3777 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV
Associated Lab Samples: 9221850001, 9221850002, 9221850003, 9221850004, 9221850005, 9221850006, 9221850007, 9221850008, 9221850009, 9221850010, 9221850011, 9221850012, 9221850013

METHOD BLANK: 131007

Associated Lab Samples: 9221850001, 9221850002, 9221850003, 9221850004, 9221850005, 9221850006, 9221850007, 9221850008, 9221850009, 9221850010, 9221850011, 9221850012, 9221850013

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	
Benzene	ug/L	ND	5.0	
Ethylbenzene	ug/L	ND	5.0	
m&p-Xylene	ug/L	ND	10.0	
Methyl-tert-butyl ether	ug/L	ND	5.0	
Naphthalene	ug/L	ND	5.0	
o-Xylene	ug/L	ND	5.0	
Toluene	ug/L	ND	5.0	
Xylene (Total)	ug/L	ND	15.0	
1,2-Dichloroethane-d4 (S)	%	107	79-120	
4-Bromofluorobenzene (S)	%	103	87-109	
Dibromofluoromethane (S)	%	106	85-115	
Toluene-d8 (S)	%	99	70-120	

LABORATORY CONTROL SAMPLE: 131008

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	61.5	123	72-126	
Benzene	ug/L	50	56.5	113	78-128	
Ethylbenzene	ug/L	50	56.0	112	80-127	
m&p-Xylene	ug/L	100	113	113	82-127	
Methyl-tert-butyl ether	ug/L	50	65.1	130	71-130	
Naphthalene	ug/L	50	62.7	125	52-136	
o-Xylene	ug/L	50	55.3	111	83-124	
Toluene	ug/L	50	57.0	114	76-126	
Xylene (Total)	ug/L	150	168	112	83-125	
1,2-Dichloroethane-d4 (S)	%			105	79-120	
4-Bromofluorobenzene (S)	%			102	87-109	
Dibromofluoromethane (S)	%			104	85-115	
Toluene-d8 (S)	%			99	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 131392 131393

Parameter	Units	9221850005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Benzene	ug/L	ND	50	50	58.5	58.8	117	118	74-136	.5	
Toluene	ug/L	ND	50	50	57.9	59.2	116	118	73-131	2	
1,2-Dichloroethane-d4 (S)	%						104	105	79-120		

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 131392 131393

Parameter	Units	9221850005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
4-Bromofluorobenzene (S)	%						104	103	87-109		
Dibromofluoromethane (S)	%						107	107	85-115		
Toluene-d8 (S)	%						100	100	70-120		

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QUALIFIERS

Project: BAY CREEK VILLAS/ 18662
Pace Project No.: 9221850

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

1172578

Section A
Required Client Information:

Company: SC DHEC UST
Address: 2600 Bull Street
Columbia SC 29201
Email To:
Phone: 803-896-4422 Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.:
Project Name: Bay Creek Villas
Project Number: 18162 / 32666

Section C
Invoice Information:

Attention: Finance (P. Thoma)
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: K. Godwin
Pace Profile #: 849-1

REGULATORY AGENCY

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

Site Location STATE: SC

Section D
Required Client Information

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

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

Requested Analysis Filtered (Y/N): Y/N

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test: BTEX, MTBE (8260)	(1,2) DCA	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-3 •	WT	G	6/19/08	10:51				3				3					X	X		92221850001
2	MW-4 •				11:10				3				3					X	X		002
3	MW-6 •				11:24				3				3					X	X		003
4	MW-7 •				11:22				3				3					X	X		004
5	MW-8 •				11:29				3				3					X	X		005
6	MW-9 •				11:13				3				3					X	X		006
7	MW-15 •				10:41				3				3					X	X		007
8	MW-16 •				9:47				3				3					X	X		008
9	MW-17 •				10:49				3				3					X	X		009
10	~~MW-18~~				~~9:50~~				0				0								Free product of 0.02'
11	MW-19 •				10:29				3				3					X	X		010
12	~~MW-20~~	WT	G	~~6/19/08~~	~~9:54~~				0				0								Free product of 0.02'

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	[signature]	6/19/08	3:28	[signature] Pace	6/20	10:30
	[signature] Pace	6/20/8	14:10	[signature]	6/20	1410

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Russell Owen
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/19/08

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

1172582

Section A Required Client Information:

Company:	SCDHEC
Address:	2600 Bull Street Columbia SC 29201
Email To:	
Phone:	803-896-4922
Fax:	
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	D. THOMA
Copy To:	
Purchase Order No.:	
Project Name:	Day Creek Villas
Project Number:	18662 / 32666

Section C Invoice Information:

Attention:	Finance (D. Thoma)
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	K. Godwin
Pace Profile #:	

REGULATORY AGENCY

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

Site Location STATE: SC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btox, Naph, MTBE (8260D)	(1,2) DCA	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~MW-21~~	WT	G	6/19/08	9:56				3				3						X	X		Free product of .04'
2	MW-22	|	|	|	10:14				3				3						X	X		011
3	MW-23	|	|	|	10:34				3				3						X	X		012
4	MW-24	WT	G	|	10:37				3				3						X	X		013
5	~~MW-25~~			6/19/08					0				0									Free product of .03'
6																						
7																						
8																						
9																						
10																						
11																						
12																						

9221850

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	6/19/08	3:29	[signature] Pace	6/20/8	10:30				
	[signature] Pace	6/20/8	13:10	[signature]	6/20	1310	4.9	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Russell Owen

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 6/19/08

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

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

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

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

JUL 09 2008

Re: **Monitoring Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Report received June 26, 2008
Colleton County

Dear Mr. Nunn:

On June 19, 2008, samples were collected from the monitoring wells. A copy of the report is enclosed. Based on the data in the referenced report and the file, the following observations and conclusions are offered:

1) A total of 641.62 equivalent gallons of petroleum has been removed from the ground between April 2006 and June 2008.
2) Most of the free phase product had accumulated behind the sea well underneath the building.
3) Historically, free product has been found in 10 of the monitoring wells with thicknesses of up to 3.02 and 2.32 feet in MW-20 and MW-21 respectively in October and November 2007. As of June 19, 2008, free product is only present in 4 monitoring wells (MW-18, MW-20, MW-21, and MW-25) with a maximum thickness of 0.04 feet. This represents a significant reduction in the volume of free product remaining in the subsurface.
4) Concentrations of dissolved petroleum chemicals are showing significant reductions in monitoring wells MW-4, MW-9, MW-15, and MW-17.
5) Concentrations of dissolved petroleum chemicals are remaining stable in monitoring wells MW-3 and MW-16.
6) The monitoring wells surrounding the active USTs (MW-6, MW-7, and MW-8) remain clean.

As agreed with Peter Stipp, the UST Program will temporarily suspend additional Aggressive Fluid Vapor Recovery (AFVR) events until after Labor Day due to high seasonal traffic conditions.

UST DOCKET 45 tech

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

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

enc: Monitoring Report

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

SEP 18 2008

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

Re: Bid # IBF-30519-8/8/06-EMW; PO # 646282
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Aggressive Fluid Vapor Recovery (AFVR) event at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 646282 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit #	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
12097	Greenwave Amoco	Dorchester	1	1 AFVR	60days	32981	1,225.00
03723	Newton's General Store	Georgetown	1	1 AFVR	60days	33419	1,295.00
18662	Bay Creek Villas	Colleton	1	10 AFVR	60days	33564	10,875.00

*From receipt of letter

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

UST DOCKET
4 6 tech

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval.

Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

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

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

Sincerely,

Maia Milenkova, Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packets

cc: Technical File (w/copy of ACA)

SCDHEC/UST/08//18/08/MPM

Approved Cost Agreement 33564

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	10.0000	350.00	3,500.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	3,000.0000	0.10	300.00
23 EFR						
		A	8 HOUR EVENT	10.0000	600.00	6,000.00
		C	OFF GAS TREATMENT	10.0000	100.00	1,000.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
				Total Amount		10,875.00

Midlands
Environmental
Consultants, Inc.

October 22, 2008

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
OCT 23
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #33564
MECI Project Number 08-1923A

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

On October 2, 2008, MECI personnel performed a site visit to Bay Creek Villas to locate/gauge monitoring wells and evaluate current site conditions. MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on October 15, 2008. The event was conducted on monitoring wells MW-20 and MW-21 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.77 feet, and in MW-21 at a thickness of 1.60 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 15.78 pounds or approximately 2.73 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.97 pounds per hour. Concentrations of off gas produced during the event were recorded from 1,588 parts per million by volume (PPM) to 2,720 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 12.0 to 13.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

OUTDOOR

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3A. Monitoring well locations are depicted on attached Figure 1.

A total of 160 gallons of liquid was removed from monitoring wells MW-20 and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. Free phase petroleum product was observed in the site tube of the knock out tank at an approximate thickness of 0.16 feet during the AFVR event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

for Clark S. Baer
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923A
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	10/15/08	8:30	0.50	12.0	1,560	1560	140.40	2.63	1.31
MW-21	10/15/08	9:00	0.50	12.0	1,510	1510	135.90	2.46	1.23
	10/15/08	9:30	0.50	12.0	1,480	1480	133.20	2.37	1.18
	10/15/08	10:00	0.50	12.0	1,390	1390	125.10	2.09	1.04
	10/15/08	10:30	0.50	12.0	1,120	1120	100.80	1.35	0.68
	10/15/08	11:00	0.50	12.0	1,180	1180	106.20	1.50	0.75
	10/15/08	11:30	0.50	12.0	1,300	1300	117.00	1.83	0.91
	10/15/08	12:00	0.50	12.0	1,400	1400	126.00	2.12	1.06
	10/15/08	12:30	0.50	12.0	1,320	1320	118.80	1.88	0.94
	10/15/08	13:00	0.50	12.0	1,380	1380	124.20	2.06	1.03
	10/15/08	13:30	0.50	13.0	1,170	1170	105.30	1.48	0.74
	10/15/08	14:00	0.50	13.0	1,140	1140	102.60	1.40	0.70
	10/15/08	14:30	0.50	13.0	1,150	1150	103.50	1.43	0.71
	10/15/08	15:00	0.50	13.0	1,280	1280	115.20	1.77	0.88
	10/15/08	15:30	0.50	13.0	1,370	1370	123.30	2.03	1.01
	10/15/08	16:00	0.50	13.0	1,220	1220	109.80	1.61	0.80
	10/15/08	16:30	0.50	13.0	1,200	1200	108.00	1.56	0.78
									TOTAL
									15.78

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-20	2"	3-10	4.22	4.99	0.77	***	8.02	***	3.68
MW-21	2"	2.5-9.5	3.77	5.37	1.60	***	6.76	***	2.75

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-20	5.70
Truck Operator:	R. Owen	MW-21	6.00
Stack I.D. (feet)	0.33 feet		
Corrected Depth to water before AFVR event for MW-20 =			4.34
Corrected Depth to water before AFVR event for MW-21 =			4.01

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	15.78	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	2.73	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	160	Gallons

Note: Due to tidal change, stinger depth was re-adjusted at 13:00 EST and 15:30 EST on October 15, 2008. (see below)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Depth (ft) at 13:00	Stinger Depth (ft) at 15:30
MW-20	***	***	6.70	8.70
MW-21	***	***	7.00	9.00

TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 08-1923A
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
8:30	0.0	0	0	0
9:00	0.5	0	0	0
9:30	1.0	0	0	0
10:00	1.5	0	0	0
10:30	2.0	0	0	0
11:00	2.5	0	0	0
11:30	3.0	0	0	0
12:00	3.5	0	0	0
12:30	4.0	0	0	0
13:00	4.5	0	0	0
13:30	5.0	0	0	0
14:00	5.5	0	0	0
14:30	6.0	0	0	0
15:00	6.5	0	0	0
15:30	7.0	0	0	0
16:00	7.5	0	0	0
16:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

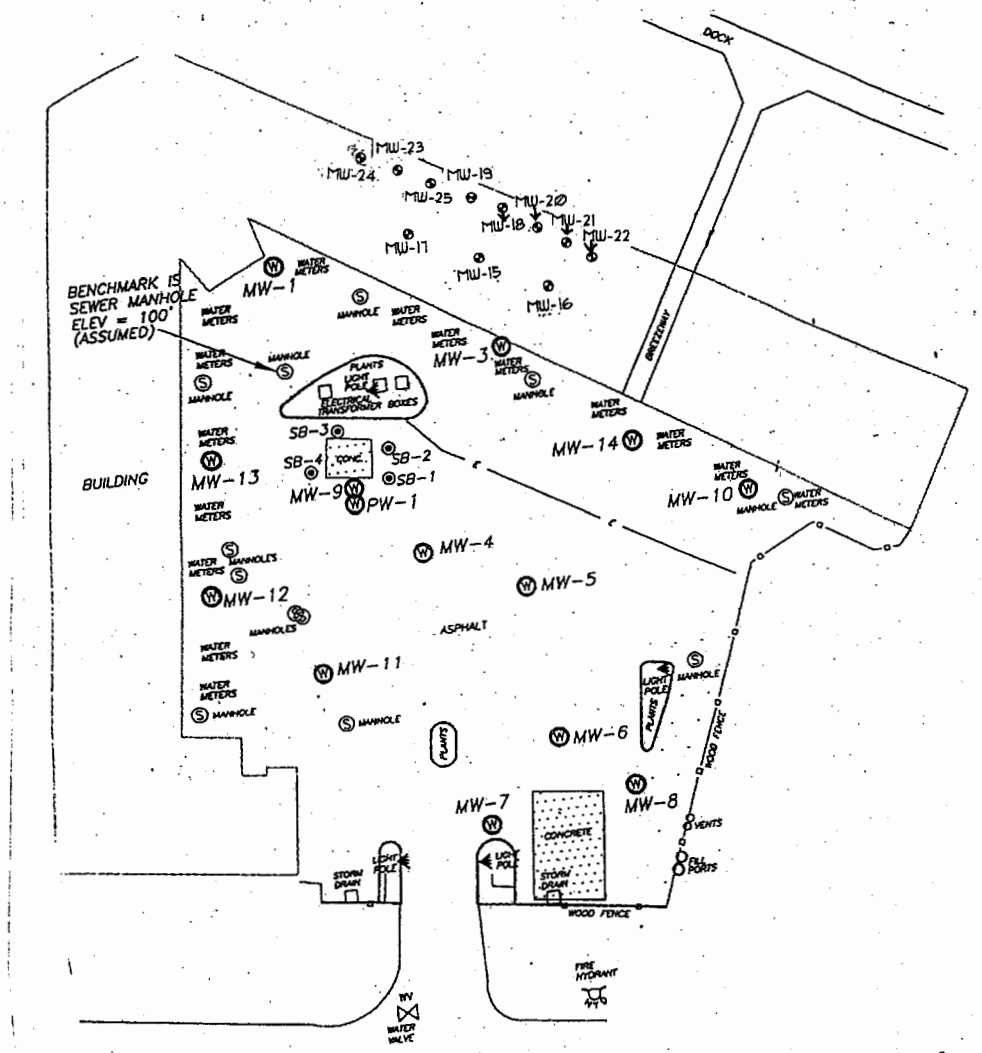
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.02	4.39	3.73
12:30	4 hours	3.99	4.13	3.69
16:30	8 hours	3.98	5.46	3.69
Maximum Change:		0.04	-1.33	0.04

TABLE 3A
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923A
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-18		MW-19		MW-22		MW-23		MW-24		MW-24	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
8:30	0.0	***	4.25	***	4.51	***	4.28	***	3.39	***	3.42	***	3.47
9:00	0.5												
9:30	1.0	***	4.28	***	4.73	***	4.31	***	3.41	***	3.57	***	3.61
10:00	1.5												
10:30	2.0	***	4.32	***									
11:00	2.5				4.89	***	4.20	***	3.40	***	3.82	***	3.91
11:30	3.0	***	4.46	***									
12:00	3.5				5.17	***	4.49	***	3.37	***	4.44	***	4.44
12:30	4.0	***	4.54	***									
13:00	4.5				5.36	***							
13:30	5.0	***	5.13	***			4.72	***	3.37	***	4.44	***	4.79
14:00	5.5												
14:30	6.0	***	5.94	***	5.85	***	5.12	***	3.36	***	4.44	***	4.92
15:00	6.5												
15:30	7.0	***	6.82	***	5.92	***	5.47	***	3.35	***	4.44	***	5.13
16:00	7.5												
16:30	8.0	***	7.14	***	6.11	***	5.92	***	3.35	***	4.44	***	5.25



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

C 131572

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 30506

2. Page 1 of 1

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

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

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01.	TT	3110.	G
b.				
c.				
d. •Beaufort Petrol Facility (01056)-130 gals •Hortons Grocery B (06768)-125 gals •Mac's Fuel Oil Service (03884)-125 gals •Leo's Gulf Service (04339)-280 gals •Bull Mart (03527)-500 gals •Hortons Grocery A (06768)-200 gals •Spartan Spot (08591)-40 gals.				

D. Additional Descriptions for Materials Listed Above
•Friendly Mart (11693)-40 gals •Austin Movin i Storage (04038)-100 gals
•Minnie's (07967)-100 gals •Bay Creek Villas (18662)-160 gals
•Comm. Quick (11694)-150 gals
•Pelzer Gas Mart (00480)-100 gals

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information •Allendale (00316)-140 gals
•Nilson Van + Storage (07442)-250 gals. •Mary Moorehead (A) (16009)-30 gals.
Service Call ID: GLB0130506 •Ma Shati (06382)-225 gals.
•Frm. Fast Fare A (18131)-300 gals •Ma Shati (06382)-150 gals.
•Frm. Fast Fare B (18131) 300 gals •Ma Shati (06382)-150 gals.
•Mary Moorehead (B) (16009) 30 gals
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

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

Printed/Typed Name: John C. Bryant | Signature | Month 10 Day 22 Year 08

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Chad Justice | Signature: Chad Justice | Month 10 Day 22 Year 08

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

19. Discrepancy Indication Space

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

Printed/Typed Name | Signature | Month | Day | Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

Midlands
Environmental
Consultants, Inc.

October 22, 2008

RECEIVED
NOV 0 5 2008
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #33564
MECI Project Number 08-1923B

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on October 30, 2008. The event was conducted on monitoring wells MW-18 and MW-21 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.01 feet, and in MW-20 at a thickness of 0.78 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 10.97 pounds or approximately 1.89 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.37 pounds per hour. Concentrations of off gas produced during the event were recorded from 330 parts per million by volume (PPM) to 2,901 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 9.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

UST DOCKET

4 8 tech

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2B. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3B. Monitoring well locations are depicted on attached Figure 1.

A total of 285 gallons of liquid was removed from monitoring wells MW-18 and MW-20 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. Free phase petroleum product was not observed in the site tube of the knock out tank during the AFVR event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

for William R. Owen
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923B
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	10/30/08	8:20	0.50	9.0	1,076	1710	153.90	1.99	0.99
MW-21	10/30/08	8:50	0.50	9.0	725	1780	160.20	1.39	0.70
	10/30/08	9:20	0.50	9.0	402	1760	158.40	0.76	0.38
	10/30/08	9:50	0.50	9.0	371	1770	159.30	0.71	0.35
	10/30/08	10:20	0.50	9.0	330	1750	157.50	0.62	0.31
	10/30/08	10:50	0.50	11.0	500	1470	132.30	0.79	0.40
	10/30/08	11:20	0.50	11.0	471	1400	126.00	0.71	0.36
	10/30/08	11:50	0.50	11.0	461	1460	131.40	0.73	0.36
	10/30/08	12:20	0.50	11.0	482	1420	127.80	0.74	0.37
	10/30/08	12:50	0.50	11.0	473	1480	133.20	0.76	0.38
	10/30/08	13:20	0.50	11.0	469	1440	129.60	0.73	0.36
	10/30/08	13:50	0.50	10.0	437	1550	139.50	0.73	0.37
	10/30/08	14:20	0.50	11.5	521	1390	125.10	0.78	0.39
	10/30/08	14:50	0.50	11.5	509	1390	125.10	0.76	0.38
	10/30/08	15:20	0.50	15.0	2,901	1130	101.70	3.54	1.77
	10/30/08	15:50	0.50	15.0	2,820	1090	98.10	3.32	1.66
	10/30/08	16:20	0.50	15.0	2,501	1060	95.40	2.86	1.43
									TOTAL 10.97

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	5.37	5.38	0.01	***	7.19	***	1.82
MW-21	2"	2.5-9.5	5.23	6.01	0.78	***	7.85	***	2.50

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	7.00
Truck Operator:	C. Baer	MW-21	7.00
Stack I.D. (feet)	0.33 feet		
Corrected Depth to water before AFVR event for MW-20 =			5.37
Corrected Depth to water before AFVR event for MW-21 =			5.35

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	10.97	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.89	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	285	Gallons

Note: Due to tidal change, stinger depth was re-adjusted at 13:20 EST on October 30, 2008. (see below)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Depth (ft) at 13:20
MW-18	***	***	8.00
MW-21	***	***	8.00

TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 08-1923B
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
8:20	0.0	0	0	0
8:50	0.5	0	0	0
9:20	1.0	0	0	0
9:50	1.5	0	0	0
10:20	2.0	0	0	0
10:50	2.5	0	0	0
11:20	3.0	0	0	0
11:50	3.5	0	0	0
12:20	4.0	0	0	0
12:50	4.5	0	0	0
13:20	5.0	0	0	0
13:50	5.5	0	0	0
14:20	6.0	0	0	0
14:50	6.5	0	0	0
15:20	7.0	0	0	0
15:50	7.5	0	0	0
16:20	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

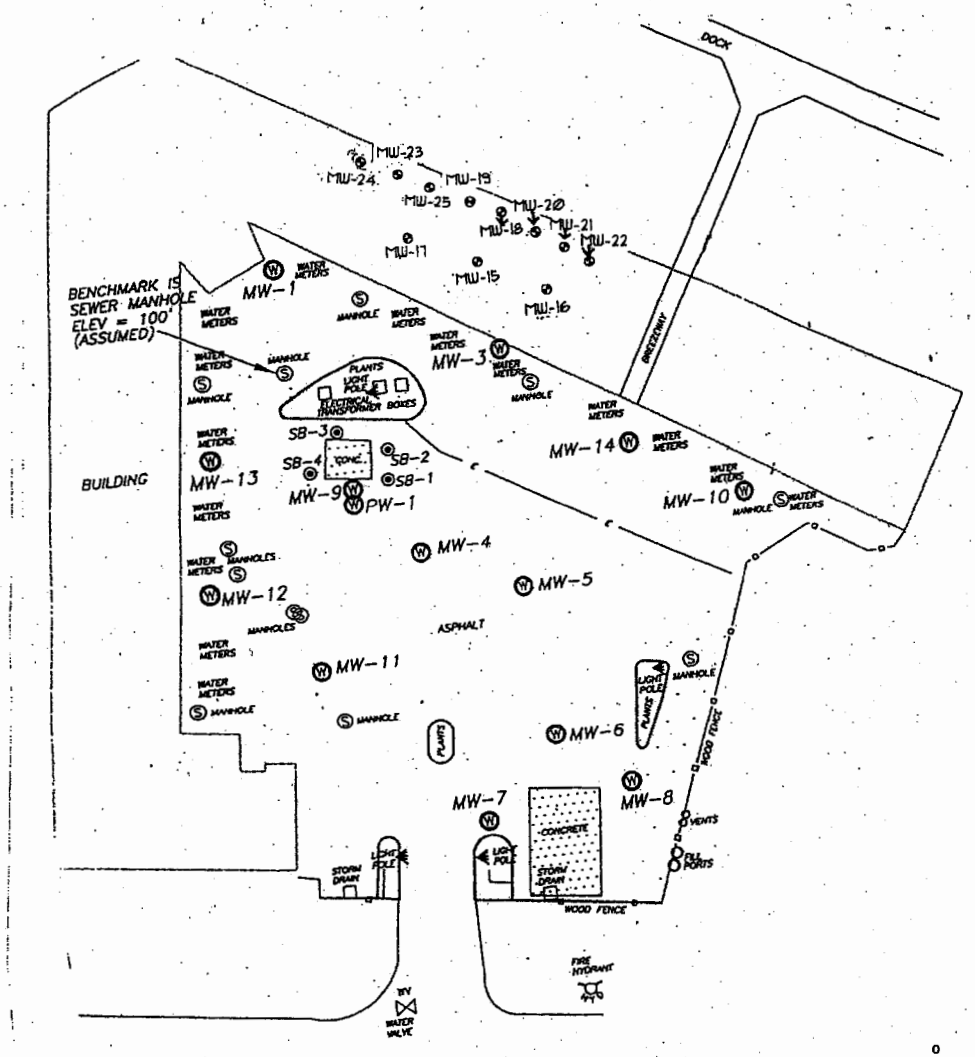
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		3.94	5.26	3.69
12:20	4 hours	3.91	4.57	3.70
16:20	8 hours	3.90	5.93	3.67
Maximum Change:		0.04	-1.36	0.03

TABLE 3B
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923B
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-19		MW-20		MW-22		MW-23		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
8:20	0.0	***	5.42	***	5.30	***	4.97	***	3.41	***	3.32	***	6.08
8:50	0.5												
9:20	1.0	***	5.00	***	4.95	***	4.62	***	3.42	***	3.31	***	5.88
9:50	1.5												
10:20	2.0	***	4.97	***	5.05	***	4.71	***	3.41	***	3.30	***	5.41
10:50	2.5												
11:20	3.0	***	4.96	***	5.13	***	4.85	***	3.41	***	3.31	***	5.20
11:50	3.5												
12:20	4.0	***	4.96	***	5.17	***	4.93	***	3.42	***	3.32	***	4.91
12:50	4.5												
13:20	5.0	***	5.39	***	5.51	***	5.30	***	3.40	***	3.32	***	5.20
13:50	5.5												
14:20	6.0	***	5.71	***	5.92	***	5.68	***	3.39	***	3.32	***	5..29
14:50	6.5												
15:20	7.0	***	6.14	***	6.40	***	5.92	***	3.39	***	3.34	***	5.38
15:50	7.5												
16:20	8.0	***	6.38	***	6.74	***	6.25	***	3.39	***	3.33	***	5.58



Explanation:

⊗ Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

C 132122

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 31207

2. Page 1 of 1

GENERATOR

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

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

5. Transporter 1 Company Name
Crandall Corporation

6. US EPA ID Number
SCD981864499

A. Transporter's Phone (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number
SCD981864499

C. Facility's Phone (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	02340	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
Jiffy Food Center-00583-80gals
•KMO 117-00707-700gals
•Majik Market-00140-140gals •Macks Camp-01253-210gals
•Nulls Exxon-12194-275gals
•Green Ave BP-13084-125gals •Heathself Serve-08937-80gals

E. Handling Codes for Wastes Listed Above

FIELD SERVICE

15. Special Handling Instructions and Additional Information
•Cooper auto sales-18009-50gals •Green avenue BP-12087-410gals
Service Call ID: GLB0131207
•Anderson Patrol Facility-00769-5gals
•Lebanon quick stop-15445-120gals •Bay Creek Villas-18662-285gals.
•Durhams grocery-06699-190gals •Cousars superette-08897-300gals
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

TRANSPORTER

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

Printed/Typed Name	Signature	Month	Day	Year
		11	04	08

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Chad Justice	Chad Justice	11	04	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR COPY

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

NOV 07 2008

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received November 5, 2008
Colleton County

Dear Mr. Nunn:

As you are aware, an additional Aggressive Fluid Vapor Recovery (AFVR) event took place on October 30, 2008. A copy of the report is enclosed. Prior to the event, free product was observed in monitoring well MW-18 (0.01 feet thickness) and MW-20 (0.78 feet thickness). Approximately 1.89 equivalent gallons of petroleum was recovered along with 285 gallons of contaminated water. AFVR events will continue as necessary until free product removal is completed.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

OCT 27 2008

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received October 23, 2008
Colleton County

Dear Mr. Nunn:

Midlands Environmental Consultants resumed AFVR events on October 15, 2008. A copy of the report is enclosed. Free product rebounded in monitoring well MW-20 (0.77 feet thickness) and MW-21 (1.6 feet thickness) over the summer, but has remained centralized around those two wells. AFVR events will continue as necessary until free product removal is completed.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET
50 feet

Midlands
Environmental
Consultants, Inc.

November 24, 2008

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
NOV 2 5 2008
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #33564
MECI Project Number 08-1923C

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on November 12, 2008. The event was conducted on monitoring wells MW-18, MW-19, MW-20, MW-21, and MW-25 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.15 feet, in MW-19 at a thickness of 0.22 feet, in MW-20 at a thickness of 0.04 feet, in MW-21 at a thickness of 0.40 feet, and in MW-25 at a thickness of 0.56 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 18.93 pounds or approximately 3.27 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 2.37 pounds per hour. Concentrations of off gas produced during the event were recorded from 302 parts per million by volume (PPM) to 3,105 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 12.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1C.

UST DOCKET
51 tech

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2C. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3C. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, MW-21, and MW-25 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Project Scientist

for

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1C
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923C
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	11/12/08	11:00	0.50	13.0	2,201	1540	138.60	3.66	1.83
MW-19	11/12/08	11:30	0.50	13.0	1,762	1600	144.00	3.04	1.52
MW-20	11/12/08	12:00	0.50	13.0	1,201	1570	141.30	2.04	1.02
MW-21	11/12/08	12:30	0.50	13.0	873	1590	143.10	1.50	0.75
MW-25	11/12/08	13:00	0.50	13.0	302	1560	140.40	0.51	0.25
	11/12/08	13:30	0.50	12.0	386	1680	151.20	0.70	0.35
	11/12/08	14:00	0.50	15.0	1,824	1320	118.80	2.60	1.30
	11/12/08	14:30	0.50	15.0	3,105	1350	121.50	4.53	2.26
	11/12/08	15:00	0.50	15.0	2,872	1330	119.70	4.13	2.06
	11/12/08	15:30	0.50	15.0	2,501	1320	118.80	3.57	1.78
	11/12/08	16:00	0.50	15.0	2,191	1310	117.90	3.10	1.55
	11/12/08	16:30	0.50	15.0	1,867	1300	117.00	2.62	1.31
	11/12/08	17:00	0.50	12.0	873	1670	150.30	1.57	0.79
	11/12/08	17:30	0.50	12.0	751	1680	151.20	1.36	0.68
	11/12/08	18:00	0.50	12.0	639	1650	148.50	1.14	0.57
	11/12/08	18:30	0.50	12.0	542	1690	152.10	0.99	0.49
	11/12/08	19:00	0.50	12.0	450	1670	150.30	0.81	0.41
									TOTAL 18.93

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	5.48	5.63	0.15	***	5.19	***	-0.31
MW-19	2"	2.5-9.5	4.83	5.05	0.22	***	7.23	***	2.37
MW-20	2"	3-10	5.14	5.18	0.04	***	5.70	***	0.55
MW-21	2"	2.5-9.5	5.20	5.60	0.40	***	5.64	***	0.38
MW-25	2"	2.5-9.5	4.68	5.24	0.56	***	6.80	***	2.04

Vacuum Truck Information

Subcontractor:	MECI
Truck Operator:	C. Baer
Stack I.D. (feet)	0.33 feet

Well ID	Stinger Depth
MW-18	7.00
MW-19	7.00
MW-20	7.00
MW-21	7.00
MW-25	7.00

Corrected Depth to water before AFVR event for MW-18 =	5.50
Corrected Depth to water before AFVR event for MW-19 =	4.86
Corrected Depth to water before AFVR event for MW-20 =	5.15
Corrected Depth to water before AFVR event for MW-21 =	5.26
Corrected Depth to water before AFVR event for MW-25 =	4.76

Recovery / Disposal Information

Hydro carbons Removed (vapor):	18.93	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	3.27	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	150	Gallons

TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 08-1923C
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:00	0.0	0	0	0
11:30	0.5	0	0	0
12:00	1.0	0	0	0
12:30	1.5	0	0	0
13:00	2.0	0	0	0
13:30	2.5	0	0	0
14:00	3.0	0	0	0
14:30	3.5	0	0	0
15:00	4.0	0	0	0
15:30	4.5	0	0	0
16:00	5.0	0	0	0
16:30	5.5	0	0	0
17:00	6.0	0	0	0
17:30	6.5	0	0	0
18:00	7.0	0	0	0
18:30	7.5	0	0	0
19:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

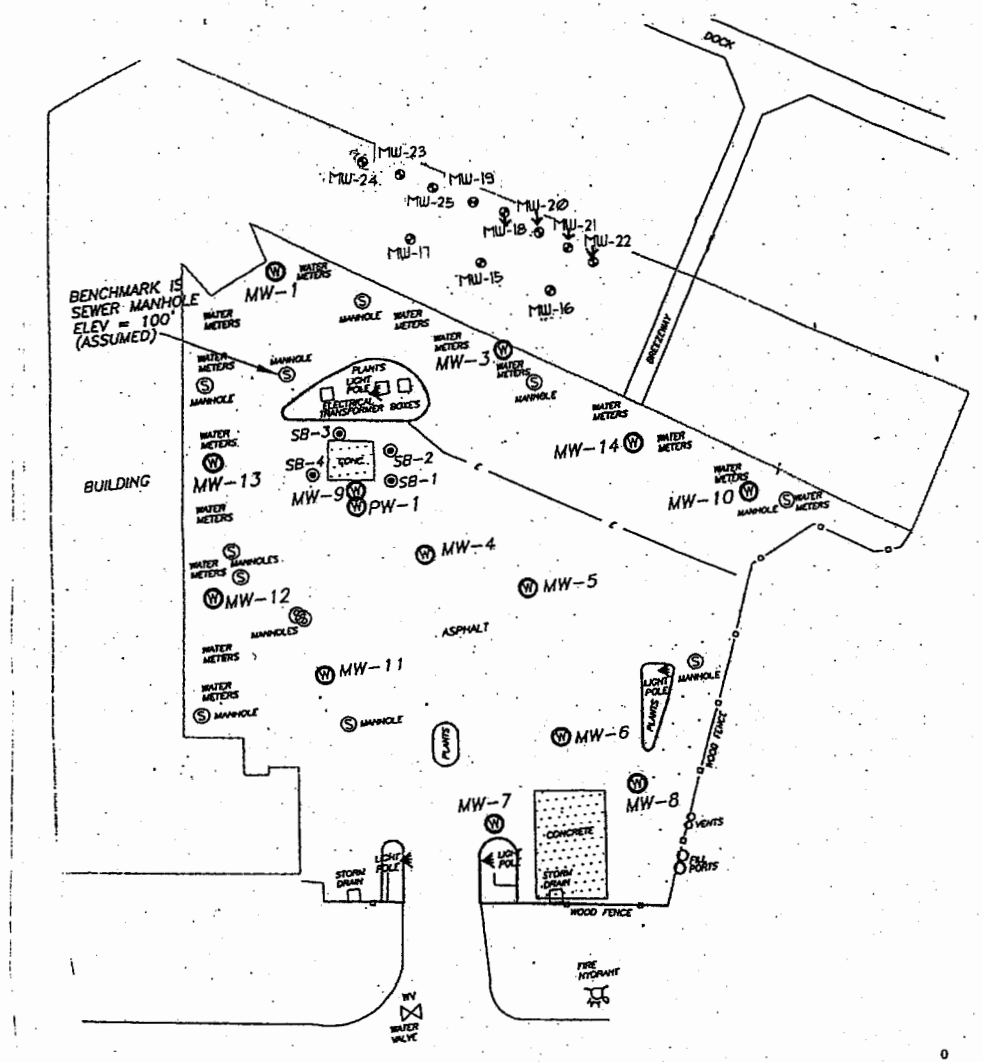
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.34	4.95	4.21
15:00	4 hours	4.31	6.41	4.16
19:00	8 hours	4.33	5.59	4.19
Maximum Change:		0.03	-1.46	0.05

TABLE 3C
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923C
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-22		MW-23		MW-24	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
11:00	0.0	***	5.51	***	4.02	***	3.80
11:30	0.5						
12:00	1.0	***	5.72	***	4.00	***	3.80
12:30	1.5						
13:00	2.0	***	5.99	***	3.98	***	3.78
13:30	2.5						
14:00	3.0	***	6.28	***	3.98	***	3.78
14:30	3.5						
15:00	4.0	***	6.57	***	3.97	***	3.77
15:30	4.5						
16:00	5.0	***	6.61	***	3.97	***	3.78
16:30	5.5						
17:00	6.0	***	6.40	***	3.98	***	3.77
17:30	6.5						
18:00	7.0	***	6.03	***	3.98	***	3.77
18:30	7.5						
19:00	8.0	***	5.26	***	3.98	***	3.77



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

C 139706

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 91666

2. Page 1 of 1

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073
(803) 808-2043

4. Generator's Phone ( )

5. Transporter 1 Company Name Crandall Corporation

6. US EPA ID Number SCD981864499

A. Transporter's Phone (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number SCD981864499

C. Facility's Phone (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	2840	G
b.				
c. Country Side 2-D-06742-100gals. • Country Side 2-E-06742-20gals. • Country Side 2-F-06742-30gals. • Former Ford-C-00487-30gals. • Newberry Airport-B-15590-80gals • Unknown List-B-18678-30gals • Minicks-B-07967-70gals • Pelzers GAS B-00480-145gals				
d. • Community Quick B-11694-100gals. • Bay Creek-18662-150gals • Lathan Oil A-08869-325gals • Lathan Oil B-08869-150gals. • Beufort Mait B-01056-150gals • Bi-Rite C-01869-100gals.				

D. Additional Descriptions for Materials Listed Above
• Bi-rite-D-01869-100gals. • Mary Moorehead-B-16009-30gals. • Mary Moorehead-C-16009-0gals.
• Rockland Parking lot-15475-70gals
• Hortons-C-06768-200gals
• Hortons-D-06768-60gals.

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
• Richland Co. landfill-11808-30gals.
• Hughes Well drilling-06358-250gals. • Regal Petroleum A-19426-80 gals.
Service Call ID: GLB0131888
• Friendly Marks-A-11693-50gals. • Nilson Van & Storage B-07442-420gals.
• Simpsonville Short Stop-12036-70gals
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

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

Printed/Typed Name	Signature	Month	Day	Year
X [signature]	X [signature]	1	21	08

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Chad Justice	Chad Justice	1	21	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

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

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

NOV 26 2008

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received November 25, 2008
Colleton County

Dear Mr. Nunn:

As you are aware, an additional Aggressive Fluid Vapor Recovery (AFVR) event took place on November 12, 2008. A copy of the report is enclosed. Prior to the event, free product was observed in monitoring well MW-18 (0.15 feet), MW-19 (0.22 feet), MW-20 (0.04 feet), MW-21 (0.4 feet), and MW-25 (0.56 feet). Approximately 3.27 equivalent gallons of petroleum was recovered along with 150 gallons of contaminated water. AFVR events will continue as necessary until free product removal is completed.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET
52 tcd

Midlands
Environmental
Consultants, Inc.

December 12, 2008

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #33564
MECI Project Number 08-1923D

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on December 3, 2008. The event was conducted on monitoring wells MW-18, MW-19, MW-20, and MW-21 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.04 feet, in MW-19 at a thickness of 0.04 feet, in MW-20 at a thickness of 0.03 feet, and in MW-21 at a thickness of 0.15 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was detected in MW-20 at a thickness of 0.06 feet immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 7.24 pounds or approximately 1.25 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.91 pounds per hour. Concentrations of off gas produced during the event were recorded from 225 parts per million by volume (PPM) to 1,604 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 11.0 to 13.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1D.

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53

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2D. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3D. Monitoring well locations are depicted on attached Figure 1.

A total of 110 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

for William R. Owen
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923D
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	12/03/08	10:50	0.50	13.0	1,604	1760	158.40	3.05	1.52
MW-20	12/03/08	11:20	0.50	11.0	1,591	1740	156.60	2.99	1.49
MW-21	12/03/08	11:50	0.50	12.0	494	1720	154.80	0.92	0.46
**MW-19	12/03/08	12:20	0.50	12.0	347	1750	157.50	0.66	0.33
	12/03/08	12:50	0.50	12.0	296	1780	160.20	0.57	0.28
	12/03/08	13:20	0.50	12.0	426	1740	156.60	0.80	0.40
	12/03/08	13:50	0.50	12.0	345	1730	155.70	0.64	0.32
	12/03/08	14:20	0.50	12.0	262	1730	155.70	0.49	0.24
	12/03/08	14:50	0.50	12.0	250	1750	157.50	0.47	0.24
	12/03/08	15:20	0.50	12.0	237	1770	159.30	0.45	0.23
	12/03/08	15:50	0.50	12.0	225	1780	160.20	0.43	0.22
	12/03/08	16:20	0.50	12.0	246	1760	158.40	0.47	0.23
	12/03/08	16:50	0.50	12.0	267	1730	155.70	0.50	0.25
	12/03/08	17:20	0.50	12.0	279	1730	155.70	0.52	0.26
	12/03/08	17:50	0.50	12.0	290	1740	156.60	0.54	0.27
	12/03/08	18:20	0.50	12.0	263	1730	155.70	0.49	0.25
	12/03/08	18:50	0.50	12.0	247	1780	160.20	0.47	0.24
									TOTAL 7.24

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	6.31	6.35	0.04	***	7.70	***	1.38
MW-19	2"	2.5-9.5	5.80	5.84	0.04	***	6.58	***	0.77
MW-20	2"	3-10	6.48	6.51	0.03	6.90	6.96	0.06	0.48
MW-21	2"	2.5-9.5	6.23	6.38	0.15	***	7.48	***	1.23

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	6.50
Truck Operator:	J. Womack	MW-19	6.00
Stack I.D. (feet)	0.33 feet	MW-20	6.50
		MW-21	6.50

Corrected Depth to water before AFVR event for MW-18 = 6.32
Corrected Depth to water before AFVR event for MW-19 = 5.81
Corrected Depth to water before AFVR event for MW-20 = 6.48
Corrected Depth to water before AFVR event for MW-21 = 6.25

Recovery / Disposal Information

Hydro carbons Removed (vapor):	7.24	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.25	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	110	Gallons

Note: ** At 13:20 EST, MW-19 was guaged and determined to have 0.04 ft of free product.
At 13:20 EST, MECI began extracting from MW-19

TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 08-1923D
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:50	0.0	0	0	0
11:20	0.5	0	0	0
11:50	1.0	0	0	0
12:20	1.5	0	0	0
12:50	2.0	0	0	0
13:20	2.5	0	0	0
13:50	3.0	0	0	0
14:20	3.5	0	0	0
14:50	4.0	0	0	0
15:20	4.5	0	0	0
15:50	5.0	0	0	0
16:20	5.5	0	0	0
16:50	6.0	0	0	0
17:20	6.5	0	0	0
17:50	7.0	0	0	0
18:20	7.5	0	0	0
18:50	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

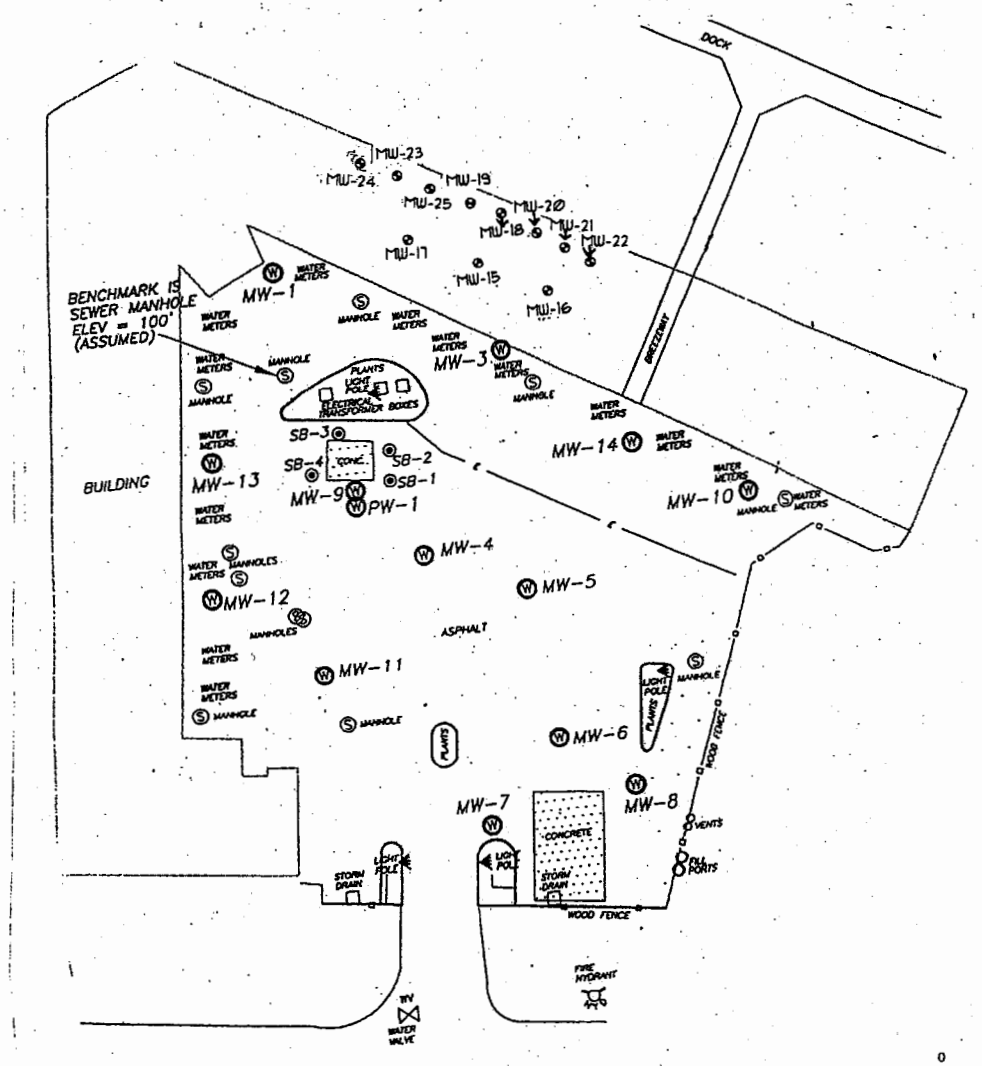
		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.68	6.37	4.52
14:50	4 hours	4.62	5.88	4.46
18:50	8 hours	4.60	6.70	4.47
Maximum Change:		0.08	-0.82	0.06

TABLE 3D
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923D
SCDHEC SITE ID NUMBER 18662

Product and Water Levels

Time	Elapsed Time	MW-3		MW-19		MW-22		MW-23		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
10:50	0.0	***	3.36	***	6.41	***	6.13	***	4.34	***	4.15	***	7.03
11:20	0.5												
11:50	1.0	***	6.44	***	6.41	***	5.96	***	4.32	***	4.15	***	6.72
12:20	1.5												
12:50	2.0	***	6.50	***	6.41		5.71		4.30		4.14		6.50
13:20	2.5			5.80	5.84	***		***	3.40	***		***	
13:50	3.0	***	6.31				5.95		4.29		4.14		6.47
14:20	3.5					***		***	3.37	***		***	
14:50	4.0	***	6.13				6.19		4.28		4.14		6.45
15:20	4.5					***							
15:50	5.0	***	5.95				6.43	***	4.28	***	4.14	***	6.42
16:20	5.5												
16:50	6.0	***	6.09			***	6.66	***	4.29	***	4.15	***	6.59
17:20	6.5												
17:50	7.0	***	6.23			***	6.89	***	4.31	***	4.16	***	6.76
18:20	7.5												
18:50	8.0	***	6.38			***	7.13	***	4.31	***	4.16	***	6.92

Note: MECI began extracting from MW-19 at 13:20 EST



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	'07-1488
DATE	January 31, 2008
FIGURE	2

C 149421

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 32888

2. Page 1 of 1

GENERATOR

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

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

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	2785	G
b.				
c.				
d. • Burton's BP-(12299)-50gals • Barnwell Maint.(09609)-10gals • Majik Market-(00140)-180gals • Richland PW(11805)-325gals • Anderson Patrol-(00769)-40gals • Mack's Camp-B-(01253)-40gals • Bay Creek D-(18662)-110gals • Sheldon Food(00877)-100gals.				

D. Additional Descriptions for Materials Listed Above
• Whitaker Property-(14301)-150gals. • Newton's general store(03723)-50gals. • Pitt Stop 23(07837)-315gals. • Super hwy oil(04412)-125gals • Causars B(08897)-250gals.

E. Handling Codes for Wastes Listed Above

FIELD SERVICE

15. Special Handling Instructions and Additional Information
• Pantry 329-(03489)-75gals. • Weathers BPB(03073)-300gals. • Weathers BPA(03073)-115gals. • Stonewall Jackson(5581)-250gals. • Am Flag Conv.(12897)200gals. • Beaufort Maint.C(10801)-100gals. • Lebanon(15445)-110gals • Johnnies market(08986)-50gals. • Nulls Exxon-(12194)-60gals. • Beaufort Main.D(10801)-100gals.
Service Call ID: GLB0192888
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

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

Printed/Typed Name: John Womack | Signature | Month 12 Day 12 Year 08

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Chad Justice | Signature: Chad Justice | Month 12 Day 12 Year 08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name | Signature | Month | Day | Year

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

DEC 22 2008

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received December 15, 2008
Colleton County

Dear Mr. Nunn:

As you are aware, an additional Aggressive Fluid Vapor Recovery (AFVR) event took place on December 3, 2008. A copy of the report is enclosed. Prior to the event, free product was observed in monitoring well MW-18 (0.04 feet), MW-19 (0.04 feet), MW-20 (0.03 feet), and MW-21 (0.15 feet). Approximately 1.25 equivalent gallons of petroleum was recovered along with 110 gallons of contaminated water. AFVR events will continue as necessary until free product removal is completed.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET
54tcl

Midlands
Environmental
Consultants, Inc.

January 15, 2009

RECEIVED
JAN 21 2009
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #33564
MECI Project Number 08-1923E

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on January 7, 2009. The event was conducted on monitoring wells MW-20 and MW-21 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.07 feet, and in MW-21 at a thickness of 0.03 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 6.69 pounds or approximately 1.15 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.84 pounds per hour. Concentrations of off gas produced during the event were recorded from 99.5 parts per million by volume (PPM) to 1,776 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 9.0 to 17.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1E.

UST DOCKET
55tech

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2E. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3E. Monitoring well locations are depicted on attached Figure 1.

A total of 200 gallons of liquid was removed from monitoring wells MW-20 and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

William R. Owen

William R. Owen
Staff Biologist

Jeff L. Coleman
Project Scientist

Attachments:

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923E
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	01/07/09	8:00	0.50	9.0	329	1710	153.90	0.61	0.30
MW-21	01/07/09	8:30	0.50	9.0	263	1720	154.80	0.49	0.24
	01/07/09	9:00	0.50	9.0	218	1750	157.50	0.41	0.21
	01/07/09	9:30	0.50	9.0	103	1780	160.20	0.20	0.10
	01/07/09	10:00	0.50	9.0	79.1	1800	162.00	0.15	0.08
	01/07/09	10:30	0.50	11.0	164	1720	154.80	0.30	0.15
	01/07/09	11:00	0.50	11.0	152	1640	147.60	0.27	0.13
	01/07/09	11:30	0.50	11.0	144	1610	144.90	0.25	0.13
	01/07/09	12:00	0.50	11.0	136	1600	144.00	0.24	0.12
	01/07/09	12:30	0.50	11.0	112	1590	143.10	0.19	0.10
	01/07/09	13:00	0.50	11.0	99.5	1600	144.00	0.17	0.09
	01/07/09	13:30	0.50	17.0	1,776	1040	93.60	1.99	1.00
	01/07/09	14:00	0.50	17.0	1,652	1030	92.70	1.84	0.92
	01/07/09	14:30	0.50	17.0	1,561	1030	92.70	1.74	0.87
	01/07/09	15:00	0.50	17.0	1,420	1040	93.60	1.59	0.80
	01/07/09	15:30	0.50	17.0	1,347	1030	92.70	1.50	0.75
	01/07/09	16:00	0.50	17.0	1,282	1030	92.70	1.43	0.71
									TOTAL
									6.69

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-20	2"	3-10	6.23	6.30	0.07	***	6.54	***	0.30
MW-21	2"	2.5-9.5	6.25	6.28	0.03	***	6.43	***	0.18

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-20	6.90
Truck Operator:	R. Owen	MW-21	6.90
Stack I.D. (feet)	0.33 feet		
Corrected Depth to water before AFVR event for MW-20 =			6.24
Corrected Depth to water before AFVR event for MW-21 =			6.25

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	6.69	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.15	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	200	Gallons

TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 08-1923E
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
8:00	0.0	0	0	0
8:30	0.5	0	0	0
9:00	1.0	0	0	0
9:30	1.5	0	0	0
10:00	2.0	0	0	0
10:30	2.5	0	0	0
11:00	3.0	0	0	0
11:30	3.5	0	0	0
12:00	4.0	0	0	0
12:30	4.5	0	0	0
13:00	5.0	0	0	0
13:30	5.5	0	0	0
14:00	6.0	0	0	0
14:30	6.5	0	0	0
15:00	7.0	0	0	0
15:30	7.5	0	0	0
16:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

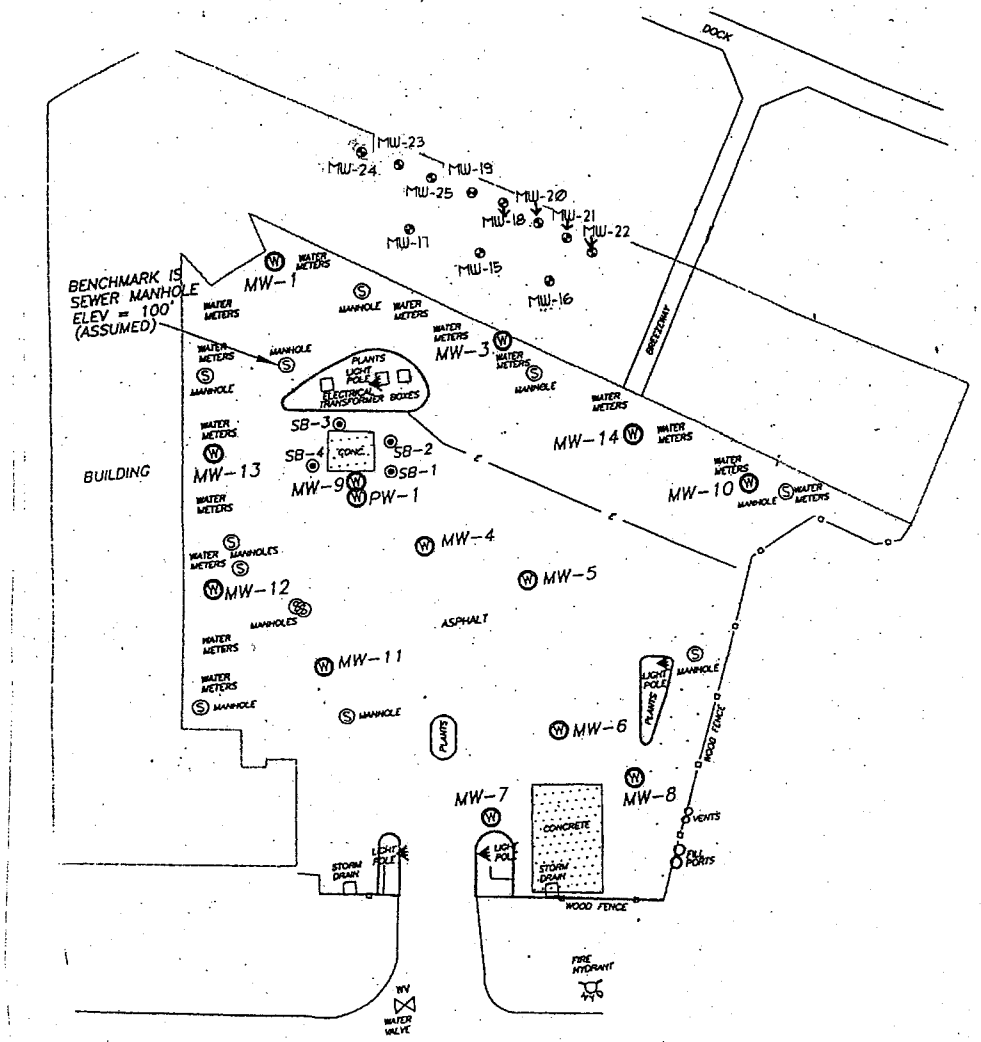
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.88	5.67	4.84
12:00	4 hours	7.30	6.63	8.82
16:00	8 hours	6.43	6.32	7.94
Maximum Change:		-2.42	-0.96	-3.98

TABLE 3E
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923E
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-18		MW-19		MW-22		MW-23		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
8:00	0.0	***	6.48	***	5.89	***	5.98	***	4.64	***	5.00	***	5.95
8:30	0.5												
9:00	1.0	***	6.73	***	6.42	***	6.45	***	5.91	***	5.01	***	6.23
9:30	1.5												
10:00	2.0	***	7.58	***	6.84	***	6.87	***	6.71	***	5.03	***	6.41
10:30	2.5												
11:00	3.0	***	7.84	***	7.19	***	7.20	***	7.02	***	5.02	***	6.59
11:30	3.5												
12:00	4.0	***	7.87	***	7.24	***	7.23	***	7.03	***	5.02	***	6.61
12:30	4.5												
13:00	5.0	***	7.78	***	7.20	***	7.18	***	7.03	***	5.02	***	6.58
13:30	5.5												
14:00	6.0	***	7.64	***	7.11	***	7.10	***	7.02	***	5.03	***	6.47
14:30	6.5												
15:00	7.0	***	7.42	***	7.10	***	7.02	***	6.98	***	4.99	***	6.41
15:30	7.5												
16:00	8.0	***	7.13	***	6.92	***	6.98	***	5.41	***	4.96	***	6.33



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

C 149822

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 33390

2. Page 1 of 1

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

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

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name:

8. US EPA ID Number:

B. Transporter's Phone:

9. Designated Facility Name and Site Address:
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	2295	G
b.				
c. •Bucks Grocery-05410-150gals •Southern gas-03913-20gals. •Brown Bros-04145-100gals •Frm. Ford Specialist-00487-5gals. •Mary Moorehead-16009-5gals. •Pelzer Gas Mart-00480-200gals.				
d. •Friendly Marks-11693-50gals. •Frm. Oakland Ave-19192-25gals. •Phillips rental-19328-80gals. •Burton's BP-12299-0gals. •Minicks-07967-75gals. •Pitt Stop 23-07837-80gals.				

D. Additional Descriptions for Materials Listed Above
•Richland Co. P.W.-11805-315gals.
•York Co. School-09164-40gals. •Macks Camp-01253-40gals.
•Hortons-06768-50gals. •Bay Creek Villas-18662-200gals.
•Hortons-06768-50gals. •Country Side 2A-06742-0gals.
•Newberry Airport-15590-40gals. •Country Side 2B-06742-40gals.

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
•Country Side 2C-06742-0gals. •Am Flag-12897-150gals.
Service Call ID: GLB0133390 •York Co. School-09164-40gals.
•Hughes Well-05358-50gals. •Whitaker Property-14301-175gals
•By rite-01869-150gals. •Weathers Service C-03073-125gals.
Emergency Response: Infotrac - 800-535-5053 •Weathers Service D-03073-10gals.
Caller must ID Crandall as registrant •Durhams Grocery-006699-30gals.

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

Printed/Typed Name	Signature	Month	Day	Year
		01	16	08

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Chad Justice	Chad Justice	01	16	08

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

JAN 2 3 2009

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received January 21, 2009
Colleton County

Dear Mr. Nunn:

As you are aware, an additional Aggressive Fluid Vapor Recovery (AFVR) event took place on January 7, 2009. A copy of the report is enclosed. Prior to the event, free product was observed in monitoring well MW-20 (0.07 feet) and MW-21 (0.03 feet). Approximately 1.15 equivalent gallons of petroleum was recovered along with 200 gallons of contaminated water. AFVR events will continue as necessary until free product removal is completed.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET
56 tch

Midlands
Environmental
Consultants, Inc.

February 2, 2009

RECEIVED
FEB 03 2009
UNDERGROUND STORAGE TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #33564
MECI Project Number 08-1923F

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on January 22, 2009. The event was conducted on monitoring wells MW-18, MW-19, MW-20, and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in the monitoring wells prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 12.52 pounds or approximately 2.16 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.57 pounds per hour. Concentrations of off gas produced during the event were recorded from 535 parts per million by volume (PPM) to 2,493 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 11.0 to 16.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1F.

UST DOCKET
57 tech

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2F. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3F. Monitoring well locations are depicted on attached Figure 1.

A total of 175 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

John Womack (JWR)

John W. Womack
Staff Biologist

Jeff L. Coleman
Project Scientist

Attachments:

TABLE 1F
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923F
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	01/22/09	10:20	0.50	12.0	2,493	1830	164.70	4.93	2.46
MW-19	01/22/09	10:50	0.50	11.0	1,227	1820	163.80	2.41	1.21
MW-20	01/22/09	11:20	0.50	11.0	733	1760	158.40	1.39	0.70
MW-21	01/22/09	11:50	0.50	12.0	644	1790	161.10	1.24	0.62
	01/22/09	12:20	0.50	12.0	538	1740	156.60	1.01	0.51
	01/22/09	12:50	0.50	13.0	656	1600	144.00	1.13	0.57
	01/22/09	13:20	0.50	13.0	921	1630	146.70	1.62	0.81
	01/22/09	13:50	0.50	15.0	913	1320	118.80	1.30	0.65
	01/22/09	14:20	0.50	15.0	762	1360	122.40	1.12	0.56
	01/22/09	14:50	0.50	15.0	855	1360	122.40	1.26	0.63
	01/22/09	15:20	0.50	15.0	767	1380	124.20	1.14	0.57
	01/22/09	15:50	0.50	16.0	781	1350	121.50	1.14	0.57
	01/22/09	16:20	0.50	16.0	833	1310	117.90	1.18	0.59
	01/22/09	16:50	0.50	16.0	851	1320	118.80	1.21	0.61
	01/22/09	17:20	0.50	16.0	850	1310	117.90	1.20	0.60
	01/22/09	17:50	0.50	16.0	653	1380	124.20	0.97	0.49
	01/22/09	18:20	0.50	16.0	535	1350	121.50	0.78	0.39
									TOTAL
									12.52

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-18	2"	3-10	***	7.13	***	***	5.70	***	-1.43
MW-19	2"	2.5-9.5	***	6.53	***	***	5.43	***	-1.10
MW-20	2"	2.5-9.5	***	6.84	***	***	4.85	***	-1.99
MW-21	2"	2.5-9.5	***	6.93	***	***	5.97	***	-0.96

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	5.00
Truck Operator:	B. Kelly	MW-19	5.00
Stack I.D. (feet)	0.33 feet	MW-20	5.00
		MW-21	5.00

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	12.52	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	2.16	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	175	Gallons

TABLE 2F
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 08-1923F
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:20	0.0	0	0	0
10:50	0.5	0	0	0
11:20	1.0	0	0	0
11:50	1.5	0	0	0
12:20	2.0	0	0	0
12:50	2.5	0	0	0
13:20	3.0	0	0	0
13:50	3.5	0	0	0
14:20	4.0	0	0	0
14:50	4.5	0	0	0
15:20	5.0	0	0	0
15:50	5.5	0	0	0
16:20	6.0	0	0	0
16:50	6.5	0	0	0
17:20	7.0	0	0	0
17:50	7.5	0	0	0
18:20	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

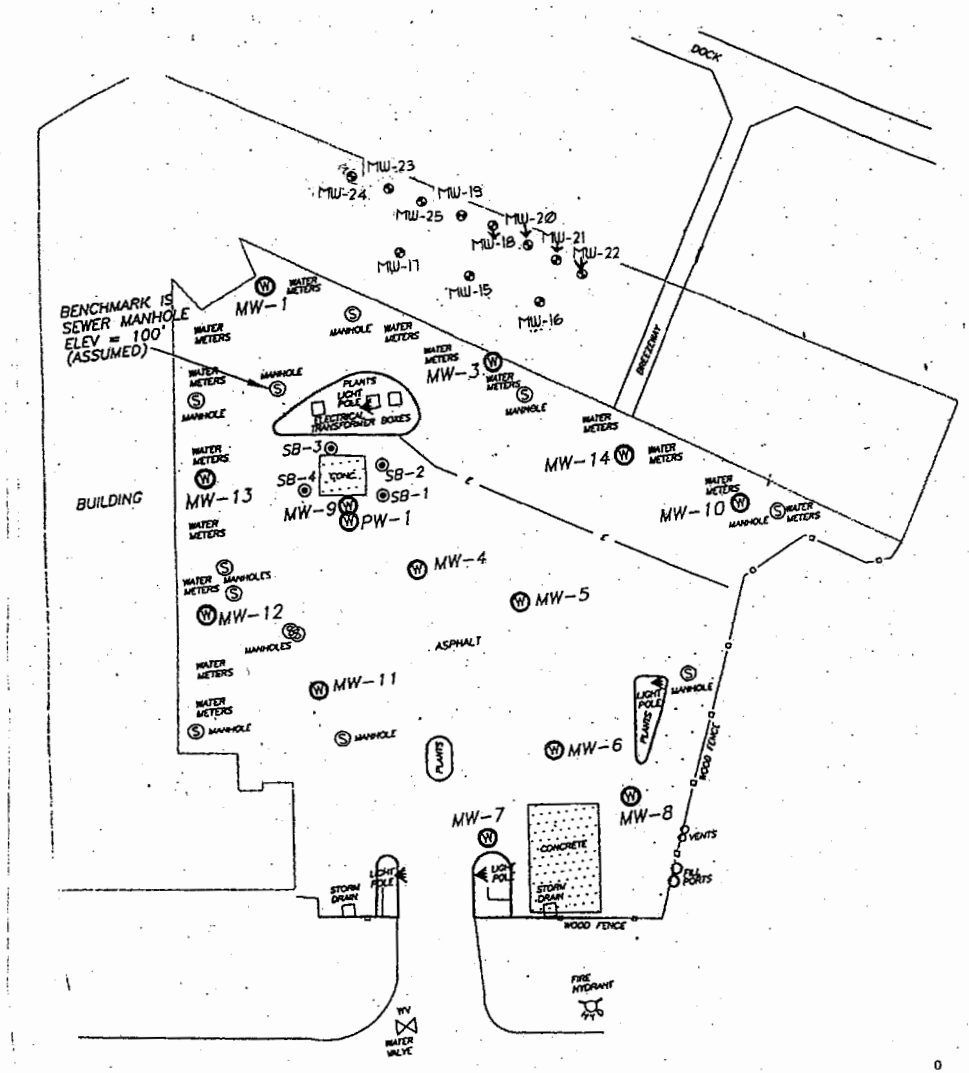
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.30	6.34	5.20
14:20	4 hours	5.27	7.06	5.16
18:20	8 hours	5.27	6.52	5.17
Maximum Change:		0.03	-0.72	0.04

TABLE 3F
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923F
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-22		MW-23		MW-24		MW-25		***		***	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
10:20	0.0	***	6.47	***	6.03	***	5.35	***	6.35	***	***	***	***
10:50	0.5												
11:20	1.0	***	6.92	***	6.01	***	5.36	***	6.59	***	***	***	***
11:50	1.5												
12:20	2.0	***	7.09	***	6.02	***	5.36	***	6.83	***	***	***	***
12:50	2.5												
13:20	3.0	***	7.24	***	6.03	***	5.36	***	7.03	***	***	***	***
13:50	3.5												
14:20	4.0	***	7.13	***	6.03	***	5.36	***	7.14	***	***	***	***
14:50	4.5												
15:20	5.0	***	7.02	***	6.03	***	5.37	***	7.19	***	***	***	***
15:50	5.5												
16:20	6.0	***	6.69	***	6.03	***	5.37	***	7.13	***	***	***	***
16:50	6.5												
17:20	7.0	***	6.51	***	6.03	***	5.38	***	7.01	***	***	***	***
17:50	7.5												
18:20	8.0	***	6.34	***	6.03	***	5.38	***	6.90	***	***	***	***



Explanation:

⊗ Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	'07-1489
DATE	January 31, 2008
FIGURE	2

C 149018

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 34913	2. Page 1 of 1

GENERATOR

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

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	2360	G
b.				
c.				
d. • Brown Bros-04145-100gals. • Bumetts-15724-175gals. • Southern gas-03913-40gals. • Stonewall Jackson-15581-150gals. • Null's exxon-12194-175gals • Pantry 329-03489-200gals. • Baycreek-18662-175gals. • Minicks-07967-110gals. • Nicklepumper-04877-150gals. • Nicklepumper 04877-125gals. • Fm. Ford-00487-0gals. • Fm. carters-01349-150gals. • Pelzer Gas mart-00480-80gals • Johnnies Market-08986-50gals. • Ridgeway section-03144-100gals. • Two way mart-12708-150gals. • Newberry Co. airport-15590-150gals. • Wailons-12814-40gals.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

FIELD SERVICE

15. Special Handling Instructions and Additional Information
• Shelton Food-00877-50gals.
Service Call ID: GN30134913
• Pantry 3242-10gals.
• R+S. Grocery-12342-180gals.
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

TRANSPORTER

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

Printed/Typed Name	Signature	Month	Day	Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Chad Justice	Chad Justice	01	30	09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

FEB 04 2009

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received February 3, 2009
Colleton County

Dear Mr. Nunn:

As you are aware, an Aggressive Fluid Vapor Recovery (AFVR) event took place on January 22, 2009. A copy of the report is enclosed. I am pleased to inform you that free phase product was not observed prior to, or at any time, during the event. Approximately 2.16 equivalent gallons of petroleum vapor was recovered along with 175 gallons of contaminated water. Additional AFVR events are already authorized and will continue for at least four more events. The necessity of additional AFVR events will be determined based on the results of those events.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET
58 tech

Midlands
Environmental
Consultants, Inc.

February 18, 2009

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
FEB 2 4 2009
PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #33564
MECI Project Number 08-1923G

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on February 4, 2009. The event was conducted on monitoring wells MW-20 and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in the monitoring wells prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 3.24 pounds or approximately 0.56 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.41 pounds per hour. Concentrations of off gas produced during the event were recorded from 130 parts per million by volume (PPM) to 498 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 16.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1G.

UST
DOCKET
59

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2G. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3G. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from monitoring wells MW-20 and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

John W. Womack
Staff Biologist

Jeff L. Coleman
Project Scientist

Attachments:

TABLE 1G
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923G
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	02/04/09	7:30	0.50	10.0	208	1920	172.80	0.43	0.22
MW-21	02/04/09	8:00	0.50	10.0	172	1950	175.50	0.36	0.18
	02/04/09	8:30	0.50	10.0	130	1960	176.40	0.28	0.14
	02/04/09	9:00	0.50	12.0	193	1420	127.80	0.30	0.15
	02/04/09	9:30	0.50	12.0	175	1640	147.60	0.31	0.15
	02/04/09	10:00	0.50	12.0	192	1560	140.40	0.32	0.16
	02/04/09	10:30	0.50	12.0	212	1520	136.80	0.35	0.17
	02/04/09	11:00	0.50	13.0	339	1360	122.40	0.50	0.25
	02/04/09	11:30	0.50	16.0	498	1190	107.10	0.64	0.32
	02/04/09	12:00	0.50	12.0	362	1430	128.70	0.56	0.28
	02/04/09	12:30	0.50	12.0	207	1710	153.90	0.38	0.19
	02/04/09	13:00	0.50	12.0	200	1740	156.60	0.38	0.19
	02/04/09	13:30	0.50	12.0	198	1760	158.40	0.38	0.19
	02/04/09	14:00	0.50	12.0	186	1780	160.20	0.36	0.18
	02/04/09	14:30	0.50	12.0	172	1780	160.20	0.33	0.17
	02/04/09	15:00	0.50	12.0	164	1760	158.40	0.31	0.16
	02/04/09	15:30	0.50	12.0	158	1770	159.30	0.30	0.15
									TOTAL 3.24

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-20	2"	3-10	***	7.49	***	***	5.43	***	-2.06
MW-21	2"	2.5-9.5	***	7.70	***	***	6.00	***	-1.70

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-20	5.00
Truck Operator:	R. Owen	MW-21	5.00
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	3.24	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.56	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	150	Gallons

TABLE 2G
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 08-1923G
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
7:30	0.0	0	0	0
8:00	0.5	0	0	0
8:30	1.0	0	0	0
9:00	1.5	0	0	0
9:30	2.0	0	0	0
10:00	2.5	0	0	0
10:30	3.0	0	0	0
11:00	3.5	0	0	0
11:30	4.0	0	0	0
12:00	4.5	0	0	0
12:30	5.0	0	0	0
13:00	5.5	0	0	0
13:30	6.0	0	0	0
14:00	6.5	0	0	0
14:30	7.0	0	0	0
15:00	7.5	0	0	0
15:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

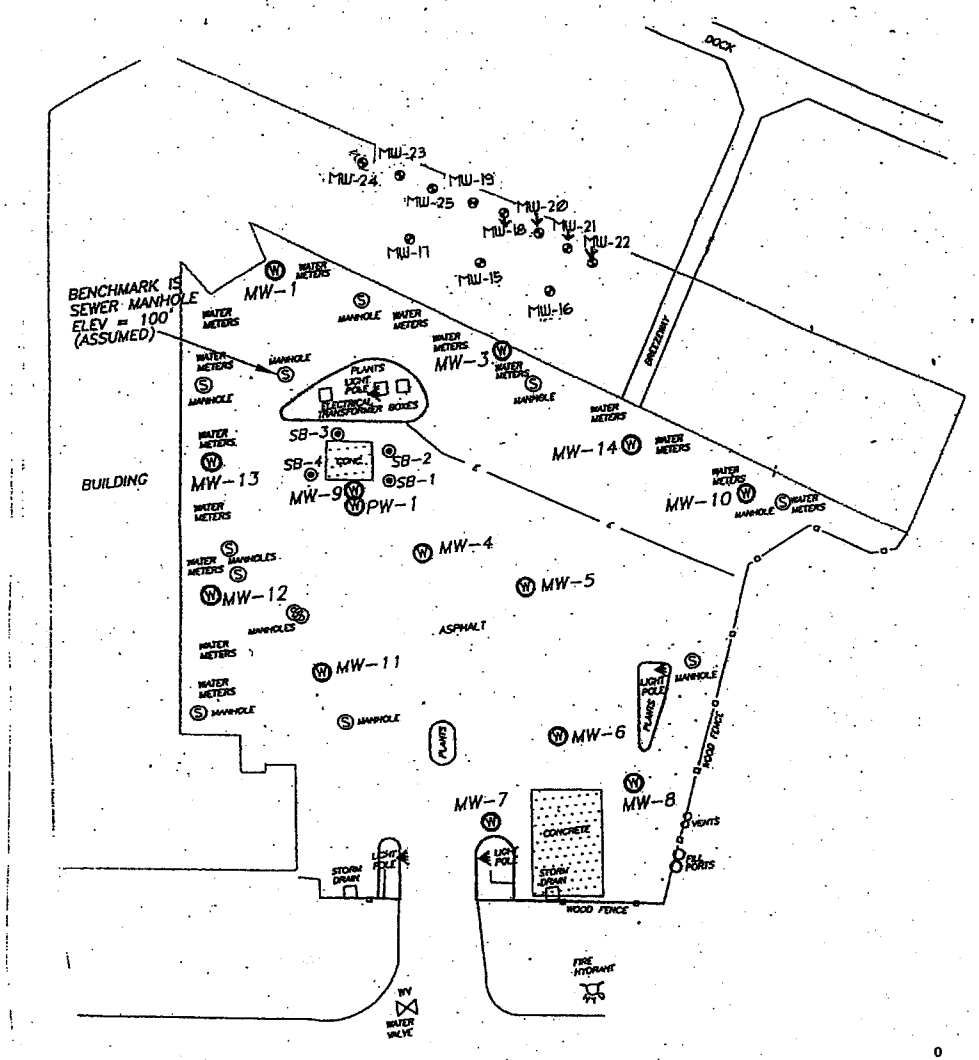
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		6.47	5.24	5.14
11:30	4 hours	7.81	5.31	5.19
15:30	8 hours	6.98	6.52	5.05
Maximum Change:		-1.34	-1.28	0.14

TABLE 3G
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923G
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-18		MW-19		MW-22		MW-23		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
7:30	0.0	***	7.89	***	7.14	***	7.07	***	6.19	***	5.42	***	6.74
8:00	0.5												
8:30	1.0	***	7.84	***	7.09	***	7.09	***	6.16	***	5.38	***	6.77
9:00	1.5												
9:30	2.0	***	7.85	***	7.10	***	7.10	***	6.18	***	5.40	***	6.79
10:00	2.5												
10:30	3.0	***	7.88	***	7.16	***	7.06	***	6.21	***	5.43	***	6.78
11:00	3.5												
11:30	4.0	***	6.23	***	6.37	***	7.33	***	6.44	***	6.19	***	7.31
12:00	4.5												
12:30	5.0	***	7.50	***	7.49	***	7.21	***	6.38	***	6.23	***	7.34
13:00	5.5												
13:30	6.0	***	7.43	***	7.44	***	7.18	***	6.35	***	6.26	***	7.41
14:00	6.5												
14:30	7.0	***	6.99	***	6.95	***	6.69	***	6.18	***	6.20	***	7.26
15:00	7.5												
15:30	8.0	***	6.81	***	6.83	***	6.53	***	6.03	***	6.17	***	7.13



Explanation:

⊗ Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1488
DATE	January 31, 2008
FIGURE	2

C 146618

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 35715

2. Page 1 of 1

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

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

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	2000	G
b.				
c.				
d. • Summers Store-03198-40gals • Island Car Wash-00990-215gals • Hortons Grocery-06768-120gals. • Bay Creek-18662-150gals • Horton's Grocery-06768-90gals • Newtons-03723-10gals.				

D. Additional Descriptions for Materials Listed Above
• Royal Petroleum-19426-80gals • Country Side 2-06742-100gals. • Willis Grocery-08308-50gals
• Nilson R+S-07442-620gals.
• Country Side 2-06742-15gals
• Country Side 2-06742-40gals. • Bi-Rite-18740-250gals.

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
• Hughes Well-00358-200gals • Durhams-06699-165gals.
Service Call ID: GLB0135715 • Fmn. Ford-00487-35gals.
• Leo's Gulf-04339-90gals • Whitaker-14301-190gals.
• Burnetts-15724-140gals.
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

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

Printed/Typed Name	Signature	Month	Day	Year
X CLARK BAER	X [signature]	02	19	09

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Curtis Smith	[signature]	02	19	09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

FEB 25 2009

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received February 24, 2009
Colleton County

Dear Mr. Nunn:

As you are aware, an Aggressive Fluid Vapor Recovery (AFVR) event took place on February 4, 2009. A copy of the report is enclosed. I am pleased to inform you that free phase product was not observed prior to, or at any time, during the event. Approximately 0.56 equivalent gallons of petroleum vapor was recovered along with 150 gallons of contaminated water. Additional AFVR events are already authorized and will continue for at least three more events. The necessity of additional AFVR events will be determined based on the results of those events.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET 60tech

Midlands
Environmental
Consultants, Inc.

March 10, 2009

UST
MAR 1 2 2009
PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
DOCKET
6/T

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #33564
MECI Project Number 08-1923H

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on February 19, 2009. The event was conducted on monitoring wells MW-20 and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in the monitoring wells prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 7.84 pounds or approximately 1.35 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.98 pounds per hour. Concentrations of off gas produced during the event were recorded from 123 parts per million by volume (PPM) to 445 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 14.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1H.

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2H. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3H. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from monitoring wells MW-20 and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

John W. Womack
Staff Biologist

Jeff L. Coleman
Project Scientist

Attachments:

TABLE 1H
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923H
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	02/19/09	8:00	0.50	10.0	445	3640	327.60	1.75	0.87
MW-21	02/19/09	8:30	0.50	10.0	382	3640	327.60	1.50	0.75
	02/19/09	9:00	0.50	10.0	299	3620	325.80	1.17	0.58
	02/19/09	9:30	0.50	10.0	210	3610	324.90	0.82	0.41
	02/19/09	10:00	0.50	10.0	152	3600	324.00	0.59	0.30
	02/19/09	10:30	0.50	10.0	148	3610	324.90	0.58	0.29
	02/19/09	11:00	0.50	10.0	140	3600	324.00	0.54	0.27
	02/19/09	11:30	0.50	10.0	136	3600	324.00	0.53	0.26
	02/19/09	12:00	0.50	10.0	123	3600	324.00	0.48	0.24
	02/19/09	12:30	0.50	12.0	227	3490	314.10	0.86	0.43
	02/19/09	13:00	0.50	12.0	213	3500	315.00	0.81	0.40
	02/19/09	13:30	0.50	12.0	198	3520	316.80	0.75	0.38
	02/19/09	14:00	0.50	14.0	378	3370	303.30	1.38	0.69
	02/19/09	14:30	0.50	14.0	391	3390	305.10	1.43	0.72
	02/19/09	15:00	0.50	14.0	282	3340	300.60	1.02	0.51
	02/19/09	15:30	0.50	14.0	237	3360	302.40	0.86	0.43
	02/19/09	16:00	0.50	14.0	165	3510	315.90	0.63	0.31
									TOTAL
									7.84

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-20	2"	3-10	***	7.14	***	***	7.34	***	0.20
MW-21	2"	2.5-9.5	***	7.25	***	***	7.69	***	0.44

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-20	5.00
Truck Operator:	R. Owen	MW-21	5.00
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	7.84	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.35	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	150	Gallons

TABLE 2H
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923H
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-16**
Nearest Extraction Well:		MW-21	MW-20	MW-21
Approximate Distance:		26 ft	18 ft	13 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
8:00	0.0	0	0	0
8:30	0.5	0	0	0
9:00	1.0	0	0	0
9:30	1.5	0	0	0
10:00	2.0	0	0	0
10:30	2.5	0	0	0
11:00	3.0	0	0	0
11:30	3.5	0	0	0
12:00	4.0	0	0	0
12:30	4.5	0	0	0
13:00	5.0	0	0	0
13:30	5.5	0	0	0
14:00	6.0	0	0	0
14:30	6.5	0	0	0
15:00	7.0	0	0	0
15:30	7.5	0	0	0
16:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

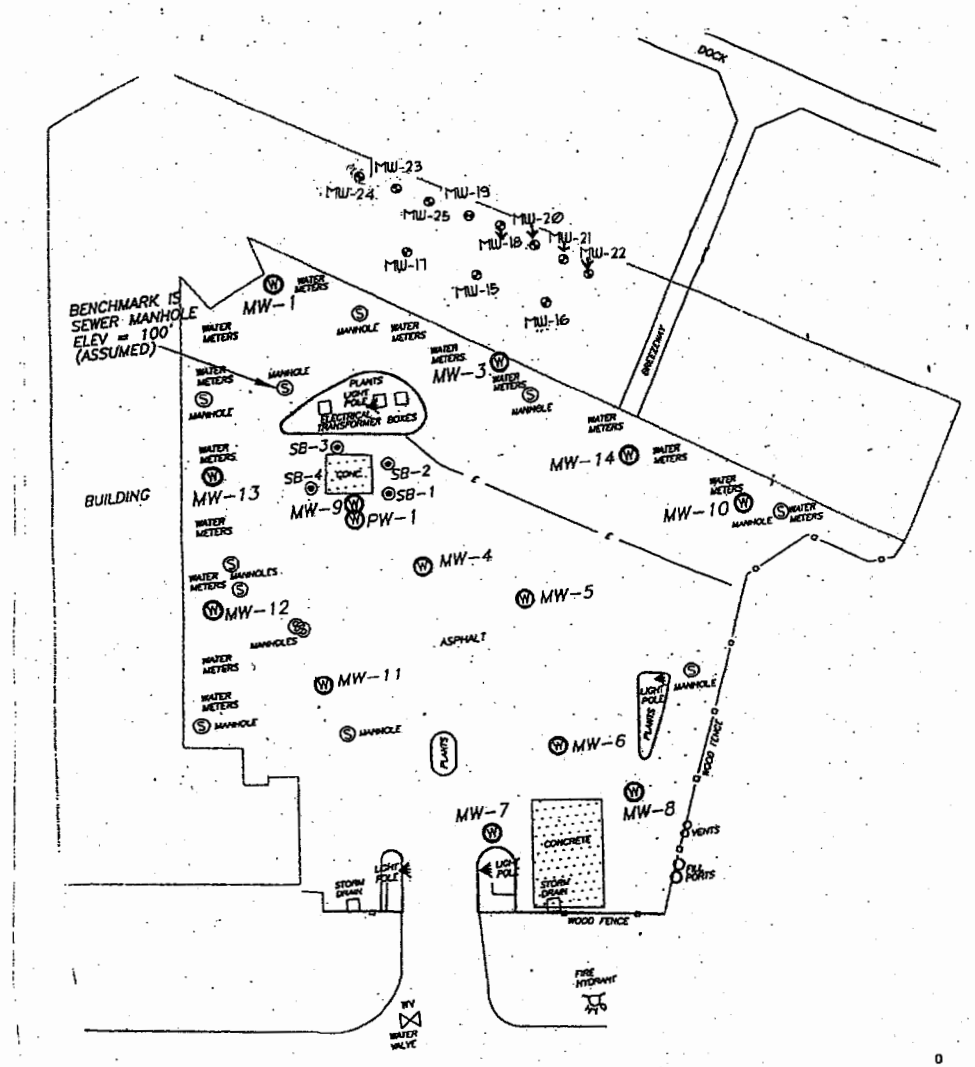
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-16**
Nearest Extraction Well:		MW-21	MW-20	MW-21
Approximate Distance:		26 ft	18 ft	13 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.83	6.12	4.97
12:00	4 hours	4.97	6.24	4.82
16:00	8 hours	5.16	6.59	5.46
Maximum Change:		-0.33	-0.47	-0.64

TABLE 3H
ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923H
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-17		MW-18		MW-19		MW-22		MW-23		MW-24		MW-25	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
8:00	0.0	***	5.03	***	7.43	***	6.80	***	7.63	***	6.69	***	5.93	***	6.56
8:30	0.5														
9:00	1.0	***	4.96	***	7.27	***	6.54	***	7.51	***	6.53	***	5.96	***	6.41
9:30	1.5														
10:00	2.0	***	4.99	***	7.18	***	6.32	***	7.36	***	6.49	***	5.76	***	6.34
10:30	2.5														
11:00	3.0	***	5.03	***	7.04	***	6.36	***	7.21	***	6.38	***	5.54	***	6.21
11:30	3.5														
12:00	4.0	***	5.10	***	7.14	***	6.43	***	7.29	***	6.32	***	5.61	***	6.32
12:30	4.5														
13:00	5.0	***	5.23	***	7.27	***	6.49	***	7.34	***	6.41	***	5.73	***	6.41
13:30	5.5														
14:00	6.0	***	5.39	***	7.36	***	6.54	***	7.41	***	6.62	***	5.91	***	6.63
14:30	6.5														
15:00	7.0	***	5.42	***	7.42	***	6.61	***	7.59	***	6.71	***	6.04	***	6.79
15:30	7.5														
16:00	8.0	***	5.48	***	7.49	***	6.73	***	7.73	***	6.83	***	6.12	***	6.82



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

C 147256

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 36587

2. Page 1 of 1

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

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

5. Transporter 1 Company Name
Crandall Corporation

6. US EPA ID Number
SCD981864499

A. Transporter's Phone
(803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number
SCD981864499

C. Facility's Phone
(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	2990	G
b.				
c.				
d. • Bay Creek-18662-150gals • Stonewall Jackson-15581-150gals • Mack's Camp-01253-150gals • Sav Way 2-02766-40gals • EZ Stop-06097-20gals • Newberry Co. Airport-15590-200gals				

D. Additional Descriptions for Materials Listed Above
• Ridgeway section-03144-25gals • Sportsman Corner-12151-220gals • Johnnies Main-08986-0gals • Superhighway-04412-135gals • Superhighway-04412-130gals • Quick Pantry 12-06926-40gals

FIELD SERVICE

Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
• Summers Store-03198-50gals • Pelzer gas mart-00480-175gals • Royal petrol.-19426-150gals • A-1 Auto repair-01173-275gals • Smith's Gulf-00466-10gals • Comm. Quick Stop-11694-320gals • Frm. Carters texaco-01349-100gals • Quick Pantry #12-06926-100gals
Service Call ID: GLB0136587
• Mack's fuel-03884-275gals • Causars-08897-275gals
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

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

X Printed/Typed Name: Brandon Kelly | Signature | Month 03 Day 11 Year 09

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Chad Justice | Signature: Chad Justice | Month 03 Day 11 Year 09

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Month | Day | Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.
Printed/Typed Name | Signature | Month | Day | Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

MAR 16 2009

ALLAN JOHNSTON
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received March 12, 2009
Colleton County

Dear Mr. Johnston:

As you are aware, an Aggressive Fluid Vapor Recovery (AFVR) event took place on February 19, 2009. A copy of the report is enclosed. I am pleased to inform you that free phase product was not observed prior to, or at any time, during the event. Approximately 1.35 equivalent gallons of petroleum vapor was recovered along with 150 gallons of contaminated water. Additional AFVR events are already authorized and will continue for at least two more events. The necessity of additional AFVR events will be determined based on the results of those events.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET 62 tech

Midlands
Environmental
Consultants, Inc.

April 1, 2009

UST
APR 06 2009
PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
DOCKET
603T

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #33564
MECI Project Number 08-1923J

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 30, 2009. The event was conducted on monitoring wells MW-18, MW-20, and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in monitoring wells MW-18, MW-20, and MW-21 prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 2.38 pounds or approximately 0.41 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.30 pounds per hour. Concentrations of off gas produced during the event were recorded from 68.7 parts per million by volume (PPM) to 380 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 11.0 to 13.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1J.

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2J. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3J. Monitoring well locations are depicted on attached Figure 1.

A total of 100 gallons of liquid was removed from monitoring wells MW-18, MW-20, and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

John W. Womack
Staff Biologist

Jeff L. Coleman
Project Scientist

Attachments:

TABLE 1J
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923J
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	03/30/09	8:30	0.50	11.0	372	1620	145.80	0.65	0.33
MW-20	03/30/09	9:00	0.50	11.0	270	1960	176.40	0.57	0.29
MW-21	03/30/09	9:30	0.50	12.0	132	1800	162.00	0.26	0.13
	03/30/09	10:00	0.50	12.0	108	1740	156.60	0.20	0.10
	03/30/09	10:30	0.50	12.0	111	1720	154.80	0.21	0.10
	03/30/09	11:00	0.50	12.0	112	1790	161.10	0.22	0.11
	03/30/09	11:30	0.50	12.0	380	1710	153.90	0.70	0.35
	03/30/09	12:00	0.50	12.0	258	1620	145.80	0.45	0.23
	03/30/09	12:30	0.50	12.0	160	1650	148.50	0.29	0.14
	03/30/09	13:00	0.50	12.0	111	1610	144.90	0.19	0.10
	03/30/09	13:30	0.50	12.0	108	1650	148.50	0.19	0.10
	03/30/09	14:00	0.50	12.0	110	1600	144.00	0.19	0.10
	03/30/09	14:30	0.50	13.0	105	1310	117.90	0.15	0.07
	03/30/09	15:00	0.50	13.0	101	1340	120.60	0.15	0.07
	03/30/09	15:30	0.50	13.0	80.1	1400	126.00	0.12	0.06
	03/30/09	16:00	0.50	13.0	76.3	1460	131.40	0.12	0.06
	03/30/09	16:30	0.50	13.0	68.7	1500	135.00	0.11	0.06
									TOTAL
									2.38

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-18	2"	3-10	***	7.60	***	***	5.97	***	-1.63
MW-20	2"	2.5-9.5	***	6.60	***	***	6.46	***	-0.14
MW-21	2"	3-10	***	7.60	***	***	6.90	***	-0.70

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	7.50
Truck Operator:	B. Vencill	MW-20	6.50
Stack I.D. (feet)	0.33 feet	MW-21	7.50

Recovery / Disposal Information

Hydro carbons Removed (vapor):	2.38	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.41	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	100	Gallons

TABLE 2J
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 08-1923J
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
8:30	0.0	0	0	0
9:00	0.5	0	0	0
9:30	1.0	0	0	0
10:00	1.5	0	0	0
10:30	2.0	0	0	0
11:00	2.5	0	0	0
11:30	3.0	0	0	0
12:00	3.5	0	0	0
12:30	4.0	0	0	0
13:00	4.5	0	0	0
13:30	5.0	0	0	0
14:00	5.5	0	0	0
14:30	6.0	0	0	0
15:00	6.5	0	0	0
15:30	7.0	0	0	0
16:00	7.5	0	0	0
16:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

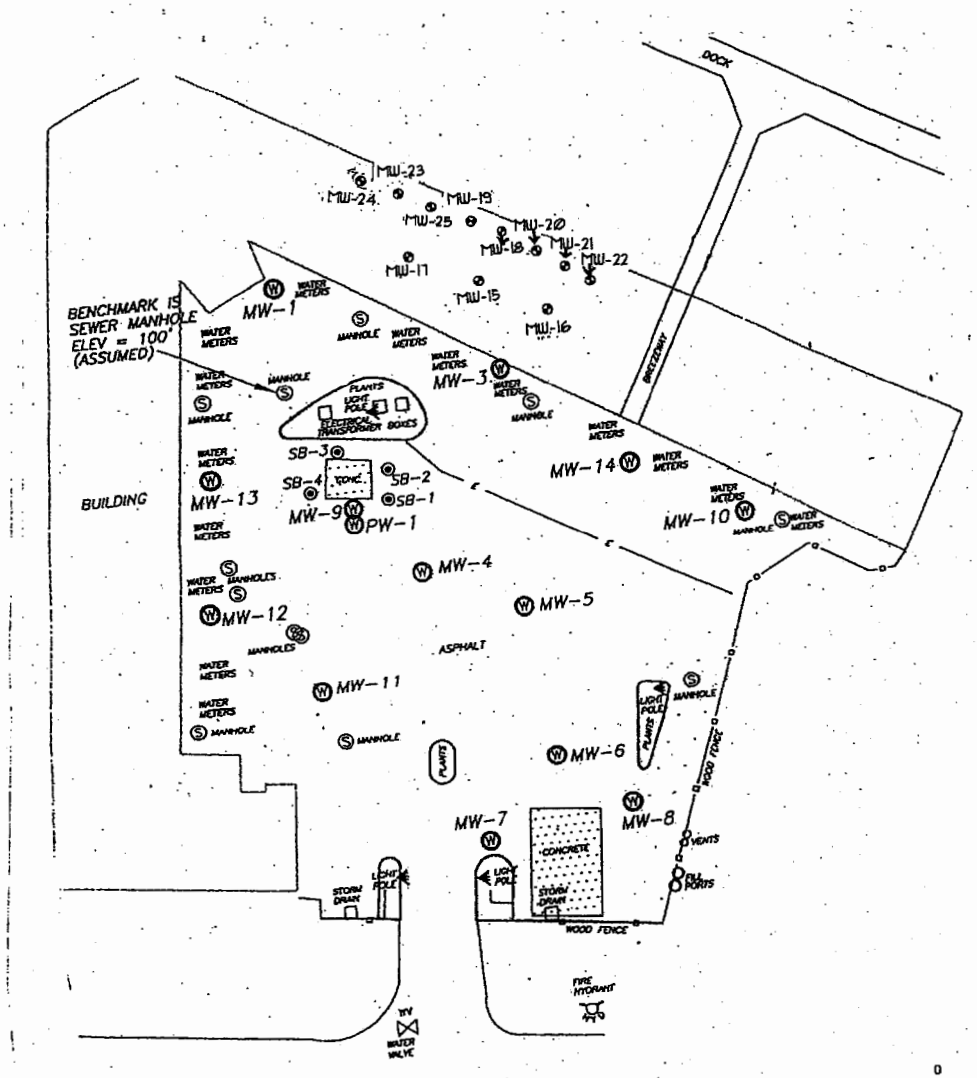
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.30	7.12	4.90
12:30	4 hours	4.92	5.90	4.84
16:30	8 hours	4.92	6.03	4.86
Maximum Change:		0.38	1.22	0.06

TABLE 3J
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923J
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-19		MW-22		MW-23		MW-24		MW-25		***	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
8:30	0.0	***	7.50	***	7.15	***	6.40	***	5.40	***	7.00	***	***
9:00	0.5												
9:30	1.0	***	7.18	***	6.82	***	5.40	***	5.10	***	6.95	***	***
10:00	1.5												
10:30	2.0	***	6.85	***	6.36	***	5.40	***	5.10	***	6.50	***	***
11:00	2.5												
11:30	3.0	***	6.32	***	5.95	***	5.40	***	5.10	***	6.85	***	***
12:00	3.5												
12:30	4.0	***	6.00	***	5.70	***	5.40	***	5.10	***	5.82	***	***
13:00	4.5												
13:30	5.0	***	5.85	***	5.80	***	5.40	***	5.10	***	6.58	***	***
14:00	5.5												
14:30	6.0	***	5.95	***	5.94	***	5.40	***	5.10	***	6.50	***	***
15:00	6.5												
15:30	7.0	***	6.70	***	6.35	***	5.40	***	5.10	***	6.45	***	***
16:00	7.5												
16:30	8.0	***	6.45	***	6.62	***	5.40	***	5.10	***	6.50	***	***



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1469
DATE	January 31, 2008
FIGURE	2

C 143028

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 37550

2. Page 1 of 1

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

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

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01.	TT	2,920.	G
b.				
c.				
d. •Bay Creek-18662-150gals. •Burnett's Cleaners-160gals •Mixson 14739-275gals. •Greenwave Amoco-250gals. •Handy Danny-04733-25gals •Ridgeway-03144-60gals.				

D. Additional Descriptions for Materials Listed Above
•Greenwave Amoco-12097-250gals. •Frm. Ford Spe.-00481-5gals.
•Greenwave Amoco-12097-10gals. •Smith's Gulf-00466-20gals.
•Macs Camp-01253-320gals. •Hughes Well-00358-150gals.
•Refrigeration Service-19337-60gals. •Anderson Patrol-00769-80gals

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
•Richland Landfill-11808-250gals. •Richland CPW-11805-550gals.
Service Call ID: GLB0137550 •4 Seasons F+F-00120-90gals.
•Sportsman Corner-12151-90gals. •Bay Creek Villas-18662-150gals.
•Quick Danny #12-06926-100gals. •Blum Bros-04145-150gals
Emergency Response: Infotrac - 800-535-5053 •Burtons BP-12299-60gals
Caller must ID Crandall as registrant •Greenwave Amoco-12097-100gals

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

Printed/Typed Name	Signature	Month	Day	Year
John Womack	[signature]	04	01	09

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Chad Justice	Chad Justice	04	01	09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

Midlands Environmental Consultants, Inc.

April 1, 2009

UST
APR 0 6 2009
PROGRAM

UST DOCKET

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #33564
MECI Project Number 08-1923I

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 11, 2009. The event was conducted on monitoring wells MW-18 and MW-21 to reduce dissolved CoC concentrations and on MW-20 to remove free phase petroleum product. Free phase petroleum product was not detected in MW-18 or MW-21 prior to the AFVR event. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.07 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 4.35 pounds or approximately 0.75 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.54 pounds per hour. Concentrations of off gas produced during the event were recorded from 101 parts per million by volume (PPM) to 425 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 14.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1I.

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

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2I. Additional differential pressures and product/groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 3I. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from monitoring wells MW-18, MW-20, and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

John W. Womack
Staff Biologist

Jeff Coleman
Project Scientist

Attachments:

TABLE 1I
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923I
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	03/11/09	9:00	0.50	11.0	425	3320	298.80	1.52	0.76
MW-20	03/11/09	9:30	0.50	11.0	311	3100	279.00	1.04	0.52
MW-21	03/11/09	10:00	0.50	11.0	243	2810	252.90	0.74	0.37
	03/11/09	10:30	0.50	11.0	102	3300	297.00	0.36	0.18
	03/11/09	11:00	0.50	14.0	352	2430	218.70	0.92	0.46
	03/11/09	11:30	0.50	11.0	190	2710	243.90	0.56	0.28
	03/11/09	12:00	0.50	11.0	147	3310	297.90	0.53	0.26
	03/11/09	12:30	0.50	11.0	105	3210	288.90	0.36	0.18
	03/11/09	13:00	0.50	10.0	101	2830	254.70	0.31	0.15
	03/11/09	13:30	0.50	10.0	102	2560	230.40	0.28	0.14
	03/11/09	14:00	0.50	10.0	103	2070	186.30	0.23	0.12
	03/11/09	14:30	0.50	10.0	101	2650	238.50	0.29	0.14
	03/11/09	15:00	0.50	10.0	108	2570	231.30	0.30	0.15
	03/11/09	15:30	0.50	10.0	102	2830	254.70	0.31	0.16
	03/11/09	16:00	0.50	10.0	121	2560	230.40	0.33	0.17
	03/11/09	16:30	0.50	10.0	126	2240	201.60	0.30	0.15
	03/11/09	17:00	0.50	10.0	130	2160	194.40	0.30	0.15
									TOTAL
									4.35

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	5.49	***	***	6.74	***	1.25
MW-20	2"	2.5-9.5	5.69	5.76	0.07	***	6.80	***	1.10
MW-21	2"	3-10	***	5.40	***	***	5.70	***	0.30

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	5.50
Truck Operator:	B. Vencill	MW-20	6.30
Stack I.D. (feet)	0.33 feet	MW-21	5.40

Corrected Depth to water before AFVR event for MW-20 = 5.70

Recovery / Disposal Information

Hydro carbons Removed (vapor):	4.35	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.75	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	150	Gallons

TABLE 2I
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 08-1923I
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
9:00	0.0	0	0	0
9:30	0.5	0	0	0
10:00	1.0	0	0	0
10:30	1.5	0	0	0
11:00	2.0	0	0	0
11:30	2.5	0	0	0
12:00	3.0	0	0	0
12:30	3.5	0	0	0
13:00	4.0	0	0	0
13:30	4.5	0	0	0
14:00	5.0	0	0	0
14:30	5.5	0	0	0
15:00	6.0	0	0	0
15:30	6.5	0	0	0
16:00	7.0	0	0	0
16:30	7.5	0	0	0
17:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

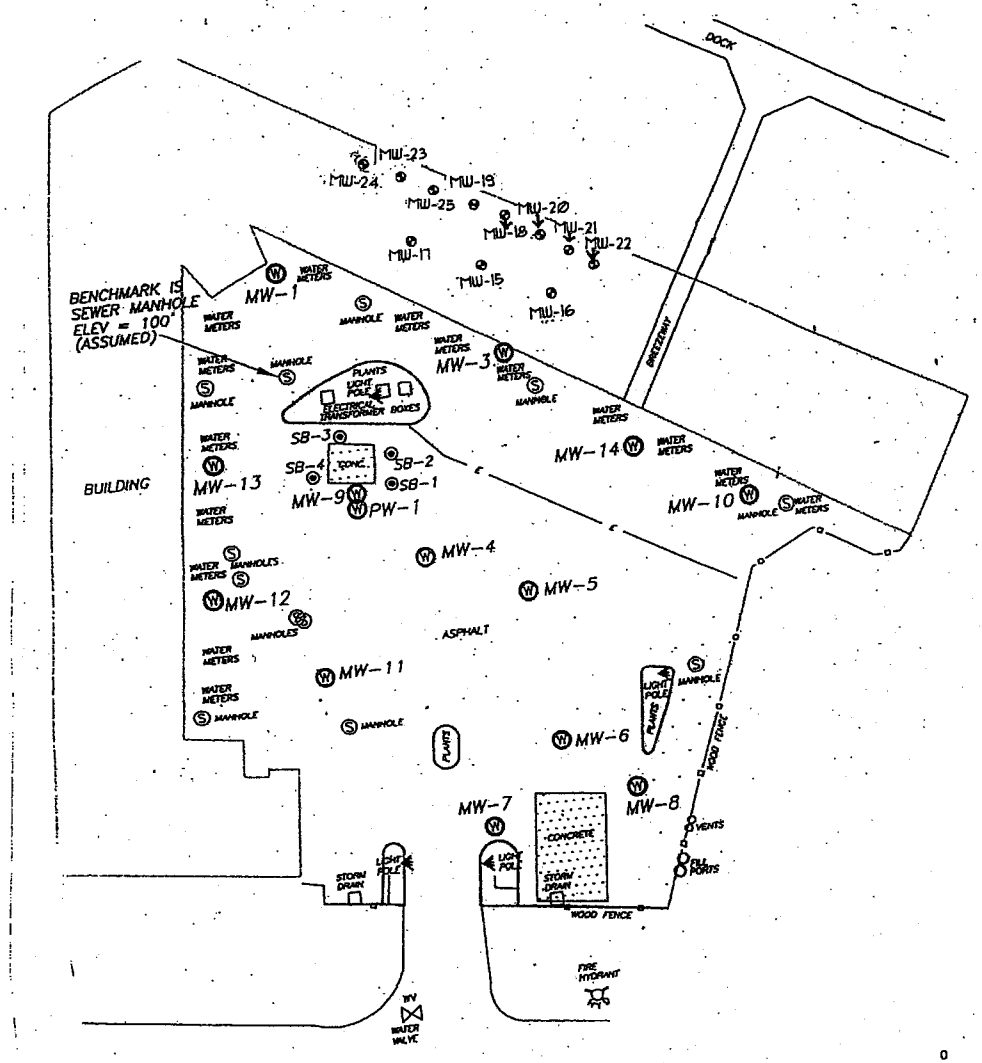
GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-20	MW-21	MW-20
Approximate Distance:		18 ft	13 ft	33 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.10	5.53	5.20
13:00	4 hours	5.10	5.59	5.20
17:00	8 hours	5.10	7.21	5.20
Maximum Change:		0.00	-1.68	0.00

TABLE 3I
AFVR ADDITIONAL DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 08-1923I
SCDHEC SITE ID NUMBER 18662

Well Product and Water Levels

Time	Elapsed Time	MW-19		MW-22		MW-23		MW-24		MW-25		***	
		Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)	Depth to Product (FT)	Depth to Water (FT)
9:00	0.0	***	5.45	***	5.33	***	6.26	***	5.71	***	6.39	***	***
9:30	0.5												
10:00	1.0	***	5.50	***	5.34	***	6.30	***	5.58	***	6.30	***	***
10:30	1.5												
11:00	2.0	***	5.52	***	5.40	***	6.28	***	5.58	***	6.18	***	***
11:30	2.5												
12:00	3.0	***	5.87	***	5.67	***	6.26	***	5.58	***	6.20	***	***
12:30	3.5												
13:00	4.0	***	6.10	***	6.00	***	6.30	***	5.60	***	6.20	***	***
13:30	4.5												
14:00	5.0	***	6.50	***	6.45	***	6.25	***	5.60	***	6.10	***	***
14:30	5.5												
15:00	6.0	***	7.10	***	7.00	***	6.25	***	5.60	***	6.34	***	***
15:30	6.5												
16:00	7.0	***	7.60	***	7.35	***	6.27	***	5.60	***	6.64	***	***
16:30	7.5												
17:00	8.0	***	7.89	***	7.67	***	6.30	***	5.60	***	6.89	***	***



Explanation:

⊗ Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1469
DATE January 31, 2008
FIGURE 2

C 143028

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 37550	2. Page 1 of 1

GENERATOR

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

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

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01	TT	2,920	G
b.				
c.				
d. • Bay Creek - 18662 - 150 gals. • Burnett's Cleaners - 160 gals • Nix's - 14739 - 275 gals. • Greenwave Amoco - 250 gals. • Handy Pantry - 04733 - 25 gals • Ridgeway - 03144 - 0 gals.				

D. Additional Descriptions for Materials Listed Above
• Greenwave Amoco - 12097 - 250 gals.
• Greenwave Amoco - 12097 - 10 gals.
• Macks Camp - 01253 - 320 gals.
• Refrigeration Service - 19337 - 60 gals.
• Frm. Ford Spe. - 00487 - 5 gals.
• Smith's Gulf - 00466 - 20 gals.
• Hughes Well - 00358 - 150 gals.
• Anderson Patrol - 00769 - 80 gals

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
• Richland Landfill - 11808 - 25 gals.
Service Call ID: GLB0137550
• Sportsman Corner - 12151 - 90 gals.
• Quick Pantry #12 - 06926 - 100 gals.
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant
• Richland CPW - 11805 - 550 gals.
• 4 Seasons F+F - 00120 - 90 gals.
• Bay Creek Villas - 18662 - 150 gals.
• Brown Bros - 04145 - 150 gals
• Burtons BP - 12299 - 60 gals.
• Greenwave Amoco - 12097 - 100 gals

TRANSPORTER

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

Printed/Typed Name	Signature	Month	Day	Year
John Womack	[signature]	04	01	09

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Chad Justice	Chad Justice	04	01	09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

APR 08 2009

ALLAN JOHNSTON
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Reports received April 6, 2009
Colleton County

Dear Mr. Johnston:

As you are aware, Aggressive Fluid Vapor Recovery (AFVR) events took place on March 11 and March 30, 2009. A copy of the reports is enclosed. A total of 0.07 feet free product was observed before the March 11 event and no free phase product was not observed during the March 30 event. To date 657.14 equivalent gallons of petroleum have been removed from the ground. The monitoring wells will be sampled in about 60 days to quantify any reductions in dissolved concentrations.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

UST DOCKET 067

enc: Aggressive Fluid Vapor Recovery Reports

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

MAY 27 2009

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

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

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct seven (7) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order # 719459 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	MECI CA#
19155	Botts Bros Grocery	Abbeville	26	S. Briney	06/19/09	BTEXMN, DCA, EDB, Oxygenates, and total Pb	36125	36126
11907	Food Chief 46	Kershaw	11	D. Thoma	06/19/09	BTEXMN, DCA, & EDB	36105	36106
05419	Pantry 3242	Kershaw	11	D. Thoma	06/19/09	BTEXMN & DCA	35947	35948
05410	Bucks Grocery	Kershaw	18	D. Thoma	06/19/09	BTEXMN & DCA	36103	36104
08937	Heath Self Serve	Kershaw	44	D. Thoma	06/19/09	BTEXMN & DCA	36162	36163
03688	Simpson Lumber Co	Georgetown	12	D. Thoma	06/19/09	BTEXMN	35758	35759
18662	Bay Creek Villas	Colleton	24	R. Miner	06/19/09	BTEXMN & DCA	36210	36211

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

UST DOCKET

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

Sincerely,

Debra L. Thoma

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

enc: Information Packets
Approved Cost Agreements

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

Approved Cost Agreement 36210

Facility: 18662 BAY CREEK VILLAS

MINERRS

PO Number: 729210-429

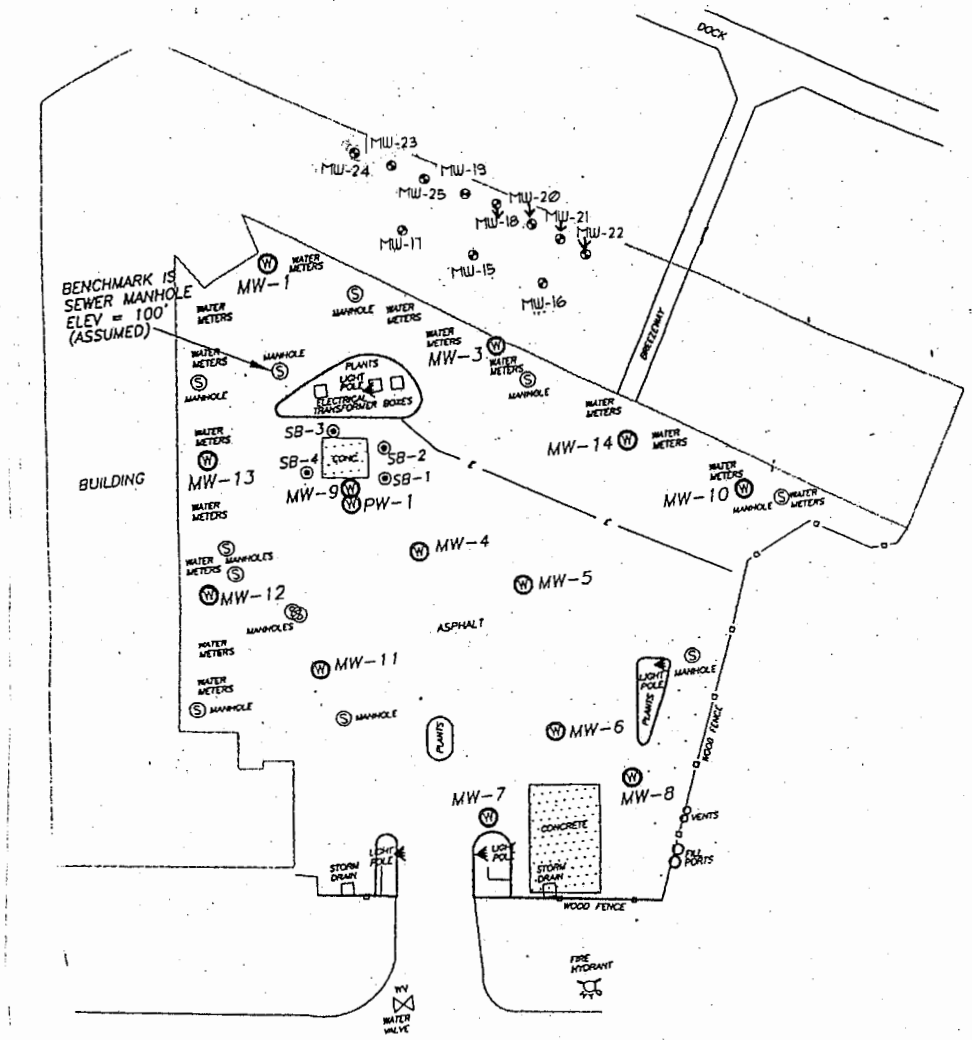
Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	24.0000	23.00	552.00

Total Amount 552.00

Approved Cost Agreement 36211

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number: 719459-295

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	2.0000	150.00	300.00
10 SAMPLE COLLECTION						
		D	GROUNDWATER NO-PURGE	24.0000	10.00	240.00
				Total Amount		540.00



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

Midlands Environmental Consultants, Inc.

June 10, 2009

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

UST
JUN 16 2009
PROGRAM

Subject: Report of Groundwater Sampling
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662, CA # 36211
MECI Project Number 09-2313

Dear Ms. Thoma,

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

On June 10, 2009, twenty four monitoring wells (MW-1 and MW-3 through MW-25) were sampled. Groundwater samples obtained were transported to Pace Analytical Services, Inc. of Huntersville, NC for analysis.

No Purge water was produced at this site.

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

Sincerely,
Midlands Environmental Consultants, Inc.

Brian Owen
Field Technician

UST
DOCKET
#68

Jeff L. Coleman
Project Scientist

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

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: John Womack, Logan McConahey

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

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-1	Y	6/10/09	11:04	2.5-15	***	4.15	***	***	Odor
MW-3	Y	6/10/09	11:04	2.5-15	***	5.20	***	***	Odor
MW-4	Y	6/10/09	10:32	2.5-15	***	5.33	***	***	Odor
MW-5	Y	6/10/09	10:21	2.5-15	***	5.80	***	***	No Odor
MW-6	Y	6/10/09	10:12	2.5-15	***	4.22	***	***	No Odor
MW-7	Y	6/10/09	10:06	1.5-10	***	4.25	***	***	No Odor
MW-8	Y	6/10/09	10:11	1.5-10	***	4.42	***	***	No Odor
MW-9	Y	6/10/09	10:37	1.5-10	***	4.90	***	***	Odor
MW-10	Y	6/10/09	10:55	2-12	***	5.13	***	***	No Odor
MW-11	Y	6/10/09	10:19	2-12	***	4.32	***	***	No Odor
MW-12	Y	6/10/09	10:43	2-12	***	4.52	***	***	No Odor
MW-13	Y	6/10/09	10:44	2-12	***	4.31	***	***	No Odor
MW-14	Y	6/10/09	10:54	2-12	***	5.05	***	***	No Odor
MW-15	Y	6/10/09	11:11	3-10	***	4.41	***	***	Odor
MW-16	Y	6/10/09	11:15	3-10	***	5.50	***	***	Odor
								0.0	**TOTAL GALLONS PURGED**

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: John Womack, Logan McConahey

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

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-17	Y	6/10/09	11:20	3-10	***	4.16	***	***	Odor
MW-18	Y	6/10/09	11:30	3-10	***	5.48	***	***	Odor
MW-19	Y	6/10/09	11:33	2.5-9.5	***	5.40	***	***	No Odor
MW-20	Y	6/10/09	11:28	3-10	***	5.43	***	***	Odor, Sheen
MW-21	Y	6/10/09	11:38	2.5-9.5	***	5.28	***	***	Odor
MW-22	Y	6/10/09	11:43	3-10	***	5.30	***	***	No Odor
MW-23	Y	6/10/09	11:46	2.5-9.5	***	3.95	***	***	No Odor
MW-24	Y	6/10/09	11:36	2.5-9.5	***	3.71	***	***	No Odor
MW-25	Y	6/10/09	11:41	2.5-9.5	***	6.00	***	***	Odor
								0.0	**TOTAL GALLONS PURGED**

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

1174022

Section A Required Client Information:

Company:	SCDHEC - UST
Address:	2600 Bull Street Columbia, SC 29201
Email To:	
Phone:	805-896-6241 Fax: 805-896-6[illegible]
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	D. Thoma
Copy To:	
Purchase Order No.:	
Project Name:	Bay Creek Villas
Project Number:	18662/ CA 36211

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: SC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Btex, naph, MTBE, 8260B	1,2 DCA	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			6/10	11:04		3				X						X	X		Pt odor
2	MW-3						11:04															Pt odor
3	MW-4						10:32															Pt odor
4	MW-5						10:34															No odor
5	MW-6						10:12															No odor
6	MW-7						10:06															No odor
7	MW-8						10:37															No odor
8	MW-9						10:37															Pt odor
9	MW-10						10:55															No odor
10	MW-11						10:19															No odor
11	MW-12						10:43															No odor
12	MW-13	WT	G			6/10	10:44		3				X						X	X		No odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please report "J" values							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Logan McConahey

SIGNATURE of SAMPLER: Logan McConahey

DATE Signed (MM/DD/YY): 6/10/09

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

2

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

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

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

1174023

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHCC - UST	Report To: D. Thoma	Attention: Finance (D. Thoma)
Address: 2600 Bull Street Columbia SC 29201	Copy To:	Company Name: SCDHCC - UST
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: 803-896-6245 Fax: 803-896-6245	Project Name: Bay Creek Villas	Pace Project Manager: R. Spencer
Requested Due Date/TAT:	Project Number: 18662/CA 36211	Pace Profile #:

REGULATORY AGENCY

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

Site Location STATE: SC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): Btex, naph, MtBE, 8260 B	1,2 DCA	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-14	WT	G			6/10	10:54		3				X					X	X		No odor
2	MW-15						11:11														Pt odor
3	MW-16						11:15														Pt odor
4	MW-17						11:20														Pt odor
5	MW-18						11:30														Pt odor
6	MW-19						11:33														No odor
7	MW-20						11:28														Pt odor, sheen
8	MW-21						11:38														Pt odor
9	MW-22						11:43														No odor
10	MW-23						11:46														No odor
11	MW-24						11:36														No odor
12	MW-25	WT	G			6/10	11:41		3				X					X	X		Pt odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please report "J"							
Values							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Logan McCanhey

SIGNATURE of SAMPLER: Logan McCanhey

DATE Signed (MM/DD/YY): 6/10/09

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

2

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

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

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www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

UST
JUN 24 2009
PROGRAM

June 19, 2009

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

RE: Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on June 11, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

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

Sincerely,

Renee Spencer

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical®
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Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

CERTIFICATIONS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Charlotte Certification IDs

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

Asheville Certification IDs

West Virginia Certification #: 356
Virginia Certification #: 00072
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Tennessee Certification #: 2980
South Carolina Certification #: 99030001
South Carolina Bioassay Certification #: 99030002
Pennsylvania Certification #: 68-03578
North Carolina Wastewater Certification #: 40
North Carolina Drinking Water Certification #: 37712
North Carolina Bioassay Certification #: 9
New Jersey Certification #: NC011
Massachusetts Certification #: M-NC030
Louisiana/LELAP Certification #: 03095

Eden Certification IDs

North Carolina Wastewater Certification #: 633
Virginia Drinking Water Certification #: 00424
North Carolina Drinking Water Certification #: 37738

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SAMPLE SUMMARY

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9246343001	MW-1	Water	06/10/09 11:04	06/11/09 12:35
9246343002	MW-3	Water	06/10/09 11:04	06/11/09 12:35
9246343003	MW-4	Water	06/10/09 10:34	06/11/09 12:35
9246343004	MW-5	Water	06/10/09 10:21	06/11/09 12:35
9246343005	MW-6	Water	06/10/09 10:12	06/11/09 12:35
9246343006	MW-7	Water	06/10/09 10:06	06/11/09 12:35
9246343007	MW-8	Water	06/10/09 10:17	06/11/09 12:35
9246343008	MW-9	Water	06/10/09 10:37	06/11/09 12:35
9246343009	MW-10	Water	06/10/09 10:55	06/11/09 12:35
9246343010	MW-11	Water	06/10/09 10:19	06/11/09 12:35
9246343011	MW-12	Water	06/10/09 10:43	06/11/09 12:35
9246343012	MW-13	Water	06/10/09 10:44	06/11/09 12:35
9246343013	MW-14	Water	06/10/09 10:54	06/11/09 12:35
9246343014	MW-15	Water	06/10/09 11:11	06/11/09 12:35
9246343015	MW-16	Water	06/10/09 11:15	06/11/09 12:35
9246343016	MW-17	Water	06/10/09 11:20	06/11/09 12:35
9246343017	MW-18	Water	06/10/09 11:30	06/11/09 12:35
9246343018	MW-19	Water	06/10/09 11:33	06/11/09 12:35
9246343019	MW-20	Water	06/10/09 11:28	06/11/09 12:35
9246343020	MW-21	Water	06/10/09 11:38	06/11/09 12:35
9246343021	MW-22	Water	06/10/09 11:43	06/11/09 12:35
9246343022	MW-23	Water	06/10/09 11:46	06/11/09 12:35
9246343023	MW-24	Water	06/10/09 11:36	06/11/09 12:35
9246343024	MW-25	Water	06/10/09 11:41	06/11/09 12:35

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SAMPLE ANALYTE COUNT

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9246343001	MW-1	EPA 8260	MCK	13
9246343002	MW-3	EPA 8260	MCK	13
9246343003	MW-4	EPA 8260	MCK	13
9246343004	MW-5	EPA 8260	MCK	13
9246343005	MW-6	EPA 8260	MCK	13
9246343006	MW-7	EPA 8260	MCK	13
9246343007	MW-8	EPA 8260	MCK	13
9246343008	MW-9	EPA 8260	MCK	13
9246343009	MW-10	EPA 8260	MCK	13
9246343010	MW-11	EPA 8260	MCK	13
9246343011	MW-12	EPA 8260	MCK	13
9246343012	MW-13	EPA 8260	MCK	13
9246343013	MW-14	EPA 8260	MCK	13
9246343014	MW-15	EPA 8260	MCK	13
9246343015	MW-16	EPA 8260	MCK	13
9246343016	MW-17	EPA 8260	MCK	13
9246343017	MW-18	EPA 8260	MCK	13
9246343018	MW-19	EPA 8260	MCK	13
9246343019	MW-20	EPA 8260	MCK	13
9246343020	MW-21	EPA 8260	MCK	13
9246343021	MW-22	EPA 8260	MCK	13
9246343022	MW-23	EPA 8260	MCK	13
9246343023	MW-24	EPA 8260	MCK	13
9246343024	MW-25	EPA 8260	MCK	13

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-1 **Lab ID: 9246343001** Collected: 06/10/09 11:04 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/16/09 01:13	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/16/09 01:13	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/16/09 01:13	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/16/09 01:13	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/16/09 01:13	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/16/09 01:13	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/16/09 01:13	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/16/09 01:13	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/16/09 01:13	95-47-6	
4-Bromofluorobenzene (S)	111	%	87-109		1		06/16/09 01:13	460-00-4	S3
Dibromofluoromethane (S)	95	%	85-115		1		06/16/09 01:13	1868-53-7	
1,2-Dichloroethane-d4 (S)	82	%	79-120		1		06/16/09 01:13	17060-07-0	
Toluene-d8 (S)	97	%	70-120		1		06/16/09 01:13	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-3 **Lab ID: 9246343002** Collected: 06/10/09 11:04 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**5680**	ug/L	250	60.0	50		06/17/09 21:04	71-43-2	
1,2-Dichloroethane	ND	ug/L	100	26.0	20		06/17/09 05:50	107-06-2	
Ethylbenzene	**1470**	ug/L	100	22.0	20		06/17/09 05:50	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	100	40.0	20		06/17/09 05:50	1634-04-4	
Naphthalene	**781**	ug/L	100	58.0	20		06/17/09 05:50	91-20-3	
Toluene	**45.3J**	ug/L	100	36.0	20		06/17/09 05:50	108-88-3	
Xylene (Total)	**169J**	ug/L	200	54.0	20		06/17/09 05:50	1330-20-7	
m&p-Xylene	**154J**	ug/L	200	54.0	20		06/17/09 05:50	1330-20-7	
o-Xylene	ND	ug/L	100	34.0	20		06/17/09 05:50	95-47-6	
4-Bromofluorobenzene (S)	106	%	87-109		20		06/17/09 05:50	460-00-4	
Dibromofluoromethane (S)	96	%	85-115		20		06/17/09 05:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	79-120		20		06/17/09 05:50	17060-07-0	
Toluene-d8 (S)	98	%	70-120		20		06/17/09 05:50	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-4 **Lab ID: 9246343003** Collected: 06/10/09 10:34 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**50.4**	ug/L	10.0	2.4	2		06/17/09 06:11	71-43-2	
1,2-Dichloroethane	ND	ug/L	10.0	2.6	2		06/17/09 06:11	107-06-2	
Ethylbenzene	**293**	ug/L	10.0	2.2	2		06/17/09 06:11	100-41-4	
Methyl-tert-butyl ether	**7.7J**	ug/L	10.0	4.0	2		06/17/09 06:11	1634-04-4	
Naphthalene	**261**	ug/L	10.0	5.8	2		06/17/09 06:11	91-20-3	
Toluene	**4.4J**	ug/L	10.0	3.6	2		06/17/09 06:11	108-88-3	
Xylene (Total)	**16.3J**	ug/L	20.0	5.4	2		06/17/09 06:11	1330-20-7	
m&p-Xylene	**14.3J**	ug/L	20.0	5.4	2		06/17/09 06:11	1330-20-7	
o-Xylene	ND	ug/L	10.0	3.4	2		06/17/09 06:11	95-47-6	
4-Bromofluorobenzene (S)	108	%	87-109		2		06/17/09 06:11	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		2		06/17/09 06:11	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	79-120		2		06/17/09 06:11	17060-07-0	
Toluene-d8 (S)	99	%	70-120		2		06/17/09 06:11	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-5 **Lab ID: 9246343004** Collected: 06/10/09 10:21 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/16/09 01:32	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/16/09 01:32	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/16/09 01:32	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/16/09 01:32	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/16/09 01:32	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/16/09 01:32	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/16/09 01:32	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/16/09 01:32	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/16/09 01:32	95-47-6	
4-Bromofluorobenzene (S)	112	%	87-109		1		06/16/09 01:32	460-00-4	S3
Dibromofluoromethane (S)	97	%	85-115		1		06/16/09 01:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	84	%	79-120		1		06/16/09 01:32	17060-07-0	
Toluene-d8 (S)	97	%	70-120		1		06/16/09 01:32	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-6 **Lab ID: 9246343005** Collected: 06/10/09 10:12 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/15/09 19:51	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/15/09 19:51	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/15/09 19:51	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/15/09 19:51	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/15/09 19:51	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/15/09 19:51	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/15/09 19:51	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/15/09 19:51	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/15/09 19:51	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		1		06/15/09 19:51	460-00-4	
Dibromofluoromethane (S)	103	%	85-115		1		06/15/09 19:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	94	%	79-120		1		06/15/09 19:51	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		06/15/09 19:51	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-7 **Lab ID: 9246343006** Collected: 06/10/09 10:06 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/15/09 20:09	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/15/09 20:09	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/15/09 20:09	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/15/09 20:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/15/09 20:09	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/15/09 20:09	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/15/09 20:09	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/15/09 20:09	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/15/09 20:09	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		1		06/15/09 20:09	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		1		06/15/09 20:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		1		06/15/09 20:09	17060-07-0	
Toluene-d8 (S)	101	%	70-120		1		06/15/09 20:09	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-8 **Lab ID: 9246343007** Collected: 06/10/09 10:17 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/15/09 20:27	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/15/09 20:27	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/15/09 20:27	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/15/09 20:27	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/15/09 20:27	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/15/09 20:27	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/15/09 20:27	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/15/09 20:27	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/15/09 20:27	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109		1		06/15/09 20:27	460-00-4	
Dibromofluoromethane (S)	100	%	85-115		1		06/15/09 20:27	1868-53-7	
1,2-Dichloroethane-d4 (S)	97	%	79-120		1		06/15/09 20:27	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		06/15/09 20:27	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-9 **Lab ID: 9246343008** Collected: 06/10/09 10:37 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**69.8**	ug/L	10.0	2.4	2		06/17/09 19:40	71-43-2	
1,2-Dichloroethane	ND	ug/L	10.0	2.6	2		06/17/09 19:40	107-06-2	
Ethylbenzene	**198**	ug/L	10.0	2.2	2		06/17/09 19:40	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	10.0	4.0	2		06/17/09 19:40	1634-04-4	
Naphthalene	**29.6**	ug/L	10.0	5.8	2		06/17/09 19:40	91-20-3	
Toluene	**7.3J**	ug/L	10.0	3.6	2		06/17/09 19:40	108-88-3	
Xylene (Total)	**15.1J**	ug/L	20.0	5.4	2		06/17/09 19:40	1330-20-7	
m&p-Xylene	**11.6J**	ug/L	20.0	5.4	2		06/17/09 19:40	1330-20-7	
o-Xylene	**3.6J**	ug/L	10.0	3.4	2		06/17/09 19:40	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		2		06/17/09 19:40	460-00-4	
Dibromofluoromethane (S)	99	%	85-115		2		06/17/09 19:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%	79-120		2		06/17/09 19:40	17060-07-0	
Toluene-d8 (S)	100	%	70-120		2		06/17/09 19:40	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-10 **Lab ID: 9246343009** Collected: 06/10/09 10:55 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/16/09 01:51	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/16/09 01:51	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/16/09 01:51	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/16/09 01:51	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/16/09 01:51	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/16/09 01:51	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/16/09 01:51	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/16/09 01:51	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/16/09 01:51	95-47-6	
4-Bromofluorobenzene (S)	111	%	87-109		1		06/16/09 01:51	460-00-4	S3
Dibromofluoromethane (S)	94	%	85-115		1		06/16/09 01:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	82	%	79-120		1		06/16/09 01:51	17060-07-0	
Toluene-d8 (S)	97	%	70-120		1		06/16/09 01:51	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-11 **Lab ID: 9246343010** Collected: 06/10/09 10:19 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/16/09 02:09	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/16/09 02:09	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/16/09 02:09	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/16/09 02:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/16/09 02:09	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/16/09 02:09	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/16/09 02:09	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/16/09 02:09	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/16/09 02:09	95-47-6	
4-Bromofluorobenzene (S)	110	%	87-109		1		06/16/09 02:09	460-00-4	S3
Dibromofluoromethane (S)	95	%	85-115		1		06/16/09 02:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	82	%	79-120		1		06/16/09 02:09	17060-07-0	
Toluene-d8 (S)	97	%	70-120		1		06/16/09 02:09	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-12 **Lab ID: 9246343011** Collected: 06/10/09 10:43 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/16/09 02:28	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/16/09 02:28	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/16/09 02:28	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/16/09 02:28	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/16/09 02:28	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/16/09 02:28	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/16/09 02:28	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/16/09 02:28	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/16/09 02:28	95-47-6	
4-Bromofluorobenzene (S)	109	%	87-109		1		06/16/09 02:28	460-00-4	
Dibromofluoromethane (S)	93	%	85-115		1		06/16/09 02:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	81	%	79-120		1		06/16/09 02:28	17060-07-0	
Toluene-d8 (S)	97	%	70-120		1		06/16/09 02:28	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-13 **Lab ID: 9246343012** Collected: 06/10/09 10:44 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/16/09 02:47	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/16/09 02:47	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/16/09 02:47	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/16/09 02:47	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/16/09 02:47	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/16/09 02:47	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/16/09 02:47	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/16/09 02:47	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/16/09 02:47	95-47-6	
4-Bromofluorobenzene (S)	110	%	87-109		1		06/16/09 02:47	460-00-4	S3
Dibromofluoromethane (S)	94	%	85-115		1		06/16/09 02:47	1868-53-7	
1,2-Dichloroethane-d4 (S)	81	%	79-120		1		06/16/09 02:47	17060-07-0	
Toluene-d8 (S)	97	%	70-120		1		06/16/09 02:47	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-14 **Lab ID: 9246343013** Collected: 06/10/09 10:54 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/16/09 03:06	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/16/09 03:06	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/16/09 03:06	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/16/09 03:06	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/16/09 03:06	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/16/09 03:06	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/16/09 03:06	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/16/09 03:06	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/16/09 03:06	95-47-6	
4-Bromofluorobenzene (S)	112	%	87-109		1		06/16/09 03:06	460-00-4	S3
Dibromofluoromethane (S)	95	%	85-115		1		06/16/09 03:06	1868-53-7	
1,2-Dichloroethane-d4 (S)	82	%	79-120		1		06/16/09 03:06	17060-07-0	
Toluene-d8 (S)	97	%	70-120		1		06/16/09 03:06	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-15 **Lab ID: 9246343014** Collected: 06/10/09 11:11 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**33.3**	ug/L	5.0	1.2	1		06/15/09 20:45	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/15/09 20:45	107-06-2	
Ethylbenzene	**2.9J**	ug/L	5.0	1.1	1		06/15/09 20:45	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/15/09 20:45	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/15/09 20:45	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/15/09 20:45	108-88-3	
Xylene (Total)	**6.6J**	ug/L	10.0	2.7	1		06/15/09 20:45	1330-20-7	
m&p-Xylene	**4.7J**	ug/L	10.0	2.7	1		06/15/09 20:45	1330-20-7	
o-Xylene	**1.9J**	ug/L	5.0	1.7	1		06/15/09 20:45	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		1		06/15/09 20:45	460-00-4	
Dibromofluoromethane (S)	104	%	85-115		1		06/15/09 20:45	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	79-120		1		06/15/09 20:45	17060-07-0	
Toluene-d8 (S)	101	%	70-120		1		06/15/09 20:45	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-16 **Lab ID: 9246343015** Collected: 06/10/09 11:15 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**1530**	ug/L	50.0	12.0	10		06/17/09 07:58	71-43-2	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		06/17/09 07:58	107-06-2	
Ethylbenzene	**833**	ug/L	50.0	11.0	10		06/17/09 07:58	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		06/17/09 07:58	1634-04-4	
Naphthalene	**268**	ug/L	50.0	29.0	10		06/17/09 07:58	91-20-3	
Toluene	**1730**	ug/L	50.0	18.0	10		06/17/09 07:58	108-88-3	
Xylene (Total)	**3860**	ug/L	100	27.0	10		06/17/09 07:58	1330-20-7	
m&p-Xylene	**2790**	ug/L	100	27.0	10		06/17/09 07:58	1330-20-7	
o-Xylene	**1060**	ug/L	50.0	17.0	10		06/17/09 07:58	95-47-6	
4-Bromofluorobenzene (S)	108	%	87-109		10		06/17/09 07:58	460-00-4	
Dibromofluoromethane (S)	104	%	85-115		10		06/17/09 07:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	95	%	79-120		10		06/17/09 07:58	17060-07-0	
Toluene-d8 (S)	99	%	70-120		10		06/17/09 07:58	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-17 **Lab ID: 9246343016** Collected: 06/10/09 11:20 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**268**	ug/L	25.0	6.0	5		06/16/09 13:35	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/15/09 21:04	107-06-2	
Ethylbenzene	**85.8**	ug/L	5.0	1.1	1		06/15/09 21:04	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/15/09 21:04	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/15/09 21:04	91-20-3	
Toluene	**5.4**	ug/L	5.0	1.8	1		06/15/09 21:04	108-88-3	
Xylene (Total)	**40.3**	ug/L	10.0	2.7	1		06/15/09 21:04	1330-20-7	
m&p-Xylene	**34.7**	ug/L	10.0	2.7	1		06/15/09 21:04	1330-20-7	
o-Xylene	**5.6**	ug/L	5.0	1.7	1		06/15/09 21:04	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		1		06/15/09 21:04	460-00-4	
Dibromofluoromethane (S)	98	%	85-115		1		06/15/09 21:04	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120		1		06/15/09 21:04	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		06/15/09 21:04	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-18 **Lab ID: 9246343017** Collected: 06/10/09 11:30 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**6340**	ug/L	1000	240	200		06/17/09 21:22	71-43-2	
1,2-Dichloroethane	ND	ug/L	250	65.0	50		06/17/09 09:00	107-06-2	
Ethylbenzene	**1900**	ug/L	250	55.0	50		06/17/09 09:00	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	250	100	50		06/17/09 09:00	1634-04-4	
Naphthalene	**1130**	ug/L	250	145	50		06/17/09 09:00	91-20-3	
Toluene	**4460**	ug/L	250	90.0	50		06/17/09 09:00	108-88-3	
Xylene (Total)	**8980**	ug/L	500	135	50		06/17/09 09:00	1330-20-7	
m&p-Xylene	**6280**	ug/L	500	135	50		06/17/09 09:00	1330-20-7	
o-Xylene	**2700**	ug/L	250	85.0	50		06/17/09 09:00	95-47-6	
4-Bromofluorobenzene (S)	107	%	87-109		50		06/17/09 09:00	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		50		06/17/09 09:00	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120		50		06/17/09 09:00	17060-07-0	
Toluene-d8 (S)	99	%	70-120		50		06/17/09 09:00	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-19 **Lab ID: 9246343018** Collected: 06/10/09 11:33 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**8580**	ug/L	250	60.0	50		06/17/09 08:40	71-43-2	
1,2-Dichloroethane	ND	ug/L	250	65.0	50		06/17/09 08:40	107-06-2	
Ethylbenzene	**1700**	ug/L	250	55.0	50		06/17/09 08:40	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	250	100	50		06/17/09 08:40	1634-04-4	
Naphthalene	**2010**	ug/L	250	145	50		06/17/09 08:40	91-20-3	
Toluene	**3580**	ug/L	250	90.0	50		06/17/09 08:40	108-88-3	
Xylene (Total)	**7220**	ug/L	500	135	50		06/17/09 08:40	1330-20-7	
m&p-Xylene	**4920**	ug/L	500	135	50		06/17/09 08:40	1330-20-7	
o-Xylene	**2290**	ug/L	250	85.0	50		06/17/09 08:40	95-47-6	
4-Bromofluorobenzene (S)	106	%	87-109		50		06/17/09 08:40	460-00-4	
Dibromofluoromethane (S)	95	%	85-115		50		06/17/09 08:40	1868-53-7	
1,2-Dichloroethane-d4 (S)	96	%	79-120		50		06/17/09 08:40	17060-07-0	
Toluene-d8 (S)	101	%	70-120		50		06/17/09 08:40	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-20 **Lab ID: 9246343019** Collected: 06/10/09 11:28 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**3030**	ug/L	250	60.0	50		06/17/09 20:43	71-43-2	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		06/17/09 08:19	107-06-2	
Ethylbenzene	**2160**	ug/L	250	55.0	50		06/17/09 20:43	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		06/17/09 08:19	1634-04-4	
Naphthalene	**1110**	ug/L	50.0	29.0	10		06/17/09 08:19	91-20-3	
Toluene	**4980**	ug/L	250	90.0	50		06/17/09 20:43	108-88-3	
Xylene (Total)	**9580**	ug/L	500	135	50		06/17/09 20:43	1330-20-7	
m&p-Xylene	**6150**	ug/L	500	135	50		06/17/09 20:43	1330-20-7	
o-Xylene	**3430**	ug/L	250	85.0	50		06/17/09 20:43	95-47-6	
4-Bromofluorobenzene (S)	106	%	87-109		10		06/17/09 08:19	460-00-4	
Dibromofluoromethane (S)	98	%	85-115		10		06/17/09 08:19	1868-53-7	
1,2-Dichloroethane-d4 (S)	93	%	79-120		10		06/17/09 08:19	17060-07-0	
Toluene-d8 (S)	100	%	70-120		10		06/17/09 08:19	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-21 **Lab ID: 9246343020** Collected: 06/10/09 11:38 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**5390**	ug/L	250	60.0	50		06/17/09 09:21	71-43-2	
1,2-Dichloroethane	ND	ug/L	250	65.0	50		06/17/09 09:21	107-06-2	
Ethylbenzene	**1690**	ug/L	250	55.0	50		06/17/09 09:21	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	250	100	50		06/17/09 09:21	1634-04-4	
Naphthalene	**1490**	ug/L	250	145	50		06/17/09 09:21	91-20-3	
Toluene	**2840**	ug/L	250	90.0	50		06/17/09 09:21	108-88-3	
Xylene (Total)	**7610**	ug/L	500	135	50		06/17/09 09:21	1330-20-7	
m&p-Xylene	**5430**	ug/L	500	135	50		06/17/09 09:21	1330-20-7	
o-Xylene	**2180**	ug/L	250	85.0	50		06/17/09 09:21	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		50		06/17/09 09:21	460-00-4	
Dibromofluoromethane (S)	100	%	85-115		50		06/17/09 09:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%	79-120		50		06/17/09 09:21	17060-07-0	
Toluene-d8 (S)	99	%	70-120		50		06/17/09 09:21	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-22 **Lab ID: 9246343021** Collected: 06/10/09 11:43 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/15/09 21:22	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/15/09 21:22	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/15/09 21:22	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/15/09 21:22	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/15/09 21:22	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/15/09 21:22	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/15/09 21:22	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/15/09 21:22	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/15/09 21:22	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		1		06/15/09 21:22	460-00-4	
Dibromofluoromethane (S)	104	%	85-115		1		06/15/09 21:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	97	%	79-120		1		06/15/09 21:22	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		06/15/09 21:22	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-23 **Lab ID: 9246343022** Collected: 06/10/09 11:46 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/16/09 03:25	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/16/09 03:25	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/16/09 03:25	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/16/09 03:25	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/16/09 03:25	91-20-3	
Toluene	**2.1J**	ug/L	5.0	1.8	1		06/16/09 03:25	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/16/09 03:25	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/16/09 03:25	1330-20-7	
o-Xylene	**1.7J**	ug/L	5.0	1.7	1		06/16/09 03:25	95-47-6	
4-Bromofluorobenzene (S)	110	%	87-109		1		06/16/09 03:25	460-00-4	S3
Dibromofluoromethane (S)	95	%	85-115		1		06/16/09 03:25	1868-53-7	
1,2-Dichloroethane-d4 (S)	84	%	79-120		1		06/16/09 03:25	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		06/16/09 03:25	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-24 **Lab ID: 9246343023** Collected: 06/10/09 11:36 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		06/16/09 03:44	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		06/16/09 03:44	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		06/16/09 03:44	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		06/16/09 03:44	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		06/16/09 03:44	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		06/16/09 03:44	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/16/09 03:44	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		06/16/09 03:44	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		06/16/09 03:44	95-47-6	
4-Bromofluorobenzene (S)	112	%	87-109		1		06/16/09 03:44	460-00-4	S3
Dibromofluoromethane (S)	97	%	85-115		1		06/16/09 03:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	85	%	79-120		1		06/16/09 03:44	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		06/16/09 03:44	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

Sample: MW-25 **Lab ID: 9246343024** Collected: 06/10/09 11:41 Received: 06/11/09 12:35 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**6760**	ug/L	250	60.0	50		06/17/09 09:42	71-43-2	
1,2-Dichloroethane	ND	ug/L	250	65.0	50		06/17/09 09:42	107-06-2	
Ethylbenzene	**1300**	ug/L	250	55.0	50		06/17/09 09:42	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	250	100	50		06/17/09 09:42	1634-04-4	
Naphthalene	**1060**	ug/L	250	145	50		06/17/09 09:42	91-20-3	
Toluene	**6340**	ug/L	250	90.0	50		06/17/09 09:42	108-88-3	
Xylene (Total)	**9770**	ug/L	500	135	50		06/17/09 09:42	1330-20-7	
m&p-Xylene	**6530**	ug/L	500	135	50		06/17/09 09:42	1330-20-7	
o-Xylene	**3240**	ug/L	250	85.0	50		06/17/09 09:42	95-47-6	
4-Bromofluorobenzene (S)	108	%	87-109		50		06/17/09 09:42	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		50		06/17/09 09:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120		50		06/17/09 09:42	17060-07-0	
Toluene-d8 (S)	100	%	70-120		50		06/17/09 09:42	2037-26-5	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

QC Batch: MSV/7335 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9246343005, 9246343006, 9246343007, 9246343014, 9246343016, 9246343021

METHOD BLANK: 294724 Matrix: Water
Associated Lab Samples: 9246343005, 9246343006, 9246343007, 9246343014, 9246343016, 9246343021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	06/15/09 11:41	
Benzene	ug/L	ND	5.0	06/15/09 11:41	
Ethylbenzene	ug/L	ND	5.0	06/15/09 11:41	
m&p-Xylene	ug/L	ND	10.0	06/15/09 11:41	
Methyl-tert-butyl ether	ug/L	ND	5.0	06/15/09 11:41	
Naphthalene	ug/L	ND	5.0	06/15/09 11:41	
o-Xylene	ug/L	ND	5.0	06/15/09 11:41	
Toluene	ug/L	ND	5.0	06/15/09 11:41	
Xylene (Total)	ug/L	ND	10.0	06/15/09 11:41	
1,2-Dichloroethane-d4 (S)	%	96	79-120	06/15/09 11:41	
4-Bromofluorobenzene (S)	%	103	87-109	06/15/09 11:41	
Dibromofluoromethane (S)	%	101	85-115	06/15/09 11:41	
Toluene-d8 (S)	%	100	70-120	06/15/09 11:41	

LABORATORY CONTROL SAMPLE: 294725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	54.3	109	72-126	
Benzene	ug/L	50	51.0	102	78-128	
Ethylbenzene	ug/L	50	50.2	100	80-127	
m&p-Xylene	ug/L	100	101	101	82-127	
Methyl-tert-butyl ether	ug/L	50	51.1	102	71-130	
Naphthalene	ug/L	50	60.1	120	52-136	
o-Xylene	ug/L	50	50.4	101	83-124	
Toluene	ug/L	50	51.5	103	76-126	
Xylene (Total)	ug/L	150	151	101	83-125	
1,2-Dichloroethane-d4 (S)	%			99	79-120	
4-Bromofluorobenzene (S)	%			104	87-109	
Dibromofluoromethane (S)	%			102	85-115	
Toluene-d8 (S)	%			99	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 294726 294727

Parameter	Units	9246343005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	60.1	75.1	120	150	74-136	22	30	M0
Toluene	ug/L	ND	50	50	61.0	75.4	122	151	73-131	21	30	M0
1,2-Dichloroethane-d4 (S)	%						93	101	79-120			
4-Bromofluorobenzene (S)	%						104	105	87-109			
Dibromofluoromethane (S)	%						99	104	85-115			

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 294726 294727

Parameter	Units	9246343005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Toluene-d8 (S)	%						99	99	70-120			

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

QC Batch: MSV/7342 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV
Associated Lab Samples: 9246343002, 9246343003, 9246343008, 9246343015, 9246343017, 9246343018, 9246343019, 9246343020, 9246343024

METHOD BLANK: 294873 — Matrix: Water
Associated Lab Samples: 9246343002, 9246343003, 9246343008, 9246343015, 9246343017, 9246343018, 9246343019, 9246343020, 9246343024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	06/16/09 23:04	
Benzene	ug/L	ND	5.0	06/16/09 23:04	
Ethylbenzene	ug/L	ND	5.0	06/16/09 23:04	
m&p-Xylene	ug/L	ND	10.0	06/16/09 23:04	
Methyl-tert-butyl ether	ug/L	ND	5.0	06/16/09 23:04	
Naphthalene	ug/L	ND	5.0	06/16/09 23:04	
o-Xylene	ug/L	ND	5.0	06/16/09 23:04	
Toluene	ug/L	ND	5.0	06/16/09 23:04	
Xylene (Total)	ug/L	ND	10.0	06/16/09 23:04	
1,2-Dichloroethane-d4 (S)	%	101	79-120	06/16/09 23:04	
4-Bromofluorobenzene (S)	%	105	87-109	06/16/09 23:04	
Dibromofluoromethane (S)	%	104	85-115	06/16/09 23:04	
Toluene-d8 (S)	%	98	70-120	06/16/09 23:04	

LABORATORY CONTROL SAMPLE: 294874

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	56.1	112	72-126	
Benzene	ug/L	50	52.2	104	78-128	
Ethylbenzene	ug/L	50	51.1	102	80-127	
m&p-Xylene	ug/L	100	101	101	82-127	
Methyl-tert-butyl ether	ug/L	50	50.7	101	71-130	
Naphthalene	ug/L	50	58.1	116	52-136	
o-Xylene	ug/L	50	51.2	102	83-124	
Toluene	ug/L	50	52.6	105	76-126	
Xylene (Total)	ug/L	150	153	102	83-125	
1,2-Dichloroethane-d4 (S)	%			97	79-120	
4-Bromofluorobenzene (S)	%			108	87-109	
Dibromofluoromethane (S)	%			101	85-115	
Toluene-d8 (S)	%			99	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 294875 294876

Parameter	Units	9246422010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	54.1	53.1	108	106	74-136	2	30	
Toluene	ug/L	ND	50	50	54.6	53.5	109	107	73-131	2	30	
1,2-Dichloroethane-d4 (S)	%						97	96	79-120			

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 294875 294876

Parameter	Units	9246422010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
4-Bromofluorobenzene (S)	%						105	105	87-109			
Dibromofluoromethane (S)	%						100	102	85-115			
Toluene-d8 (S)	%						97	98	70-120			

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

QC Batch: MSV/7341 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9246343001, 9246343004, 9246343009, 9246343010, 9246343011, 9246343012, 9246343013, 9246343022, 9246343023

METHOD BLANK: 294869 Matrix: Water
Associated Lab Samples: 9246343001, 9246343004, 9246343009, 9246343010, 9246343011, 9246343012, 9246343013, 9246343022, 9246343023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	06/16/09 00:54	
Benzene	ug/L	ND	5.0	06/16/09 00:54	
Ethylbenzene	ug/L	ND	5.0	06/16/09 00:54	
m&p-Xylene	ug/L	ND	10.0	06/16/09 00:54	
Methyl-tert-butyl ether	ug/L	ND	5.0	06/16/09 00:54	
Naphthalene	ug/L	ND	5.0	06/16/09 00:54	
o-Xylene	ug/L	ND	5.0	06/16/09 00:54	
Toluene	ug/L	ND	5.0	06/16/09 00:54	
Xylene (Total)	ug/L	ND	10.0	06/16/09 00:54	
1,2-Dichloroethane-d4 (S)	%	80	79-120	06/16/09 00:54	
4-Bromofluorobenzene (S)	%	109	87-109	06/16/09 00:54	
Dibromofluoromethane (S)	%	93	85-115	06/16/09 00:54	
Toluene-d8 (S)	%	97	70-120	06/16/09 00:54	

LABORATORY CONTROL SAMPLE: 294870

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	42.4	85	72-126	
Benzene	ug/L	50	49.9	100	78-128	
Ethylbenzene	ug/L	50	52.0	104	80-127	
m&p-Xylene	ug/L	100	102	102	82-127	
Methyl-tert-butyl ether	ug/L	50	46.1	92	71-130	
Naphthalene	ug/L	50	60.4	121	52-136	
o-Xylene	ug/L	50	52.9	106	83-124	
Toluene	ug/L	50	48.5	97	76-126	
Xylene (Total)	ug/L	150	155	103	83-125	
1,2-Dichloroethane-d4 (S)	%			80	79-120	
4-Bromofluorobenzene (S)	%			112	87-109	S0
Dibromofluoromethane (S)	%			93	85-115	
Toluene-d8 (S)	%			98	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 294871 294872

Parameter	Units	9246422008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	46.1	56.6	92	113	74-136	20	30	
Toluene	ug/L	ND	50	50	45.2	55.4	90	111	73-131	20	30	
1,2-Dichloroethane-d4 (S)	%						83	82	79-120			

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ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 294871 294872

Parameter	Units	9246422008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
4-Bromofluorobenzene (S)	%						111	110	87-109			M0
Dibromofluoromethane (S)	%						95	93	85-115			
Toluene-d8 (S)	%						96	96	70-120			

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Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

QUALIFIERS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9246343

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

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

ANALYTE QUALIFIERS

M0	Matrix spike recovery was outside laboratory control limits.
S0	Surrogate recovery outside laboratory control limits.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

1174022

Section A Required Client Information:

Company: SCDHEC - UST
Address: 2600 Bull Street, Columbia, SC 29201
Email To:
Phone: 803-896-6245 Fax: 803-896-6245
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.:
Project Name: Bay Creek Villas
Project Number: 18662/CA 36211

Section C Invoice Information:

Attention: Finance (D. Thoma)
Company Name: SCDHEC-UST
Address:
Pace Quote Reference:
Pace Project Manager: R. Spencer
Pace Profile #: 849-1

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

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

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N: Pb, Btex, MTBE, 8260B; 1,2 DCA			
1	MW-1	WT	G			6/10	11:04		3				X					X X			92463 43
2	MW-3						11:04														Pt odor 01
3	MW-4						10:32														Pt odor 02
4	MW-5						10:24														Pt odor 03
5	MW-6						10:12														No odor 04
6	MW-7						10:06														No odor 05
7	MW-8						10:22														No odor 06
8	MW-9						10:37														No odor 07
9	MW-10						10:55														Pt odor 08
10	MW-11						10:19														No odor 09
11	MW-12						10:43														No odor 10
12	MW-13	WT	G			6/10	10:44		3				X					X X			No odor 11

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please report "J" values	Beaver			Moody - Pace	6-11-09	8:00				
	Moody	6-11-09	12:35	Pace	6-11-09	12:35	1.7	yes	no	yes

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Logan McConahey
SIGNATURE of SAMPLER: Logan McConahey
DATE Signed (MM/DD/YY): 6/10/09

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

1174023

Section A Required Client Information:

Company:	SCDHEC - UST
Address:	2600 Bull Street Columbia, SC 29201
Email To:	
Phone:	803-896-6246 Fax: 803-896-6243
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	D. Thoma
Copy To:	
Purchase Order No.:	
Project Name:	Bay Creek Villas
Project Number:	18662/CA 36211

Section C Invoice Information:

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

REGULATORY AGENCY

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

Site Location STATE: SC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, napth, MtBE, 8260 B	1,2 DCA	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-14	WT	G			6/10	10:54		3				X						X	X		No odor 13
2	MW-15						11:11															Pt odor 14
3	MW-16						11:15															Pt odor 15
4	MW-17						11:20															Pt odor 16
5	MW-18						11:30															Pt odor 17
6	MW-19						11:33															No odor 18
7	MW-20						11:28															Pt odor; sheen 19
8	MW-21						11:38															Pt odor 20
9	MW-22						11:43															No odor 21
10	MW-23						11:46															No odor 22
11	MW-24						11:36															No odor 23
12	MW-25	WT	G			6/10	11:41		3				X						X	X		Pt odor 24

9246343

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Please report "J"	Beaver			Moody - Pace	6-11-09	8:00				
Values	Moody	6-11-09	12:35	Weeen pace	6-11-09	12:8	1.7	yes	no	yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Logan McConnhey

SIGNATURE of SAMPLER: Logan McConnhey

DATE Signed (MM/DD/YY): 6/10/09

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

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

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

ALLAN JOHNSTON
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **Monitoring Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Report received June 16, 2009
Colleton County

Dear Mr. Johnston:

As you are aware, the monitoring well network was sampled June 10, 2009. A copy of the report and a spreadsheet summarizing the historical data are enclosed. I am pleased to inform you that free phase product was not found on June 10. Further, monitoring wells MW-4, MW-9, and MW-15 have shown significant reductions in concentrations indicating that the horizontal extent of the plume has decreased. However, the concentrations of petroleum chemicals in monitoring wells MW-3, MW-16, MW-18, MW-19, MW-20, MW-21, and MW-25 remain high. Most of these wells are located beneath the building along the seawall. Options for the continued treatment of the soil and groundwater beneath the building is still under consideration. During a recent telephone conversation, Mr. Peter Stipp said that he would request a price quote from an engineer to evaluate safety considerations associated with potential excavation of soil around the pilings beneath the building.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

UST DOCKET

enc: Monitoring Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

noted UST DOCKET

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

DEC 04 2009

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

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct twelve (12) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order # 719459 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	MECI CA#
05740	Alcott Superette	Lee	10	D. Thoma	ASAP	BTEXMN, DCA, & EDB	37634	37635
08937	Heath Self Serve 1	Sumter	44	D. Thoma	01/08/10	BTEXMN & DCA	37723	37724
13792	Sawyers Grocery	Marion	18	D. Thoma	01/08/10	BTEXMN, DCA, & EDB	37714	37716
09352	ValMart 2	Georgetown	17	D. Thoma	01/08/10	BTEXMN & DCA	37498	37499
18662	Bay Creek Villas	Colleton	20	R. Miner	01/08/10	BTEXMN & DCA	37687	37688
15359	Tripps Mini Mart	York	15	D. Thoma	01/08/10	BTEXMN, DCA, EDB, & Oxygenates	37727	37728
00332	Interstate Truck	Allendale	27	J. Koon	01/08/10	BTEXMN & DCA	37619	37620
09390	McConnells Mart	York	26	D. Thoma	01/08/10	BTEXMN, DCA, & EDB	37504	37505
09125	McCutcheons Groc.	Williamsburg	19	J. Martin	01/08/10	BTEXMN & Oxygenates	36784	36785
03027	Carson's Amoco	Dorchester	17	J. Padgett	01/08/10	BTEXMN, DCA, EDB, Oxygenates, & total pb	37628	37627
11505	Harshaw Farms	York	19	D. Thoma	01/08/10	BTEXMN, DCA, & EDB	37502	37503
09325	Hershman Gulf	York	13	D. Thoma	01/08/10	BTEXMN, DCA, & EDB	37506	37507

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

If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.

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

Sincerely,

Debra L. Thoma

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

enc: Information Packets
Approved Cost Agreements

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

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

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

FEB 04 2010

7 Hech UST DOCKET

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

Dear Mr. Shane:

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

UST Permit #	Facility	County	Releas	Work Scope	Due Date*	CA #	Approved Amt.
07871	Constan	Richland	1	2 AFVR	60 days	37936	2,225.00
18662	Bay Creek Villas	Colleton	1	8 AFVR	60 days	38200	14,155.00
08932	Health Self Serve	Sumter	1	2 AFVR	60 days	38030	2,575.00
06994	Glover's Gulf Service	Orangeburg	1	3 AFVR	60 days	38177	3,315.00
07783	Brazzels Grocery	Richland	1	3 AFVR	60 days	38215	3,315.00

*From receipt of letter

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

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

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

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

Sincerely,

Maia Milenkova

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

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

SCDHEC/UST/01/29/10/MPM

Approved Cost Agreement 38200

Facility: 18662 BAY CREEK VILLAS

MINERRS

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	8.0000	350.00	2,800.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	4,000.0000	0.10	400.00
23 EFR						
		A	8 HOUR EVENT	8.0000	600.00	4,800.00
		B	ADDITIONAL HOUR	64.0000	70.00	4,480.00
		C	OFF GAS TREATMENT	16.0000	100.00	1,600.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
				Total Amount		14,155.00

Midlands Environmental Consultants, Inc.

January 28, 2010

UST
FEB 02 2010
PROGRAM

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

Subject: Report of Groundwater Sampling
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662, CA # 37688
MECI Project Number 09-2598

Dear Ms. Thoma,

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

On January 25, 2010, fifteen monitoring wells (MW-3 through MW-9, MW-13 through MW-17 and MW-22 through MW-24) were sampled. Five monitoring wells (MW-18 through MW-21 and MW-25) were gauged and contained free phase petroleum product. Groundwater samples obtained were transported to Pace Analytical Services, Inc. of Huntersville, NC for analysis.

No purge water was produced at this site.

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

Sincerely,
Midlands Environmental Consultants, Inc.

Brian J. Owen
Field Technician

Brendon P. Kelly
Project Scientist

UST
DOCKET
#72

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

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: Ryan Ariail, Alex Wolfson

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

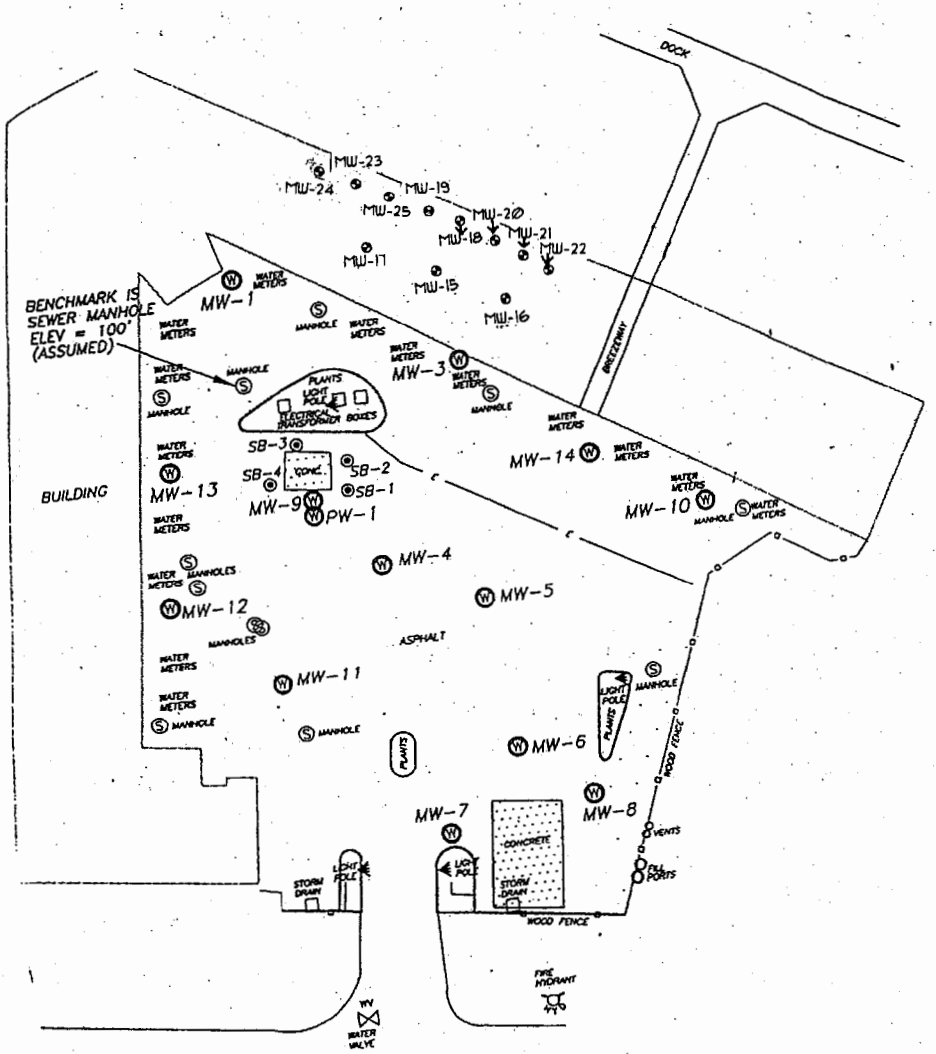
Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-3	Y	1/25/10	10:49	2.5-15	***	5.90	***	***	Odor
MW-4	Y	1/25/10	11:20	2.5-15	***	4.68	***	***	Odor
MW-5	Y	1/25/10	11:16	2.5-15	***	4.60	***	***	No Odor
MW-6	Y	1/25/10	11:50	2.5-15	***	3.21	***	***	Odor
MW-7	Y	1/25/10	11:40	1.5-10	***	3.07	***	***	No Odor
MW-8	Y	1/25/10	11:54	1.5-10	***	3.03	***	***	No Odor
MW-9	Y	1/25/10	11:24	1.5-10	***	4.84	***	***	Odor, Well Cap Added
MW-13	Y	1/25/10	11:30	2-12	***	3.62	***	***	Slight Odor
MW-14	Y	1/25/10	11:02	2-12	***	4.28	***	***	No Odor
MW-15	Y	1/25/10	10:22	3-10	***	21:07	***	***	Slight Odor
MW-16	Y	1/25/10	10:18	3-10	***	5.82	***	***	Odor
MW-17	Y	1/25/10	10:41	3-10	***	3.55	***	***	Odor
MW-18	N	***	***	3-10	6.79	6.81	0.02	***	Product
MW-19	N	***	***	2.5-9.5	6.24	6.25	0.01	***	Product
MW-20	N	***	***	3-10	5.86	6.67	0.81	***	Product
								0.0	**TOTAL GALLONS PURGED**

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: Ryan Ariail, Alex Wolfson

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

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-21	N	***	***	2.5-9.5	6.79	6.98	0.19	***	Product
MW-22	Y	1/25/10	10:15	3-10	***	6.09	***	***	Odor
MW-23	Y	1/25/10	10:35	2.5-9.5	***	3.42	***	***	No Odor
MW-24	Y	1/25/10	10:32	2.5-9.5	***	3.56	***	***	No Odor
MW-25	N	***	***	2.5-9.5	5.54	5.56	0.02	***	Product
								0.0	TOTAL GALLONS PURGED



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

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CHAIN-OF-CUSTODY / Analytical Request Document

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

1356817

Section A Required Client Information:

Company: SCDHEC - UST
Address: 2600 Bull St, Cola SC 29201
Email To:
Phone: 803-896-4042 Fax: 803-896-4045
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 719459
Project Name: Bay Creek Villas
Project Number: 18662 / CA# 37687

Section C Invoice Information:

Attention: D. Thoma
Company Name: SCDHEC - UST
Address:
Pace Quote Reference:
Pace Project Manager: R. Spencer
Pace Profile #:

REGULATORY AGENCY

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

Site Location STATE: SC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): BTEX (Bitex, MTBE, 1,2,DCA)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX	1,2,DCA	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-3	WT	G	1-25-10	10:09				3				X					X	X		Odor
2	MW-4				11:20								X					X	X		Odor
3	MW-5				11:16								X					X	X		No Odor
4	MW-6				11:50								X					X	X		Odor
5	MW-7				11:40								X					X	X		No odor
6	MW-8				11:51								X					X	X		No odor
7	MW-9				11:21								X					X	X		Odor
8	MW-13				11:30								X					X	X		Slight Odor
9	MW-14				11:26								X					X	X		No Odor
10	MW-15				10:12								X					X	X		slight odor
11	MW-16				12:14								X					X	X		Odor
12	MW-17				10:41								X					X	X		Odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Report 6 "T" values	Alexhoff	1-25-10	1530				

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alex Wolfson

SIGNATURE of SAMPLER: Alex Wolf — DATE Signed (MM/DD/YY):

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

2

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

1356816

Section A Required Client Information:

Company:	SCDHEC - UST
Address:	2600 Bull St
	Cola SC 29201
Email To:	
Phone: 803-896-6240	Fax: 803-896-[illegible]
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	
Copy To:	
Purchase Order No.:	719159
Project Name:	Bay Creek Villas
Project Number:	16662 / IA#37037

Section C Invoice Information:

Attention:	D. Thomas
Company Name:	SCDHEC UST
Address:	
Pace Quote Reference:	
Pace Project Manager:	R Spence
Pace Profile #:	

REGULATORY AGENCY

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

Site Location STATE: SC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N): BTEX, Methyl tert Butyl Ether (MTBE), Lead Pb

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	BTEX, Methyl tert Butyl Ether (MTBE)	Lead Pb	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-19	WT	G																			No Sample Product
2	MW-19																					No Sample Product
3	MW-20																					No Sample Product
4	MW-21																					No Sample Product
5	MW-22					1-25-10	10:15						X					X	X			Odor
6	MW-23					1-25-10	[illegible]						X					X	X			No Odor
7	MW-24					1-25-10	10:32		3				X					X	X			No Odor
8	MW-25																					No Sample Product
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Report "J" value	Alex Wilson	1-25-10	1530				

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alex Wilson

SIGNATURE of SAMPLER: Alex Wilson

DATE Signed (MM/DD/YY): 1-25-10

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

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(704)875-9092

February 02, 2010

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

UST
FEB 0 4 2010
PROGRAM

RE: Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on January 26, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

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

Sincerely,

Renee Spencer

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Charlotte Certification IDs

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

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SAMPLE SUMMARY

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9261971001	MW-3	Water	01/25/10 10:49	01/26/10 12:55
9261971002	MW-4	Water	01/25/10 11:20	01/26/10 12:55
9261971003	MW-5	Water	01/25/10 11:16	01/26/10 12:55
9261971004	MW-6	Water	01/25/10 11:50	01/26/10 12:55
9261971005	MW-7	Water	01/25/10 11:40	01/26/10 12:55
9261971006	MW-8	Water	01/25/10 11:54	01/26/10 12:55
9261971007	MW-9	Water	01/25/10 11:24	01/26/10 12:55
9261971008	MW-13	Water	01/25/10 11:30	01/26/10 12:55
9261971009	MW-14	Water	01/25/10 11:02	01/26/10 12:55
9261971010	MW-15	Water	01/25/10 10:22	01/26/10 12:55
9261971011	MW-16	Water	01/25/10 10:18	01/26/10 12:55
9261971012	MW-17	Water	01/25/10 10:41	01/26/10 12:55
9261971013	MW-22	Water	01/25/10 10:15	01/26/10 12:55
9261971014	MW-23	Water	01/25/10 10:35	01/26/10 12:55
9261971015	MW-24	Water	01/25/10 10:32	01/26/10 12:55

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SAMPLE ANALYTE COUNT

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9261971001	**MW-3**	EPA 8260	MCK	13
9261971002	**MW-4**	EPA 8260	MCK	13
9261971003	**MW-5**	EPA 8260	MCK	13
9261971004	**MW-6**	EPA 8260	MCK	13
9261971005	**MW-7**	EPA 8260	MCK	13
9261971006	**MW-8**	EPA 8260	MCK	13
9261971007	**MW-9**	EPA 8260	MCK	13
9261971008	**MW-13**	EPA 8260	MCK	13
9261971009	**MW-14**	EPA 8260	MCK	13
9261971010	**MW-15**	EPA 8260	MCK	13
9261971011	**MW-16**	EPA 8260	MCK	13
9261971012	**MW-17**	EPA 8260	MCK	13
9261971013	**MW-22**	EPA 8260	MCK	13
9261971014	**MW-23**	EPA 8260	MCK	13
9261971015	**MW-24**	EPA 8260	MCK	13

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-3 **Lab ID: 9261971001** Collected: 01/25/10 10:49 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**3860**	ug/L	250	60.0	50		01/29/10 13:52	71-43-2	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		01/28/10 07:02	107-06-2	
Ethylbenzene	**1400**	ug/L	50.0	11.0	10		01/28/10 07:02	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		01/28/10 07:02	1634-04-4	
Naphthalene	**723**	ug/L	50.0	29.0	10		01/28/10 07:02	91-20-3	
Toluene	**127**	ug/L	50.0	18.0	10		01/28/10 07:02	108-88-3	
Xylene (Total)	**299**	ug/L	100	27.0	10		01/28/10 07:02	1330-20-7	
m&p-Xylene	**268**	ug/L	100	27.0	10		01/28/10 07:02	1330-20-7	
o-Xylene	**30.5J**	ug/L	50.0	17.0	10		01/28/10 07:02	95-47-6	
4-Bromofluorobenzene (S)	102	%	87-109		10		01/28/10 07:02	460-00-4	
Dibromofluoromethane (S)	96	%	85-115		10		01/28/10 07:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	96	%	79-120		10		01/28/10 07:02	17060-07-0	
Toluene-d8 (S)	101	%	70-120		10		01/28/10 07:02	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-4 **Lab ID: 9261971002** Collected: 01/25/10 11:20 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**45.0J**	ug/L	50.0	12.0	10		01/28/10 07:43	71-43-2	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		01/28/10 07:43	107-06-2	
Ethylbenzene	**659**	ug/L	50.0	11.0	10		01/28/10 07:43	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		01/28/10 07:43	1634-04-4	
Naphthalene	**905**	ug/L	50.0	29.0	10		01/28/10 07:43	91-20-3	
Toluene	ND	ug/L	50.0	18.0	10		01/28/10 07:43	108-88-3	
Xylene (Total)	**50.0J**	ug/L	100	27.0	10		01/28/10 07:43	1330-20-7	
m&p-Xylene	**39.7J**	ug/L	100	27.0	10		01/28/10 07:43	1330-20-7	
o-Xylene	ND	ug/L	50.0	17.0	10		01/28/10 07:43	95-47-6	
4-Bromofluorobenzene (S)	100	%	87-109		10		01/28/10 07:43	460-00-4	
Dibromofluoromethane (S)	97	%	85-115		10		01/28/10 07:43	1868-53-7	
1,2-Dichloroethane-d4 (S)	95	%	79-120		10		01/28/10 07:43	17060-07-0	
Toluene-d8 (S)	101	%	70-120		10		01/28/10 07:43	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-5 **Lab ID: 9261971003** Collected: 01/25/10 11:16 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		01/29/10 12:31	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/29/10 12:31	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		01/29/10 12:31	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/29/10 12:31	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		01/29/10 12:31	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		01/29/10 12:31	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/29/10 12:31	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		01/29/10 12:31	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		01/29/10 12:31	95-47-6	
4-Bromofluorobenzene (S)	92	%	87-109		1		01/29/10 12:31	460-00-4	
Dibromofluoromethane (S)	104	%	85-115		1		01/29/10 12:31	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	79-120		1		01/29/10 12:31	17060-07-0	
Toluene-d8 (S)	102	%	70-120		1		01/29/10 12:31	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-6 **Lab ID: 9261971004** Collected: 01/25/10 11:50 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		01/28/10 01:15	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/28/10 01:15	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		01/28/10 01:15	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/28/10 01:15	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		01/28/10 01:15	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		01/28/10 01:15	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/28/10 01:15	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		01/28/10 01:15	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		01/28/10 01:15	95-47-6	
4-Bromofluorobenzene (S)	100	%	87-109		1		01/28/10 01:15	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		1		01/28/10 01:15	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	79-120		1		01/28/10 01:15	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		01/28/10 01:15	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-7 **Lab ID: 9261971005** Collected: 01/25/10 11:40 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		01/28/10 01:33	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/28/10 01:33	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		01/28/10 01:33	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/28/10 01:33	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		01/28/10 01:33	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		01/28/10 01:33	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/28/10 01:33	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		01/28/10 01:33	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		01/28/10 01:33	95-47-6	
4-Bromofluorobenzene (S)	100	%	87-109		1		01/28/10 01:33	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		1		01/28/10 01:33	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120		1		01/28/10 01:33	17060-07-0	
Toluene-d8 (S)	101	%	70-120		1		01/28/10 01:33	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-8 **Lab ID: 9261971006** Collected: 01/25/10 11:54 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		01/28/10 01:50	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/28/10 01:50	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		01/28/10 01:50	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/28/10 01:50	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		01/28/10 01:50	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		01/28/10 01:50	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/28/10 01:50	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		01/28/10 01:50	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		01/28/10 01:50	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		1		01/28/10 01:50	460-00-4	
Dibromofluoromethane (S)	97	%	85-115		1		01/28/10 01:50	1868-53-7	
1,2-Dichloroethane-d4 (S)	94	%	79-120		1		01/28/10 01:50	17060-07-0	
Toluene-d8 (S)	101	%	70-120		1		01/28/10 01:50	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-9 **Lab ID: 9261971007** Collected: 01/25/10 11:24 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**398**	ug/L	25.0	6.0	5		01/28/10 06:02	71-43-2	
1,2-Dichloroethane	ND	ug/L	25.0	6.5	5		01/28/10 06:02	107-06-2	
Ethylbenzene	**2070**	ug/L	100	22.0	20		01/29/10 12:11	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	25.0	10.0	5		01/28/10 06:02	1634-04-4	
Naphthalene	**734**	ug/L	25.0	14.5	5		01/28/10 06:02	91-20-3	
Toluene	**80.7**	ug/L	25.0	9.0	5		01/28/10 06:02	108-88-3	
Xylene (Total)	**1200**	ug/L	50.0	13.5	5		01/28/10 06:02	1330-20-7	
m&p-Xylene	**1150**	ug/L	50.0	13.5	5		01/28/10 06:02	1330-20-7	
o-Xylene	**55.4**	ug/L	25.0	8.5	5		01/28/10 06:02	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109		5		01/28/10 06:02	460-00-4	
Dibromofluoromethane (S)	95	%	85-115		5		01/28/10 06:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%	79-120		5		01/28/10 06:02	17060-07-0	
Toluene-d8 (S)	101	%	70-120		5		01/28/10 06:02	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-13 **Lab ID: 9261971008** Collected: 01/25/10 11:30 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		01/28/10 05:41	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/28/10 05:41	107-06-2	
Ethylbenzene	**21.0**	ug/L	5.0	1.1	1		01/28/10 05:41	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/28/10 05:41	1634-04-4	
Naphthalene	**15.3**	ug/L	5.0	2.9	1		01/28/10 05:41	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		01/28/10 05:41	108-88-3	
Xylene (Total)	**4.1J**	ug/L	10.0	2.7	1		01/28/10 05:41	1330-20-7	
m&p-Xylene	**2.8J**	ug/L	10.0	2.7	1		01/28/10 05:41	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		01/28/10 05:41	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		1		01/28/10 05:41	460-00-4	
Dibromofluoromethane (S)	99	%	85-115		1		01/28/10 05:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	79-120		1		01/28/10 05:41	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		01/28/10 05:41	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-14 **Lab ID: 9261971009** Collected: 01/25/10 11:02 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		01/28/10 02:08	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/28/10 02:08	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		01/28/10 02:08	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/28/10 02:08	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		01/28/10 02:08	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		01/28/10 02:08	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/28/10 02:08	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		01/28/10 02:08	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		01/28/10 02:08	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		1		01/28/10 02:08	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		1		01/28/10 02:08	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		1		01/28/10 02:08	17060-07-0	
Toluene-d8 (S)	102	%	70-120		1		01/28/10 02:08	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-15 **Lab ID: 9261971010** Collected: 01/25/10 10:22 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**35.0**	ug/L	5.0	1.2	1		01/28/10 02:26	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/28/10 02:26	107-06-2	
Ethylbenzene	**18.7**	ug/L	5.0	1.1	1		01/28/10 02:26	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/28/10 02:26	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		01/28/10 02:26	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		01/28/10 02:26	108-88-3	
Xylene (Total)	**8.5J**	ug/L	10.0	2.7	1		01/28/10 02:26	1330-20-7	
m&p-Xylene	**7.0J**	ug/L	10.0	2.7	1		01/28/10 02:26	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		01/28/10 02:26	95-47-6	
4-Bromofluorobenzene (S)	100	%	87-109		1		01/28/10 02:26	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		1		01/28/10 02:26	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120		1		01/28/10 02:26	17060-07-0	
Toluene-d8 (S)	102	%	70-120		1		01/28/10 02:26	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-16 **Lab ID: 9261971011** Collected: 01/25/10 10:18 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**806**	ug/L	50.0	12.0	10		01/28/10 07:22	71-43-2	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		01/28/10 07:22	107-06-2	
Ethylbenzene	**519**	ug/L	50.0	11.0	10		01/28/10 07:22	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		01/28/10 07:22	1634-04-4	
Naphthalene	**784**	ug/L	50.0	29.0	10		01/28/10 07:22	91-20-3	
Toluene	**111**	ug/L	50.0	18.0	10		01/28/10 07:22	108-88-3	
Xylene (Total)	**6550**	ug/L	200	54.0	20		01/29/10 12:31	1330-20-7	
m&p-Xylene	**4690**	ug/L	200	54.0	20		01/29/10 12:31	1330-20-7	
o-Xylene	**1850**	ug/L	50.0	17.0	10		01/28/10 07:22	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109		10		01/28/10 07:22	460-00-4	
Dibromofluoromethane (S)	95	%	85-115		10		01/28/10 07:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	96	%	79-120		10		01/28/10 07:22	17060-07-0	
Toluene-d8 (S)	103	%	70-120		10		01/28/10 07:22	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-17 **Lab ID: 9261971012** Collected: 01/25/10 10:41 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**7.8**	ug/L	5.0	1.2	1		01/28/10 20:09	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/28/10 20:09	107-06-2	
Ethylbenzene	**12.6**	ug/L	5.0	1.1	1		01/28/10 20:09	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/28/10 20:09	1634-04-4	
Naphthalene	**80.6**	ug/L	5.0	2.9	1		01/28/10 20:09	91-20-3	
Toluene	**1.9J**	ug/L	5.0	1.8	1		01/28/10 20:09	108-88-3	
Xylene (Total)	**380**	ug/L	10.0	2.7	1		01/28/10 20:09	1330-20-7	
m&p-Xylene	**261**	ug/L	10.0	2.7	1		01/28/10 20:09	1330-20-7	
o-Xylene	**119**	ug/L	5.0	1.7	1		01/28/10 20:09	95-47-6	
4-Bromofluorobenzene (S)	102	%	87-109		1		01/28/10 20:09	460-00-4	
Dibromofluoromethane (S)	103	%	85-115		1		01/28/10 20:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		1		01/28/10 20:09	17060-07-0	
Toluene-d8 (S)	103	%	70-120		1		01/28/10 20:09	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-22 **Lab ID: 9261971013** Collected: 01/25/10 10:15 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**6.0J**	ug/L	10.0	2.4	2		01/28/10 06:42	71-43-2	
1,2-Dichloroethane	ND	ug/L	10.0	2.6	2		01/28/10 06:42	107-06-2	
Ethylbenzene	**118**	ug/L	10.0	2.2	2		01/28/10 06:42	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	10.0	4.0	2		01/28/10 06:42	1634-04-4	
Naphthalene	**157**	ug/L	10.0	5.8	2		01/28/10 06:42	91-20-3	
Toluene	**78.0**	ug/L	10.0	3.6	2		01/28/10 06:42	108-88-3	
Xylene (Total)	**809**	ug/L	20.0	5.4	2		01/28/10 06:42	1330-20-7	
m&p-Xylene	**572**	ug/L	20.0	5.4	2		01/28/10 06:42	1330-20-7	
o-Xylene	**237**	ug/L	10.0	3.4	2		01/28/10 06:42	95-47-6	
4-Bromofluorobenzene (S)	102	%	87-109		2		01/28/10 06:42	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		2		01/28/10 06:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		2		01/28/10 06:42	17060-07-0	
Toluene-d8 (S)	102	%	70-120		2		01/28/10 06:42	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-23 **Lab ID: 9261971014** Collected: 01/25/10 10:35 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		01/28/10 02:44	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/28/10 02:44	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		01/28/10 02:44	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/28/10 02:44	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		01/28/10 02:44	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		01/28/10 02:44	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/28/10 02:44	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		01/28/10 02:44	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		01/28/10 02:44	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109		1		01/28/10 02:44	460-00-4	
Dibromofluoromethane (S)	102	%	85-115		1		01/28/10 02:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120		1		01/28/10 02:44	17060-07-0	
Toluene-d8 (S)	102	%	70-120		1		01/28/10 02:44	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

Sample: MW-24 **Lab ID: 9261971015** Collected: 01/25/10 10:32 Received: 01/26/10 12:55 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		01/28/10 03:01	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		01/28/10 03:01	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		01/28/10 03:01	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		01/28/10 03:01	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		01/28/10 03:01	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		01/28/10 03:01	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/28/10 03:01	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		01/28/10 03:01	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		01/28/10 03:01	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109		1		01/28/10 03:01	460-00-4	
Dibromofluoromethane (S)	100	%	85-115		1		01/28/10 03:01	1868-53-7	
1,2-Dichloroethane-d4 (S)	96	%	79-120		1		01/28/10 03:01	17060-07-0	
Toluene-d8 (S)	101	%	70-120		1		01/28/10 03:01	2037-26-5	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

QC Batch: MSV/9771 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV
Associated Lab Samples: 9261971003

METHOD BLANK: 395204 — Matrix: Water
Associated Lab Samples: 9261971003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/27/10 12:04	
Benzene	ug/L	ND	5.0	01/27/10 12:04	
Ethylbenzene	ug/L	ND	5.0	01/27/10 12:04	
m&p-Xylene	ug/L	ND	10.0	01/27/10 12:04	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/27/10 12:04	
Naphthalene	ug/L	3.5J	5.0	01/27/10 12:04	
o-Xylene	ug/L	ND	5.0	01/27/10 12:04	
Toluene	ug/L	ND	5.0	01/27/10 12:04	
Xylene (Total)	ug/L	ND	10.0	01/27/10 12:04	
1,2-Dichloroethane-d4 (S)	%	89	79-120	01/27/10 12:04	
4-Bromofluorobenzene (S)	%	109	87-109	01/27/10 12:04	
Dibromofluoromethane (S)	%	94	85-115	01/27/10 12:04	
Toluene-d8 (S)	%	93	70-120	01/27/10 12:04	

LABORATORY CONTROL SAMPLE: 395205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	45.3	91	72-126	
Benzene	ug/L	50	48.3	97	78-128	
Ethylbenzene	ug/L	50	51.6	103	80-127	
m&p-Xylene	ug/L	100	102	102	82-127	
Methyl-tert-butyl ether	ug/L	50	48.0	96	71-130	
Naphthalene	ug/L	50	65.5	131	52-136	
o-Xylene	ug/L	50	52.5	105	83-124	
Toluene	ug/L	50	48.6	97	76-126	
Xylene (Total)	ug/L	150	154	103	83-125	
1,2-Dichloroethane-d4 (S)	%			83	79-120	
4-Bromofluorobenzene (S)	%			115	87-109	S0
Dibromofluoromethane (S)	%			95	85-115	
Toluene-d8 (S)	%			96	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 395206 395207

Parameter	Units	9261971003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	37.8	39.0	76	78	75-119	3	30	
Benzene	ug/L	ND	50	50	43.0	43.1	86	86	74-136	0	30	
Ethylbenzene	ug/L	ND	50	50	56.3	56.5	112	113	70-130	0	30	
m&p-Xylene	ug/L	ND	100	100	111	111	110	110	70-130	0	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	38.4	40.3	75	79	70-130	5	30	

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

QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 395206 395207

Parameter	Units	9261971003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Naphthalene	ug/L	ND	50	50	57.2	70.9	113	140	70-130	21	30	
o-Xylene	ug/L	ND	50	50	56.9	57.6	113	114	70-130	1	30	
Toluene	ug/L	ND	50	50	43.4	43.3	86	86	73-131	0	30	
1,2-Dichloroethane-d4 (S)	%						84	85	79-120			
4-Bromofluorobenzene (S)	%						109	109	87-109			
Dibromofluoromethane (S)	%						89	91	85-115			
Toluene-d8 (S)	%						91	92	70-120			

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

QC Batch: MSV/9774 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9261971004, 9261971005, 9261971006, 9261971009, 9261971010, 9261971014, 9261971015

METHOD BLANK: 395351 Matrix: Water
Associated Lab Samples: 9261971004, 9261971005, 9261971006, 9261971009, 9261971010, 9261971014, 9261971015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/28/10 00:04	
Benzene	ug/L	ND	5.0	01/28/10 00:04	
Ethylbenzene	ug/L	ND	5.0	01/28/10 00:04	
m&p-Xylene	ug/L	ND	10.0	01/28/10 00:04	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/28/10 00:04	
Naphthalene	ug/L	ND	5.0	01/28/10 00:04	
o-Xylene	ug/L	ND	5.0	01/28/10 00:04	
Toluene	ug/L	ND	5.0	01/28/10 00:04	
Xylene (Total)	ug/L	ND	10.0	01/28/10 00:04	
1,2-Dichloroethane-d4 (S)	%	96	79-120	01/28/10 00:04	
4-Bromofluorobenzene (S)	%	100	87-109	01/28/10 00:04	
Dibromofluoromethane (S)	%	99	85-115	01/28/10 00:04	
Toluene-d8 (S)	%	100	70-120	01/28/10 00:04	

LABORATORY CONTROL SAMPLE: 395352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	52.3	105	72-126	
Benzene	ug/L	50	51.5	103	78-128	
Ethylbenzene	ug/L	50	52.7	105	80-127	
m&p-Xylene	ug/L	100	107	107	82-127	
Methyl-tert-butyl ether	ug/L	50	55.5	111	71-130	
Naphthalene	ug/L	50	54.4	109	52-136	
o-Xylene	ug/L	50	53.8	108	83-124	
Toluene	ug/L	50	52.5	105	76-126	
Xylene (Total)	ug/L	150	161	107	83-125	
1,2-Dichloroethane-d4 (S)	%			98	79-120	
4-Bromofluorobenzene (S)	%			103	87-109	
Dibromofluoromethane (S)	%			101	85-115	
Toluene-d8 (S)	%			101	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 395353 395354

Parameter	Units	9261663015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	54.3	54.4	109	109	75-119	0	30	
Benzene	ug/L	ND	50	50	55.4	53.8	110	107	74-136	3	30	
Ethylbenzene	ug/L	ND	50	50	55.9	53.8	112	108	70-130	4	30	
m&p-Xylene	ug/L	ND	100	100	109	106	109	106	70-130	4	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	58.0	57.6	115	114	70-130	1	30	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 395353 395354

Parameter	Units	9261663015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Naphthalene	ug/L	ND	50	50	66.4	60.1	133	120	70-130	10	30	M0
o-Xylene	ug/L	ND	50	50	55.4	54.2	111	108	70-130	2	30	
Toluene	ug/L	ND	50	50	55.9	53.9	112	108	73-131	4	30	
1,2-Dichloroethane-d4 (S)	%						101	102	79-120			
4-Bromofluorobenzene (S)	%						104	103	87-109			
Dibromofluoromethane (S)	%						100	102	85-115			
Toluene-d8 (S)	%						100	100	70-120			

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

QC Batch: MSV/9775 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9261971001, 9261971002, 9261971007, 9261971008, 9261971011, 9261971012, 9261971013

METHOD BLANK: 395357 Matrix: Water
Associated Lab Samples: 9261971001, 9261971002, 9261971007, 9261971008, 9261971011, 9261971012, 9261971013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/27/10 23:46	
Benzene	ug/L	ND	5.0	01/27/10 23:46	
Ethylbenzene	ug/L	ND	5.0	01/27/10 23:46	
m&p-Xylene	ug/L	ND	10.0	01/27/10 23:46	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/27/10 23:46	
Naphthalene	ug/L	ND	5.0	01/27/10 23:46	
o-Xylene	ug/L	ND	5.0	01/27/10 23:46	
Toluene	ug/L	ND	5.0	01/27/10 23:46	
Xylene (Total)	ug/L	ND	10.0	01/27/10 23:46	
1,2-Dichloroethane-d4 (S)	%	101	79-120	01/27/10 23:46	
4-Bromofluorobenzene (S)	%	99	87-109	01/27/10 23:46	
Dibromofluoromethane (S)	%	103	85-115	01/27/10 23:46	
Toluene-d8 (S)	%	102	70-120	01/27/10 23:46	

LABORATORY CONTROL SAMPLE: 395358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	52.1	104	72-126	
Benzene	ug/L	50	51.9	104	78-128	
Ethylbenzene	ug/L	50	52.7	105	80-127	
m&p-Xylene	ug/L	100	108	108	82-127	
Methyl-tert-butyl ether	ug/L	50	56.5	113	71-130	
Naphthalene	ug/L	50	58.2	116	52-136	
o-Xylene	ug/L	50	52.9	106	83-124	
Toluene	ug/L	50	52.3	105	76-126	
Xylene (Total)	ug/L	150	161	107	83-125	
1,2-Dichloroethane-d4 (S)	%			100	79-120	
4-Bromofluorobenzene (S)	%			102	87-109	
Dibromofluoromethane (S)	%			102	85-115	
Toluene-d8 (S)	%			100	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 395359 395360

Parameter	Units	9261803033 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	53.2	51.1	106	102	75-119	4	30	
Benzene	ug/L	3.9J	50	50	55.9	54.9	104	102	74-136	2	30	
Ethylbenzene	ug/L	ND	50	50	51.0	50.7	102	101	70-130	1	30	
m&p-Xylene	ug/L	ND	100	100	102	100	102	100	70-130	2	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	56.3	56.1	111	110	70-130	0	30	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 395359 395360

Parameter	Units	9261803033 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Naphthalene	ug/L	ND	50	50	57.3	56.4	115	113	70-130	2	30	
o-Xylene	ug/L	ND	50	50	51.8	51.2	104	102	70-130	1	30	
Toluene	ug/L	ND	50	50	51.8	51.2	104	102	73-131	1	30	
1,2-Dichloroethane-d4 (S)	%						95	98	79-120			
4-Bromofluorobenzene (S)	%						102	104	87-109			
Dibromofluoromethane (S)	%						101	101	85-115			
Toluene-d8 (S)	%						100	101	70-120			

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(704)875-9092

QUALIFIERS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9261971

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

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

ANALYTE QUALIFIERS

M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
S0	Surrogate recovery outside laboratory control limits.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

1356817

Section A Required Client Information:

Company: SCDHEC - UST
Address: 2600 Bull St, Cola SC 29201
Email To:
Phone: 803-893-6240 Fax: 803-896-6243
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 719459
Project Name: Bay Creek Villas
Project Number: 18662 / CA# 37687

Section C Invoice Information:

Attention: D. Thoma
Company Name: SCDHEC - UST
Address:
Pace Quote Reference:
Pace Project Manager: R. Spencer
Pace Profile #: 849-1

REGULATORY AGENCY

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

Site Location STATE: SC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	COLLECTED Composite Start Time	COLLECTED Composite End/Grab Date	COLLECTED Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test: BTEX, Naph, MTBE 8260B	1,2 DCA	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-3	WT	G	1-25-10	10:49				3				X					X	X		Odor 001
2	MW-4				11:20								X					X	X		Odor 002
3	MW-5				11:10								X					X	X		No odor 003
4	MW-6				11:50								X					X	X		Odor 004
5	MW-7				11:40								X					X	X		No odor 005
6	MW-8				11:54								X					X	X		No odor 006
7	MW-9				11:24								X					X	X		Odor 007
8	MW-13				11:30								X					X	X		Slight odor 008
9	MW-14				11:02								X					X	X		No odor 009
10	MW-15				10:22								X					X	X		Slight odor 010
11	MW-16				10:46								X					X	X		Odor 011
12	MW-17				10:41								X					X	X		Odor 012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Report "J" values	[signature]	1-25-10	1530	[signature]	1-26-10	1005	
	[signature]	1-26-10	12:55	[signature]	1/26/10	12:55	4.5 yes no yes

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Alex Watson
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY):

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

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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1356816

Section A Required Client Information:

Company:	SCDHEC · UST
Address:	2600 Bull St
	Cola SC 29201
Email To:	
Phone:	803-893-6240
Fax:	803-896-6243
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	D. Thoma
Copy To:	
Purchase Order No.:	719459
Project Name:	Bay Creek Villas
Project Number:	18662 / CA#37687

Section C Invoice Information:

Attention:	D. Thoma
Company Name:	SCDHEC · UST
Address:	
Pace Quote Reference:	
Pace Project Manager:	R. Spencer
Pace Profile #:	

REGULATORY AGENCY

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

Site Location STATE: SC

Section D Required Client Information

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

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, MTBE (8260B)	1,2 DCA	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	~~MW-18~~	WT	G																			No Sample Product
2	~~MW-19~~																					No Sample Product
3	~~MW-20~~																					No Sample Product
4	~~MW-21~~																					No Sample Product
5	MW-22					1-25-10	10:15		3				X						X	X		Odor 013
6	MW-23					1-25-10	10:35		3				X						X	X		No Odor 014
7	MW-24					1-25-10	10:32		3				X						X	X		No Odor 015
8	~~MW-25~~																					No Sample Product
9																						
10																						
11																						
12																						

9261971

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Report "J" value	[signature]	1-25-10	1530	[signature] pace dt	1-26-10	10:05				
	[signature] pace dt	1-26-10	12:55	[signature] / Pace	1/26/10	12:55	4.5	yes	no	yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Alex Wolfson

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 1-25-10

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

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

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

13tech UST DOCKET

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

FEB 11 2010

Re: **Monitoring Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Report received February 2, 2010
Colleton County

Dear Mr. Padgett:

As you are aware, the monitoring well network was sampled January 25, 2010. A copy of the report is enclosed. I have also enclosed a spreadsheet summarizing the historical data, and graphs depicting the changes in concentration with time in five selected monitoring wells. During the sampling event on January 25, 2010, free phase product was observed in five monitoring wells (MW-18, MW-19, MW-20, MW-21, and MW-25) all located beneath the building close to the seawall. In response to the re-appearance of free phase product, a directive has been prepared for Midlands Environmental Consultants to complete up to eight additional 16-hour Aggressive Fluid Vapor Recovery events prior to Memorial Day.

During previous telephone conversations, Peter Stipp proposed to proceed with re-paving of a majority of the parking lot. In order to simplify the re-paving of the parking lot, I propose that monitoring wells MW-1, MW-5, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, and MW-14 be properly abandoned. As the data collected from these wells have demonstrated that they are clean, they are no longer needed. The cost for well abandonment would be paid by the SUPERB Account. Please let me know if you agree with this plan.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Monitoring Report
Historical data spreadsheet

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

FEB 18 2010

MR TOM LAMMONS PE
BUNNELL LAMMONS ENGINEERING INC
6004 PONDERS CT
GREENVILLE SC 29615-4601

74Tech
UST
DOCKET

Re: Monitoring well abandonments
Bid #IFB-31861-6/21/07-EMW; PO #690443

Dear Mr. Lammons:

Under the terms and conditions of the referenced bid package, monitoring well abandonments have been approved for the facilities listed below. Each abandonment has been assigned an individual cost agreement (CA) number and report due date as listed below. Please reference appropriate CA numbers and Purchase Order #690443 on the invoice submitted for payment.

UST Permit	Facility	County	Wells	Total Footage	Cost Agreement	Due Date
00332	Interstate Truck Terminal	Allendale	1*	unk	37820	4/30/10
06961	Metts Grocery	Orangeburg	11	183	37676	4/30/10
06978	Gayatri Enterprises	Orangeburg	10	146	37365	4/30/10
18011	EZ Shop 10	Orangeburg	6**	125	38348	4/3010
18662	Bay Creek Villas	Colleton	10	125	38370	4/30/10

*water supply well
**abandon one well and restore grout levels in five wells

If you have any questions or need further assistance, please contact me by telephone at (803) 896-6398, by fax at (803) 896-6245, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, P.G., Geologist/Hydrologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Abandonment packages
cc: Technical file (w/o enc)
DHEC/UST/JPP/021710

Approved Cost Agreement 38370

Facility: 18662 BAY CREEK VILLAS

MINERRS

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	1.0000	160.00	160.00
		B	PERSONNEL	1.0000	55.00	55.00
08 ABANDONMENT						
			ABANDONMENT	125.0000	2.22	277.50
				Total Amount		492.50

Midlands
Environmental
Consultants, Inc.

March 9, 2010

UST
MAR 0 9 2010
PROGRAM

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

UST
DOCKET
75 file

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #38200
MECI Project Number 08-1923A
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on February 22 & 23, 2010. The event was conducted on monitoring wells MW-18, MW-20, MW-21, and MW-25 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.15 feet, in MW-20 at a thickness of 1.07 feet, in MW-21 at a thickness of 1.60 feet, and in MW-25 at a thickness of 0.01 feet prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 18.67 pounds or approximately 3.23 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.17 pounds per hour. Concentrations of off gas produced during the event were recorded from 111 parts per million by volume (PPM) to 1,942 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 8.0 to 16.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

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

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

A total of 390 gallons of liquid was removed from monitoring wells MW-18, MW-20, MW-21 and MW-25 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 10-2709A
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	02/22/10	13:00	0.50	9.0	1,081	1850	166.50	2.16	1.08
MW-20	02/22/10	13:30	0.50	9.0	588	1820	163.80	1.16	0.58
MW-21	02/22/10	14:00	0.50	11.0	828	1600	144.00	1.43	0.72
MW-25	02/22/10	14:30	0.50	14.0	1,534	1360	122.40	2.25	1.13
	02/22/10	15:00	0.50	14.0	1,511	1350	121.50	2.20	1.10
	02/22/10	15:30	0.50	16.0	1,942	1140	102.60	2.39	1.20
	02/22/10	16:00	0.50	12.0	1,877	1530	137.70	3.10	1.55
	02/22/10	16:30	0.50	12.0	780	1530	137.70	1.29	0.64
	02/22/10	17:00	0.50	12.0	672	1530	137.70	1.11	0.56
	02/22/10	17:30	0.50	13.0	820	1430	128.70	1.27	0.63
	02/22/10	18:00	0.50	13.0	802	1440	129.60	1.25	0.62
	02/22/10	18:30	0.50	13.0	771	1450	130.50	1.21	0.60
	02/22/10	19:00	0.50	13.0	856	1450	130.50	1.34	0.67
	02/22/10	19:30	0.50	13.0	854	1460	131.40	1.35	0.67
	02/22/10	20:00	0.50	13.0	753	1460	131.40	1.19	0.59
	02/22/10	20:30	0.50	15.0	1,008	1290	116.10	1.40	0.70
	02/22/10	21:00	0.50	15.0	1,241	1320	118.80	1.77	0.88
	02/22/10	21:30	0.50	13.0	941	1470	132.30	1.49	0.75
	02/22/10	22:00	0.50	13.0	754	1460	131.40	1.19	0.59
	02/22/10	22:30	0.50	13.0	541	1450	130.50	0.85	0.42
	02/22/10	23:00	0.50	13.0	533	1440	129.60	0.83	0.41
	02/22/10	23:30	0.50	11.0	353	1640	147.60	0.63	0.31
	02/22/10	0:00	0.50	11.0	341	1640	147.60	0.60	0.30
	02/22/10	0:30	0.50	11.0	283	1650	148.50	0.50	0.25
	02/22/10	1:00	0.50	11.0	271	1640	147.60	0.48	0.24
	02/22/10	1:30	0.50	11.0	270	1650	148.50	0.48	0.24
	02/22/10	2:00	0.50	10.0	206	1750	157.50	0.39	0.19
	02/22/10	2:30	0.50	9.0	234	1870	168.30	0.47	0.24
	02/22/10	3:00	0.50	9.0	177	1870	168.30	0.36	0.18
	02/22/10	3:30	0.50	9.0	180	1860	167.40	0.36	0.18
	02/22/10	4:00	0.50	8.0	155	1950	175.50	0.33	0.16
	02/22/10	4:30	0.50	8.0	111	1970	177.30	0.24	0.12
	02/22/10	5:00	0.50	8.0	133	1970	177.30	0.28	0.14
									TOTAL 18.67

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	5.95	6.10	0.15	***	5.82	***	-0.15
MW-20	2"	3-10	5.68	6.75	1.07	***	5.90	***	0.06
MW-21	2"	2.5-9.5	5.76	6.05	0.29	***	5.61	***	-0.19
MW-25	2"	2.5-9.5	5.94	5.95	0.01	***	6.01	***	0.07

Vacuum Truck Information

Subcontractor: MECI
Truck Operator: R. Ariail
Stack I.D. (feet) 0.33 feet

Well ID	Stinger Depth
MW-18	6.50
MW-20	6.00
MW-21	6.00
MW-25	6.50

Corrected Depth to water before AFVR event for MW-18 = 5.97
Corrected Depth to water before AFVR event for MW-20 = 5.84
Corrected Depth to water before AFVR event for MW-21 = 5.80
Corrected Depth to water before AFVR event for MW-25 = 5.94

Recovery / Disposal Information

Hydro carbons Removed (vapor):	18.67	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	3.23	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	390	Gallons

Note: Due to tidal change, stinger depth was re-adjusted at 4:00 EST on February 23, 2010. (see blelow)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Depth (ft) at 13:00	Stinger Depth (ft) at 04:00
MW-18	***	***	6.50	5.00
MW-20	***	***	6.00	5.00
MW-21	***	***	6.00	5.00
MW-25	***	***	6.50	6.00

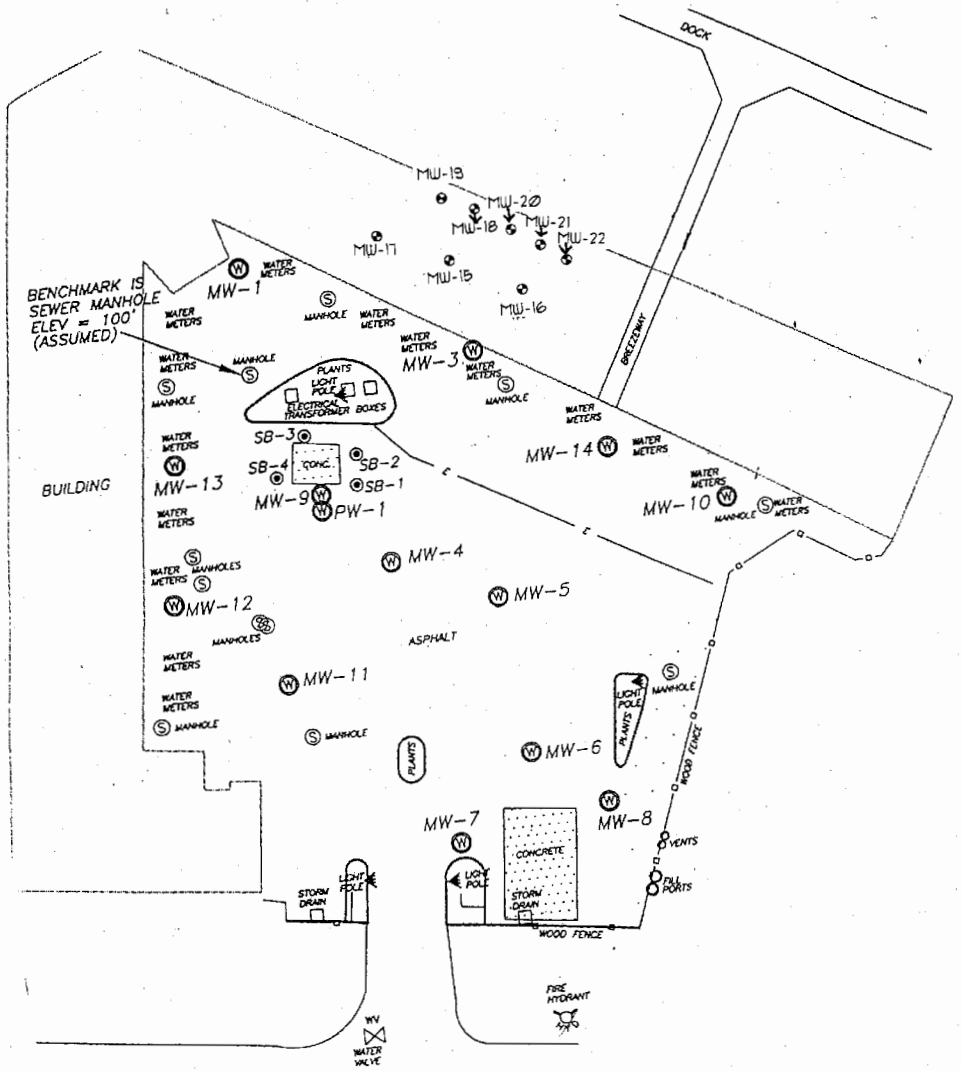
TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 10-2709A
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-19**	**MW-22**	**MW-23**	**MW-24**
Nearest Extraction Well:		MW-20	MW-21	MW-25	MW-18	MW-21	MW-25	MW-25
Approximate Distance:		18 ft	13 ft	18 ft	10 ft	10 ft	11 ft	24 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**						
13:00	0.0	0	0	0	0	0	0	0
13:30	0.5	0	0	0	0	0	0	0
14:00	1.0	0	0	0	0	0	0	0
14:30	1.5	0	0	0	0	0	0	0
15:00	2.0	0	0	0	0	0	0	0
15:30	2.5	0	0	0	0	0	0	0
16:00	3.0	0	0	0	0	0	0	0
16:30	3.5	0	0	0	0	0	0	0
17:00	4.0	0	0	0	0	0	0	0
17:30	4.5	0	0	0	0	0	0	0
18:00	5.0	0	0	0	0	0	0	0
18:30	5.5	0	0	0	0	0	0	0
19:00	6.0	0	0	0	0	0	0	0
19:30	6.5	0	0	0	0	0	0	0
20:00	7.0	0	0	0	0	0	0	0
20:30	7.5	0	0	0	0	0	0	0
21:00	8.0	0	0	0	0	0	0	0
21:30	8.5	0	0	0	0	0	0	0
22:00	9.0	0	0	0	0	0	0	0
22:30	9.5	0	0	0	0	0	0	0
23:00	10.0	0	0	0	0	0	0	0
23:30	10.5	0	0	0	0	0	0	0
0:00	11.0	0	0	0	0	0	0	0
0:30	11.5	0	0	0	0	0	0	0
1:00	12.0	0	0	0	0	0	0	0
1:30	12.5	0	0	0	0	0	0	0
2:00	13.0	0	0	0	0	0	0	0
2:30	13.5	0	0	0	0	0	0	0
3:00	14.0	0	0	0	0	0	0	0
3:30	14.5	0	0	0	0	0	0	0
4:00	15.0	0	0	0	0	0	0	0
4:30	15.5	0	0	0	0	0	0	0
5:00	16.0	0	0	0	0	0	0	0
Maximum Change:		**0**	**0**	**0**	**0**	**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-19**	**MW-22**	**MW-23**	**MW-24**
Nearest Extraction Well:		MW-20	MW-21	MW-25	MW-18	MW-21	MW-25	MW-25
Approximate Distance:		18 ft	13 ft	18 ft	10 ft	10 ft	11 ft	24 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**						
Prior toAFVR		3.83	5.86	3.70	5.94	5.57	3.55	3.51
17:00	4 hours	3.77	5.44	3.64	5.98	5.60	3.50	3.50
21:00	8 hours	3.90	6.19	3.74	7.21	6.51	3.56	3.52
1:00	12 hours	3.88	5.63	3.73	5.97	5.36	3.55	3.50
5:00	16 hours	3.90	4.93	3.77	5.30	4.88	3.54	3.52
Maximum Change:		-0.13	1.26	-0.13	1.91	1.63	-0.06	-0.02



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1303
DATE August 28, 2007
FIGURE 2

C 160295

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: . . . . . .
Manifest Document No.: 51411
2. Page 1 of 1

3. Generator's Name and Mailing Address
Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073
4. Generator's Phone ((803) 808-2043

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

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

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

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water				
Bay Creek Villas - 156662 - 390 Gal.	001	TT	3210	G
Builders Supply - 16680 - 150 Gal				
Builders Supply - 16680 - 150 Gal				
Pantry 911 - 10628 - 10 Gal.				
Hack's Camp - 02153 - 170 Gal				
Royal Petroleum - 19426 - 200 Gal				
Satterfield - 14212 - 140 Gal				
Community Quick - 11694 - 140 Gal.				
Service Station - 00479 - 120 Gal				
Southern Gas - 03913 - 150 Gal.				
McCoy Oil - 19002 - 250 Gal.				
A-1 Auto - 01173 - 150 Gal.				
UST Unknown - 18678 - 260 Gal.				
Heath Self Serve - 08932 - 325 Gal.				
SCDOT Newberry - 10412 - 325 Gal.				
Brazeels - 07783 - 280 Gal				

b. Additional Descriptions for Materials Listed Above
FIELD
SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0151411

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

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Printed/Typed Name: N
Signature: N
Month 03 Day 09 Year 10

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Willis Smith
Signature: [signature]
Month 03 Day 09 Year 10

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.
Printed/Typed Name:
Signature:
Mo

GENERATOR
TRANSPORTER
FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

MAR 11 2010

76tech UST DOCKET

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received March 9, 2010
Colleton County

Dear Mr. Padgett:

As you are aware, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on February 22-23, 2010. A copy of the report is enclosed. Approximately 3.23 equivalent gallons of petroleum vapor was recovered along with 390 gallons of contaminated water. Additional AFVR events will be completed to continue with free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Midlands Environmental Consultants, Inc.

March 17, 2010

UST
MAR 19 2010
PROGRAM

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

UST
DOCKET
77T

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #38200
MECI Project Number 10-2709B
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 10 & 11, 2010. The event was conducted on monitoring wells MW-18, MW-19, MW-20, and MW-21 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.02 feet, in MW-19 at a thickness of 0.05 feet, in MW-20 at a thickness of 0.01 feet, and in MW-21 at a thickness of 0.21 feet prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.18 feet, and in MW-21 at a thickness of 0.14 feet immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 6.70 pounds or approximately 1.16 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.42 pounds per hour. Concentrations of off gas produced during the event were recorded from 50.6 parts per million by volume (PPM) to 1,125 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 6.0 to 13.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

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

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

A total of 525 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20 and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

for

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 10-2709B
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	03/10/10	13:00	0.50	6.0	306	1270	114.30	0.42	0.21
MW-19	03/10/10	13:30	0.50	6.0	103	1350	121.50	0.15	0.08
MW-20	03/10/10	14:00	0.50	8.0	116	1250	112.50	0.16	0.08
MW-21	03/10/10	14:30	0.50	8.0	65.2	1300	117.00	0.09	0.05
	03/10/10	15:00	0.50	10.0	50.6	1180	106.20	0.06	0.03
	03/10/10	15:30	0.50	12.0	241	1050	94.50	0.27	0.14
	03/10/10	16:00	0.50	13.0	387	950	85.50	0.40	0.20
	03/10/10	16:30	0.50	12.0	892	930	83.70	0.90	0.45
	03/10/10	17:00	0.50	12.0	1,125	950	85.50	1.15	0.58
	03/10/10	17:30	0.50	13.0	1,011	940	84.60	1.03	0.51
	03/10/10	18:00	0.50	13.0	1,065	950	85.50	1.09	0.55
	03/10/10	18:30	0.50	13.0	1,030	990	89.10	1.10	0.55
	03/10/10	19:00	0.50	13.0	832	980	88.20	0.88	0.44
	03/10/10	19:30	0.50	12.0	959	900	81.00	0.93	0.47
	03/10/10	20:00	0.50	12.0	778	890	80.10	0.75	0.37
	03/10/10	20:30	0.50	12.0	646	980	88.20	0.68	0.34
	03/10/10	21:00	0.50	12.0	689	960	86.40	0.71	0.36
	03/10/10	21:30	0.50	11.0	222	730	65.70	0.18	0.09
	03/10/10	22:00	0.50	11.0	303	1010	90.90	0.33	0.17
	03/10/10	22:30	0.50	11.0	371	1020	91.80	0.41	0.20
	03/10/10	23:00	0.50	12.0	350	850	76.50	0.32	0.16
	03/10/10	23:30	0.50	12.0	337	870	78.30	0.32	0.16
	03/11/10	0:00	0.50	9.0	186	970	87.30	0.19	0.10
	03/11/10	0:30	0.50	9.0	181	980	88.20	0.19	0.10
	03/11/10	1:00	0.50	10.0	78.6	1050	94.50	0.09	0.04
	03/11/10	1:30	0.50	10.0	59.2	1040	93.60	0.07	0.03
	03/11/10	2:00	0.50	10.0	57.1	1050	94.50	0.06	0.03
	03/11/10	2:30	0.50	10.0	55.2	1050	94.50	0.06	0.03
	03/11/10	3:00	0.50	10.0	56.8	1090	98.10	0.07	0.03
	03/11/10	3:30	0.50	10.0	58.1	1100	99.00	0.07	0.03
	03/11/10	4:00	0.50	10.0	62.9	1220	109.80	0.08	0.04
	03/11/10	4:30	0.50	10.0	64.1	1230	110.70	0.09	0.04
	03/11/10	5:00	0.50	10.0	66.5	1250	112.50	0.09	0.04
									TOTAL
									6.70

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	6.88	6.90	0.02	***	5.99	***	-0.89
MW-19	2"	2.5-9.5	6.97	7.02	0.05	***	6.62	***	-0.36
MW-20	2"	3-10	6.68	6.69	0.01	7.13	7.31	0.18	0.48
MW-21	2"	2.5-9.5	7.10	7.31	0.21	5.78	5.92	0.14	-1.33

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	7.50
Truck Operator:	R. Ariail	MW-19	7.50
Stack I.D. (feet)	0.33 feet	MW-21	7.00
		MW-25	7.50

Corrected Depth to water before AFVR event for MW-18 =	6.88
Corrected Depth to water before AFVR event for MW-29 =	6.98
Corrected Depth to water before AFVR event for MW-20 =	6.68
Corrected Depth to water before AFVR event for MW-21 =	7.13

Recovery / Disposal Information

Hydro carbons Removed (vapor):	6.70	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.16	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	525	Gallons

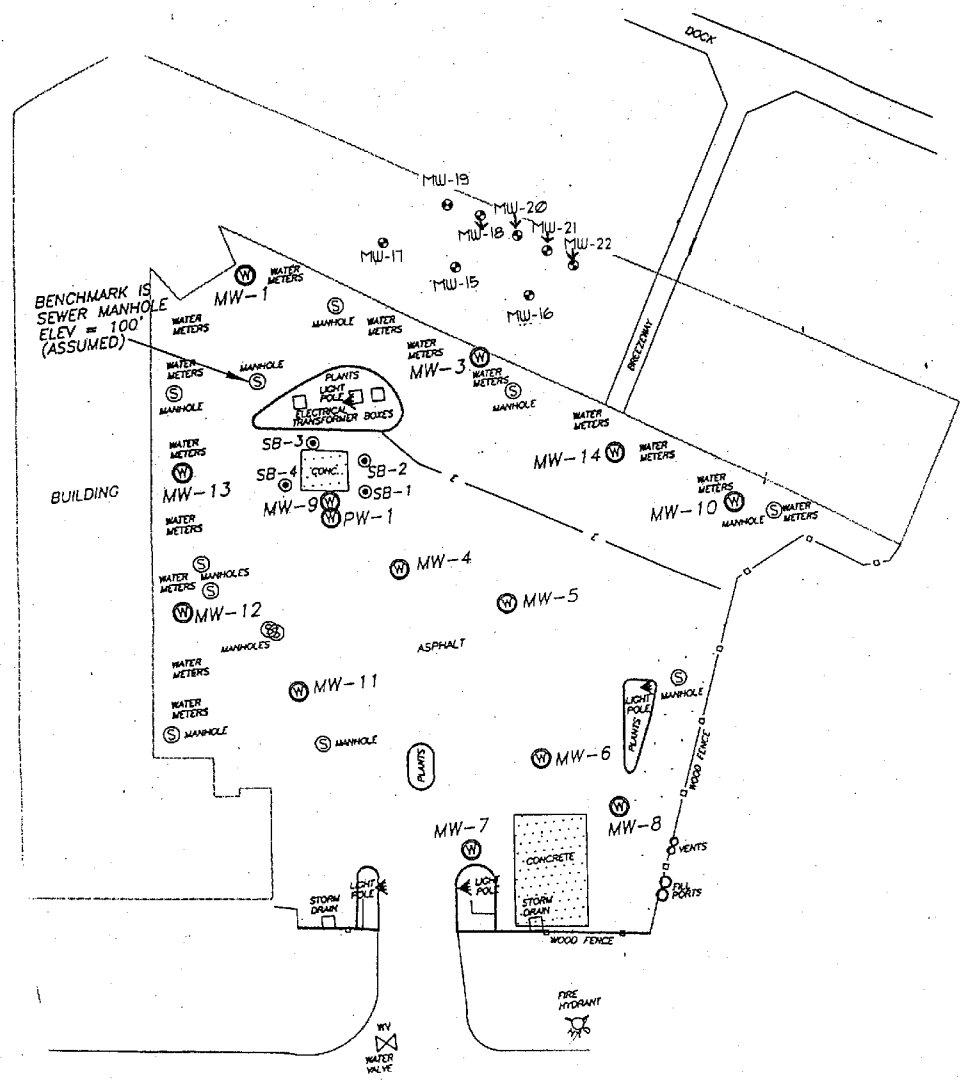
TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 10-2709B
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**						
13:00	0.0	0	0	0	0	0	0	0
13:30	0.5	0	0	0	0	0	0	0
14:00	1.0	0	0	0	0	0	0	0
14:30	1.5	0	0	0	0	0	0	0
15:00	2.0	0	0	0	0	0	0	0
15:30	2.5	0	0	0	0	0	0	0
16:00	3.0	0	0	0	0	0	0	0
16:30	3.5	0	0	0	0	0	0	0
17:00	4.0	0	0	0	0	0	0	0
17:30	4.5	0	0	0	0	0	0	0
18:00	5.0	0	0	0	0	0	0	0
18:30	5.5	0	0	0	0	0	0	0
19:00	6.0	0	0	0	0	0	0	0
19:30	6.5	0	0	0	0	0	0	0
20:00	7.0	0	0	0	0	0	0	0
20:30	7.5	0	0	0	0	0	0	0
21:00	8.0	0	0	0	0	0	0	0
21:30	8.5	0	0	0	0	0	0	0
22:00	9.0	0	0	0	0	0	0	0
22:30	9.5	0	0	0	0	0	0	0
23:00	10.0	0	0	0	0	0	0	0
23:30	10.5	0	0	0	0	0	0	0
0:00	11.0	0	0	0	0	0	0	0
0:30	11.5	0	0	0	0	0	0	0
1:00	12.0	0	0	0	0	0	0	0
1:30	12.5	0	0	0	0	0	0	0
2:00	13.0	0	0	0	0	0	0	0
2:30	13.5	0	0	0	0	0	0	0
3:00	14.0	0	0	0	0	0	0	0
3:30	14.5	0	0	0	0	0	0	0
4:00	15.0	0	0	0	0	0	0	0
4:30	15.5	0	0	0	0	0	0	0
5:00	16.0	0	0	0	0	0	0	0
Maximum Change:		**0**	**0**	**0**	**0**	**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**						
Prior toAFVR		4.33	6.52	4.22	6.45	4.04	3.90	6.28
17:00	4 hours	4.34	5.94	4.23	5.78	4.04	3.90	6.26
21:00	8 hours	4.37	6.07	4.26	6.37	4.07	3.90	6.38
1:00	12 hours	4.32	6.65	4.30	6.80	4.10	3.95	6.72
5:00	16 hours	4.21	6.47	4.35	5.67	4.05	3.92	7.71
Maximum Change:		0.16	-0.71	-0.13	-1.02	-0.06	-0.05	-1.45



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1303
DATE	August 28, 2007
FIGURE	2

C 151599

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 51856

2. Page 1 of 1

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

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

5. Transporter 1 Company Name
Crandall Corporation

6. US EPA ID Number
SCD981864499

A. Transporter's Phone (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number
SCD981864499

C. Facility's Phone (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	3015	G
b. Holly Oak - 150 Gal. Salterfield - 170 Gal. Randy's Auto Parts - 280 Gal Bay Creek Villas - 525 Gal Joker Joes - 170 Gal. Greenwave - 10 Gal. Greenwave - 240 Gal. Carstar Carwash - 210 Gal.				
c. Joker Joes - 325 Gal. Randy's Auto Parts - 210 Gal Randy's Auto " - 240 Gal				
d. Randy's Auto " - 240 Gal. Quick Pantry 12(13) - 20 gal. Joker Joes - 175 Gal.				

D. Additional Descriptions for Materials Listed Above
FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0151856

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

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

Printed/Typed Name: T. Backman (fa Midlands Env) Signature: Troy Backman Month 03 Day 18 Year 10

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Troy Backman Signature: Troy Backman Month 03 Day 18 Year 10

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: Signature: Month Day Year

19. Discrepancy Indication Space

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

Printed/Typed Name: Signature: Month Day Year

GENERATOR TRANSPORTER FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

18tech UST DOCKET

MAR 23 2010

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received March 19, 2010
Colleton County

Dear Mr. Padgett:

As you are aware, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on March 10-11, 2010. A copy of the report is enclosed. Approximately 1.16 equivalent gallons of petroleum vapor was recovered along with 525 gallons of contaminated water. Additional AFVR events will be completed to continue with free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Midlands
Environmental
Consultants, Inc.

April 1, 2010

UST
APR 0 1 2010
PROGRAM

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

UST
DOCKET
79Tem

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #38200
MECI Project Number 10-2709C
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 29 & 30, 2010. The event was conducted on monitoring wells MW-18, MW-19, MW-20, MW-21, and MW-25 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in the monitoring wells prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 10.75 pounds or approximately 1.86 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.67 pounds per hour. Concentrations of off gas produced during the event were recorded from 32.3 parts per million by volume (PPM) to 1,343 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 8.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1C.

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

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

A total of 310 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, MW-21 and MW-25 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1C
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 10-2709C
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	03/29/10	12:30	0.50	8.0	84.5	1920	172.80	0.18	0.09
MW-19	03/29/10	13:00	0.50	8.0	52.6	1940	174.60	0.11	0.06
MW-20	03/29/10	13:30	0.50	8.0	40.3	1960	176.40	0.09	0.04
MW-21	03/29/10	14:00	0.50	8.0	36.0	1940	174.60	0.08	0.04
MW-25	03/29/10	14:30	0.50	9.0	32.3	1850	166.50	0.06	0.03
	03/29/10	15:00	0.50	9.0	47.2	1780	160.20	0.09	0.05
	03/29/10	15:30	0.50	11.0	382	1640	147.60	0.68	0.34
	03/29/10	16:00	0.50	11.0	250	1650	148.50	0.45	0.22
	03/29/10	16:30	0.50	13.0	400	1460	131.40	0.63	0.32
	03/29/10	17:00	0.50	13.0	413	1460	131.40	0.65	0.33
	03/29/10	17:30	0.50	13.0	363	1460	131.40	0.57	0.29
	03/29/10	18:00	0.50	15.0	1,208	1180	106.20	1.54	0.77
	03/29/10	18:30	0.50	15.0	1,302	1180	106.20	1.66	0.83
	03/29/10	19:00	0.50	15.0	1,266	1180	106.20	1.61	0.81
	03/29/10	19:30	0.50	15.0	1,312	1170	105.30	1.66	0.83
	03/29/10	20:00	0.50	15.0	1,343	1180	106.20	1.71	0.86
	03/29/10	20:30	0.50	15.0	1,230	1170	105.30	1.55	0.78
	03/29/10	21:00	0.50	15.0	1,163	1180	106.20	1.48	0.74
	03/29/10	21:30	0.50	15.0	1,060	1120	100.80	1.28	0.64
	03/29/10	22:00	0.50	11.0	556	1510	135.90	0.91	0.45
	03/29/10	22:30	0.50	11.0	294	1390	125.10	0.44	0.22
	03/29/10	23:00	0.50	11.0	327	1410	126.90	0.50	0.25
	03/29/10	23:30	0.50	11.0	275	1350	121.50	0.40	0.20
	03/30/10	0:00	0.50	10.0	242	1710	153.90	0.45	0.22
	03/30/10	0:30	0.50	10.0	199	1720	154.80	0.37	0.18
	03/30/10	1:00	0.50	10.0	178	1710	153.90	0.33	0.16
	03/30/10	1:30	0.50	10.0	181	1690	152.10	0.33	0.17
	03/30/10	2:00	0.50	10.0	152	1620	145.80	0.27	0.13
	03/30/10	2:30	0.50	10.0	160	1580	142.20	0.27	0.14
	03/30/10	3:00	0.50	10.0	171	1510	135.90	0.28	0.14
	03/30/10	3:30	0.50	10.0	173	1530	137.70	0.29	0.14
	03/30/10	4:00	0.50	10.0	169	1590	143.10	0.29	0.15
	03/30/10	4:30	0.50	10.0	181	1550	139.50	0.30	0.15
									TOTAL
									10.75

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	5.66	***	***	5.82	***	-0.16
MW-19	2"	3-10	***	5.02	***	***	5.90	***	-0.88
MW-20	2"	3-10	***	5.13	***	***	5.61	***	-0.48
MW-21	2"	2.5-9.5	***	5.46	***	***	5.61	***	-0.15
MW-25	2"	2.5-9.5	***	5.51	***	***	6.01	***	-0.50

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	4.50
Truck Operator:	R. Ariail	MW-19	4.00
Stack I.D. (feet)	0.33 feet	MW-20	4.00
		MW-21	4.50
		MW-25	4.50

Recovery / Disposal Information

Hydro carbons Removed (vapor):	10.75	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.86	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	310	Gallons

Note: Due to tidal change, stinger depth was re-adjusted multiple times throughout the event. (see blelow)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Length (ft) at 15:00	Stinger Length (ft) at 17:30	Stinger Length (ft) at 19:30	Stinger Length (ft) at 23:30	Stinger Length (ft) at 2:30
MW-18	***	***	5.50	5.50	4.50	5.00	6.00
MW-19	***	***	5.00	5.00	4.50	4.00	5.00
MW-20	***	***	5.00	4.50	4.50	4.00	4.00
MW-21	***	***	5.50	5.00	4.50	4.00	5.00
MW-25	***	***	4.50	3.50	3.50	4.00	5.00

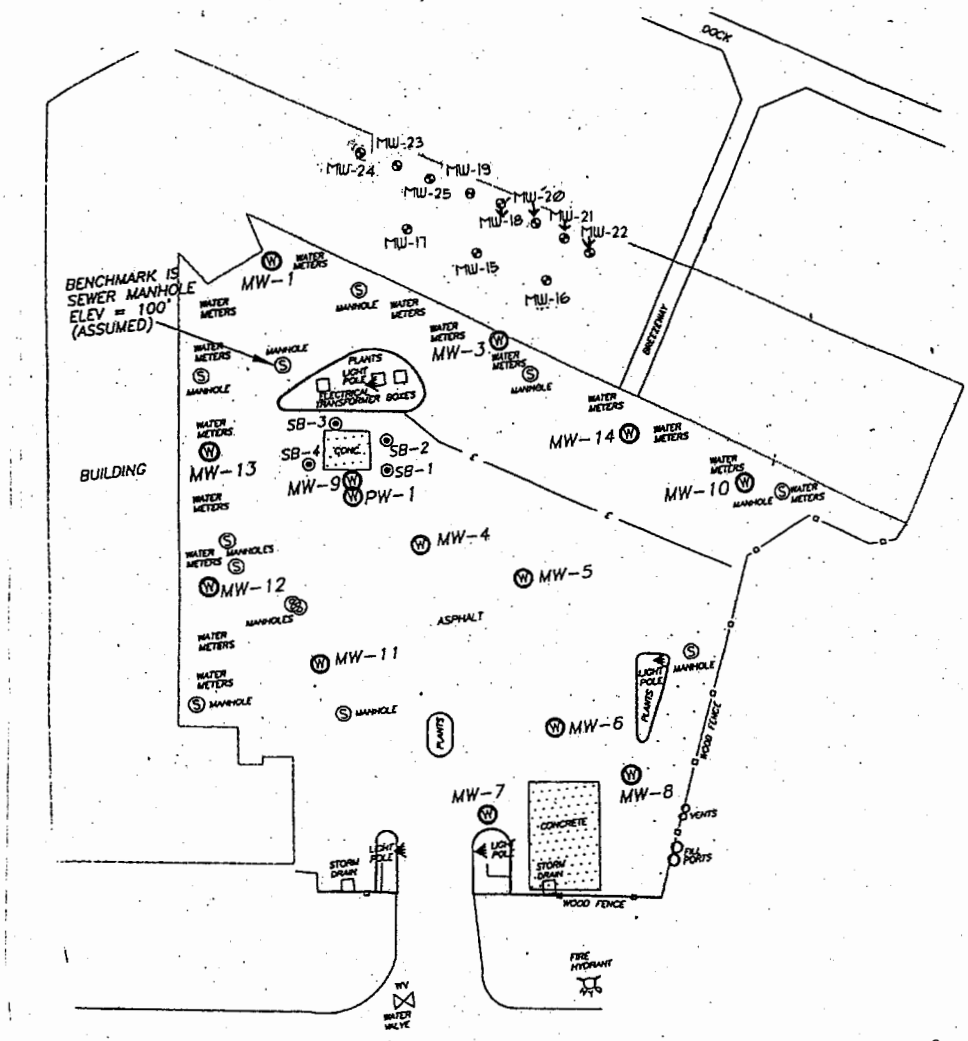
TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 10-2709C
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:					
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**					
12:30	0.0	0	0	0	0	0	0
13:00	0.5	0	0	0	0	0	0
13:30	1.0	0	0	0	0	0	0
14:00	1.5	0	0	0	0	0	0
14:30	2.0	0	0	0	0	0	0
15:00	2.5	0	0	0	0	0	0
15:30	3.0	0	0	0	0	0	0
16:00	3.5	0	0	0	0	0	0
16:30	4.0	0	0	0	0	0	0
17:00	4.5	0	0	0	0	0	0
17:30	5.0	0	0	0	0	0	0
18:00	5.5	0	0	0	0	0	0
18:30	6.0	0	0	0	0	0	0
19:00	6.5	0	0	0	0	0	0
19:30	7.0	0	0	0	0	0	0
20:00	7.5	0	0	0	0	0	0
20:30	8.0	0	0	0	0	0	0
21:00	8.5	0	0	0	0	0	0
21:30	9.0	0	0	0	0	0	0
22:00	9.5	0	0	0	0	0	0
22:30	10.0	0	0	0	0	0	0
23:00	10.5	0	0	0	0	0	0
23:30	11.0	0	0	0	0	0	0
0:00	11.5	0	0	0	0	0	0
0:30	12.0	0	0	0	0	0	0
1:00	12.5	0	0	0	0	0	0
1:30	13.0	0	0	0	0	0	0
2:00	13.5	0	0	0	0	0	0
2:30	14.0	0	0	0	0	0	0
3:00	14.5	0	0	0	0	0	0
3:30	15.0	0	0	0	0	0	0
4:00	15.5	0	0	0	0	0	0
4:30	16.0	0	0	0	0	0	0
Maximum Change:		**0**	**0**	**0**	**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:					
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**					
Prior toAFVR		4.24	5.32	4.10	5.17	3.92	3.88
16:30	4 hours	4.22	6.65	4.06	6.63	3.88	3.87
20:30	8 hours	4.27	5.10	4.10	4.62	3.90	3.87
0:30	12 hours	4.34	4.91	4.20	5.11	3.94	3.92
4:30	16 hours	4.35	6.69	4.21	6.81	4.00	3.91
Maximum Change:		-0.13	-1.78	-0.15	-2.19	-0.12	-0.05



Explanation:

⊗ Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. '07-1489
DATE January 31, 2008
FIGURE 2

Crandall

C 152016

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 52339

2. Page 1 of 1

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

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

5. Transporter 1 Company Name
Crandall Corporation

6. US EPA ID Number
SCD981864499

A. Transporter's Phone
(803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number
SCD981864499

C. Facility's Phone
(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	02970	G
b. Newton's Gen. Store-03723-120 gal. Ancrum-01617-205 gal. Refrigeration Svcs-19337-250 gal.				
c. Glovers Gulf-06994-260 gal. Satterfield's Used Cars-14212-110 gal.				
d. Pelzer Gas Mart-00480-150 gal. Builders Supply-16680-100 gal. Cash-N-Carry-03467-325 gal.				

Charleston CPW-01496-200 gal.
Brazzels-07783-300 gal.
Bay Creek Villas-18662-310 gal.
Dr. Tire-16428-320 gal.
Mack's Camp-01253-150 gal.
One Stop-14346-170 gal.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0152339

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

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

Printed/Typed Name: T. BACKMAN
Signature: Troy Backman
Month 04 Day 01 Year 10

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: TROY BACKMAN
Signature: Troy Backman
Month 04 Day 01 Year 10

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space

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

Printed/Typed Name
Signature
Month Day Year

GENERATOR
TRANSPORTER
FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

APR 05 2010

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received April 1, 2010
Colleton County

Dear Mr. Padgett:

As you are aware, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on March 29-30, 2010. A copy of the report is enclosed. Approximately 1.86 equivalent gallons of petroleum vapor was recovered along with 310 gallons of contaminated water. Additional AFVR events will be completed to continue with free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET 80 per

Midlands
Environmental
Consultants, Inc.

April 19, 2010

UST
APR 2 3 2010
PROGRAM

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

UST
DOCKET
S Ilen

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #38200
MECI Project Number 10-2709D
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on April 12 & 13, 2010. The event was conducted on monitoring wells MW-18, MW-19, MW-20, and MW-21 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.09 feet, in MW-19 at a thickness of 0.12 feet, in MW-20 at a thickness of 0.10 feet, and in MW-21 at a thickness of 0.20 feet prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the monitoring wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 8.85 pounds or approximately 1.53 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.55 pounds per hour. Concentrations of off gas produced during the event were recorded from 42.16 parts per million by volume (PPM) to 740 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 8.0 to 19.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1D.

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

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

A total of 350 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20 and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly for
Project Scientist

Attachments:

TABLE 1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 10-2709D
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	04/12/10	11:00	0.50	11.0	559	2,440	219.60	1.47	0.74
MW-19	04/12/10	11:30	0.50	11.0	440	2,510	225.90	1.19	0.60
MW-20	04/12/10	12:00	0.50	11.0	210	2,480	223.20	0.56	0.28
MW-21	04/12/10	12:30	0.50	11.0	197	2,440	219.60	0.52	0.26
	04/12/10	13:00	0.50	11.0	180	2,470	222.30	0.48	0.24
	04/12/10	13:30	0.50	14.0	108	2,250	202.50	0.26	0.13
	04/12/10	14:00	0.50	18.0	320	1,580	142.20	0.55	0.27
	04/12/10	14:30	0.50	18.0	482	1,640	147.60	0.85	0.43
	04/12/10	15:00	0.50	18.0	545	1,620	145.80	0.95	0.48
	04/12/10	15:30	0.50	19.0	414	1,530	137.70	0.68	0.34
	04/12/10	16:00	0.50	19.0	329	1,510	135.90	0.54	0.27
	04/12/10	16:30	0.50	19.0	303	1,480	133.20	0.48	0.24
	04/12/10	17:00	0.50	19.0	306	1,460	131.40	0.48	0.24
	04/12/10	17:30	0.50	19.0	281	1,430	128.70	0.43	0.22
	04/12/10	18:00	0.50	11.0	158	1,930	173.70	0.33	0.16
	04/12/10	18:30	0.50	10.0	172	1,990	179.10	0.37	0.18
	04/12/10	19:00	0.50	10.0	162	2,000	180.00	0.35	0.17
	04/12/10	19:30	0.50	10.0	101.6	2,090	188.10	0.23	0.11
	04/12/10	20:00	0.50	10.0	94.8	2,080	187.20	0.21	0.11
	04/12/10	20:30	0.50	10.0	286	2,070	186.30	0.64	0.32
	04/12/10	21:00	0.50	10.0	294	2,080	187.20	0.66	0.33
	04/12/10	21:30	0.50	10.0	275	2,080	187.20	0.62	0.31
	04/12/10	22:00	0.50	10.0	54.5	2,000	180.00	0.12	0.06
	04/12/10	22:30	0.50	10.0	43.6	2,010	180.90	0.09	0.05
	04/12/10	23:00	0.50	10.0	42.1	2,010	180.90	0.09	0.05
	04/12/10	23:30	0.50	10.0	54.8	2,100	189.00	0.12	0.06
	04/12/10	0:00	0.50	10.0	65.5	2,090	188.10	0.15	0.07
	04/12/10	0:30	0.50	8.0	89.9	2,160	194.40	0.21	0.10
	04/12/10	1:00	0.50	8.0	113	2,170	195.30	0.26	0.13
	04/12/10	1:30	0.50	8.0	585	2,180	196.20	1.38	0.69
	04/12/10	2:00	0.50	8.0	740	2,190	197.10	1.75	0.88
	04/12/10	2:30	0.50	8.0	141	2,190	197.10	0.33	0.17
	04/12/10	3:00	0.50	8.0	135	2,190	197.10	0.32	0.16
									TOTAL 8.85

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	6.70	6.79	0.09	***	7.55	***	0.84
MW-19	2"	2.5-9.5	6.09	6.21	0.12	***	6.50	***	0.39
MW-20	2"	3-10	6.20	6.30	0.10	***	7.02	***	0.81
MW-21	2"	2.5-9.5	6.45	6.65	0.20	***	7.49	***	1.01

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	7.50
Truck Operator:	R. Ariail	MW-19	7.00
Stack I.D. (feet)	0.33 feet	MW-20	6.50
		MW-21	7.50

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	8.85	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.53	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	350	Gallons

Corrected Depth to water before AFVR event for MW-18 =	6.71
Corrected Depth to water before AFVR event for MW-29 =	6.11
Corrected Depth to water before AFVR event for MW-20 =	6.22
Corrected Depth to water before AFVR event for MW-21 =	6.48

Note: Due to tidal change, stinger depth was re-adjusted multiple times throughout the event. (see blelow)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Length (ft) at 15:00	Stinger Length (ft) at 18:00	Stinger Length (ft) at 20:30	Stinger Length (ft) at 00:00
MW-18	***	***	8.00	8.00	7.00	6.00
MW-19	***	***	7.50	7.50	6.50	5.50
MW-20	***	***	7.00	8.00	8.00	7.00
MW-21	***	***	8.00	7.50	7.00	6.00

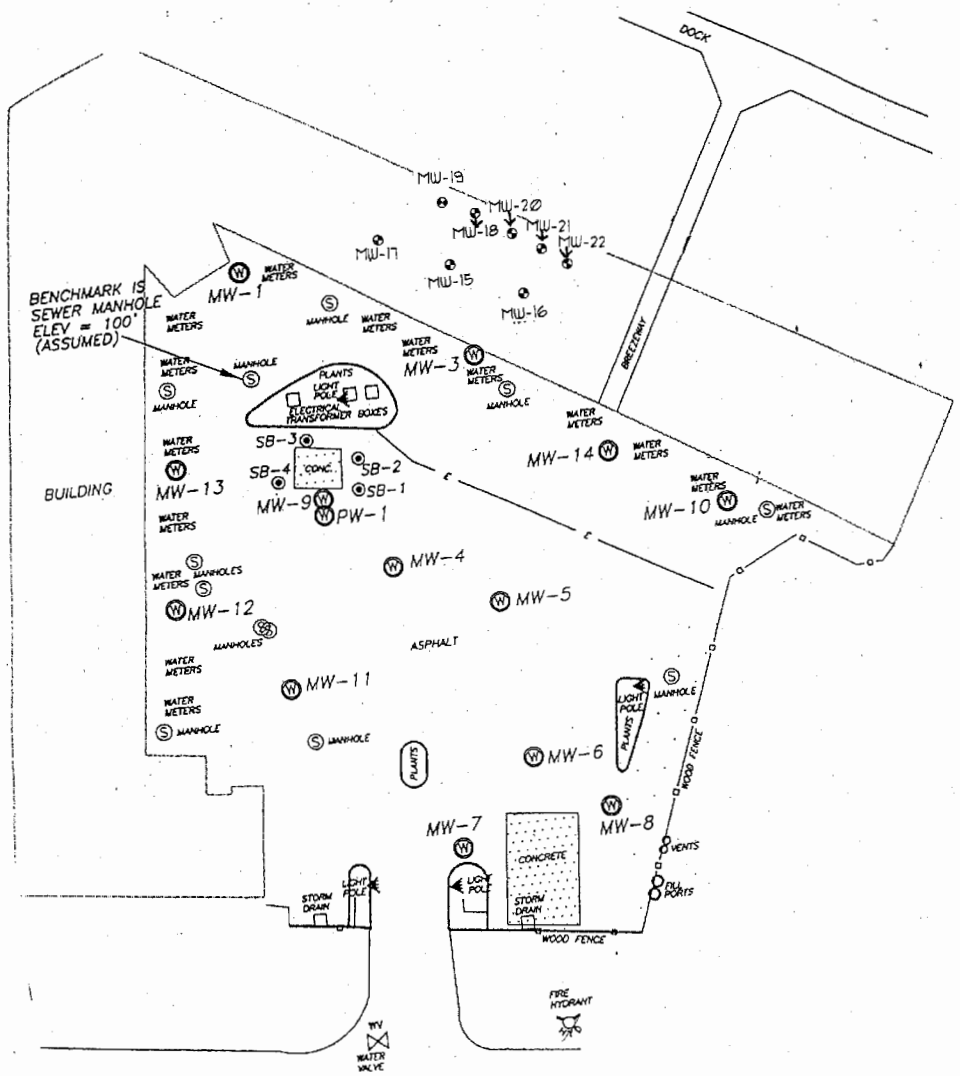
TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 10-2709D
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**						
11:00	0.0	0	0	0	0	0	0	0
11:30	0.5	0	0	0	0	0	0	0
12:00	1.0	0	0	0	0	0	0	0
12:30	1.5	0	0	0	0	0	0	0
13:00	2.0	0	0	0	0	0	0	0
13:30	2.5	0	0	0	0	0	0	0
14:00	3.0	0	0	0	0	0	0	0
14:30	3.5	0	0	0	0	0	0	0
15:00	4.0	0	0	0	0	0	0	0
15:30	4.5	0	0	0	0	0	0	0
16:00	5.0	0	0	0	0	0	0	0
16:30	5.5	0	0	0	0	0	0	0
17:00	6.0	0	0	0	0	0	0	0
17:30	6.5	0	0	0	0	0	0	0
18:00	7.0	0	0	0	0	0	0	0
18:30	7.5	0	0	0	0	0	0	0
19:00	8.0	0	0	0	0	0	0	0
19:30	8.5	0	0	0	0	0	0	0
20:00	9.0	0	0	0	0	0	0	0
20:30	9.5	0	0	0	0	0	0	0
21:00	10.0	0	0	0	0	0	0	0
21:30	10.5	0	0	0	0	0	0	0
22:00	11.0	0	0	0	0	0	0	0
22:30	11.5	0	0	0	0	0	0	0
23:00	12.0	0	0	0	0	0	0	0
23:30	12.5	0	0	0	0	0	0	0
0:00	13.0	0	0	0	0	0	0	0
0:30	13.5	0	0	0	0	0	0	0
1:00	14.0	0	0	0	0	0	0	0
1:30	14.5	0	0	0	0	0	0	0
2:00	15.0	0	0	0	0	0	0	0
2:30	15.5	0	0	0	0	0	0	0
3:00	16.0	0	0	0	0	0	0	0
Maximum Change:		**0**	**0**	**0**	**0**	**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**						
Prior toAFVR		4.51	4.41	5.59	6.00	4.25	4.03	6.21
15:00	4 hours	4.51	4.41	6.91	7.19	4.22	3.89	6.55
19:00	8 hours	4.49	4.35	6.61	6.21	4.18	4.02	6.71
23:00	12 hours	4.55	5.44	4.43	6.06	4.23	4.05	6.50
3:00	16 hours	4.53	6.48	4.41	6.90	4.25	4.05	6.55
Maximum Change:		-0.06	-2.13	2.50	-1.19	0.07	-0.16	-0.50



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1303
DATE August 28, 2007
FIGURE 2

C 152533

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 53085

2. Page 1 of 1

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

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

5. Transporter 1 Company Name
Crandall Corporation

6. US EPA ID Number
SCD981864499

A. Transporter's Phone
(803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number
SCD981864499

C. Facility's Phone
(803) 791-4800

11. Waste Shipping Name and Description			12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	USTH	Gallons				
BJ's Wholesale -	18529	100	001	TT	2310	G
Howard Manss -	00411	110				
Pantry 3235 -	02872	200				
Anderson Patrol -	00769	125				
West Inc Gulf -	086006	150				
Former Neoy -	19007	325				
Quick Pantry -	00946	75				
Holly Oak -	14100	300				
Randy's Auto -	11671	225				
Bay Creek -	16062	350				
Joker Joe's -	16058	225				
Sanders Deep Well -	00940	100				
Coopers Store -	16023	25				

b.
c.
d.

12. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0153085

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

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

Printed/Typed Name: T. Backman (for Midland Envir)
Signature: Troy Backman
Month 04 Day 19 Year 10

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Troy Backman
Signature: Troy Backman
Month 04 Day 19 Year 10

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space

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

Printed/Typed Name
Signature
Month Day Year

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

APR 27 2010

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received April 23, 2010
Colleton County

Dear Mr. Padgett:

As you are aware, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on April 12-13, 2010. A copy of the report is enclosed. Approximately 1.53 equivalent gallons of petroleum vapor was recovered along with 350 gallons of contaminated water. Additional AFVR events will be completed to continue with free product recovery.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST DOCKET 82 TOU

BLE INC.
BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL, ENVIRONMENTAL AND CONSTRUCTION MATERIALS CONSULTANTS

UST DOCKET 83tch

UST Rec'd MAY 03 2010 PROGRAM

April 28, 2010

South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management
2600 Bull Street
Columbia, SC 29201-1708

Attention: Mr. Joel Padgett, P.G.
Hydrogeologist

Subject: **Report of Groundwater Monitoring Well Abandonment**
Bay Creek Villas, UST Permit #18662
3701 Dockside Road
Edisto Beach, Colleton County, South Carolina
CA # 38370; Bid #IFB-31861-6/21/07-EMW; PO #690443
BLE Project No. J09-5420-101

Dear Mr. Padgett:

On behalf of the South Carolina Department of Health and Environmental Control (SCDHEC), Bunnell-Lammons Engineering, Inc. (BLE) has completed the groundwater monitoring well abandonments at the above referenced site. This scope of work was performed in response to South Carolina Department of Health and Environmental Control's (SCDHEC) letter received by BLE on February 18, 2010. The results of our activities are provided herein.

GROUNDWATER MONITORING WELL ABANDONMENT

Ten monitoring wells totaling 113.0 feet were permanently abandoned at the subject site on Friday, April 16, 2010.

The abandonment procedures were performed by Landprobe Environmental and Geotechnical Drilling Services of Greenville, South Carolina (Tom Coon, Registered, South Carolina #1961) in accordance with *South Carolina Well Standards and Regulations (R. 61-71)*. The monitoring well abandonment forms are in Appendix A.

The well numbers and their respective depths are shown in the table below:

6004 PONDERS COURT
GREENVILLE, SOUTH CAROLINA 29615

PHONE (864) 288-1265
FAX (864) 288-4430

Well Number	Well Depth
MW-1	12.0
MW-5	10.0
MW-6	10.0
MW-7	12.0
MW-8	11.0
MW-10	10.0
MW-11	12.0
MW-12	12.0
MW-13	12.0
MW-14	12.0

During the abandonment procedures, the monitoring wells were tremie-grouted to the ground surface with a neat cement grout. The grout was "topped-off" as necessary to ensure that the grout column remained at the ground surface. The wells were installed in asphalt; therefore the manholes were filled with neat cement and the manhole cover was replaced. As discussed with Mr. Read Miner of SCDHEC, monitoring well MW-3 was inadvertently abandoned during abandonment activities. As required, BLE will reinstall this well upon authorization from SCDHEC.

CLOSING

If you have any questions concerning this project, please do not hesitate contacting us at (864) 288-1265.

Sincerely,
BUNNELL-LAMMONS ENGINEERING, INC.

Joy P. Stugg
Joy P. Stugg
Environmental Administrator

Trevor J. Benton, P.G.
Project Hydrogeologist

Attachments: Appendix A SCDHEC 1903 Water Well Record Form

APPENDIX A

GROUNDWATER MONITORING WELL ABANDONMENT FORMS

DHEC

PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Colleton
Name: Bay Creek villas
Street Address: 3701 Dock Side Rd
City: Edisto Bch SC Zip:
Latitude: Longitude:

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

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from 12 ft. to surface ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
MW# 1		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 2" well top well off with Concrete cap at surface pad in Asphalt

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

7. PERMIT NUMBER: 18662

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

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

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

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

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

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

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

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

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

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

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

19. WELL DRILLER: Tom Coon CERT. NO.: 1961
Address: (Print) 6004 Ponders CT Greenville SC 29615 Level: A B C D (circle one)
Telephone No.: 864-527-9324 Fax No.:

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

Signed: Tom Coon Date: 4/16/10
Well Driller

If D Level Driller, provide supervising driller's name:
Marty King # 1089

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

DHEC

PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Colleton
Name: BAY CREEK VILLAS
Street Address: 3701 Dockside Rd
City: Edisto Bch, SC Zip:
Latitude: Longitude:

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

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from 10 ft. to surface ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
MW# 5		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 2" well
well topped off with
concrete cap at surface
pad in asphalt

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

7. PERMIT NUMBER: 18662

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

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

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

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

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

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

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

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

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

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

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

19. WELL DRILLER: Tom Coon **CERT. NO.:** 1961
Address: (Print) 6004 Panders CT Level: A B C D (circle one)
Greenville SC 29615
Telephone No.: 864-527-9324 Fax No.:

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

Signed: Tom Coon Date: 4/16/10
Well Driller

If D Level Driller, provide supervising driller's name:
Marty King # 1089

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

D H E C

PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Colleton
Name: BAY CREEK villas
Street Address: 3701 Docksiide RD
City: Edisto Bch, SC Zip:
Latitude: Longitude:

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

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from 10 ft. to surface ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
MW# 6		
*Indicate Water Bearing Zones		
(Use a 2nd sheet if needed)		

5. REMARKS: 2" well topped with concrete pad at surface
PAD IN Asphalt

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

7. PERMIT NUMBER: 18662

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

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

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

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

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

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

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

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

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

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

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

19. WELL DRILLER: Tom Coon CERT. NO.: 1961
Address: (Print) 6004 Ponders CT Greenville SC 29615 Level: A B C (D) (circle one)
Telephone No.: 864-527-9524 Fax No.:

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

Signed: Tom Coon Date: 4/16/10
Well Driller

If D Level Driller, provide supervising driller's name:
Marty King # 1089

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

D H E C

PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Colleton
Name: Bay Creek villas
Street Address: 3701 Dockside RD
City: Edisto Bch, SC Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from 12 ft. to surface ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
MW#7		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 2" well topped off with concrete cap at surface, pad in Asphalt

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

7. PERMIT NUMBER: 18662

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

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

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

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

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

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

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

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

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

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

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

19. WELL DRILLER: Tom Coon CERT. NO.: 1961
Address: (Print) 6004 Ponders CT Level: A B C (D) (circle one)
Greenville SC 29615
Telephone No.: 864-527-9324 Fax No.:

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

Signed: Tom Coon Date: 4/16/10
Well Driller

If D Level Driller, provide supervising driller's name:
Marty King # 1089

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

D H E C

PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Colleton
Name: Bay Creek Villas
Street Address: 3701 Dockside Rd
City: Edisto Bch, SC Zip:
Latitude: Longitude:

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

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from 11 ft. to surface ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
MW #8		
*Indicate Water Bearing Zones		
(Use a 2nd sheet if needed)		

5. REMARKS: 2" well topped off with concrete cap at surface, pad in asphalt

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

7. PERMIT NUMBER: 18662

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

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

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

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

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

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

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

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

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

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

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

19. WELL DRILLER: Tom Cook CERT. NO.: 1961
Address: (Print) 6004 Pondes CT Level: A B C (D) (circle one)
Greenville SC 29615
Telephone No.: 864-527-9324 Fax No.:

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

Signed: Tom Cook Date: 4/16/10
Well Driller

If D Level Driller, provide supervising driller's name:
Marty King # 1089

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

D H E C

PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Colleton
Name: Bay Creek villas
Street Address: 3701 Dockside Rd
City: Edisto Bch, SC Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from 10 ft. to surface ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
MW# 10		
*Indicate Water Bearing Zones		
(Use a 2nd sheet if needed)		

5. REMARKS: 2" well topped off with concrete cap at surface well pad in Asphalt

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

7. PERMIT NUMBER: 18662

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

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

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

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

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

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

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

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

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

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

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

19. WELL DRILLER: Tom Cook CERT. NO.: 1961
Address: (Print) 6004 Ponders Ct Greenville SC 29615
Level: A B C (D) (circle one)
Telephone No.: 864 527-9324 Fax No.:

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

Signed: Tom Cook Date: 4/16/10
Well Driller

If D Level Driller, provide supervising driller's name:
Marty King # 1089

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

D H E C
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: colleton
Name: BAY Creek villas
Street Address: 3701 Dockside Rd
City: Edisto Bch, SC Zip:
Latitude: Longitude:

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

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from 12 ft. to surface ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
MW# 11		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 2" well topped with concrete cap well pad in asphalt

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

7. PERMIT NUMBER: 18662

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

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

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

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

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

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

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

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

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

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

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

19. WELL DRILLER: Tom Cool CERT. NO.: 1961
Address: (Print) 6004 Ponders CT Level: A B C (D) (circle one)
Greenville SC 29615
Telephone No.: 864-527-9324 Fax No.:

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

Signed: Tom Cool Date: 4/16/10
Well Driller

If D Level Driller, provide supervising driller's name:
Marty King # 1089

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

D H E C

PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Colleton
Name: Bay Creek villas
Street Address: 3701 Dockside Rd
City: Edisto Beach, SC Zip:
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from 12 ft. to surface ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
MW # 12		
*Indicate Water Bearing Zones		
(Use a 2nd sheet if needed)		

5. REMARKS: 2" well with concrete cap at surface pad in asphalt

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

7. PERMIT NUMBER: 18662

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

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

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

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

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

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

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

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

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

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

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

19. WELL DRILLER: Tom Coon CERT. NO.: 1961
Address: (Print) 6004 Ponders CT Greenville SC 29615 Level: A B C (D) (circle one)
Telephone No.: 864-527-9324 Fax No.:

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: T. Coon Date: 7/16/10
Well Driller

If D Level Driller, provide supervising driller's name:
Marty King # 1089

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

D H E C

PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Colleton
Name: Bay Creek Villas
Street Address: 3701 Dockside Rd
City: Edisto Bch, SC Zip:
Latitude: Longitude:

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

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from 12 ft. to surface ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
MW # 13		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 2" well topped with concrete cap, pad was in asphalt

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

7. PERMIT NUMBER: 18662

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

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

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

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

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

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

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

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

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

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

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

19. WELL DRILLER: Tom Coon **CERT. NO.:** 1961
Address: (Print) 6004 Ponders CT Greenville SC 29615 Level: A B C (D) (circle one)
Telephone No.: 864-527-9324 Fax No.:

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

Signed: Tom Coon Date: 4/16/10
Well Driller

If D Level Driller, provide supervising driller's name:
Marty King # 1089

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

D H E C
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Colleton
Name: Bay Creek villas
Street Address: 3701 Dockside Rd
City: Edisto Bch, SC Zip:
Latitude: Longitude:

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

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from 12 ft. to surface ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
MW #14		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: 2" well topped with concrete cap, pad in asphalt

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

7. PERMIT NUMBER: 18662

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

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

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

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

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

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

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

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

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19. WELL DRILLER: Tom Coon **CERT. NO.:** 1961
Address: (Print) 6004 Ponders CT Level: A B C D (circle one)
Greenville SC 29615
Telephone No.: 864-527-9304 Fax No.:

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

Signed: Tom Coon Date: 4/16/10
Well Driller

If D Level Driller, provide supervising driller's name:
Marty King #1089

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

Midlands
Environmental
Consultants, Inc.

May 6, 2010

UST
MAY 07 2010
PROGRAM

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

UST
DOCKET
84 Rec

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #38200
MECI Project Number 10-2709E
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on May 2 & 3, 2010. The event was conducted on monitoring wells MW-18, MW-19, MW-20, and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in the monitoring wells prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 5.40 pounds or approximately 0.93 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.34 pounds per hour. Concentrations of off gas produced during the event were recorded from 23.6 parts per million by volume (PPM) to 450 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 7.0 to 23.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1E.

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

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

A total of 325 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

for

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 10-2709E
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	05/02/10	22:00	0.50	7.0	181	2,490	224.10	0.49	0.24
MW-19	05/02/10	22:30	0.50	7.0	134	2,470	222.30	0.36	0.18
MW-20	05/02/10	23:00	0.50	8.0	118	2,390	215.10	0.30	0.15
MW-21	05/02/10	23:30	0.50	8.0	92.4	2,410	216.90	0.24	0.12
	05/03/10	0:00	0.50	9.0	74.0	2,380	214.20	0.19	0.10
	05/03/10	0:30	0.50	9.0	70.1	2,390	215.10	0.18	0.09
	05/03/10	1:00	0.50	9.0	65.4	2,370	213.30	0.17	0.08
	05/03/10	1:30	0.50	9.0	58.3	2,370	213.30	0.15	0.07
	05/03/10	2:00	0.50	9.0	47.7	2,350	211.50	0.12	0.06
	05/03/10	2:30	0.50	9.0	33.6	2,380	214.20	0.09	0.04
	05/03/10	3:00	0.50	10.0	37.5	2,370	213.30	0.10	0.05
	05/03/10	3:30	0.50	10.0	34.0	2,310	207.90	0.08	0.04
	05/03/10	4:00	0.50	10.0	30.7	2,320	208.80	0.08	0.04
	05/03/10	4:30	0.50	10.0	27.5	2,280	205.20	0.07	0.03
	05/03/10	5:00	0.50	10.0	23.6	2,250	202.50	0.06	0.03
	05/03/10	5:30	0.50	12.0	39.1	1,950	175.50	0.08	0.04
	05/03/10	6:00	0.50	12.0	59.9	2,040	183.60	0.13	0.07
	05/03/10	6:30	0.50	12.0	48.0	2,040	183.60	0.11	0.05
	05/03/10	7:00	0.50	15.0	297	1,780	160.20	0.57	0.29
	05/03/10	7:30	0.50	15.0	341	1,740	156.60	0.64	0.32
	05/03/10	8:00	0.50	15.0	399	1,700	153.00	0.73	0.37
	05/03/10	8:30	0.50	17.0	444	1,710	153.90	0.82	0.41
	05/03/10	9:00	0.50	17.0	450	1,510	135.90	0.73	0.37
	05/03/10	9:30	0.50	21.0	401	1,560	140.40	0.68	0.34
	05/03/10	10:00	0.50	22.0	233	1,150	103.50	0.29	0.14
	05/03/10	10:30	0.50	23.0	138	1,060	95.40	0.16	0.08
	05/03/10	11:00	0.50	23.0	94.5	1,100	99.00	0.11	0.06
	05/03/10	11:30	0.50	20.0	89.5	1,100	99.00	0.11	0.05
	05/03/10	12:00	0.50	20.0	441	1,350	121.50	0.64	0.32
	05/03/10	12:30	0.50	20.0	398	1,380	124.20	0.59	0.30
	05/03/10	13:00	0.50	20.0	387	1,410	126.90	0.59	0.29
	05/03/10	13:30	0.50	20.0	369	1,450	130.50	0.58	0.29
	05/03/10	14:00	0.50	20.0	366	1,430	128.70	0.57	0.28
									TOTAL 5.40

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	6.51	***	***	6.57	***	-0.06
MW-19	2"	3-10	***	6.67	***	***	5.88	***	0.79
MW-20	2"	3-10	***	6.74	***	***	5.85	***	0.89
MW-21	2"	2.5-9.5	***	6.50	***	***	6.14	***	0.36

Vacuum Truck Information

Subcontractor:	MECI
Truck Operator:	R. Ariail
Stack I.D. (feet)	0.33 feet

Well ID	Stinger Depth
MW-18	5.50
MW-19	5.50
MW-20	5.50
MW-21	5.50

Recovery / Disposal Information

Hydro carbons Removed (vapor):	5.40	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.93	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	325	Gallons

Note: Due to tidal change, stinger depth was re-adjusted multiple times throughout the event. (see below)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Length (ft) at 2:00	Stinger Length (ft) at 6:00	Stinger Length (ft) at 8:30	Stinger Length (ft) at 10:30
MW-18	***	***	4.50	5.00	5.50	5.00
MW-19	***	***	4.50	4.50	5.00	4.50
MW-20	***	***	4.50	5.00	5.00	4.50
MW-21	***	***	4.50	4.50	4.50	4.00

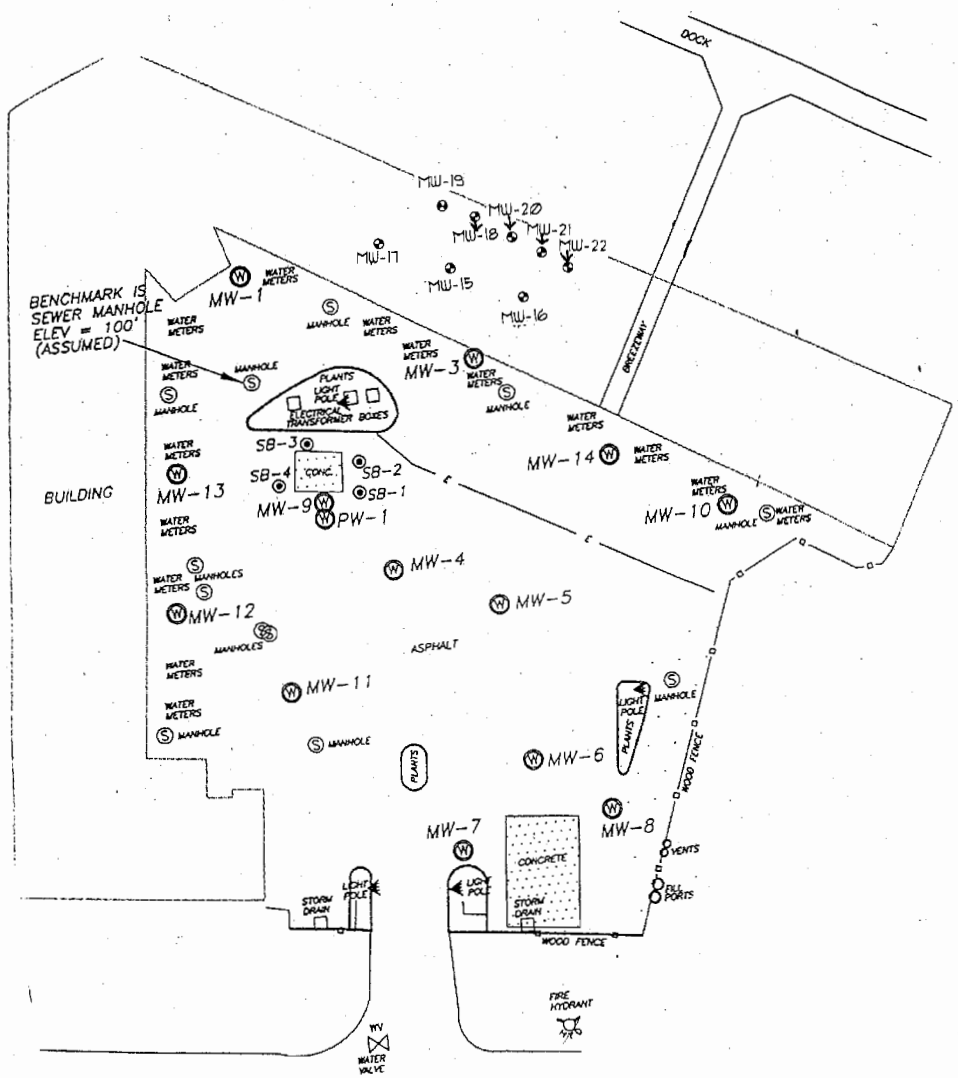
TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 10-2709E
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**						
22:00	0.0	0	0	0	0	0	0	0
22:30	0.5	0	0	0	0	0	0	0
23:00	1.0	0	0	0	0	0	0	0
23:30	1.5	0	0	0	0	0	0	0
0:00	2.0	0	0	0	0	0	0	0
0:30	2.5	0	0	0	0	0	0	0
1:00	3.0	0	0	0	0	0	0	0
1:30	3.5	0	0	0	0	0	0	0
2:00	4.0	0	0	0	0	0	0	0
2:30	4.5	0	0	0	0	0	0	0
3:00	5.0	0	0	0	0	0	0	0
3:30	5.5	0	0	0	0	0	0	0
4:00	6.0	0	0	0	0	0	0	0
4:30	6.5	0	0	0	0	0	0	0
5:00	7.0	0	0	0	0	0	0	0
5:30	7.5	0	0	0	0	0	0	0
6:00	8.0	0	0	0	0	0	0	0
6:30	8.5	0	0	0	0	0	0	0
7:00	9.0	0	0	0	0	0	0	0
7:30	9.5	0	0	0	0	0	0	0
8:00	10.0	0	0	0	0	0	0	0
8:30	10.5	0	0	0	0	0	0	0
9:00	11.0	0	0	0	0	0	0	0
9:30	11.5	0	0	0	0	0	0	0
10:00	12.0	0	0	0	0	0	0	0
10:30	12.5	0	0	0	0	0	0	0
11:00	13.0	0	0	0	0	0	0	0
11:30	13.5	0	0	0	0	0	0	0
12:00	14.0	0	0	0	0	0	0	0
12:30	14.5	0	0	0	0	0	0	0
13:00	15.0	0	0	0	0	0	0	0
13:30	15.5	0	0	0	0	0	0	0
14:00	16.0	0	0	0	0	0	0	0
Maximum Change:		**0**	**0**	**0**	**0**	**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**						
Prior toAFVR		4.73	6.41	4.60	5.92	4.40	4.13	6.59
2:00	4 hours	4.70	5.42	4.58	5.30	4.38	4.18	6.31
6:00	8 hours	4.70	6.24	4.59	6.70	4.40	4.18	6.32
10:00	12 hours	4.74	6.79	4.62	6.72	4.40	4.18	6.64
14:00	16 hours	4.74	6.30	4.59	6.07	4.40	4.18	6.68
Maximum Change:		-0.04	-1.37	-0.04	-1.42	-0.02	-0.05	-0.37



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1303
DATE August 28, 2007
FIGURE 2

C 153072

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 53823

2. Page 1 of 1

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

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

5. Transporter 1 Company Name
Crandall Corporation

6. US EPA ID Number
SCD981864499

A. Transporter's Phone (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich Lex Dr
Lexington, SC 27072

10. US EPA ID Number
SCD981864499

C. Facility's Phone (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water Handy Pantry 89 A - 04733 - 285 gal ~~Handy Pantry 89 B - 04733 - 345 gal~~ Handy Pantry 89 C - 04733 - 265 gal Builders Supply - 16680 - 50 gal. Charleston CPW - 01496 - 200 gal. Bay Creek Villas - 18662 - 325 gal Pelzer Gas Mart - 00480 - 155 gal BJ Wholesale - 18529 - 155 gal.	001	TT	3030.	G
b.				
c. Marion Comers - 12223 - 175 gal. Chester School Bus - 02044 - 125 gal. Ridgeway Sect Shed - 03144 - 100 gal. Ridgeway Sector Shed - 03144 - 70 gal				
d. Quick Pantry 12 - 06926 - 20 gal. Boles - 04768 - 760 gal.				

D. Additional Descriptions for Materials Listed Above

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0153823

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

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

Printed/Typed Name	Signature	Month	Day	Year
No Signature Available				

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	Troy Backman	05	05	10

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

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

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR TRANSPORTER FACILITY

GENERATOR COPY

Midlands
Environmental
Consultants, Inc.

June 15, 2010

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

UST
JUN 15 2010
PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #38200
MECI Project Number 10-2709F
Certified Site Rehabilitation Contractor UCC-0009

UST
DOCKET

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

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on May 27 & 28, 2010. The event was conducted on monitoring wells MW-18, MW-19, MW-20, and MW-21 to remove free phase petroleum product. Free phase petroleum product was detected in the monitoring well MW-18 at a thickness of 0.09 feet, in MW-19 at a thickness of 0.16 feet, in MW-20 at a thickness of 0.32 feet and in MW-21 at a thickness of 0.12 feet prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 7.15 pounds or approximately 1.24 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.45 pounds per hour. Concentrations of off gas produced during the event were recorded from 78.7 parts per million by volume (PPM) to 1,415 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1F.

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

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

A total of 350 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services of Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

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

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

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1F
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 10-2709F
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	05/27/10	11:00	0.50	10.0	1,415	1,760	158.40	2.69	1.34
MW-19	05/27/10	11:30	0.50	10.0	842	1,730	155.70	1.57	0.79
MW-20	05/27/10	12:00	0.50	10.0	499	1,730	155.70	0.93	0.47
MW-21	05/27/10	12:30	0.50	11.0	482	1,610	144.90	0.84	0.42
	05/27/10	13:00	0.50	11.0	237	1,640	147.60	0.42	0.21
	05/27/10	13:30	0.50	11.0	290	1,600	144.00	0.50	0.25
	05/27/10	14:00	0.50	12.0	226	1,540	138.60	0.38	0.19
	05/27/10	14:30	0.50	12.0	146	1,560	140.40	0.25	0.12
	05/27/10	15:00	0.50	12.0	118	1,540	138.60	0.20	0.10
	05/27/10	15:30	0.50	13.0	123	1,450	130.50	0.19	0.10
	05/27/10	16:00	0.50	13.0	113	1,450	130.50	0.18	0.09
	05/27/10	16:30	0.50	14.0	150	1,340	120.60	0.22	0.11
	05/27/10	17:00	0.50	14.0	106	1,340	120.60	0.15	0.08
	05/27/10	17:30	0.50	14.0	98.6	1,340	120.60	0.14	0.07
	05/27/10	18:00	0.50	14.0	98.2	1,350	121.50	0.14	0.07
	05/27/10	18:30	0.50	14.0	105	1,340	120.60	0.15	0.08
	05/27/10	19:00	0.50	15.0	209	1,200	108.00	0.27	0.14
	05/27/10	19:30	0.50	15.0	202	1,200	108.00	0.26	0.13
	05/27/10	20:00	0.50	15.0	210	1,200	108.00	0.27	0.14
	05/27/10	20:30	0.50	15.0	331	1,200	108.00	0.43	0.21
	05/27/10	21:00	0.50	14.0	339	1,330	119.70	0.49	0.24
	05/27/10	21:30	0.50	14.0	322	1,300	117.00	0.45	0.23
	05/27/10	22:00	0.50	14.0	264	1,300	117.00	0.37	0.19
	05/27/10	22:30	0.50	14.0	302	1,310	117.90	0.43	0.21
	05/27/10	23:00	0.50	13.0	127	1,450	130.50	0.20	0.10
	05/27/10	23:30	0.50	13.0	450	1,420	127.80	0.69	0.35
	05/28/10	0:00	0.50	13.0	189	1,410	126.90	0.29	0.14
	05/28/10	0:30	0.50	12.0	149	1,510	135.90	0.24	0.12
	05/28/10	1:00	0.50	12.0	150	1,540	138.60	0.25	0.12
	05/28/10	1:30	0.50	11.0	141	1,570	141.30	0.24	0.12
	05/28/10	2:00	0.50	11.0	104	1,530	137.70	0.17	0.09
	05/28/10	2:30	0.50	11.0	97.8	1,580	142.20	0.17	0.08
	05/28/10	3:00	0.50	11.0	78.7	1,580	142.20	0.13	0.07
									TOTAL 7.15

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	5.52	5.61	0.09	***	7.13	***	-1.60
MW-19	2"	3-10	5.01	5.17	0.16	***	6.78	***	-1.75
MW-20	2"	3-10	5.17	5.49	0.32	***	6.48	***	-1.26
MW-21	2"	2.5-9.5	5.31	5.43	0.12	***	7.39	***	-2.06

Vacuum Truck Information

Subcontractor: MECI
Truck Operator: R. Ariail
Stack I.D. (feet) 0.33 feet

Well ID	Stinger Depth
MW-18	6.00
MW-19	5.50
MW-20	5.50
MW-21	6.00

Corrected Depth to Water prior to AFVR event in MW-18: 5.53
Corrected Depth to Water prior to AFVR event in MW-19: 5.03
Corrected Depth to Water prior to AFVR event in MW-20: 5.22
Corrected Depth to Water prior to AFVR event in MW-21: 5.33

Recovery / Disposal Information

Hydro carbons Removed (vapor):	7.15	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.24	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services	
Total Liquids Removed:	350	Gallons

Note: Due to tidal change, stinger depth was re-adjusted multiple times throughout the event. (see blelow)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Length (ft) at 13:00	Stinger Length (ft) at 16:30	Stinger Length (ft) at 23:00
MW-18	***	***	7.00	6.00	7.00
MW-19	***	***	6.50	5.50	6.50
MW-20	***	***	6.50	5.50	6.50
MW-21	***	***	7.00	6.00	7.00

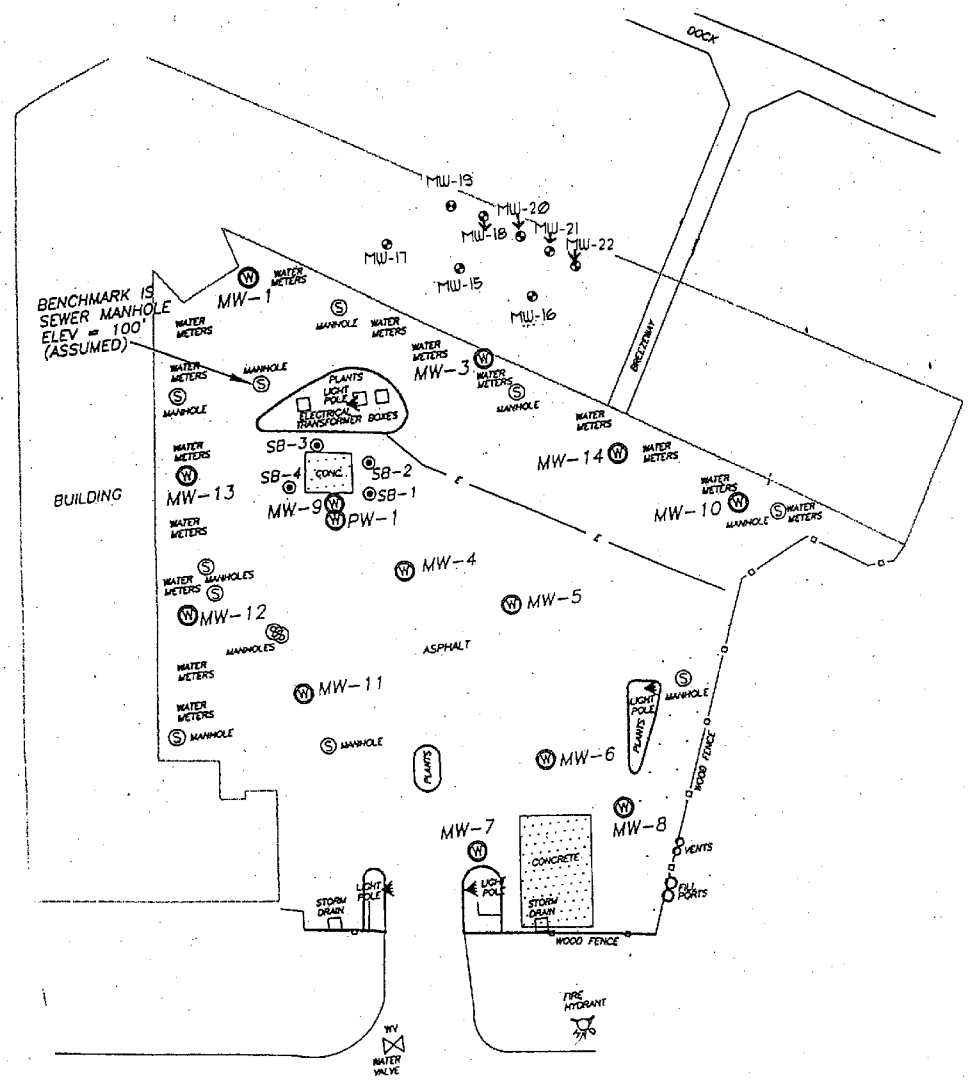
TABLE 2F
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 10-2709F
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**						
11:00	0.0	0	0	0	0	0	0	0
11:30	0.5	0	0	0	0	0	0	0
12:00	1.0	0	0	0	0	0	0	0
12:30	1.5	0	0	0	0	0	0	0
13:00	2.0	0	0	0	0	0	0	0
13:30	2.5	0	0	0	0	0	0	0
14:00	3.0	0	0	0	0	0	0	0
14:30	3.5	0	0	0	0	0	0	0
15:00	4.0	0	0	0	0	0	0	0
15:30	4.5	0	0	0	0	0	0	0
16:00	5.0	0	0	0	0	0	0	0
16:30	5.5	0	0	0	0	0	0	0
17:00	6.0	0	0	0	0	0	0	0
17:30	6.5	0	0	0	0	0	0	0
18:00	7.0	0	0	0	0	0	0	0
18:30	7.5	0	0	0	0	0	0	0
19:00	8.0	0	0	0	0	0	0	0
19:30	8.5	0	0	0	0	0	0	0
20:00	9.0	0	0	0	0	0	0	0
20:30	9.5	0	0	0	0	0	0	0
21:00	10.0	0	0	0	0	0	0	0
21:30	10.5	0	0	0	0	0	0	0
22:00	11.0	0	0	0	0	0	0	0
22:30	11.5	0	0	0	0	0	0	0
23:00	12.0	0	0	0	0	0	0	0
23:30	12.5	0	0	0	0	0	0	0
0:00	13.0	0	0	0	0	0	0	0
0:30	13.5	0	0	0	0	0	0	0
1:00	14.0	0	0	0	0	0	0	0
1:30	14.5	0	0	0	0	0	0	0
2:00	15.0	0	0	0	0	0	0	0
2:30	15.5	0	0	0	0	0	0	0
3:00	16.0	0	0	0	0	0	0	0
Maximum Change:		**0**	**0**	**0**	**0**	**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**						
Prior toAFVR		4.77	5.09	4.61	5.14	4.38	3.81	5.63
15:00	4 hours	4.77	6.15	4.61	6.60	4.38	3.81	5.84
19:00	8 hours	4.76	5.94	4.59	5.39	4.31	3.79	6.10
23:00	12 hours	4.79	4.56	4.63	4.60	4.39	3.78	5.63
3:00	16 hours	4.77	5.61	4.61	6.11	4.40	3.80	5.65
Maximum Change:		-0.03	1.59	-0.04	2.00	-0.09	0.03	0.47



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1303

DATE August 28, 2007

FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone: 1K10233
4. Waste Tracking Number

5. Generator's Name and Mailing Address: MIDLANDS ENVIRONMENTAL, 1144 TWO NOTCH ROAD, LEXINGTON, SC

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: T K TANK SERVICES INC.
U.S. EPA ID Number: 803-418-2314

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address: T K TANK SERVICES INC, 125 BOULLEVARD ROAD, SUMTER, SC 29153
U.S. EPA ID Number: 803-418-2314

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
NON HAZARDOUS PETROLEUM CONTAMINATED WATER/PRODUCT	1	TT	3615 GAL	

Site	Site ID#	Gallons
Exxon	12194	100
Creek	18662	350
ter Bus	02044	150
ion	12223	250
ers Auto	00428	150
ers Auto	00428	180
erson	00769	150
	04733	125
lands	005684	175
way	03144	100
ch	06946	50
Rush	19260	275
Mart	07176	180
Mart	07176	130

13. Special Handling Instructions and Additional Information
MIDLANDS ENVIRONMENTAL, LEXINGTON, SC

Site	Site ID#	Gallons
Oakland Ave	19192	100
Ancrum	01617	275
Former Adams	19416	125
BJ's	04224	125
Clamps	11412	1025

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

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Travis Lucas | Signature | Month: 6 | Day: 14 | Year: 10

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number: 375745

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name | Signature | Month | Day | Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

JUN 21 2010

87tech UST DOCKET

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received June 15, 2010
Colleton County

Dear Mr. Padgett:

As you are aware, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on May 27-28, 2010. A copy of the report is enclosed. Approximately 1.24 equivalent gallons of petroleum vapor was recovered along with 350 gallons of contaminated water.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

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

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

June 24, 2010

THOMAS L LAMMONS
BUNNELL-LAMMONS ENGINEERING INC
6004 PONDERS CT
GREENVILLE SC 29615

8Stech
UST
DOCKET

Re: **Monitoring Well Directive**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Well Abandonment Report received May 3, 2010
Colleton County

Dear Mr. Lammons:

As you are aware, selected monitoring wells at the referenced facility were abandoned by Bunnell-Lammons Engineering on April 16, 2010. One monitoring well (MW-3) was abandoned in error. As discussed with Trevor Benton of BLE, replacement of this monitoring well is warranted. A Monitoring Well Approval Form is enclosed. The former monitoring well MW-3was completed to a depth of 15 feet with a 12.5 foot well screen. Historically, the water table has fluctuated between 5.2 and 6.45 feet below land surface; therefore, the replacement well may be installed to a shallower depth of 12 feet with a ten-foot well screen.

Please be aware, Bay Creek Villas is a condominium complex located on the waters edge. The well replacement must be scheduled with Brantley Padgett and must be completed at a time and date that will minimize the disruption to Bay Creek Villas and their guests as much as possible.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S Miner

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

enc: Monitoring Well Approval

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)
Brantley Padgett, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach SC 29438 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

Monitoring Well Approval

Approval is hereby granted to: Bunnell-Lammons Engineering, Inc.
(On behalf of): Bay Creek Villas
Facility: Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC
UST Permit Number: 18662
County: Colleton

This approval is for the installation of 1 monitoring well. 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 and recovery wells shall be labeled as required by R.61-71.H.2.c.

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

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

5. If any of the information provided to the Department changes, notification to Read Miner (tel: 803-896-6584 or e-mail: minerrs@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

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

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

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issuance: **June 23, 2010** **Approval #:** **UMW-23753**

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Midlands
Environmental
Consultants, Inc.

June 30, 2010

Mr. Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

89tech
UST
DOCKET

UST
JUL 02 2010
PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #38200
MECI Project Number 10-2709G
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on June 16 & 17, 2010. The event was conducted on monitoring wells MW-18, MW-19, MW-20, and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in the monitoring wells MW-18, MW-19, MW-20, and MW-21 prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 1.84 pounds or approximately 0.32 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.02 pounds per hour. Concentrations of off gas produced during the event were recorded from 7.9 parts per million by volume (PPM) to 779 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 8.0 to 19.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1G.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2G. Monitoring well locations are depicted on attached Figure 1.

A total of 100 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services of Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1G
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 10-2709G
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	06/16/10	11:00	0.50	13.0	403	1,280	115.20	0.56	0.28
MW-19	06/16/10	11:30	0.50	11.0	566	1,140	102.60	0.70	0.35
MW-20	06/16/10	12:00	0.50	11.0	779	1,130	101.70	0.95	0.48
MW-21	06/16/10	12:30	0.50	12.0	56.6	1,230	110.70	0.08	0.04
	06/16/10	13:00	0.50	13.0	31.7	1,270	114.30	0.04	0.02
	06/16/10	13:30	0.50	10.0	19.1	1,320	118.80	0.03	0.01
	06/16/10	14:00	0.50	10.0	11.8	1,300	117.00	0.02	0.01
	06/16/10	14:30	0.50	9.0	11.0	1,290	116.10	0.02	0.01
	06/16/10	15:00	0.50	9.0	10.2	1,300	117.00	0.01	0.01
	06/16/10	15:30	0.50	10.0	9.3	1,310	117.90	0.01	0.01
	06/16/10	16:00	0.50	12.0	8.2	1,290	116.10	0.01	0.01
	06/16/10	16:30	0.50	9.0	8.0	1,310	117.90	0.01	0.01
	06/16/10	17:00	0.50	8.0	7.9	1,270	114.30	0.01	0.01
	06/16/10	17:30	0.50	15.0	64.1	920	82.80	0.06	0.03
	06/16/10	18:00	0.50	17.0	76.3	800	72.00	0.07	0.03
	06/16/10	18:30	0.50	17.0	64.8	790	71.10	0.06	0.03
	06/16/10	19:00	0.50	17.0	50.2	770	69.30	0.04	0.02
	06/16/10	19:30	0.50	16.0	49.4	720	64.80	0.04	0.02
	06/16/10	20:00	0.50	16.0	52.8	720	64.80	0.04	0.02
	06/16/10	20:30	0.50	16.0	45.7	690	62.10	0.03	0.02
	06/16/10	21:00	0.50	16.0	36.3	700	63.00	0.03	0.01
	06/16/10	21:30	0.50	17.0	164	620	55.80	0.11	0.05
	06/16/10	22:00	0.50	17.0	262	620	55.80	0.18	0.09
	06/16/10	22:30	0.50	17.0	62.3	630	56.70	0.04	0.02
	06/16/10	23:00	0.50	17.0	50.8	650	58.50	0.04	0.02
	06/16/10	23:30	0.50	19.0	111	570	51.30	0.07	0.03
	06/17/10	0:00	0.50	19.0	105	580	52.20	0.07	0.03
	06/17/10	0:30	0.50	19.0	112	520	46.80	0.06	0.03
	06/17/10	1:00	0.50	19.0	119	510	45.90	0.07	0.03
	06/17/10	1:30	0.50	19.0	116	550	49.50	0.07	0.03
	06/17/10	2:00	0.50	19.0	104	560	50.40	0.06	0.03
	06/17/10	2:30	0.50	18.0	98.2	550	49.50	0.06	0.03
	06/17/10	3:00	0.50	18.0	91.3	530	47.70	0.05	0.03
									TOTAL 1.84

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	5.51	***	***	5.28	***	-0.23
MW-19	2"	3-10	***	5.63	***	***	6.55	***	0.92
MW-20	2"	3-10	***	5.78	***	***	6.08	***	0.30
MW-21	2"	2.5-9.5	***	5.48	***	***	5.75	***	0.27

Vacuum Truck Information

Subcontractor:	MECI
Truck Operator:	R. Ariail
Stack I.D. (feet)	0.33 feet

Well ID	Stinger Depth
MW-18	5.00
MW-19	5.00
MW-20	5.00
MW-21	5.00

Recovery / Disposal Information

Hydro carbons Removed (vapor):	1.84	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.32	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services	
Total Liquids Removed:	100	Gallons

Note: Due to tidal change, stinger depth was re-adjusted throughout the event. (see below)

Well Number	Depth to Product (ft)	Depth to Water (ft)	Stinger Length (ft) at 16:30	Stinger Length (ft) at 22:00
MW-18	***	***	7.00	6.00
MW-19	***	***	6.00	4.00
MW-20	***	***	6.00	5.00
MW-21	***	***	7.00	5.00

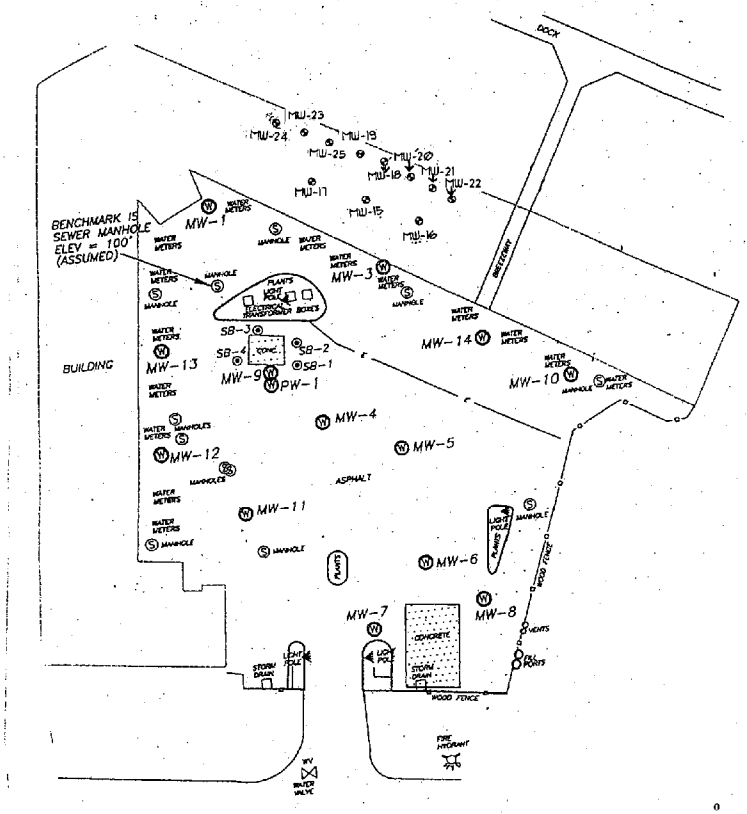
TABLE 2G
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 10-2709G
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		MW-16	MW-22	MW-23	MW-24	MW-25
Nearest Extraction Well:		MW-21	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		13 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**					
11:00	0.0	0	0	0	0	0
11:30	0.5	0	0	0	0	0
12:00	1.0	0	0	0	0	0
12:30	1.5	0	0	0	0	0
13:00	2.0	0	0	0	0	0
13:30	2.5	0	0	0	0	0
14:00	3.0	0	0	0	0	0
14:30	3.5	0	0	0	0	0
15:00	4.0	0	0	0	0	0
15:30	4.5	0	0	0	0	0
16:00	5.0	0	0	0	0	0
16:30	5.5	0	0	0	0	0
17:00	6.0	0	0	0	0	0
17:30	6.5	0	0	0	0	0
18:00	7.0	0	0	0	0	0
18:30	7.5	0	0	0	0	0
19:00	8.0	0	0	0	0	0
19:30	8.5	0	0	0	0	0
20:00	9.0	0	0	0	0	0
20:30	9.5	0	0	0	0	0
21:00	10.0	0	0	0	0	0
21:30	10.5	0	0	0	0	0
22:00	11.0	0	0	0	0	0
22:30	11.5	0	0	0	0	0
23:00	12.0	0	0	0	0	0
23:30	12.5	0	0	0	0	0
0:00	13.0	0	0	0	0	0
0:30	13.5	0	0	0	0	0
1:00	14.0	0	0	0	0	0
1:30	14.5	0	0	0	0	0
2:00	15.0	0	0	0	0	0
2:30	15.5	0	0	0	0	0
3:00	16.0	0	0	0	0	0
Maximum Change:		**0**	**0**	**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		MW-16	MW-22	MW-23	MW-24	MW-25
Nearest Extraction Well:		MW-21	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		13 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**					
Prior toAFVR		5.83	5.40	4.34	4.65	6.31
15:00	4 hours	4.20	4.25	4.31	4.66	5.06
19:00	8 hours	6.35	6.77	4.29	3.28	4.18
23:00	12 hours	6.43	6.06	4.32	5.11	6.11
3:00	16 hours	5.05	4.73	4.30	4.66	6.20
Maximum Change:		-2.23	-2.52	-0.05	-1.83	-2.13



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1488
DATE January 31, 2008
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: [illegible] Inviro

Generator's Site Address (if different than mailing address): 1144 Jackhead Livingston

Generator's Phone:

6. Transporter 1 Company Name: T K TANK SERVICES INC.

U.S. EPA ID Number: 803-418-2314

7. Transporter 2 Company Name: [illegible]

U.S. EPA ID Number:

8. Designated Facility Name and Site Address: T K TANK SERVICES, INC 125 BOULEVARD ROAD SUMTER, SC 29153

U.S. EPA ID Number: 803-418-2314

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
NON HAZARDOUS CONTAMINATED WATER/PRODUCT	1	TT	ADD 2665 GAL	

Site	Gallons	UST
Green Ave BP	175	13084
Austin	150	04038
Infinger	140	03021
McCox Oil	180	18662
Bay Creek	100	00858
Whittle Bros	245	00858
Whittle Bros	200	11808
Richland C. Land	200	38760
Shelton food	150	38760
Shelton food	125	38760
Shelton food	275	38760
Copeland	100	05694
Richland C. Pub. Wrks	325	11805
Sanders Deep Well	100	02940
Cooper	50	16023
Pelzer Gas	150	00480

13. Special Handling Instructions and Additional Information

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Travis Lucas | Signature: [signature] | Month: 6 | Day: 29 | Year: 10

Transporter 2 Printed/Typed Name | Signature | Month | Day | Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) | U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name | Signature | Month | Day | Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

JUL 0 6 2010

UST DOCKET 90tech

THOMAS L LAMMONS
BUNNELL-LAMMONS ENGINEERING INC
6004 PONDERS CT
GREENVILLE SC 29615

Re: **Invoice Return**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #38370
Invoice #5420-101 received May 5, 2010
Colleton County

Dear Mr. Lammons:

As you may be aware, a directive was issued to abandon selected monitoring wells at the referenced facility. During the abandonment process, monitoring well MW-3 was abandoned. This well was not to be abandoned. Trevor Benton advised me and is working to correct this issue. In the meantime, the referenced invoice is returned unprocessed. Once MW-3 has been replaced, your invoice may be re-submitted with the technical documentation.

On all correspondence concerning this site, please reference UST Permit #18662 and CA #38370. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Invoice 5420-101

cc: Technical File (without enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

UST DOCKET

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

JUL 06 2010

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received July 2, 2010
Colleton County

Dear Mr. Padgett:

As you are aware, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on June 16-17, 2010. A copy of the report is enclosed. No free phase product was found in any of the monitoring wells prior to the event. Approximately 0.32 equivalent gallons of petroleum vapor was recovered along with 100 gallons of contaminated water.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

UST
JUL 2 0 2010
PROGRAM

92tech
UST
DOCKET

BLE INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

BUNNELL-LAMMONS ENGINEERING, INC.
6004 Ponders Court
Greenville, SC 29615

Phone: 864-268-1265
Fax: 864-288-4430

FAX TRANSMITTAL

TO:	Read S. Miner, PG SCDHEC UST Division	PHONE NO.: FAX NO.:	803-896-6584 803-896-6245
FROM:	Trevor J. Benton, P.G Project Hydrogeologist BLE, Inc.	NO. OF PAGES: (including cover sheet)	3
DATE:	July 20, 2010		
Subject:	Bay Creek Villas – UST Permit #18662 MW-3R Boring Log		

☐ Urgent ☒ For Your Use ☐ Please Complete ☐ Please Reply

Mr. Miner,

Enclosed is the boring/construction log for MW-3R located at the Bay Creek Villas property (UST Permit #18662) in Edisto Beach. As you are aware, monitoring well MW-3 was inadvertently abandoned during recent abandonment activities at the site. As directed, MW-3R was located adjacent to MW-3 and was installed to a total depth of 12 feet. Soil cuttings generated during the well installation will be properly transported and disposed. Waste transportation and disposal records will be provided under separate cover. Additionally, a copy of the boring/construction log for MW-3R will be submitted via postal mail. We apologize for any inconvenience this may have caused. If you have any questions regarding this transmittal, please feel free to contact me.

Sincerely,

Trevor J. Benton, P.G.
Project Hydrogeologist
BLE, Inc.

BLE INC.

BUNNELL-LAMMONS ENGINEERING, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

GROUNDWATER MONITORING WELL NO. MW-3R

PROJECT: Bay Creek Villas — PROJECT NO.: J10-5420-101
CLIENT: SCDHEC — START: 7-15-10 END: 7-15-10
LOCATION: Edisto Beach, South Carolina — ELEVATION:
DRILLER: Landprobe, M. Burnett — LOGGED BY: T. Benton
DRILLING METHOD: Geoprobe 6600; 4-1/4 inch hollow stem augers
DEPTH TO - WATER> INITIAL: 6 AFTER 1 HOURS: 5.97 CAVING>

ELEVATION/ DEPTH (FT)	DESCRIPTION	SOIL TYPE	MONITOR WELL INSTALLATION DETAILS
	6-inches of ASPHALT and GRAVEL		Bentonite seal, 0 to 1.0 foot
2	Brown and gray, moist, silty, fine to medium SAND		Filter pack, sand 1.0 to 12.0 feet
4	Gray, moist to wet, fine to medium sandy CLAY with organics and slight petroleum odor		2-inch diameter, 0.010-inch slotted Schedule 40 PVC well screen, 1.8 to 11.8 feet
6 ▼			
8			
10	Gray, wet, slightly silty, fine to medium SAND with moderate petroleum odor		
12	Boring terminated at 12 feet. Groundwater encountered at 6.0 feet at time of drilling and at 5.97 feet after 1 hour.		Pipe cap
14			Total well depth, 12.0 feet
16			SURFACE COMPLETION Flush-mount at ground surface secured with an 8-inch diameter steel, bolted manhole cover in a 2' x 2' concrete pad
18			
20			
22			
24			
26			
28			
30			
32			
34			
36			
38			

MW-3R

DHEC

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. Name: BAY CREEK VILLAS (last) (first)
Address: 3701 DOCK SITE RD
City: EDISTO BEACH State: SC zip:
Phone: Work:
Home:

2. Location of Well: County: COLLETON
Name: BAY CREEK VILLAS
Address: 3701 Dock Site Rd.
City: Edisto Beach S.C zip:
Latitude: Longitude:

3. Public System Name: Public System Number:

4. Abandonment: (yes/no) no
Grouted Depth: from to ft.

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
see logs		

5. Remarks: MW-3R BENTONITE SEAL 0.2'-1'

6. Type: Mud Rotary, Jetted, Bored, Dug, Air Rotary xxx, Driven, Cable tool, Auger

7. Permit Number: UST PERMIT # 18662

8. Use: Residential, Public Supply, Process, Irrigation, Air Conditioning, Emergency, Test Well, Monitor Well, Replacement

9. Well Depth (completed) 12 ft. Date Started: 7/15/10 Date Completed: 7/15/10

10. Casing: Threaded, Welded
Diameter: 2"
Type: PVC
2" in. to 2' ft. depth
in. to ft. depth
Height:
Surface: ft. Weight: lb./ft.
Drive Shoe:

11. Screen:
Type: PVC Diameter: 2"
Slot/Gauge: #10 Length: 10'
Set Between: 2 ft. and 12 ft.
ft. and ft.
Sieve Analysis:

12. Static Water Level: na ft. below land surface after 24 hours.

13. Pumping Level below land surface.
ft. after hrs Pumping GPM
Pumping Test:
Yield: gpm

14. Water Quality:
Chemical Analysis: No Bacterial Analysis: No

15. Artificial Filter (filter pack) Y/N Yes
Installed from: 1 ft. to 12 ft.
Effective Size: Uniformity Coefficient

16. Well Grouted? NO (Bentonite chips)
Neat Cement, Bentonite/Cement, other
Depth: 2" ft. to 1' ft.

17. Nearest Source of Possible Contamination: ft. direction
Type:
Well disinfected No Type: Amount:

18. Pump: Date Installed: N/A
Mfr. Name: Model no.:
H.P.: Volts: Length of pipe: ft.
Capacity: gpm
TYPE:
Submersible, Jet (shallow), Turbine, Jet (deep), Reciprocating, Centrifugal

19. Well Driller Marshall Burnett 1671
Address: 6004 Ponders Court Level C
Greenville SC 29615
Telephone: 864-527-9324 Fax: 864-288-4430

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: Marshall M. Burnett

If D Level Driller, provide supervising driller's name.

Midlands
Environmental
Consultants, Inc.

July 16, 2010

JUL 2 0 2010
PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

93-tech
UST
DOCKET

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #38200
MECI Project Number 10-2709H
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on July 14 & 15, 2010. The event was conducted on monitoring well MW-20 to remove free phase petroleum product and on monitoring wells MW-18, MW-19, and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.03 feet prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 10.60 pounds or approximately 1.83 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.66 pounds per hour. Concentrations of off gas produced during the event were recorded from 9.4 parts per million by volume (PPM) to 667 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 3.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1H.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2H. Monitoring well locations are depicted on attached Figure 1.

A total of 325 gallons of liquid was removed from monitoring wells MW-18, MW-19, MW-20, and MW-21 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services of Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1H
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 10-2709H
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	07/14/10	11:00	0.50	15.0	334	1,840	165.60	0.66	0.33
MW-19	07/14/10	11:30	0.50	15.0	306	1,760	158.40	0.58	0.29
MW-20	07/14/10	12:00	0.50	15.0	214	1,730	155.70	0.40	0.20
MW-21	07/14/10	12:30	0.50	8.0	455	2,000	180.00	0.98	0.49
	07/14/10	13:00	0.50	6.0	387	2,000	180.00	0.84	0.42
	07/14/10	13:30	0.50	6.0	325	2,030	182.70	0.71	0.36
	07/14/10	14:00	0.50	6.0	274	2,090	188.10	0.62	0.31
	07/14/10	14:30	0.50	6.0	218	2,110	189.90	0.50	0.25
	07/14/10	15:00	0.50	5.0	10.1	2,120	190.80	0.02	0.01
	07/14/10	15:30	0.50	4.0	9.4	2,140	192.60	0.02	0.01
	07/14/10	16:00	0.50	5.0	47.8	2,210	198.90	0.11	0.06
	07/14/10	16:30	0.50	5.0	50.6	2,240	201.60	0.12	0.06
	07/14/10	17:00	0.50	4.0	29.7	1,850	166.50	0.06	0.03
	07/14/10	17:30	0.50	3.0	41.2	1,880	169.20	0.08	0.04
	07/14/10	18:00	0.50	5.0	469	1,580	142.20	0.80	0.40
	07/14/10	18:30	0.50	6.0	519	1,640	147.60	0.92	0.46
	07/14/10	19:00	0.50	4.0	667	1,660	149.40	1.20	0.60
	07/14/10	19:30	0.50	6.0	432	1,640	147.60	0.77	0.38
	07/14/10	20:00	0.50	8.0	466	1,660	149.40	0.84	0.42
	07/14/10	20:30	0.50	6.0	489	1,730	155.70	0.91	0.46
	07/14/10	21:00	0.50	5.0	391	3,980	358.20	1.68	0.84
	07/14/10	21:30	0.50	8.0	290	4,730	425.70	1.48	0.74
	07/14/10	22:00	0.50	7.0	320	5,460	491.40	1.89	0.94
	07/14/10	22:30	0.50	5.0	179	4,480	403.20	0.87	0.43
	07/14/10	23:00	0.50	4.0	98.1	3,620	325.80	0.38	0.19
	07/14/10	23:30	0.50	4.0	128	4,890	440.10	0.68	0.34
	07/15/10	0:00	0.50	4.0	194	3,750	337.50	0.79	0.39
	07/15/10	0:30	0.50	4.0	141	4,060	365.40	0.62	0.31
	07/15/10	1:00	0.50	4.0	153	4,270	384.30	0.71	0.35
	07/15/10	1:30	0.50	4.0	167	1,470	132.30	0.27	0.13
	07/15/10	2:00	0.50	4.0	192	1,210	108.90	0.25	0.13
	07/15/10	2:30	0.50	4.0	184	1,230	110.70	0.24	0.12
	07/15/10	3:00	0.50	4.0	161	1,240	111.60	0.22	0.11
									TOTAL 10.60

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	5.54	***	***	7.13	***	-1.59
MW-19	2"	3-10	***	5.17	***	***	6.78	***	-1.61
MW-20	2"	3-10	5.16	5.19	0.03	***	6.48	***	-1.32
MW-21	2"	2.5-9.5	***	5.32	***	***	7.39	***	-2.07

Vacuum Truck Information

Subcontractor: MECI
Truck Operator: G. Globensky
Stack I.D. (feet) 0.33 feet

Well ID	Stinger Depth
MW-18	6.00
MW-19	5.50
MW-20	5.00
MW-21	5.50

Corrected Depth to Water prior to AFVR event in MW-20: 5.16

Recovery / Disposal Information

Hydro carbons Removed (vapor):	10.60	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.83	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services	
Total Liquids Removed:	325	Gallons

Note: Due to tidal change, stinger depth was re-adjusted multiple times throughout the event. (see blelow)

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Length (ft) at 16:30	Stinger Length (ft) at 21:00
MW-18	***	***	8.00	6.00
MW-19	***	***	6.50	5.50
MW-20	***	***	6.00	5.00
MW-21	***	***	7.50	5.50

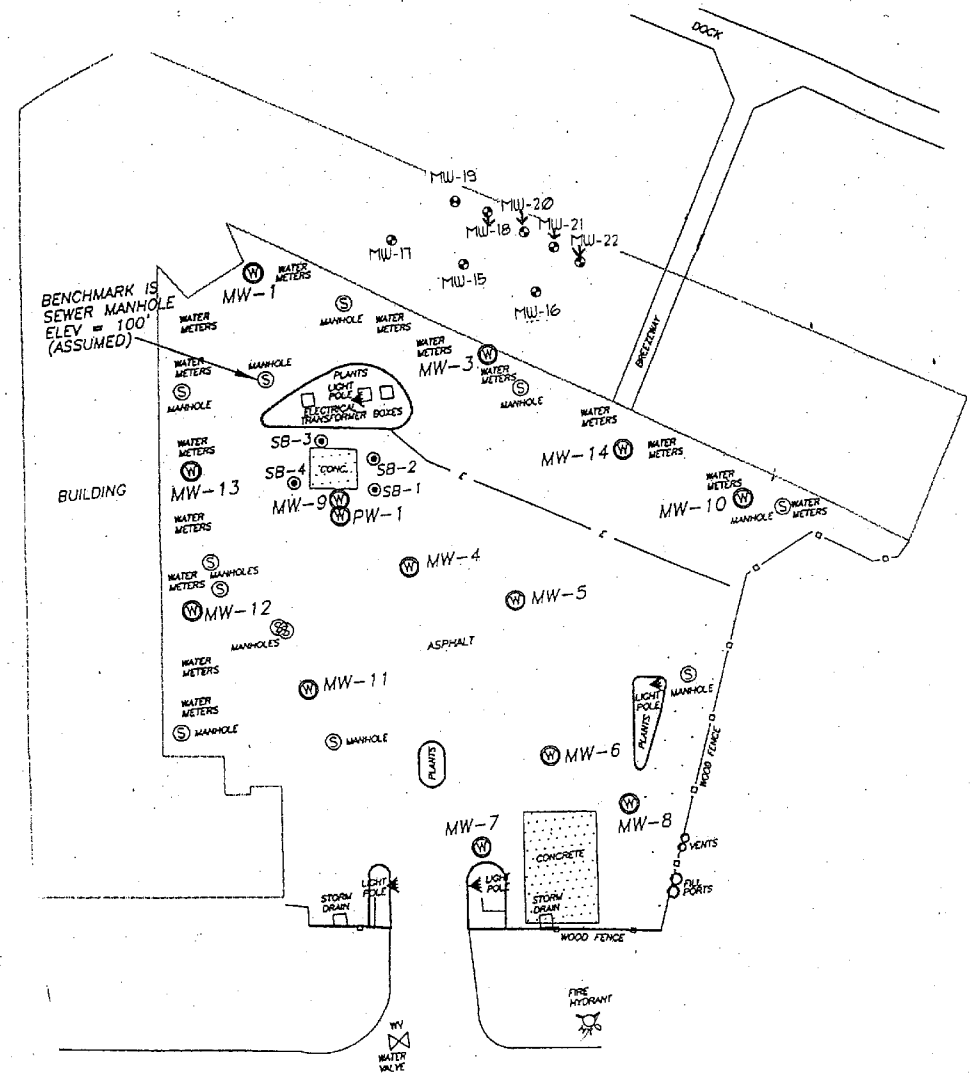
TABLE 2H
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 10-2709H
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**						
11:00	0.0	0	0	0	0	0	0	0
11:30	0.5	0	0	0	0	0	0	0
12:00	1.0	0	0	0	0	0	0	0
12:30	1.5	0	0	0	0	0	0	0
13:00	2.0	0	0	0	0	0	0	0
13:30	2.5	0	0	0	0	0	0	0
14:00	3.0	0	0	0	0	0	0	0
14:30	3.5	0	0	0	0	0	0	0
15:00	4.0	0	0	0	0	0	0	0
15:30	4.5	0	0	0	0	0	0	0
16:00	5.0	0	0	0	0	0	0	0
16:30	5.5	0	0	0	0	0	0	0
17:00	6.0	0	0	0	0	0	0	0
17:30	6.5	0	0	0	0	0	0	0
18:00	7.0	0	0	0	0	0	0	0
18:30	7.5	0	0	0	0	0	0	0
19:00	8.0	0	0	0	0	0	0	0
19:30	8.5	0	0	0	0	0	0	0
20:00	9.0	0	0	0	0	0	0	0
20:30	9.5	0	0	0	0	0	0	0
21:00	10.0	0	0	0	0	0	0	0
21:30	10.5	0	0	0	0	0	0	0
22:00	11.0	0	0	0	0	0	0	0
22:30	11.5	0	0	0	0	0	0	0
23:00	12.0	0	0	0	0	0	0	0
23:30	12.5	0	0	0	0	0	0	0
0:00	13.0	0	0	0	0	0	0	0
0:30	13.5	0	0	0	0	0	0	0
1:00	14.0	0	0	0	0	0	0	0
1:30	14.5	0	0	0	0	0	0	0
2:00	15.0	0	0	0	0	0	0	0
2:30	15.5	0	0	0	0	0	0	0
3:00	16.0	0	0	0	0	0	0	0
Maximum Change:		**0**	**0**	**0**	**0**	**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:						
		MW-15	**MW-16**	**MW-17**	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-20	MW-21	MW-19	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		18 ft	13 ft	12 ft	10 ft	24 ft	36 ft	12 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**						
Prior toAFVR		4.84	5.23	4.63	5.28	4.42	3.71	6.10
15:00	4 hours	4.82	5.90	4.63	5.47	4.42	3.66	6.19
19:00	8 hours	4.83	7.16	4.64	7.32	4.40	3.65	6.72
23:00	12 hours	4.85	5.68	4.65	5.23	4.41	3.66	6.78
3:00	16 hours	4.83	5.30	4.64	5.62	4.40	3.65	6.25
Maximum Change:		-0.03	-1.93	-0.02	2.09	0.02	0.06	-0.68



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1303
DATE August 28, 2007
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
			TK10262	

5. Generator's Name and Mailing Address
MIDLANDS ENVIRONMENTAL
21144 TWO NOTCH RD
LEXINGTON, SC

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: T K TANK SERVICES INC.. — U.S. EPA ID Number: 803-418-2314

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address
T K TANK SERVICES, INC
425 BOULEVARD ROAD
SUMTER, SC 29153

U.S. EPA ID Number: 803-418-2314

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON HAZARDOUS PETROLEUM CONTAMINATED WATER/PRODUCT	1	TT	APD 3500 GAL	
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit: Date leaving U.S.:

Transporter Signature (for exports only):

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Travis Lucas — Signature: [signature] — Month Day Year: 7 16 10

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☑ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Actual 3505 Gal by Actual Weight

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Nicole Milligan — Signature: [signature] — Month Day Year: 7 16 10

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 9/06) DESIGNATED FACILITY TO GENERATOR

Site Name	Site ID	Gallons
Summer's Store	03198	150
Summer's Store	03198	100
Best Buy	0906052	325
Best Buy	0906052	300
West State Line	08606	125
Converse Bus	08001	195
Summer's Store	03198	100
"	03198	225
Constan	07871	60
Ancrum	01617	150
Macks	01253	150
Nulls	12194	150
Hillcrest	04549	0
Quick Pantry #8	06946	50
Cash + Carry	03467	275
Anderson Patrol	00769	100
Former Adams	19416	100
Marion Comers	12223	300
McCoy Oil	19002	325
Bay Creek	18662	325

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

UST DOCKET 94tech

JUL 22 2010

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received July 20, 2010
Colleton County

Dear Mr. Padgett:

As you are aware, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on July 14-15, 2010. A copy of the report is enclosed. Monitoring well MW-20 contained 0.03 feet free phase product prior to the event. Approximately 1.83 equivalent gallons of petroleum vapor was recovered along with 325 gallons of contaminated water.

A sampling event will be completed this summer and the data used to evaluate any changes in dissolved concentrations in the groundwater. In addition, I will prepare a bid solicitation for an engineer to evaluate the construction of the building, the feasibility for excavation of impacted soil from beneath the building, a determination of how much soil can be safely excavated, the methods required for such excavation, and for implementation (if deemed to be feasible).

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

SEP 14 2010

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

95tech
UST
DOCKET

Re: **Notice to Proceed-Groundwater Sampling**
Bid # IFB-33335-3/11/08-EMW; PO# 4500011285

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct eleven (11) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order # 4500011285 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	MECI CA#
02233	Danny Melton	Chesterfield	22	S. Fulmer	ASAP	BTEXMN, DCA, & EDB	39925	39924
05388	Former Pantry 558	Kershaw	22	D. Thoma	ASAP	BTEXMN & DCA	39795	39796
00120	Four Seasons Food	Aiken	27	J. Koon	ASAP	BTEXMN, DCA, EDB, & Oxygenates	39447	39448
03463	Gibbs Grocery	Florence	17	M. Rivers	ASAP	BTEXMN, DCA, & Oxygenates	39774	39773
05027	Main Street Shell	Horry	19	J. Martin	10/30/10	BTEXMN & DCA	39496	39495
12030	Curgins Corner	Aiken	19	J. Koon	10/30/10	BTEXMN, DCA, & Oxygenates	39449	39450
13792	Sawyers Grocery	Marion	20	D. Thoma	10/30/10	BTEXMN, DCA, & EDB	39721	39722
09425	B Quick	York	26	D. Thoma	10/30/10	BTEXMN & DCA	38665	38666
12097	Greenwave Amoco	Dorchester	51	J. Padgett	10/30/10	BTEXMN, DCA, & EDB	39494	39493
18662	Bay Creek Villas	Colleton	14	R. Miner	10/30/10	BTEXMN, DCA, & Oxygenates	39537	39538
04581	Donahue Grocery	Spartanburg	35	M. Rivers	10/30/10	BTEXMN, DCA, EDB, & Oxygenates	39991	39990

MECI will perform services at the sites on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. Contact information has been provided in the information packet. The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

Please contact me with the sampling schedule before commencing work at these facilities. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Information Packets
Approved Cost Agreements

cc: Renee Spencer, PACE Analytical, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078 (w/ Approved CAs)
Technical Files (w/o. enc.)

Approved Cost Agreement 39537

Facility: 18662 BAY CREEK VILLAS

MINERRS

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	14.0000	23.00	322.00
		P	8 OXYGENATES	14.0000	30.00	420.00
				Total Amount		742.00

Approved Cost Agreement 39538

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB					
		B PERSONNEL	1.0000	150.00	150.00
10 SAMPLE COLLECTION					
		D GROUNDWATER NO-PURGE	14.0000	10.00	140.00
			Total Amount		290.00

Midlands Environmental Consultants, Inc.

October 18, 2010

UST
NOV 08 2010
PROGRAM

#96
UST
DOCKET

Ms. Debra Thoma, Hydrogeologist
Corrective Action Division
Underground Storage Tank Division
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
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662, CA # 39538
MECI Project Number 10-2992
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Thoma,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Sampling for the referenced site.

On October 15, 2010, thirteen (13) monitoring wells (MW-3R, MW-4, MW-9, MW-15 through MW-20, MW-22 through MW-25) were sampled. One monitoring well (MW-21) was gauged and contained free phase petroleum product at a thickness of 0.10 feet. Groundwater samples obtained were transported to Pace Analytical Services, Inc. of Huntersville, NC for analysis.

No purge water was produced at this site.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Senior Scientist

Brendon P. Kelly
Project Scientist

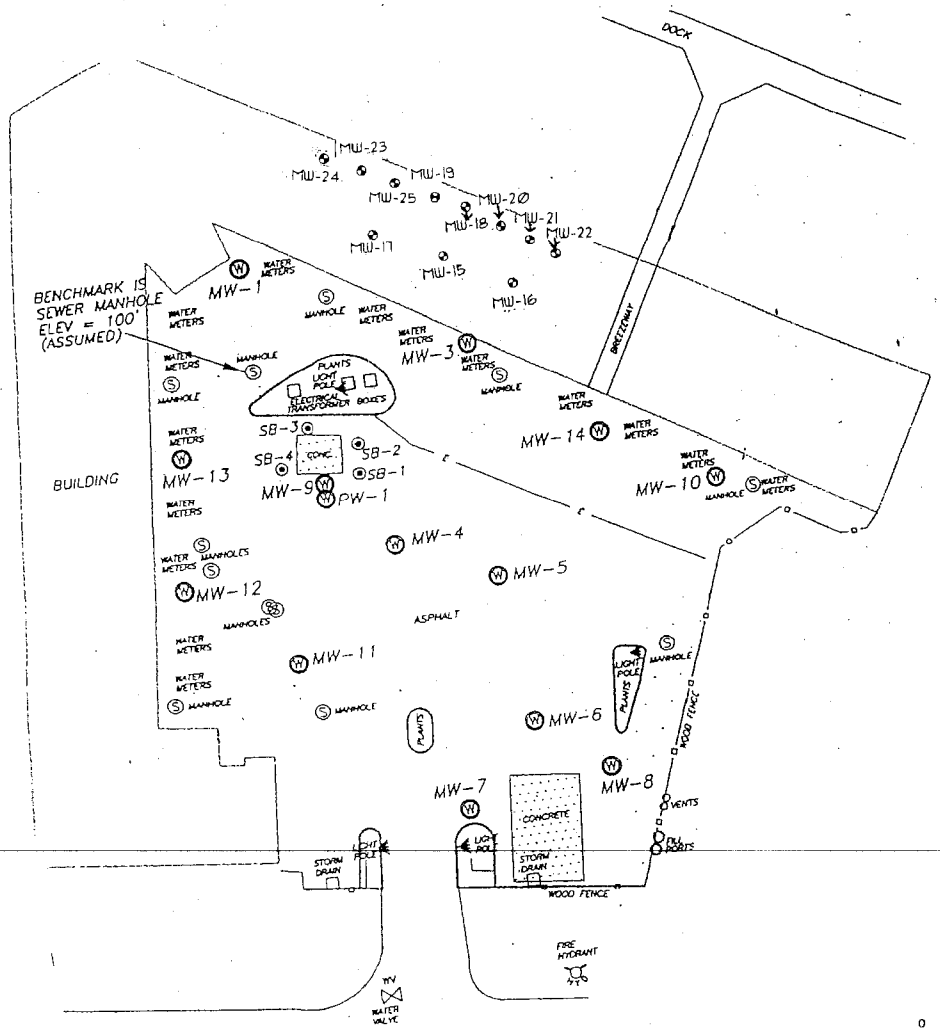
Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: John Womack

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-3R	Y	10/15/10	11:05	1.8-11.8	***	5.60	***	***	Odor
MW-4	Y	10/15/10	10:52	2.5-15	***	5.28	***	***	Odor
MW-9	Y	10/15/10	10:57	1.5-10	***	5.12	***	***	Odor
MW-15	Y	10/15/10	11:37	3-10	***	4.36	***	***	Odor
MW-16	Y	10/15/10	11:35	3-10	***	5.92	***	***	Odor
MW-17	Y	10/15/10	11:39	3-10	***	4.13	***	***	Odor
MW-18	Y	10/15/10	12:10	3-10	***	6.45	***	***	Odor
MW-19	Y	10/15/10	12:01	2.5-9.5	***	6.28	***	***	Odor
MW-20	Y	10/15/10	12:19	3-10	***	5.90	***	***	Odor
MW-21	Y	***	***	2.5-9.5	6.20	6.30	0.10	***	Free product thickness = 0.10 feet
MW-22	N	10/15/10	12:25	3-10	***	5.93	***	***	Odor
MW-23	Y	10/15/10	11:55	2.5-9.5	***	3.97	***	***	Odor
MW-24	Y	10/15/10	11:53	2.5-9.5	***	3.65	***	***	Odor
MW-25	Y	10/15/10	11:58	2.5-9.5	***	5.80	***	***	Odor/Sheen
								0.0	**TOTAL GALLONS PURGED**



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO 07-1489
DATE January 31, 2008
FIGURE 2

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1436302

Section A **Required** Client Information:	Section B **Required** Project Information:	Section C Invoice Information:
Company:	Report To:	Attention:
Address:	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: Fax:	Project Name:	Pace Project Manager:
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location
STATE:

Section D
Required Client Information

Matrix Codes
MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COLLECTED: COMPOSITE START TIME	COLLECTED: COMPOSITE END/GRAB DATE	COLLECTED: COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N												Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1																															
2																															
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY):

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1439904

Section A **Required** Client Information:	Section B **Required** Project Information:	Section C Invoice Information:
Company:	Report To:	Attention:
Address:	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: / Fax:	Project Name:	Pace Project Manager:
Requested Due Date/TAT:	Project Number:	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location ***STATE:***

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes
MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COLLECTED: COMPOSITE START TIME	COLLECTED: COMPOSITE END/GRAB DATE	COLLECTED: COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Requested Analysis Filtered (Y/N))	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: **DATE Signed (MM/DD/YY):**

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October 20, 2010

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RECEIVED
OCT 2 6 2010
UNDERGROUND STORAGE
TANK PROGRAM

RE: Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on October 16, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Renee Spencer

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031

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SAMPLE SUMMARY

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9279971001	**MW-3R**	Water	10/15/10 11:05	10/16/10 09:00
9279971002	**MW-4**	Water	10/15/10 10:52	10/16/10 09:00
9279971003	**MW-9**	Water	10/15/10 10:57	10/16/10 09:00
9279971004	**MW-15**	Water	10/15/10 11:37	10/16/10 09:00
9279971005	**MW-16**	Water	10/15/10 11:35	10/16/10 09:00
9279971006	**MW-17**	Water	10/15/10 11:39	10/16/10 09:00
9279971007	**MW-18**	Water	10/15/10 12:10	10/16/10 09:00
9279971008	**MW-19**	Water	10/15/10 12:01	10/16/10 09:00
9279971009	**MW-20**	Water	10/15/10 12:19	10/16/10 09:00
9279971010	**MW-22**	Water	10/15/10 12:25	10/16/10 09:00
9279971011	**MW-23**	Water	10/15/10 11:55	10/16/10 09:00
9279971012	**MW-24**	Water	10/15/10 11:53	10/16/10 09:00
9279971013	**MW-25**	Water	10/15/10 11:58	10/16/10 09:00

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SAMPLE ANALYTE COUNT

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9279971001	**MW-3R**	EPA 8260	KJM	21
9279971002	**MW-4**	EPA 8260	KJM	21
9279971003	**MW-9**	EPA 8260	KJM	21
9279971004	**MW-15**	EPA 8260	KJM	21
9279971005	**MW-16**	EPA 8260	KJM	21
9279971006	**MW-17**	EPA 8260	KJM	21
9279971007	**MW-18**	EPA 8260	KJM	21
9279971008	**MW-19**	EPA 8260	KJM	21
9279971009	**MW-20**	EPA 8260	KJM	21
9279971010	**MW-22**	EPA 8260	KJM	21
9279971011	**MW-23**	EPA 8260	KJM	21
9279971012	**MW-24**	EPA 8260	KJM	21
9279971013	**MW-25**	EPA 8260	KJM	21

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-3R **Lab ID: 9279971001** Collected: 10/15/10 11:05 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1000	620	10		10/19/10 03:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	45.0	10		10/19/10 03:04	994-05-8	
Benzene	**3480**	ug/L	250	60.0	50		10/19/10 16:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	480	10		10/19/10 03:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	270	10		10/19/10 03:04	75-65-0	
tert-Butyl Formate	ND	ug/L	500	90.0	10		10/19/10 03:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		10/19/10 03:04	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	27.0	10		10/19/10 03:04	108-20-3	
Ethanol	ND	ug/L	2000	1700	10		10/19/10 03:04	64-17-5	
Ethylbenzene	**1300**	ug/L	50.0	11.0	10		10/19/10 03:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	46.0	10		10/19/10 03:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		10/19/10 03:04	1634-04-4	
Naphthalene	**1020**	ug/L	50.0	29.0	10		10/19/10 03:04	91-20-3	
Toluene	**218**	ug/L	50.0	18.0	10		10/19/10 03:04	108-88-3	
Xylene (Total)	**990**	ug/L	100	27.0	10		10/19/10 03:04	1330-20-7	
m&p-Xylene	**752**	ug/L	100	27.0	10		10/19/10 03:04	179601-23-1	
o-Xylene	**238**	ug/L	50.0	17.0	10		10/19/10 03:04	95-47-6	
Dibromofluoromethane (S)	96	%	70-130		10		10/19/10 03:04	1868-53-7	
Toluene-d8 (S)	96	%	70-130		10		10/19/10 03:04	2037-26-5	
4-Bromofluorobenzene (S)	105	%	70-130		10		10/19/10 03:04	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		10		10/19/10 03:04	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-4 **Lab ID: 9279971002** Collected: 10/15/10 10:52 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1000	620	10		10/19/10 04:18	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	45.0	10		10/19/10 04:18	994-05-8	
Benzene	**37.3J**	ug/L	50.0	12.0	10		10/19/10 04:18	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	480	10		10/19/10 04:18	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	270	10		10/19/10 04:18	75-65-0	
tert-Butyl Formate	ND	ug/L	500	90.0	10		10/19/10 04:18	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		10/19/10 04:18	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	27.0	10		10/19/10 04:18	108-20-3	
Ethanol	ND	ug/L	2000	1700	10		10/19/10 04:18	64-17-5	
Ethylbenzene	**641**	ug/L	50.0	11.0	10		10/19/10 04:18	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	46.0	10		10/19/10 04:18	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		10/19/10 04:18	1634-04-4	
Naphthalene	**1020**	ug/L	50.0	29.0	10		10/19/10 04:18	91-20-3	
Toluene	ND	ug/L	50.0	18.0	10		10/19/10 04:18	108-88-3	
Xylene (Total)	ND	ug/L	100	27.0	10		10/19/10 04:18	1330-20-7	
m&p-Xylene	ND	ug/L	100	27.0	10		10/19/10 04:18	179601-23-1	
o-Xylene	ND	ug/L	50.0	17.0	10		10/19/10 04:18	95-47-6	
Dibromofluoromethane (S)	93	%	70-130		10		10/19/10 04:18	1868-53-7	
Toluene-d8 (S)	96	%	70-130		10		10/19/10 04:18	2037-26-5	
4-Bromofluorobenzene (S)	106	%	70-130		10		10/19/10 04:18	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	70-130		10		10/19/10 04:18	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-9 **Lab ID: 9279971003** Collected: 10/15/10 10:57 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	2000	1240	20		10/19/10 01:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	90.0	20		10/19/10 01:32	994-05-8	
Benzene	**239**	ug/L	100	24.0	20		10/19/10 01:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	960	20		10/19/10 01:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	540	20		10/19/10 01:32	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	180	20		10/19/10 01:32	762-75-4	
1,2-Dichloroethane	ND	ug/L	100	26.0	20		10/19/10 01:32	107-06-2	
Diisopropyl ether	ND	ug/L	100	54.0	20		10/19/10 01:32	108-20-3	
Ethanol	ND	ug/L	4000	3400	20		10/19/10 01:32	64-17-5	
Ethylbenzene	**1280**	ug/L	100	22.0	20		10/19/10 01:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	92.0	20		10/19/10 01:32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	100	40.0	20		10/19/10 01:32	1634-04-4	
Naphthalene	**616**	ug/L	100	58.0	20		10/19/10 01:32	91-20-3	
Toluene	**47.2J**	ug/L	100	36.0	20		10/19/10 01:32	108-88-3	
Xylene (Total)	**231**	ug/L	200	54.0	20		10/19/10 01:32	1330-20-7	
m&p-Xylene	**215**	ug/L	200	54.0	20		10/19/10 01:32	179601-23-1	
o-Xylene	ND	ug/L	100	34.0	20		10/19/10 01:32	95-47-6	
Dibromofluoromethane (S)	97	%	70-130		20		10/19/10 01:32	1868-53-7	
Toluene-d8 (S)	97	%	70-130		20		10/19/10 01:32	2037-26-5	
4-Bromofluorobenzene (S)	106	%	70-130		20		10/19/10 01:32	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		20		10/19/10 01:32	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-15 **Lab ID: 9279971004** Collected: 10/15/10 11:37 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/19/10 00:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/19/10 00:37	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/19/10 00:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/19/10 00:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/19/10 00:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/19/10 00:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/19/10 00:37	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/19/10 00:37	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/19/10 00:37	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/19/10 00:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/19/10 00:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/19/10 00:37	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/19/10 00:37	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/19/10 00:37	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/19/10 00:37	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/19/10 00:37	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/19/10 00:37	95-47-6	
Dibromofluoromethane (S)	98	%	70-130		1		10/19/10 00:37	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		10/19/10 00:37	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		1		10/19/10 00:37	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		10/19/10 00:37	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-16 **Lab ID: 9279971005** Collected: 10/15/10 11:35 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1000	620	10		10/19/10 01:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	45.0	10		10/19/10 01:51	994-05-8	
Benzene	**1410**	ug/L	50.0	12.0	10		10/19/10 01:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	480	10		10/19/10 01:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	270	10		10/19/10 01:51	75-65-0	
tert-Butyl Formate	ND	ug/L	500	90.0	10		10/19/10 01:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		10/19/10 01:51	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	27.0	10		10/19/10 01:51	108-20-3	
Ethanol	ND	ug/L	2000	1700	10		10/19/10 01:51	64-17-5	
Ethylbenzene	**436**	ug/L	50.0	11.0	10		10/19/10 01:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	46.0	10		10/19/10 01:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		10/19/10 01:51	1634-04-4	
Naphthalene	**343**	ug/L	50.0	29.0	10		10/19/10 01:51	91-20-3	
Toluene	**160**	ug/L	50.0	18.0	10		10/19/10 01:51	108-88-3	
Xylene (Total)	**1060**	ug/L	100	27.0	10		10/19/10 01:51	1330-20-7	
m&p-Xylene	**854**	ug/L	100	27.0	10		10/19/10 01:51	179601-23-1	
o-Xylene	**204**	ug/L	50.0	17.0	10		10/19/10 01:51	95-47-6	
Dibromofluoromethane (S)	95	%	70-130		10		10/19/10 01:51	1868-53-7	
Toluene-d8 (S)	97	%	70-130		10		10/19/10 01:51	2037-26-5	
4-Bromofluorobenzene (S)	106	%	70-130		10		10/19/10 01:51	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		10		10/19/10 01:51	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-17 **Lab ID: 9279971006** Collected: 10/15/10 11:39 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	500	310	5		10/19/10 13:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	50.0	22.5	5		10/19/10 13:22	994-05-8	
Benzene	**187**	ug/L	25.0	6.0	5		10/19/10 13:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	240	5		10/19/10 13:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	135	5		10/19/10 13:22	75-65-0	
tert-Butyl Formate	ND	ug/L	250	45.0	5		10/19/10 13:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	25.0	6.5	5		10/19/10 13:22	107-06-2	
Diisopropyl ether	ND	ug/L	25.0	13.5	5		10/19/10 13:22	108-20-3	
Ethanol	ND	ug/L	1000	850	5		10/19/10 13:22	64-17-5	
Ethylbenzene	**75.8**	ug/L	25.0	5.5	5		10/19/10 13:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	23.0	5		10/19/10 13:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	25.0	10.0	5		10/19/10 13:22	1634-04-4	
Naphthalene	ND	ug/L	25.0	14.5	5		10/19/10 13:22	91-20-3	
Toluene	ND	ug/L	25.0	9.0	5		10/19/10 13:22	108-88-3	
Xylene (Total)	**26.1J**	ug/L	50.0	13.5	5		10/19/10 13:22	1330-20-7	
m&p-Xylene	**22.6J**	ug/L	50.0	13.5	5		10/19/10 13:22	179601-23-1	
o-Xylene	ND	ug/L	25.0	8.5	5		10/19/10 13:22	95-47-6	
Dibromofluoromethane (S)	90	%	70-130		5		10/19/10 13:22	1868-53-7	
Toluene-d8 (S)	96	%	70-130		5		10/19/10 13:22	2037-26-5	
4-Bromofluorobenzene (S)	105	%	70-130		5		10/19/10 13:22	460-00-4	
1,2-Dichloroethane-d4 (S)	84	%	70-130		5		10/19/10 13:22	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-18 **Lab ID: 9279971007** Collected: 10/15/10 12:10 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3100	50		10/19/10 02:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	225	50		10/19/10 02:09	994-05-8	
Benzene	**6450**	ug/L	250	60.0	50		10/19/10 02:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	2400	50		10/19/10 02:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	1350	50		10/19/10 02:09	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	450	50		10/19/10 02:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	65.0	50		10/19/10 02:09	107-06-2	
Diisopropyl ether	ND	ug/L	250	135	50		10/19/10 02:09	108-20-3	
Ethanol	ND	ug/L	10000	8500	50		10/19/10 02:09	64-17-5	
Ethylbenzene	**1200**	ug/L	250	55.0	50		10/19/10 02:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	230	50		10/19/10 02:09	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	100	50		10/19/10 02:09	1634-04-4	
Naphthalene	**1070**	ug/L	250	145	50		10/19/10 02:09	91-20-3	
Toluene	**3130**	ug/L	250	90.0	50		10/19/10 02:09	108-88-3	
Xylene (Total)	**6510**	ug/L	500	135	50		10/19/10 02:09	1330-20-7	
m&p-Xylene	**4570**	ug/L	500	135	50		10/19/10 02:09	179601-23-1	
o-Xylene	**1930**	ug/L	250	85.0	50		10/19/10 02:09	95-47-6	
Dibromofluoromethane (S)	94	%	70-130		50		10/19/10 02:09	1868-53-7	
Toluene-d8 (S)	97	%	70-130		50		10/19/10 02:09	2037-26-5	
4-Bromofluorobenzene (S)	107	%	70-130		50		10/19/10 02:09	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		50		10/19/10 02:09	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-19 **Lab ID: 9279971008** Collected: 10/15/10 12:01 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	10000	6200	100		10/19/10 02:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	450	100		10/19/10 02:27	994-05-8	
Benzene	**7020**	ug/L	500	120	100		10/19/10 02:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	4800	100		10/19/10 02:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	2700	100		10/19/10 02:27	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	900	100		10/19/10 02:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	130	100		10/19/10 02:27	107-06-2	
Diisopropyl ether	ND	ug/L	500	270	100		10/19/10 02:27	108-20-3	
Ethanol	ND	ug/L	20000	17000	100		10/19/10 02:27	64-17-5	
Ethylbenzene	**1190**	ug/L	500	110	100		10/19/10 02:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	460	100		10/19/10 02:27	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	200	100		10/19/10 02:27	1634-04-4	
Naphthalene	**1080**	ug/L	500	290	100		10/19/10 02:27	91-20-3	
Toluene	**3620**	ug/L	500	180	100		10/19/10 02:27	108-88-3	
Xylene (Total)	**5460**	ug/L	1000	270	100		10/19/10 02:27	1330-20-7	
m&p-Xylene	**3780**	ug/L	1000	270	100		10/19/10 02:27	179601-23-1	
o-Xylene	**1680**	ug/L	500	170	100		10/19/10 02:27	95-47-6	
Dibromofluoromethane (S)	96	%	70-130		100		10/19/10 02:27	1868-53-7	
Toluene-d8 (S)	98	%	70-130		100		10/19/10 02:27	2037-26-5	
4-Bromofluorobenzene (S)	108	%	70-130		100		10/19/10 02:27	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		100		10/19/10 02:27	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-20 **Lab ID: 9279971009** Collected: 10/15/10 12:19 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3100	50		10/19/10 02:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	225	50		10/19/10 02:46	994-05-8	
Benzene	**465**	ug/L	250	60.0	50		10/19/10 02:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	2400	50		10/19/10 02:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	1350	50		10/19/10 02:46	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	450	50		10/19/10 02:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	65.0	50		10/19/10 02:46	107-06-2	
Diisopropyl ether	ND	ug/L	250	135	50		10/19/10 02:46	108-20-3	
Ethanol	ND	ug/L	10000	8500	50		10/19/10 02:46	64-17-5	
Ethylbenzene	**1370**	ug/L	250	55.0	50		10/19/10 02:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	230	50		10/19/10 02:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	100	50		10/19/10 02:46	1634-04-4	
Naphthalene	**880**	ug/L	250	145	50		10/19/10 02:46	91-20-3	
Toluene	**758**	ug/L	250	90.0	50		10/19/10 02:46	108-88-3	
Xylene (Total)	**5240**	ug/L	500	135	50		10/19/10 02:46	1330-20-7	
m&p-Xylene	**3150**	ug/L	500	135	50		10/19/10 02:46	179601-23-1	
o-Xylene	**2090**	ug/L	250	85.0	50		10/19/10 02:46	95-47-6	
Dibromofluoromethane (S)	94	%	70-130		50		10/19/10 02:46	1868-53-7	
Toluene-d8 (S)	96	%	70-130		50		10/19/10 02:46	2037-26-5	
4-Bromofluorobenzene (S)	109	%	70-130		50		10/19/10 02:46	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		50		10/19/10 02:46	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-22 **Lab ID: 9279971010** Collected: 10/15/10 12:25 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/19/10 13:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/19/10 13:04	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/19/10 13:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/19/10 13:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/19/10 13:04	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/19/10 13:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/19/10 13:04	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/19/10 13:04	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/19/10 13:04	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/19/10 13:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/19/10 13:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/19/10 13:04	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/19/10 13:04	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/19/10 13:04	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/19/10 13:04	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/19/10 13:04	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/19/10 13:04	95-47-6	
Dibromofluoromethane (S)	92	%	70-130		1		10/19/10 13:04	1868-53-7	
Toluene-d8 (S)	95	%	70-130		1		10/19/10 13:04	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		1		10/19/10 13:04	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130		1		10/19/10 13:04	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-23 **Lab ID: 9279971011** Collected: 10/15/10 11:55 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/19/10 00:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/19/10 00:55	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/19/10 00:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/19/10 00:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/19/10 00:55	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/19/10 00:55	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/19/10 00:55	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/19/10 00:55	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/19/10 00:55	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/19/10 00:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/19/10 00:55	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/19/10 00:55	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/19/10 00:55	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/19/10 00:55	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/19/10 00:55	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/19/10 00:55	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/19/10 00:55	95-47-6	
Dibromofluoromethane (S)	100	%	70-130		1		10/19/10 00:55	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		10/19/10 00:55	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		1		10/19/10 00:55	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		10/19/10 00:55	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-24 **Lab ID: 9279971012** Collected: 10/15/10 11:53 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/19/10 01:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/19/10 01:14	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/19/10 01:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/19/10 01:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/19/10 01:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/19/10 01:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/19/10 01:14	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/19/10 01:14	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/19/10 01:14	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/19/10 01:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/19/10 01:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/19/10 01:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/19/10 01:14	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/19/10 01:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/19/10 01:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/19/10 01:14	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/19/10 01:14	95-47-6	
Dibromofluoromethane (S)	99	%	70-130		1		10/19/10 01:14	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		10/19/10 01:14	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		1		10/19/10 01:14	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		10/19/10 01:14	17060-07-0	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

Sample: MW-25 **Lab ID: 9279971013** Collected: 10/15/10 11:58 Received: 10/16/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3100	50		10/19/10 13:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	225	50		10/19/10 13:41	994-05-8	
Benzene	**5150**	ug/L	250	60.0	50		10/19/10 13:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	2400	50		10/19/10 13:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	1350	50		10/19/10 13:41	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	450	50		10/19/10 13:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	65.0	50		10/19/10 13:41	107-06-2	
Diisopropyl ether	ND	ug/L	250	135	50		10/19/10 13:41	108-20-3	
Ethanol	ND	ug/L	10000	8500	50		10/19/10 13:41	64-17-5	
Ethylbenzene	**1420**	ug/L	250	55.0	50		10/19/10 13:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	230	50		10/19/10 13:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	100	50		10/19/10 13:41	1634-04-4	
Naphthalene	**652**	ug/L	250	145	50		10/19/10 13:41	91-20-3	
Toluene	**5760**	ug/L	250	90.0	50		10/19/10 13:41	108-88-3	
Xylene (Total)	**7500**	ug/L	500	135	50		10/19/10 13:41	1330-20-7	
m&p-Xylene	**5050**	ug/L	500	135	50		10/19/10 13:41	179601-23-1	
o-Xylene	**2450**	ug/L	250	85.0	50		10/19/10 13:41	95-47-6	
Dibromofluoromethane (S)	89	%	70-130		50		10/19/10 13:41	1868-53-7	
Toluene-d8 (S)	97	%	70-130		50		10/19/10 13:41	2037-26-5	
4-Bromofluorobenzene (S)	109	%	70-130		50		10/19/10 13:41	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	70-130		50		10/19/10 13:41	17060-07-0	

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

QC Batch: MSV/12694 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9279971001, 9279971002, 9279971003, 9279971004, 9279971005, 9279971007, 9279971008, 9279971009, 9279971011, 9279971012

METHOD BLANK: 513543 Matrix: Water
Associated Lab Samples: 9279971001, 9279971002, 9279971003, 9279971004, 9279971005, 9279971007, 9279971008, 9279971009, 9279971011, 9279971012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	10/18/10 23:42	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	10/18/10 23:42	
Benzene	ug/L	ND	5.0	10/18/10 23:42	
Diisopropyl ether	ug/L	ND	5.0	10/18/10 23:42	
Ethanol	ug/L	ND	200	10/18/10 23:42	
Ethyl-tert-butyl ether	ug/L	ND	10.0	10/18/10 23:42	
Ethylbenzene	ug/L	ND	5.0	10/18/10 23:42	
m&p-Xylene	ug/L	ND	10.0	10/18/10 23:42	
Methyl-tert-butyl ether	ug/L	ND	5.0	10/18/10 23:42	
Naphthalene	ug/L	ND	5.0	10/18/10 23:42	
o-Xylene	ug/L	ND	5.0	10/18/10 23:42	
tert-Amyl Alcohol	ug/L	ND	100	10/18/10 23:42	
tert-Amylmethyl ether	ug/L	ND	10.0	10/18/10 23:42	
tert-Butyl Alcohol	ug/L	ND	100	10/18/10 23:42	
tert-Butyl Formate	ug/L	ND	50.0	10/18/10 23:42	
Toluene	ug/L	ND	5.0	10/18/10 23:42	
Xylene (Total)	ug/L	ND	10.0	10/18/10 23:42	
1,2-Dichloroethane-d4 (S)	%	94	70-130	10/18/10 23:42	
4-Bromofluorobenzene (S)	%	104	70-130	10/18/10 23:42	
Dibromofluoromethane (S)	%	96	70-130	10/18/10 23:42	
Toluene-d8 (S)	%	96	70-130	10/18/10 23:42	

LABORATORY CONTROL SAMPLE: 513544

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.9	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1380	138	70-130	L3
Benzene	ug/L	50	46.3	93	70-130	
Diisopropyl ether	ug/L	50	46.0	92	70-130	
Ethanol	ug/L	2000	2600	130	70-130	
Ethyl-tert-butyl ether	ug/L	100	97.3	97	70-130	
Ethylbenzene	ug/L	50	47.0	94	70-130	
m&p-Xylene	ug/L	100	94.9	95	70-130	
Methyl-tert-butyl ether	ug/L	50	49.1	98	70-130	
Naphthalene	ug/L	50	60.9	122	70-130	
o-Xylene	ug/L	50	49.9	100	70-130	
tert-Amyl Alcohol	ug/L	1000	1370	137	70-130	L3
tert-Amylmethyl ether	ug/L	100	109	109	70-130	
tert-Butyl Alcohol	ug/L	500	618	124	70-130	
tert-Butyl Formate	ug/L	400	374	93	70-130	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

LABORATORY CONTROL SAMPLE: 513544

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	48.9	98	70-130	
Xylene (Total)	ug/L	150	145	97	70-130	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			108	70-130	
Dibromofluoromethane (S)	%			93	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 513545 513546

Parameter	Units	9279971011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	25.9	37.5	52	75	70-130	37	30	M0,R1
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	527	895	53	89	70-130	52	30	M0,R1
Benzene	ug/L	ND	50	50	28.1	40.4	56	81	70-130	36	30	M0,R1
Diisopropyl ether	ug/L	ND	50	50	26.2	39.8	52	79	70-130	41	30	M0,R1
Ethanol	ug/L	ND	2000	2000	930	1510	46	75	70-130	47	30	M0,R1
Ethyl-tert-butyl ether	ug/L	ND	100	100	52.4	78.9	52	79	70-130	40	30	M0,R1
Ethylbenzene	ug/L	ND	50	50	28.0	41.7	55	83	70-130	40	30	M0,R1
m&p-Xylene	ug/L	ND	100	100	55.9	82.9	56	83	70-130	39	30	M0,R1
Methyl-tert-butyl ether	ug/L	ND	50	50	26.2	39.0	52	78	70-130	39	30	M0,R1
Naphthalene	ug/L	ND	50	50	36.8	49.3	73	98	70-130	29	30	
o-Xylene	ug/L	ND	50	50	28.3	42.7	57	85	70-130	40	30	M0,R1
tert-Amyl Alcohol	ug/L	ND	1000	1000	559	880	56	88	70-130	45	30	M0,R1
tert-Amylmethyl ether	ug/L	ND	100	100	55.4	83.2	55	83	70-130	40	30	M0,R1
tert-Butyl Alcohol	ug/L	ND	500	500	264	443	53	89	70-130	50	30	M0,R1
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	0	0	70-130		30	P5
Toluene	ug/L	ND	50	50	28.2	41.1	56	82	70-130	37	30	M0,R1
1,2-Dichloroethane-d4 (S)	%						86	86	70-130			
4-Bromofluorobenzene (S)	%						104	106	70-130			
Dibromofluoromethane (S)	%						92	91	70-130			
Toluene-d8 (S)	%						97	97	70-130			

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

QC Batch: MSV/12723 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9279971006, 9279971010, 9279971013

METHOD BLANK: 514310 Matrix: Water
Associated Lab Samples: 9279971006, 9279971010, 9279971013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	10/19/10 12:27	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	10/19/10 12:27	
Benzene	ug/L	ND	5.0	10/19/10 12:27	
Diisopropyl ether	ug/L	ND	5.0	10/19/10 12:27	
Ethanol	ug/L	ND	200	10/19/10 12:27	
Ethyl-tert-butyl ether	ug/L	ND	10.0	10/19/10 12:27	
Ethylbenzene	ug/L	ND	5.0	10/19/10 12:27	
m&p-Xylene	ug/L	ND	10.0	10/19/10 12:27	
Methyl-tert-butyl ether	ug/L	ND	5.0	10/19/10 12:27	
Naphthalene	ug/L	ND	5.0	10/19/10 12:27	
o-Xylene	ug/L	ND	5.0	10/19/10 12:27	
tert-Amyl Alcohol	ug/L	ND	100	10/19/10 12:27	
tert-Amylmethyl ether	ug/L	ND	10.0	10/19/10 12:27	
tert-Butyl Alcohol	ug/L	ND	100	10/19/10 12:27	
tert-Butyl Formate	ug/L	ND	50.0	10/19/10 12:27	
Toluene	ug/L	ND	5.0	10/19/10 12:27	
Xylene (Total)	ug/L	ND	10.0	10/19/10 12:27	
1,2-Dichloroethane-d4 (S)	%	87	70-130	10/19/10 12:27	
4-Bromofluorobenzene (S)	%	107	70-130	10/19/10 12:27	
Dibromofluoromethane (S)	%	90	70-130	10/19/10 12:27	
Toluene-d8 (S)	%	96	70-130	10/19/10 12:27	

LABORATORY CONTROL SAMPLE: 514311

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	42.4	85	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1140	114	70-130	
Benzene	ug/L	50	47.2	94	70-130	
Diisopropyl ether	ug/L	50	45.1	90	70-130	
Ethanol	ug/L	2000	1780	89	70-130	
Ethyl-tert-butyl ether	ug/L	100	90.0	90	70-130	
Ethylbenzene	ug/L	50	48.4	97	70-130	
m&p-Xylene	ug/L	100	96.9	97	70-130	
Methyl-tert-butyl ether	ug/L	50	45.5	91	70-130	
Naphthalene	ug/L	50	56.1	112	70-130	
o-Xylene	ug/L	50	50.4	101	70-130	
tert-Amyl Alcohol	ug/L	1000	1060	106	70-130	
tert-Amylmethyl ether	ug/L	100	98.2	98	70-130	
tert-Butyl Alcohol	ug/L	500	489	98	70-130	
tert-Butyl Formate	ug/L	400	338	84	70-130	
Toluene	ug/L	50	48.6	97	70-130	

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662
Pace Project No.: 9279971

LABORATORY CONTROL SAMPLE: 514311

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	147	98	70-130	
1,2-Dichloroethane-d4 (S)	%			84	70-130	
4-Bromofluorobenzene (S)	%			108	70-130	
Dibromofluoromethane (S)	%			90	70-130	
Toluene-d8 (S)	%			98	70-130	

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

1436302

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull St
Cola, SC 29201
Email To:
Phone: 896 6241 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D Thoma
Copy To:
Purchase Order No.: 4500011285
Project Name: Bay Creek Villas
Project Number: 18662/39537

Section C Invoice Information:

Attention: Finance (D Thoma)
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: R Spencer
Pace Profile #: 899-6

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): hex, naph, mtbe	1,2-DCA	8-oxy	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-3R	wt	G			10/15	1105		3				3					X	X	X		odor 001
2	-4						1052															002
3	-9						1057															003
4	-15						1137															004
5	-16						1135															005
6	-17						1139															006
7	-18						1210															007
8	-19						1201															008
9	-20						1219		3				3					X	X	X		odor 009
10	-21																					PRODUCT
11	-22						1225		3				3					X	X	X		odor 010
12	MW-23	wt	G			10/15	1155		3				3					X	X	X		odor 011

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Report J values				[signature] PACE	10/16/10	0900	1.7	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: John Womack
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10-15-10

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

1436304

Section A Required Client Information:

Company:	SCDHEC - UST
Address:	2600 Bull St Cola SC 29201
Email To:	
Phone:	896 6241
Fax:	
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	D Thoma
Copy To:	
Purchase Order No.:	
Project Name:	Bay Creek Villas
Project Number:	18662/39537

Section C Invoice Information:

Attention:	Finance (D Thoma)
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	R Spencer
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	btex, naph, mtbe	1,2-DCA	8-oxy	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-24	wt	G			10/15	1153		3				3						X	X	X	012	odor, ~~013~~
2	MW-25	wt	G			10/15	1158		3				3						X	X	X	013	odor/sheen ~~014~~
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

9279971

RLS 10/16/10

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Report J values				[signature] PPAK	10/16/10	0900	1.7	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Womack

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 10-15-10

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

UST DOCKET 97 TECH

FEB 17 2011

BRIAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071-0854

Re: Bid # IBF-36815-8/27/09-EMW; PO # 4500011659
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Free Product (FP) recovery using Aggressive Fluid Vapor Recovery (AFVR) or passive skimmers at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR and/or passive skimmers installation. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 4500011659 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).

UST Permit #	Facility	County	Releas	Work Scope	Due Date*	CA #	Approved Amt.
01253	Mack's Camp	Berkeley	1	3 AFVR	60 days	40723	3,315.00
06926	Quick Panty 12	Orangeburg	1	3 AFVR	60 days	40771	3,315.00
07907	USA Petroleum	Richland	1	4 AFVR	60 days	40773	4,675.00
08979	Gregory's Store	Union	1	2 AFVR	60 days	40801	2,375.00
18662	Bay Creek Villas	Colleton	1	5 AFVR	60 days	40831	5,475.00
14555	E Z Stop Food Shop	Lexington	1	3 AFVR	90 days	40849	3,350.00
03439	Highway 11 Grocery	Oconee	1	9 AFVR	90 days	40894	9,975.00
11702	Colonel Creek Landing	Fairfield	1	3 AFVR	60 days	41028	3,315.00

*From receipt of letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained.

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval. Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

The Department grants pre-approval for transportation of free phase product and petroleum contaminated groundwater from the referenced site to a permitted treatment facility. The free product and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 896-6664, by fax at (803) 896-6245 or by email at milenkmp@dhec.sc.gov.

Sincerely,

Maia Milenkova, Hydrogeologist
Assessment Section
UST Management Division
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packets
cc: Technical File (w/copy of ACA)

SCDHEC/UST/02/09/11/MPM

Approved Cost Agreement 40831

Facility: 18662 BAY CREEK VILLAS

MINERRS

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	5.0000	350.00	1,750.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	1,500.0000	0.10	150.00
23 EFR						
		A	8 HOUR EVENT	5.0000	600.00	3,000.00
		C	OFF GAS TREATMENT	5.0000	100.00	500.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
				Total Amount		5,475.00

Midlands
Environmental
Consultants, Inc.

March 18, 2011

UST
MAR 2 1 2011
PROGRAM

Mr. Read Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
DOCKET
98 Tech

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #40831
MECI Project Number 11-3221A
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

On March 1, 2011, a site visit was conducted at Bay Creek Villas to locate/gauge relevant monitoring wells and to evaluate current site conditions. MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 7, 2011. The event was conducted on monitoring wells MW-20, MW-21 and MW-25 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.01 feet, in MW-21 at a thickness of 0.10 feet and in MW-25 at a thickness of 0.02 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 4.77 pounds or approximately 0.82 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.60 pounds per hour. Concentrations of off gas produced during the event were recorded from 101 parts per million by volume (PPM) to 1,326 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 14.0 to 24.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A. Monitoring well locations are depicted on attached Figure 1.

A total of 100 gallons of liquid was removed from MW-20, MW-21 and MW-25 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Inc. of Sumter, SC for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachements:

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3221A
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	03/07/11	11:00	0.50	15.0	1,154	1,460	131.40	1.82	0.91
MW-21	03/07/11	11:30	0.50	15.0	1,326	1,470	132.30	2.11	1.05
MW-25	03/07/11	12:00	0.50	14.0	529	1,490	134.10	0.85	0.43
	03/07/11	12:30	0.50	14.0	337	1,510	135.90	0.55	0.27
	03/07/11	13:00	0.50	14.0	308	1,500	135.00	0.50	0.25
	03/07/11	13:30	0.50	14.0	289	1,510	135.90	0.47	0.24
	03/07/11	14:00	0.50	21.0	166	630	56.70	0.11	0.06
	03/07/11	14:30	0.50	21.0	142	620	55.80	0.10	0.05
	03/07/11	15:00	0.50	21.0	101	660	59.40	0.07	0.04
***	03/07/11	15:30	0.50	24.0	144	280	25.20	0.04	0.02
	03/07/11	16:00	0.50	24.0	138	330	29.70	0.05	0.02
	03/07/11	16:30	0.50	24.0	127	290	26.10	0.04	0.02
	03/07/11	17:00	0.50	19.0	632	910	81.90	0.62	0.31
	03/07/11	17:30	0.50	19.0	599	930	83.70	0.60	0.30
	03/07/11	18:00	0.50	19.0	568	920	82.80	0.56	0.28
	03/07/11	18:30	0.50	19.0	547	900	81.00	0.53	0.27
	03/07/11	19:00	0.50	19.0	519	930	83.70	0.52	0.26
									TOTAL 4.77

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-20	2"	3-10	5.97	5.98	0.01	***	7.10	***	1.13
MW-21	2"	2.5-9.5	5.52	5.62	0.10	***	6.80	***	1.27
MW-25	2"	2.5-9.5	6.34	6.36	0.02	***	7.24	***	0.90

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-20	6.50
Truck Operator:	B. Owen	MW-21	6.50
Stack I.D. (feet)	0.33 feet	MW-25	7.00

Corrected depth to water before AFVR Event in MW-20 = 5.97
Corrected depth to water before AFVR Event in MW-21 = 5.54
Corrected depth to water before AFVR Event in MW-25 = 6.34

*** = 1.00' added to all stingers

Recovery / Disposal Information

Hydro carbons Removed (vapor):	4.77	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.82	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	100	Gallons

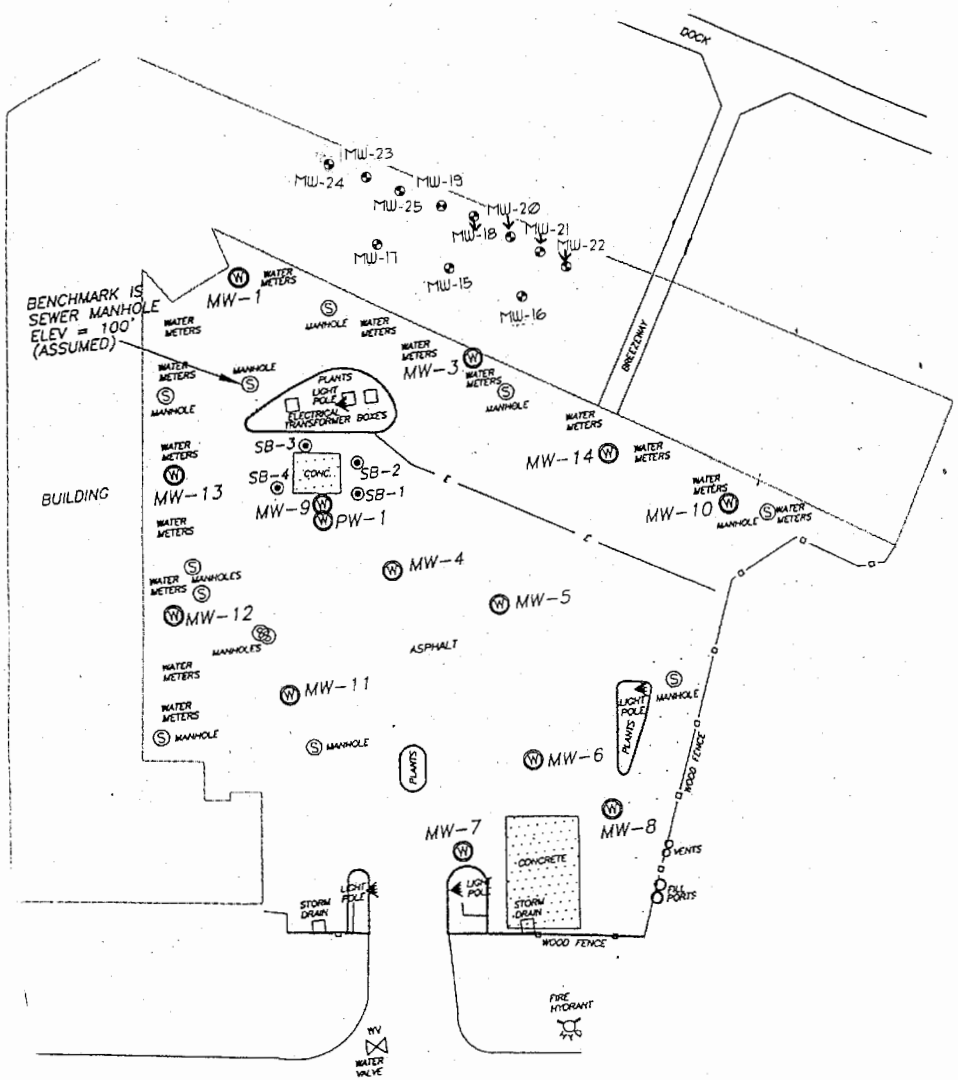
TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3221A
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-18**	**MW-19**
Nearest Extraction Well:		MW-20	MW-20	MW-25
Approximate Distance:		22 ft	13 ft	14 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:00	0.0	0	0	0
11:30	0.5	0	0	0
12:00	1.0	0	0	0
12:30	1.5	0	0	0
13:00	2.0	0	0	0
13:30	2.5	0	0	0
14:00	3.0	0	0	0
14:30	3.5	0	0	0
15:00	4.0	0	0	0
15:30	4.5	0	0	0
16:00	5.0	0	0	0
16:30	5.5	0	0	0
17:00	6.0	0	0	0
17:30	6.5	0	0	0
18:00	7.0	0	0	0
18:30	7.5	0	0	0
19:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-18**	**MW-19**
Nearest Extraction Well:		MW-20	MW-20	MW-25
Approximate Distance:		22 ft	13 ft	14 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.60	5.76	5.61
15:00	4 hours	4.60	7.19	6.55
19:00	8 hours	4.66	7.38	7.23
Maximum Change:		-0.06	-1.62	-1.62



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number

5. Generator's Name and Mailing Address

MIDLANDS ENVIRONMENTAL
1144 TWO NOTCH ROAD
LEXINGTON, SC 29073

Generator's Site Address (if different than mailing address)

TN 10331

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

TL TANK SERVICES
125 BOULEVARD ROAD
SUMTER, SC 29153

Facility's Phone: 803-418-5314

9. Waste Shipping Name and Description	10. Containers No.	Type	Quantity	Wt./Vol.
1. NON HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	AD 3395 GAL	
2.				
3.				
4.				

13. Special Handling

14. GENERATOR'S ... deral regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's — Month Day Year

15. International Shi — Port of entry/exit:

Transporter Signatur — Date leaving U.S.:

16. Transporter Acki

Transporter 1 Printe — Month Day Year 3 16 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

Site:	UST Permit #:	Gallons Produced:
Heath Self Serve	08932	200
Highway 11 Grocery	03439	100
Highway 11 Grocery	03439	50
Movie Gallery	19077	160
Pantry 3418	05042	165
Summers Store	03198	100
Phillips Rental	19328	100
Bay Creek Villas	18662	100
One Stop	14346	225
UST Unknown	18678	100
Sweatman's Grocery	15222	225
Two Way Mart	12708	100
Quick Pantry 12	03040	200
Mack's Camp	01253	175
Wando Lounge	01077	125
McCoy Oil	19002	235
Great Falls Exxon	14469	100
Pratts	08974	25
Former Gulf Station	18447	250
EZ Stop	14555	100
Pantry 3235	02872	150
Colonel Creek	11702	175
Bay Creek Villas	18662	125
Hillcrest Grocery	09383	50
Hillcrest Grocery	09383	50

Midlands Environmental Consultants, Inc.

March 18, 2011

UST MAR 21 2011 PROGRAM

Mr. Read Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST DOCKET 99 Tech

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #40831
MECI Project Number 11-3221B
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 14, 2011. The event was conducted on monitoring well MW-20 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.20 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 1.27 pounds or approximately 0.22 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.16 pounds per hour. Concentrations of off gas produced during the event were recorded from 97.6 parts per million by volume (PPM) to 250.8 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 7.0 to 16.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2B. Monitoring well locations are depicted on attached Figure 1.

A total of 125 gallons of liquid was removed from MW-20 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Inc. of Sumter, SC for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachements:

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3221B
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	03/14/11	11:30	0.50	12.0	187.9	900	81.00	0.18	0.09
	03/14/11	12:00	0.50	12.0	162.3	970	87.30	0.17	0.09
	03/14/11	12:30	0.50	12.0	155.6	980	88.20	0.16	0.08
	03/14/11	13:00	0.50	12.0	131.9	900	81.00	0.13	0.06
	03/14/11	13:30	0.50	12.0	122.7	910	81.90	0.12	0.06
	03/14/11	14:00	0.50	12.0	109.3	920	82.80	0.11	0.05
	03/14/11	14:30	0.50	12.0	99.2	910	81.90	0.10	0.05
	03/14/11	15:00	0.50	16.0	135.8	690	62.10	0.10	0.05
***	03/14/11	15:30	0.50	16.0	250.8	700	63.00	0.19	0.09
	03/14/11	16:00	0.50	16.0	222.9	680	61.20	0.16	0.08
	03/14/11	16:30	0.50	16.0	234.3	690	62.10	0.17	0.09
	03/14/11	17:00	0.50	16.0	209.8	690	62.10	0.16	0.08
	03/14/11	17:30	0.50	16.0	183.7	680	61.20	0.13	0.07
	03/14/11	18:00	0.50	7.0	144.3	1,260	113.40	0.20	0.10
	03/14/11	18:30	0.50	7.0	131.9	1,250	112.50	0.18	0.09
	03/14/11	19:00	0.50	7.0	107.8	1,260	113.40	0.15	0.07
	03/14/11	19:30	0.50	7.0	97.6	1,250	112.50	0.13	0.07
									TOTAL 1.27

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-20	2"	3-10	6.94	7.14	0.20	***	7.20	***	0.23

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-20	8.00
Truck Operator:	K. Pudney		
Stack I.D. (feet)	0.33 feet		

Corrected depth to water before AFVR Event in MW-20 = 6.97

*** = removed 1.00' from stinger

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	1.27	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.22	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	125	Gallons

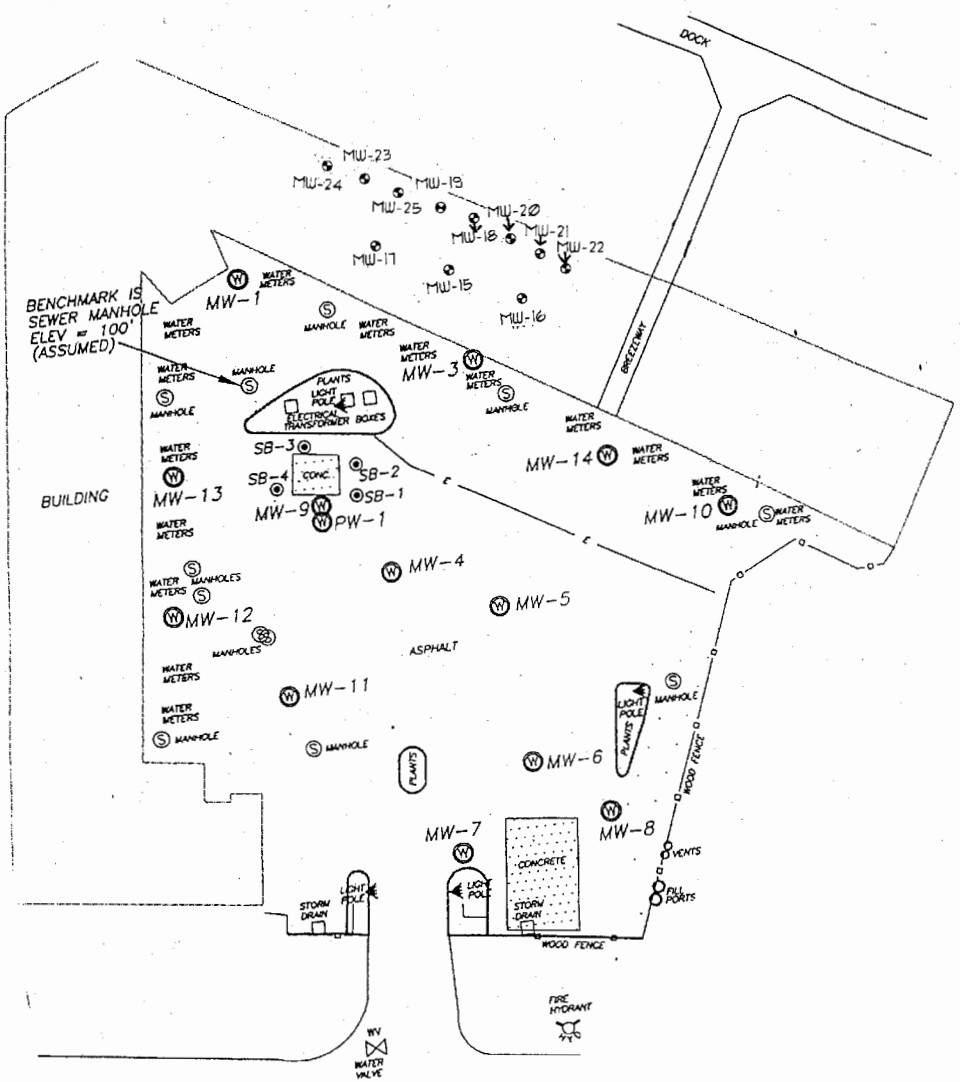
TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3221B
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-18	**MW-19**	**MW-21**
Nearest Extraction Well:		MW-20	MW-20	MW-20
Approximate Distance:		13 ft	24 ft	11 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:30	0.0	0	0	0
12:00	0.5	0	0	0
12:30	1.0	0	0	0
13:00	1.5	0	0	0
13:30	2.0	0	0	0
14:00	2.5	0	0	0
14:30	3.0	0	0	0
15:00	3.5	0	0	0
15:30	4.0	0	0	0
16:00	4.5	0	0	0
16:30	5.0	0	0	0
17:00	5.5	0	0	0
17:30	6.0	0	0	0
18:00	6.5	0	0	0
18:30	7.0	0	0	0
19:00	7.5	0	0	0
19:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-18	**MW-19**	**MW-21**
Nearest Extraction Well:		MW-20	MW-20	MW-20
Approximate Distance:		13 ft	24 ft	11 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		7.58	7.30	7.50
15:30	4 hours	6.39	6.35	6.13
19:30	8 hours	6.21	5.94	5.99
Maximum Change:		1.37	1.36	1.51



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number

5. Generator's Name and Mailing Address

MIDLANDS ENVIRONMENTAL
1144 TWO NOTCH ROAD
LEXINGTON, SC 29073

Generator's Phone:

Generator's Site Address (if different than mailing address)

TR10581

6. Transporter 1 Company Name

U.S. EPA ID Number

7. Transporter 2 Company Name SERVICE SUMTER, SC

U.S. EPA ID Number

8. Designated Facility Name and Site Address

TK TANK SERVICES
125 BOULEVARD ROAD
SUMTER, SC 29153

U.S. EPA ID Number

Facility's Phone: 803-418-5714

9. Waste Shipping Name and Description	10. Containers No.	Type	Total Quantity	Unit Wt./Vol.
1. NON HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	AP 3395 (AL)	
2.				
3.				
4.				

Site:	UST Permit #:	Gallons Produced:
Heath Self Serve	08932	200
Highway 11 Grocery	03439	100
Highway 11 Grocery	03439	50
Movie Gallery	19077	160
Pantry 3418	05042	165
Summers Store	03198	100
Phillips Rental	19328	100
Bay Creek Villas	18862	100
One Stop	14346	225
UST Unknown	18678	100
Sweatman's Grocery	15222	225
Two Way Mart	12708	100
Quick Pantry 12	03040	200
Mack's Camp	01253	175
Wando Lounge	01077	125
McCoy Oil	19002	235
Great Falls Exxon	14469	100
Pratts	06974	25
Former Gulf Station	18447	250
EZ Stop	14555	100
Pantry 3235	02672	150
Colonel Creek	11702	175
Bay Creek Villas	18862	125
Hillcrest Grocery	09383	50
Hillcrest Grocery	09383	50

13. Special Handling

14. GENERATOR'S ... deral regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's ... Month Day Year

15. International Shi... Port of entry/exit:

Transporter Signatu... Date leaving U.S.:

16. Transporter Acki...

Transporter 1 Printe... Month Day Year 3 16 11

Transporter 2 Printed/Typed Name Signature Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name Signature Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 8/06)

GENERATOR'S/SHIPPER'S INITIAL COPY

Midlands Environmental Consultants, Inc.

UST APR 0 5 2011 PROGRAM

March 24, 2011

Mr. Read Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

101 tech UST DOCKET

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662, CA #40831
MECI Project Number 11-3221C
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 21, 2011. The event was conducted on monitoring well MW-20 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.01 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 2.06 pounds or approximately 0.36 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.26 pounds per hour. Concentrations of off gas produced during the event were recorded from 26.2 parts per million by volume (PPM) to 1,680 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 5.0 to 25.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1C.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2C. Monitoring well locations are depicted on attached Figure 1.

A total of 100 gallons of liquid was removed from MW-20 during this event. Free phase petroleum product was not observed iu the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Inc. of Sumter, SC for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Brian J. Owen
Field Technician

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1C
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3221C
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	03/21/11	11:30	0.50	5.0	31.8	2,680	241.20	0.09	0.05
	03/21/11	12:00	0.50	5.0	40.4	2,680	241.20	0.12	0.06
	03/21/11	12:30	0.50	5.0	39.5	2,720	244.80	0.12	0.06
	03/21/11	13:00	0.50	7.0	28.6	2,330	209.70	0.07	0.04
*	03/21/11	13:30	0.50	7.0	26.2	2,390	215.10	0.07	0.03
	03/21/11	14:00	0.50	8.0	92.7	2,260	203.40	0.23	0.11
	03/21/11	14:30	0.50	10.0	70.8	1,990	179.10	0.15	0.08
	03/21/11	15:00	0.50	13.0	68.5	1,700	153.00	0.13	0.06
	03/21/11	15:30	0.50	15.0	60.7	1,410	126.90	0.09	0.05
	03/21/11	16:00	0.50	17.0	63.0	1,190	107.10	0.08	0.04
*	03/21/11	16:30	0.50	19.0	444	890	80.10	0.43	0.21
	03/21/11	17:00	0.50	19.0	216	1,000	90.00	0.23	0.12
	03/21/11	17:30	0.50	25.0	1,389	290	26.10	0.44	0.22
	03/21/11	18:00	0.50	25.0	1,552	290	26.10	0.49	0.24
	03/21/11	18:30	0.50	25.0	1,680	330	29.70	0.60	0.30
	03/21/11	19:00	0.50	25.0	1,271	310	27.90	0.43	0.21
	03/21/11	19:30	0.50	25.0	1,040	340	30.60	0.38	0.19
									TOTAL 2.06

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-20	2"	3-10	5.66	5.67	0.01	***	8.64	***	2.98

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-20	6.00
Truck Operator:	R. Ariail		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-20 =			5.66

* = Stinger length incresed by 1.00 feet

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	2.06	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.36	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	100	Gallons

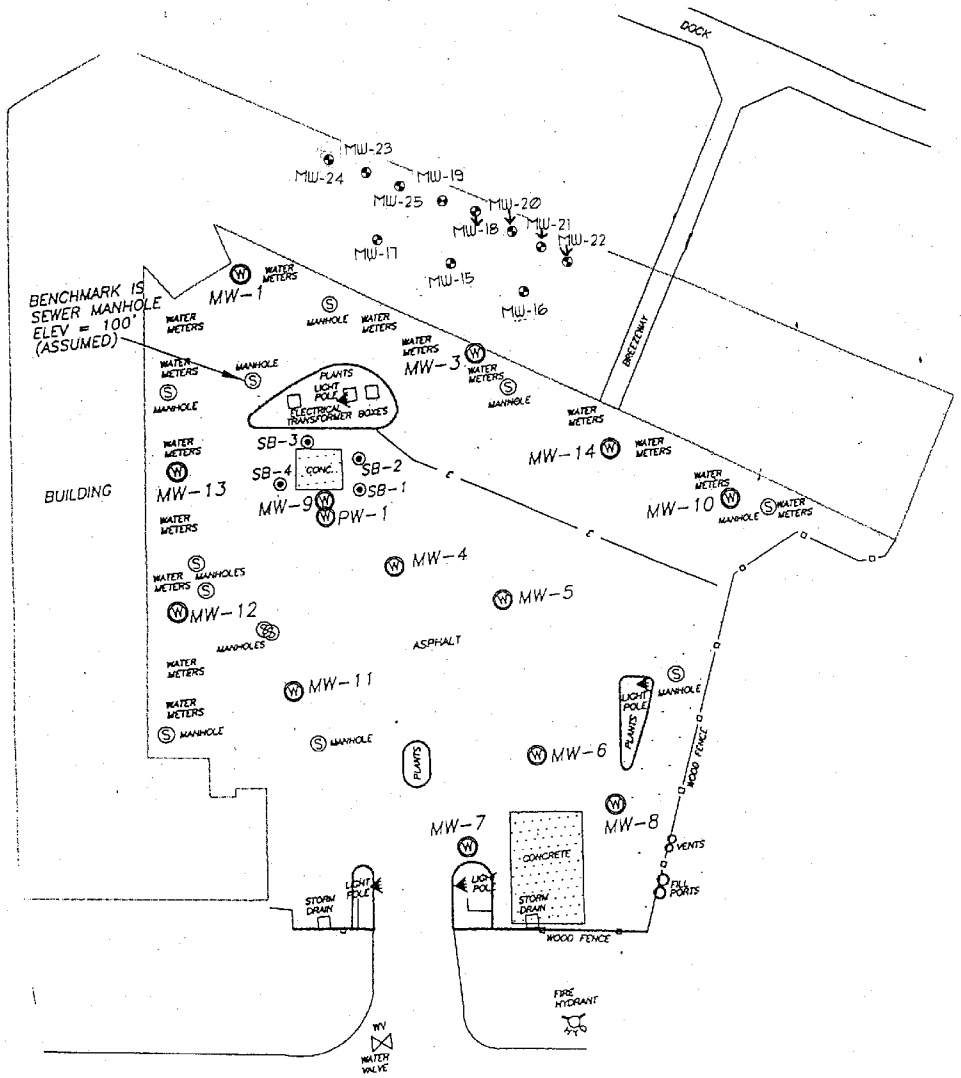
TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3221C
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-16	**MW-18**	**MW-21**
Nearest Extraction Well:		MW-20	MW-20	MW-20
Approximate Distance:		20 ft	13 ft	11 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:30	0.0	0	0	0
12:00	0.5	0	0	0
12:30	1.0	0	0	0
13:00	1.5	0	0	0
13:30	2.0	0	0	0
14:00	2.5	0	0	0
14:30	3.0	0	0	0
15:00	3.5	0	0	0
15:30	4.0	0	0	0
16:00	4.5	0	0	0
16:30	5.0	0	0	0
17:00	5.5	0	0	0
17:30	6.0	0	0	0
18:00	6.5	0	0	0
18:30	7.0	0	0	0
19:00	7.5	0	0	0
19:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-16	**MW-18**	**MW-21**
Nearest Extraction Well:		MW-20	MW-20	MW-20
Approximate Distance:		20 ft	13 ft	11 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.03	5.17	4.87
15:30	4 hours	6.29	7.47	7.52
19:30	8 hours	7.18	7.77	7.67
Maximum Change:		-2.15	-2.60	-2.80



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number | 2. Page 1 of | 3. Emergency Response Phone | 4. Waste Tracking Number

5. Generator's Name and Mailing Address | Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name | U.S. EPA ID Number

7. Transporter 2 Company Name | U.S. EPA ID Number

8. Designated Facility Name and Site Address | U.S. EPA ID Number

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	3960 GAL	
2.				
3.				
4.				

Site:	UST Permit #:	Gallons Produced:
Former Royal Petroleum	19426	325
Newberry Airport	15590	325
Gibbs Grocery	03463	530
BJ's Wholesale Club	18529	150
BJ's Wholesale Club	18529	150
Pickney Road Property	19360	150
Chester School Bus	02044	175
Anderson Patrol	00769	150
Bay Creek Villas	18662	100
Cleland's One Stop	05273	60
Copeland's Service	05694	150
Richland County Landfill	11808	220
Bank of America	19190	250
Rogers Auto Parts	00428	0
Pantry 3418	05042	150
Movie Gallery	19077	150
USA Petro	07907	150
USA Petro	07907	325
Phillips Rental	19328	125
Former Gulf	18447	125

13. Special I

14. GENERA ... ulations for reporting proper disposal of Hazardous Waste.

Generator's/C ... Month Day Year

15. Internatio ... Port of entry/exit:

Transporter S ... Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Joseph W. Stanton | Signature | Month Day Year

Transporter 2 Printed/Typed Name | Signature | Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) | U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name | Signature | Month Day Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 8/05) GENERATOR'S/SHIPPER'S INITIAL COPY

Midlands
Environmental
Consultants, Inc.

March 31, 2011

UST
APR 13 2011
PROGRAM

Mr. Read Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
DOCKET
102 Tech

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #40831
MECI Project Number 11-3221D
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 28, 2011. The event was conducted on monitoring well MW-20 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-20 at a thickness of 0.25 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 11.55 pounds or approximately 2.00 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.44 pounds per hour. Concentrations of off gas produced during the event were recorded from 194 parts per million by volume (PPM) to 3,104 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 11.0 to 20.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1D.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2D. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from MW-20 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Inc. of Sumter, SC for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Brian J. Owen
Field Technician

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3221D
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-20	03/28/11	10:30	0.50	11.0	3,104	1,910	171.90	6.40	3.20
	03/28/11	11:00	0.50	10.0	1,609	1,950	175.50	3.39	1.69
	03/28/11	11:30	0.50	13.0	781	1,660	149.40	1.40	0.70
	03/28/11	12:00	0.50	13.0	543	1,640	147.60	0.96	0.48
	03/28/11	12:30	0.50	13.0	399	1,620	145.80	0.70	0.35
	03/28/11	13:00	0.50	13.0	255	1,600	144.00	0.44	0.22
	03/28/11	13:30	0.50	13.0	219	1,760	158.40	0.42	0.21
	03/28/11	14:00	0.50	13.0	197	1,740	156.60	0.37	0.19
	03/28/11	14:30	0.50	16.0	194	1,390	125.10	0.29	0.15
	03/28/11	15:00	0.50	20.0	572	1,000	90.00	0.62	0.31
	03/28/11	15:30	0.50	20.0	1,033	930	83.70	1.04	0.52
	03/28/11	16:00	0.50	20.0	1,214	860	77.40	1.13	0.56
	03/28/11	16:30	0.50	20.0	1,133	820	73.80	1.00	0.50
	03/28/11	17:00	0.50	20.0	1,288	960	86.40	1.34	0.67
	03/28/11	17:30	0.50	20.0	1,252	920	82.80	1.24	0.62
	03/28/11	18:00	0.50	20.0	1,239	900	81.00	1.20	0.60
	03/28/11	18:30	0.50	20.0	1,223	880	79.20	1.16	0.58
									TOTAL
									11.55

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-20	2"	3-10	6.30	6.55	0.25	***	7.55	***	1.21

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-20	7.00
Truck Operator:	C.Lashley		
Stack I.D. (feet)	0.33 feet		

Corrected depth to water before AFVR Event in MW-20 = 6.34

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	11.55	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	2.00	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	150	Gallons

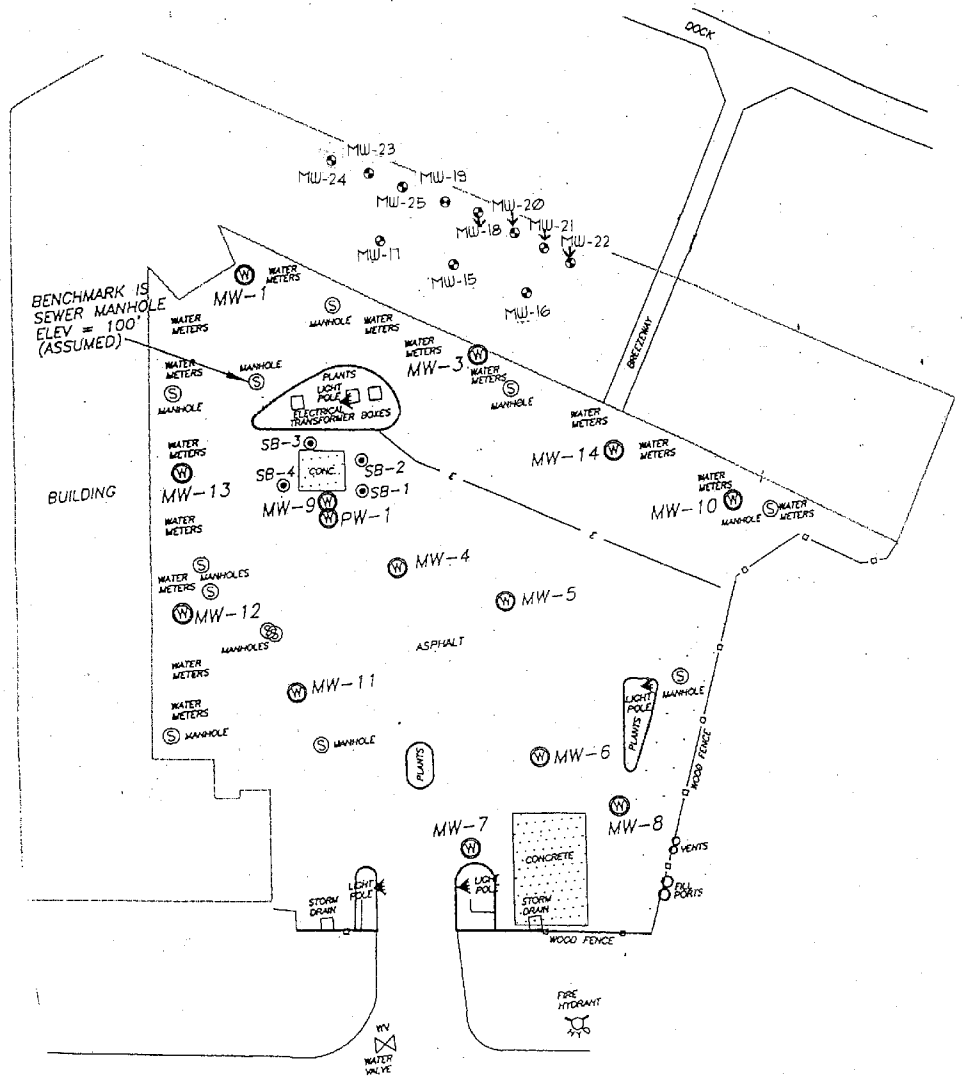
TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3221D
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-18**	**MW-21**
Nearest Extraction Well:		MW-20	MW-20	MW-20
Approximate Distance:		23 ft	13 ft	11 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-18**	**MW-21**
Nearest Extraction Well:		MW-20	MW-20	MW-20
Approximate Distance:		23 ft	13 ft	11 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.75	6.59	6.53
14:30	4 hours	4.73	6.42	6.25
18:30	8 hours	4.77	5.68	5.21
Maximum Change:		-0.02	0.91	1.32



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
				[illegible]

5. Generator's Name and Mailing Address: MIDLANDS ENVIRONMENTAL, 1144 TWO NOTCH ROAD, LEXINGTON, SC 29073

Generator's Site Address (if different than mailing address):

Generator's Phone:

6. Transporter 1 Company Name: TK TANK SERVICE SUMTER, SC — U.S. EPA ID Number: 987573557

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: TK TANK SERVICES, 455 BOULEVARD ROAD, SUMTER, SC 29153 — U.S. EPA ID Number: 987573557

Facility's Phone: 803-418-5314

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON HAZARDOUS PETROLEUM CONTAMINATED WATER	1	44	AP 4220 GOL	
2.				
3.				
4.				

13. Special Ha

Site	UST#	Gallons	Site	UST#	Gallons
Wando Lounge	19485	150	Zee Mart	7176	150
Bay Creek Villas	18662	150	Zee Mart	7176	100
BJ's Wholesale Club	18529	175	Blacksburg Hardware	1924	100
BJ's Wholesale Club	18529	150	Blacksburg Hardware	1924	100
Former McCoy Oil Site	19002	345	Squire Village Food Store	15385	200
Friendly Marks	11693	325	Marion Corners	12223	150
BB&T	19443	325	Chester School Bus Stop	2044	200
Mack's Camp	1253	175	M J Tadlock	15816	100
Quick Pantry #12	6926	150	Green Ave. BP	13084	200
Sweatman's Grocery	17292	400	Copelands Service Station	5694	100
Sportsman's Corner	12151	175	Town of Winnsboro	14433	150
Carson's Amoco	3027	150			

14. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name — Signature — Month Day Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Joseph W. Stanton — Signature: [signature] — Month 4 Day 9 Year 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 8/06) GENERATOR'S/SHIPPER'S INITIAL COPY

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment

APR 14 2011

103 tech
UST DOCKET

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received April 5, 2011
Colleton County

Dear Mr. Padgett:

As you are aware, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on March 21, 2011. A copy of the report is enclosed. Monitoring wells MW-20 contained 0.01 feet free phase product prior to the March 21 event. Approximately 0.36 equivalent gallons of petroleum vapor was recovered along with 100 gallons of contaminated water. Two additional AFVR events are currently scheduled.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment

APR 15 2011

UST DOCKET 1046

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received April 13, 2011
Colleton County

Dear Mr. Padgett:

As you are aware, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on March 28, 2011. A copy of the report is enclosed. Monitoring well MW-20 contained 0.25 feet free phase product prior to the March 28 event. Approximately 2 equivalent gallons of petroleum vapor was recovered along with 150 gallons of contaminated water. One additional AFVR event is currently scheduled.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Midlands Environmental Consultants, Inc.

April 13, 2011

UST PROGRAM APR 20 2011

Mr. Read Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

105tech
UST DOCKET

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662; CA #40831
MECI Project Number 11-3221E
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on April 11, 2011. The event was conducted on monitoring wells MW-18 and MW-20 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.02 feet and in MW-20 at a thickness of 0.15 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the wells were 1.29 pounds or approximately 0.22 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.16 pounds per hour. Concentrations of off gas produced during the event were recorded from 44.2 parts per million by volume (PPM) to 289 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 12.0 to 20.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1E.

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Telephone: (803) 808-2043 • Fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2E. Monitoring well locations are depicted on attached Figure 1.

A total of 125 gallons of liquid was removed from MW-18 and MW-20 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Inc. of Sumter, SC for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Gavin G. Globensky
Staff Biologist

Brendon D. Kelly
Project Scientist

Attachments:

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3221E
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	04/11/11	10:15	0.50	12.0	289	1,170	105.30	0.37	0.18
MW-20	04/11/11	10:45	0.50	12.0	274	1,150	103.50	0.34	0.17
	04/11/11	11:15	0.50	12.0	189	1,220	109.80	0.25	0.12
	04/11/11	11:45	0.50	12.0	132	1,360	122.40	0.19	0.10
	04/11/11	12:15	0.50	12.0	108	1,470	132.30	0.17	0.09
	04/11/11	12:45	0.50	12.0	95.0	1,530	137.70	0.16	0.08
	04/11/11	13:15	0.50	15.0	142	1,190	107.10	0.18	0.09
	04/11/11	13:45	0.50	15.0	120	1,220	109.80	0.16	0.08
	04/11/11	14:15	0.50	15.0	87.4	1,250	112.50	0.12	0.06
	04/11/11	14:45	0.50	15.0	58.9	1,240	111.60	0.08	0.04
	04/11/11	15:15	0.50	15.0	44.2	1,210	108.90	0.06	0.03
	04/11/11	15:45	0.50	17.0	84.7	860	77.40	0.08	0.04
	04/11/11	16:15	0.50	17.0	75.3	890	80.10	0.07	0.04
	04/11/11	16:45	0.50	17.0	60.7	770	69.30	0.05	0.03
	04/11/11	17:15	0.50	20.0	149	490	44.10	0.08	0.04
	04/11/11	17:45	0.50	20.0	175	510	45.90	0.10	0.05
	04/11/11	18:15	0.50	20.0	208	570	51.30	0.13	0.06
									TOTAL
									1.29

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	7.06	7.08	0.02	***	7.10	***	0.04
MW-20	2"	3-10	6.80	6.95	0.15	***	7.61	***	0.79

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	7.50
Truck Operator:	G.Globensky	MW-20	7.50
Stack I.D. (feet)	0.33 feet		

Corrected depth to water before AFVR Event in MW-20 = 7.06
Corrected depth to water before AFVR Event in MW-18 = 6.82

Recovery / Disposal Information

Hydro carbons Removed (vapor):	1.29	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.22	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	125	Gallons

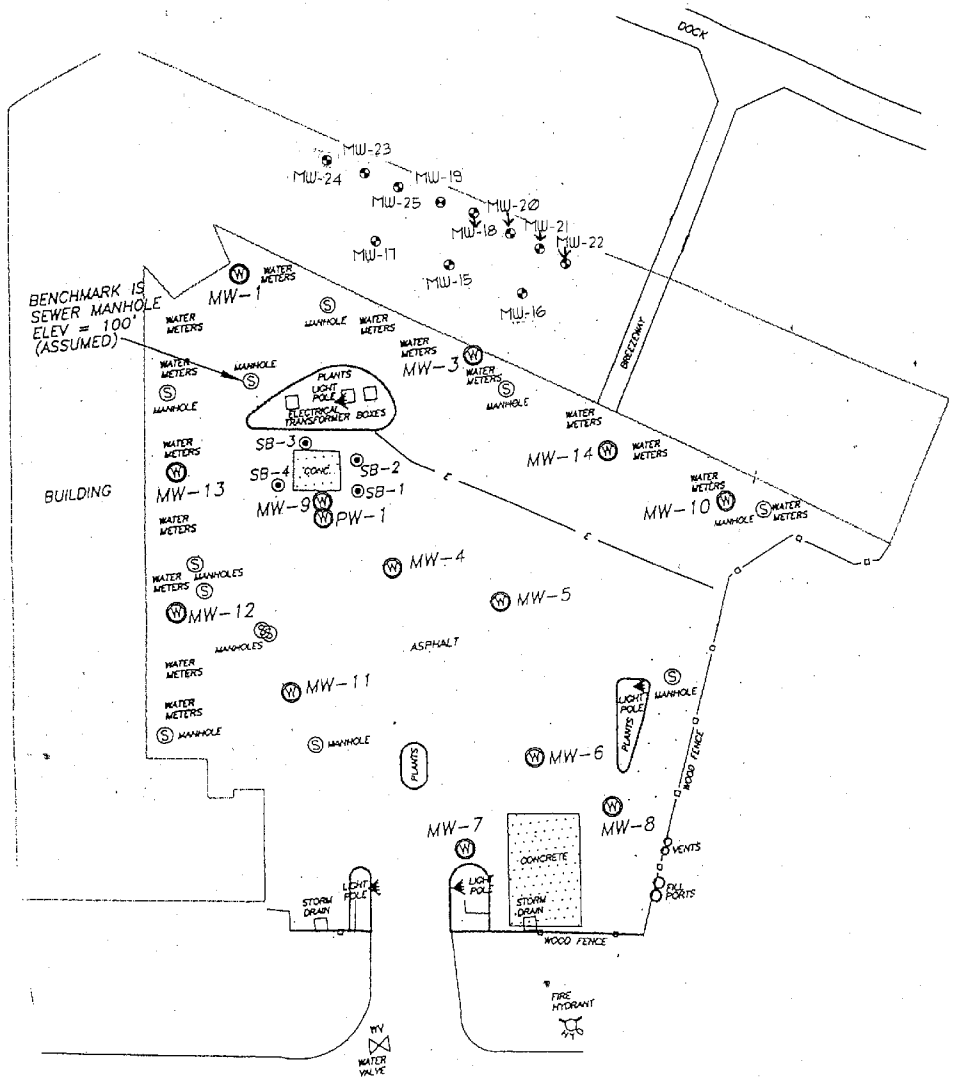
TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3221E
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-19**	**MW-21**
Nearest Extraction Well:		MW-18	MW-18	MW-20
Approximate Distance:		18 ft	11 ft	11 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:15	0.0	0	0	0
10:45	0.5	0	0	0
11:15	1.0	0	0	0
11:45	1.5	0	0	0
12:15	2.0	0	0	0
12:45	2.5	0	0	0
13:15	3.0	0	0	0
13:45	3.5	0	0	0
14:15	4.0	0	0	0
14:45	4.5	0	0	0
15:15	5.0	0	0	0
15:45	5.5	0	0	0
16:15	6.0	0	0	0
16:45	6.5	0	0	0
17:15	7.0	0	0	0
17:45	7.5	0	0	0
18:15	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-19**	**MW-21**
Nearest Extraction Well:		MW-18	MW-18	MW-20
Approximate Distance:		18 ft	11 ft	11 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.51	6.76	7.01
14:15	4 hours	4.48	6.46	6.24
18:15	8 hours	4.46	5.90	5.70
Maximum Change:		0.05	0.86	1.31



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number

5. Generator's Name and Mailing Address

MIDLANDS ENVIRONMENTAL
1144 TWO NOTCH ROAD
LEXINGTON, SC 29073

Generator's Site Address (if different than mailing address) TK10317

Generator's Phone:

6. Transporter 1 Company Name: TK TANK SERVICE SUMTER, SC — U.S. EPA ID Number: 987573557

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

TK TANK SERVICES
405 BOULEVARD ROAD
SUMTER, SC 29153

U.S. EPA ID Number: 987573557

Facility's Phone: 803-418-5714

9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	3,381 gallons	
2.				
3.				
4.				

Site:	UST Permit #:	Gallons Produced:
Former Royal Petroleum	19426	325
Johnnie's Market	08986	0.5
Highway 11	03439	165
Highway 11	03439	175
Highway 11	03439	200
BJ's Wholesale Club	18529	200
BJ's Wholesale Club	18529	175
Littleton's Grocery	18574	160
Littleton's Grocery	18574	175
Lena Quick Shop	14483	175
Bank of America	19190	150
Rogers Auto Parts	00428	0
Pantry 3418	05042	150
Nix's Service Station	14793	150
Pantry 3235	02872	150
Former Adams Oil	19416	150
UST Unkown	18678	200
Colonel Creek	11702	250
Great Falls Exxon	14469	130
Cleland's One Stop	5273	175
Bay Creek Villas	18662	125

13. Special Ha... ...lations for reporting proper disposal of Hazardous Waste.

14. GENERAT... Generator's/Of... Month Day Year

15. International ... ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steve A. Gamble — Signature: Steve A. Gamble — Month 9 Day 20 Year 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 8/06)

X

TRANSPORTER #2

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment

MAY 02 2011

UST DOCKET 106tech

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received April 20, 2011
Colleton County

Dear Mr. Padgett:

As you are aware, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on April 11, 2011. A copy of the report is enclosed. Monitoring wells MW-18 and MW-20 contained 0.02 and 0.15 feet free phase product, respectively, prior to the April 11 event. Approximately 0.22 equivalent gallons of petroleum vapor was recovered along with 125 gallons of contaminated water. A directive for two additional 16-hour AFVR events has been prepared and is awaiting funding.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

BRIAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071-0854

MAY 13 2011

10 Hec
UST DOCKET

Re: Bid # IBF-36815-8/27/09-EMW; PO # 4500011659
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Free Product (FP) recovery using Aggressive Fluid Vapor Recovery (AFVR) or passive skimmers at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR and/or passive skimmers installation. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 4500011659 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).

UST Permit #	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt.
09081	Venter's Grocery	Williamsburg	1	3 AFVR	90 days	41371	3,425.00
06974	Pratt's Grocery	Orangeburg	1	3 AFVR	90 days	41334	3,315.00
12898	Breakers #1	Florence	1	1 AFVR	60 days	41346	1,345.00
15120	Davis Site	Clarendon	1	2 AFVR	60 days	41367	2,375.00
18662	Bay Creek Villas	Colleton	1	2 AFVR	60 days	41605	3,635.00

*From receipt of letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained.

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval. Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

The Department grants pre-approval for transportation of free phase product and petroleum contaminated groundwater from the referenced site to a permitted treatment facility. The free product and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 896-6664, by fax at (803) 896-6245 or by email at milenkmp@dhec.sc.gov.

Sincerely,

Maia Milenkova, Hydrogeologist
Assessment Section
UST Management Division
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packets
cc: Technical File (w/copy of ACA)
SCDHEC/UST/05/12/11/MPM

Approved Cost Agreement 41605

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	2.0000	350.00	700.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	1,000.0000	0.10	100.00
18 MISCELLANEOUS						
			OFF-GAS TREATMENT	2.0000	100.00	200.00
23 EFR						
		A	8 HOUR EVENT	2.0000	600.00	1,200.00
		B	ADDITIONAL HOUR	16.0000	70.00	1,120.00
		C	OFF GAS TREATMENT	16.0000	15.00	240.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
				Total Amount		3,635.00

Midlands Environmental Consultants, Inc.

June 16, 2011

Mr. Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST JUN 2 4 2011 PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID #18662; CA #41605
MECI Project Number 11-3367B
Certified Site Rehabilitation Contractor UCC-0009

108tech UST DOCKET

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on June 13 & 14, 2011. The event was conducted on monitoring wells MW-18 and MW-20 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in monitoring wells MW-18 and MW-20 prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 18.08 pounds or approximately 3.12 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 2.26 pounds per hour. Concentrations of off gas produced during the event were recorded from 103 parts per million by volume (PPM) to 914 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2B. Monitoring well locations are depicted on attached Figure 1.

A total of 250 gallons of liquid was removed from monitoring wells MW-18 and MW-20 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Inc. of Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Brian Owen
Field Technician

Brendon B. Kelly
Project Scientist

Attachments:

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3367B
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	06/13/11	10:30	0.50	15.0	269	1,680	151.20	0.49	0.24
MW-20	06/13/11	11:00	0.50	15.0	103	1,620	145.80	0.18	0.09
	06/13/11	11:30	0.50	15.0	914	1,850	166.50	1.83	0.91
	06/13/11	12:00	0.50	15.0	732	1,970	177.30	1.56	0.78
	06/13/11	12:30	0.50	15.0	854	1,930	173.70	1.78	0.89
	06/13/11	13:00	0.50	15.0	892	1,900	171.00	1.83	0.92
	06/13/11	13:30	0.50	15.0	502	1,880	169.20	1.02	0.51
	06/13/11	14:00	0.50	15.0	419	1,850	166.50	0.84	0.42
	06/13/11	14:30	0.50	15.0	317	2,050	184.50	0.70	0.35
	06/13/11	15:00	0.50	15.0	541	1,940	174.60	1.13	0.57
	06/13/11	15:30	0.50	10.0	275	2,600	234.00	0.77	0.39
	06/13/11	16:00	0.50	10.0	265	2,580	232.20	0.74	0.37
	06/13/11	16:30	0.50	10.0	309	2,340	210.60	0.78	0.39
	06/13/11	17:00	0.50	10.0	421	2,210	198.90	1.00	0.50
	06/13/11	17:30	0.50	10.0	448	2,490	224.10	1.20	0.60
	06/13/11	18:00	0.50	10.0	514	2,540	228.60	1.41	0.71
	06/13/11	18:30	0.50	10.0	566	2,510	225.90	1.53	0.77
	06/13/11	19:00	0.50	11.0	449	2,550	229.50	1.24	0.62
	06/13/11	19:30	0.50	11.0	404	2,550	229.50	1.11	0.56
	06/13/11	20:00	0.50	11.0	714	2,520	226.80	1.94	0.97
	06/13/11	20:30	0.50	11.0	609	2,480	223.20	1.63	0.82
	06/13/11	21:00	0.50	11.0	339	2,450	220.50	0.90	0.45
	06/13/11	21:30	0.50	11.0	441	2,430	218.70	1.16	0.58
	06/13/11	22:00	0.50	11.0	454	2,410	216.90	1.18	0.59
	06/13/11	22:30	0.50	11.0	401	2,490	224.10	1.08	0.54
	06/13/11	23:00	0.50	11.0	519	2,510	225.90	1.41	0.70
	06/13/11	23:30	0.50	11.0	397	2,480	223.20	1.06	0.53
	06/14/11	0:00	0.50	11.0	386	2,470	222.30	1.03	0.51
	06/14/11	0:30	0.50	11.0	297	2,460	221.40	0.79	0.39
	06/14/11	1:00	0.50	11.0	312	2,450	220.50	0.83	0.41
	06/14/11	1:30	0.50	11.0	284	2,430	218.70	0.75	0.37
	06/14/11	2:00	0.50	11.0	276	2,410	216.90	0.72	0.36
	06/14/11	2:30	0.50	11.0	231	2,440	219.60	0.61	0.30
									TOTAL 18.11

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	7.42	***	***	5.90	***	-1.52
MW-20	2"	3-10	***	6.90	***	***	5.90	***	-1.00

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	8.00
Truck Operator:	C.Lashley	MW-20	7.50
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	18.11	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	3.13	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	250	Gallons

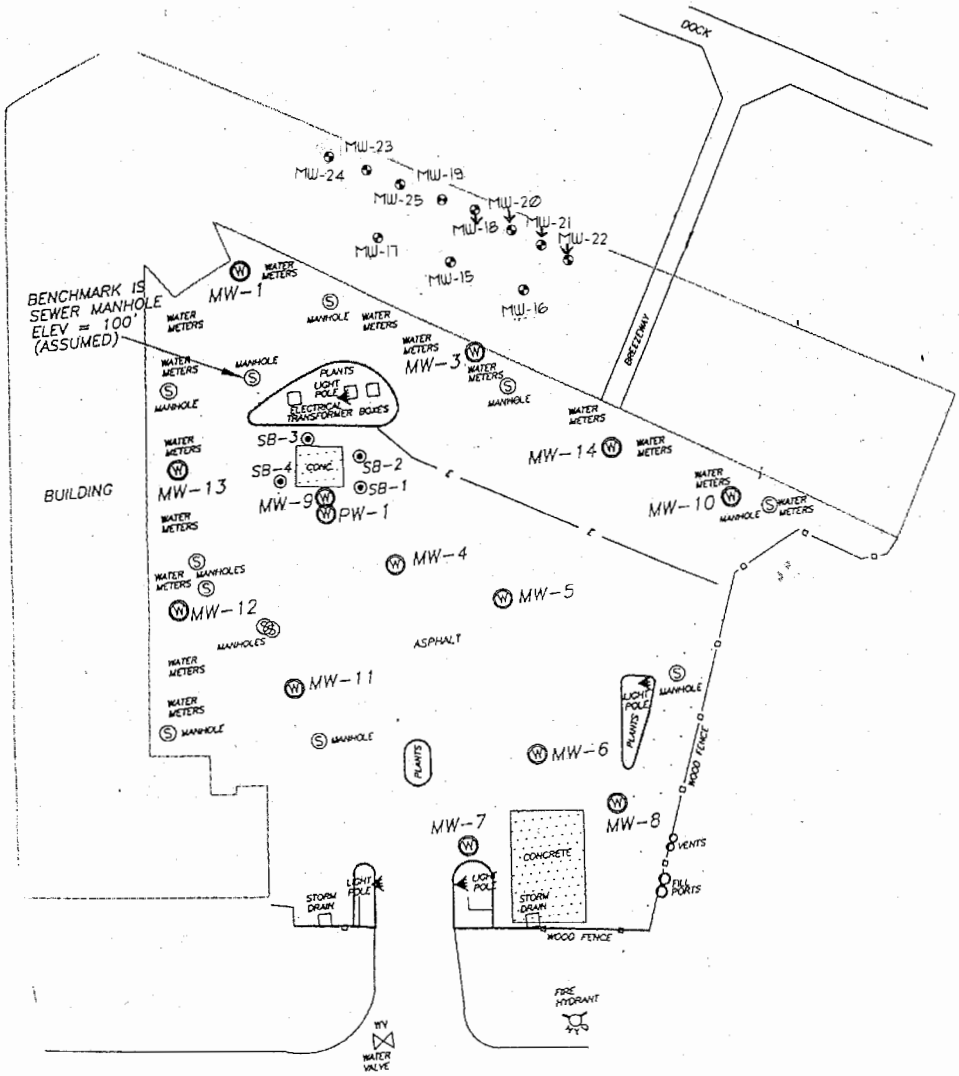
TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3367B
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-19	**MW-25**	**MW-21**
Nearest Extraction Well:		MW-18	MW-18	MW-20
Approximate Distance:		7 ft	16 ft	7 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
19:00	8.5	0	0	0
19:30	9.0	0	0	0
20:00	9.5	0	0	0
20:30	10.0	0	0	0
21:00	10.5	0	0	0
21:30	11.0	0	0	0
22:00	11.5	0	0	0
22:30	12.0	0	0	0
23:00	12.5	0	0	0
23:30	13.0	0	0	0
0:00	13.5	0	0	0
0:30	14.0	0	0	0
1:00	14.5	0	0	0
1:30	15.0	0	0	0
2:00	15.5	0	0	0
2:30	16.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-19	**MW-25**	**MW-21**
Nearest Extraction Well:		MW-18	MW-18	MW-20
Approximate Distance:		7 ft	16 ft	7 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior to AFVR		6.53	5.09	7.35
14:30	4 hours	7.93	5.02	7.81
18:30	8 hours	6.00	5.00	5.35
22:30	12 hours	5.51	5.02	5.22
2:30	16 hours	6.13	5.01	5.83
Maximum Change:		2.42	0.09	2.59



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number: TK10461

GENERATOR

5. Generator's Name and Mailing Address: MIDLANDS ENVIRONMENTAL, 1139 TWO NOTCH ROAD, LEXINGTON, SC 29072

Generator's Site Address (If different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: TK TANK SERVICE — SUMTER, SC — U.S. EPA ID Number: 987573557

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address: TK TANK SERVICE, 455 BOULEVARD ROAD, SUMTER, SC 29150 — U.S. EPA ID Number: 987573557

Facility's Phone: 803-418-5314

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	3996	Gallons
2.				
13.				
14.				

Site	ID#	Gallons	Site	ID#	Gallons
Bulk Plant	14052	200	Blythewood S & S	10503	150
Bulk Plant	14052	175	York Co. SBS	9164	155
Lena Quick Stop	14483	125	Midway Service	13046	100
H&H Transfer	17195	125	Burrow's Service	12487	400
Gregory's Store	8979	225	Quick Mart 34	7003	150
Former McCoy Oil	19002	100	Quick Mart 34	7003	100
Bay Creek Villas	18662	250	Phillips Rental Prop.	19328	40
Bay Creek Villas	18662	250	Movie Gallery	19077	150
EZ Stop	6097	1	King Property	14821	150
Mack's Camp	1253	125	Highway 11 Grocery	3439	125
Pratt's Grocery	6974	150	Former Adams Oil	19416	125
Ben Altman	6216	200	Clamps BP	11412	300
Venters Grocery	9081	125			

Ge — disposal of Hazardous Waste.

Month Day Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steve A. Gamble — Signature: Steve A. Gamble — Month 6 Day 22 Year 11

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month Day Year

169-BLC-O 5 11977 (Rev. 8/06)

GENERATOR'S/SHIPPER'S INITIAL COPY

Midlands Environmental Consultants, Inc.

June 16, 2011

Mr. Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST JUN 24 2011 PROGRAM

108 Attch UST DOCKET

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #41605
MECI Project Number 11-3367A
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

A site visit was conducted at Bay Creek Villas on May 17, 2011 to locate/gauge monitoring wells and to evaluate current site conditions. MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on June 6 & 7, 2011. The event was conducted on monitoring wells MW-18 and MW-20 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in monitoring wells MW-18 and MW-20 prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 2.06 pounds or approximately 0.36 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.26 pounds per hour. Concentrations of off gas produced during the event were recorded from 36.7 parts per million by volume (PPM) to 178 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 22.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A. Monitoring well locations are depicted on attached Figure 1.

A total of 250 gallons of liquid was removed from monitoring wells MW-18 and MW-20 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Inc. of Sumter S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Chris Jacobs
for
Brian Owen
Field Technician

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3367A
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	06/06/11	11:15	0.50	22.0	92.6	590	53.10	0.06	0.03
MW-20	06/06/11	11:45	0.50	22.0	178	620	55.80	0.12	0.06
	06/06/11	12:15	0.50	22.0	164	600	54.00	0.11	0.05
	06/06/11	12:45	0.50	12.0	146	1,660	149.40	0.26	0.13
	06/06/11	13:15	0.50	12.0	129	1,660	149.40	0.23	0.12
	06/06/11	13:45	0.50	12.0	115	1,680	151.20	0.21	0.10
	06/06/11	14:15	0.50	12.0	111	1,660	149.40	0.20	0.10
	06/06/11	14:45	0.50	12.0	107	1,680	151.20	0.19	0.10
	06/06/11	15:15	0.50	10.0	118	1,980	178.20	0.25	0.13
	06/06/11	15:45	0.50	10.0	121	1,980	178.20	0.26	0.13
	06/06/11	16:15	0.50	10.0	40.8	1,990	179.10	0.09	0.04
	06/06/11	16:45	0.50	10.0	39.2	2,140	192.60	0.09	0.05
	06/06/11	17:15	0.50	10.0	37.8	2,160	194.40	0.09	0.04
	06/06/11	17:45	0.50	10.0	36.7	2,160	194.40	0.09	0.04
	06/06/11	18:15	0.50	11.0	43.4	1,980	178.20	0.09	0.05
	06/06/11	18:45	0.50	11.0	39.6	1,960	176.40	0.08	0.04
	06/06/11	19:15	0.50	11.0	32.8	1,950	175.50	0.07	0.03
	06/06/11	19:45	0.50	11.0	53.2	1,940	174.60	0.11	0.06
	06/06/11	20:15	0.50	11.0	55.6	1,930	173.70	0.12	0.06
	06/06/11	20:45	0.50	11.0	46.8	1,950	175.50	0.10	0.05
	06/06/11	21:15	0.50	11.0	50.7	1,940	174.60	0.11	0.05
	06/06/11	21:45	0.50	13.0	58.3	1,630	146.70	0.10	0.05
	06/06/11	22:15	0.50	13.0	49.6	1,650	148.50	0.09	0.04
	06/06/11	22:45	0.50	13.0	47.3	1,620	145.80	0.08	0.04
	06/06/11	23:15	0.50	13.0	45.4	1,640	147.60	0.08	0.04
	06/06/11	23:45	0.50	13.0	62.2	1,650	148.50	0.11	0.06
	06/07/11	0:15	0.50	13.0	68.9	1,640	147.60	0.12	0.06
	06/07/11	0:45	0.50	13.0	66.1	1,620	145.80	0.12	0.06
	06/07/11	1:15	0.50	13.0	60.3	1,640	147.60	0.11	0.05
	06/07/11	1:45	0.50	13.0	57.2	1,650	148.50	0.10	0.05
	06/07/11	2:15	0.50	13.0	59.5	1,640	147.60	0.11	0.05
	06/07/11	2:45	0.50	13.0	55.3	1,660	149.40	0.10	0.05
	06/07/11	3:15	0.50	13.0	52.1	1,650	148.50	0.09	0.05
									TOTAL
									2.06

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	6.00	***	***	7.35	***	1.35
MW-20	2"	3-10	***	6.02	***	***	7.98	***	1.96

Vacuum Truck Information

		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	7.00
Truck Operator:	B.Owen	MW-20	7.00
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information

Hydro carbons Removed (vapor):	2.06	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.36	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	250	Gallons

Note: Due to tidal change, stinger was adjusted at 4:45 p.m. and again at 9:45 p.m. See below.

Well No.	Depth to Product (ft)	Depth to Water (ft)	Stinger Depth (ft) at 11:15	Stinger Depth (ft) at 04:45	Stinger 9:45 p.m.
MW-18	***	***	7.00	8.00	7.00
MW-20	***	***	7.00	8.00	7.00

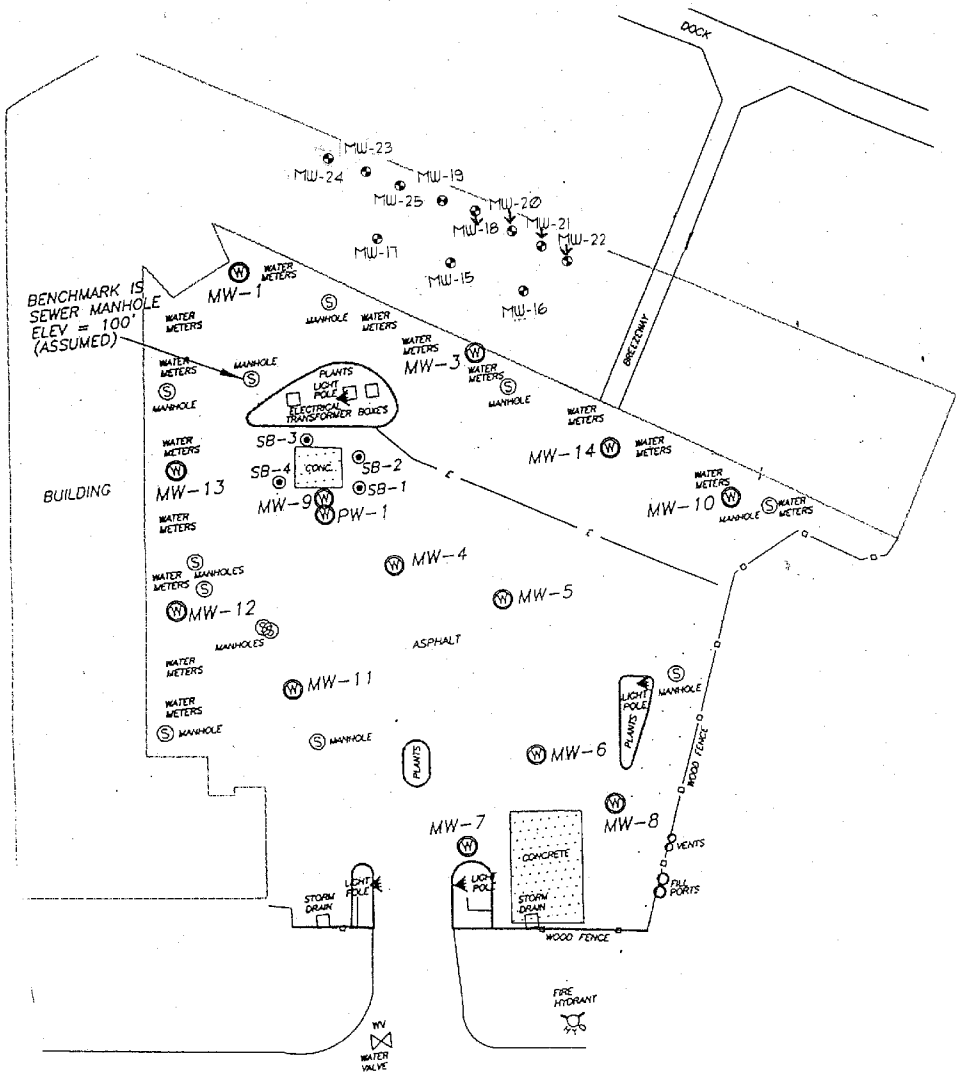
TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3367A
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-19	**MW-25**	**MW-21**
Nearest Extraction Well:		MW-18	MW-18	MW-20
Approximate Distance:		7 ft	16 ft	7 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:15	0.0	0	0	0
11:45	0.5	0	0	0
12:15	1.0	0	0	0
12:45	1.5	0	0	0
13:15	2.0	0	0	0
13:45	2.5	0	0	0
14:15	3.0	0	0	0
14:45	3.5	0	0	0
15:15	4.0	0	0	0
15:45	4.5	0	0	0
16:15	5.0	0	0	0
16:45	5.5	0	0	0
17:15	6.0	0	0	0
17:45	6.5	0	0	0
18:15	7.0	0	0	0
18:45	7.5	0	0	0
19:15	8.0	0	0	0
19:45	8.5	0	0	0
20:15	9.0	0	0	0
20:45	9.5	0	0	0
21:15	10.0	0	0	0
21:45	10.5	0	0	0
22:15	11.0	0	0	0
22:45	11.5	0	0	0
23:15	12.0	0	0	0
23:45	12.5	0	0	0
0:15	13.0	0	0	0
0:45	13.5	0	0	0
1:15	14.0	0	0	0
1:45	14.5	0	0	0
2:15	15.0	0	0	0
2:45	15.5	0	0	0
3:15	16.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-19	**MW-25**	**MW-21**
Nearest Extraction Well:		MW-18	MW-18	MW-20
Approximate Distance:		7 ft	16 ft	7 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior to AFVR		6.07	6.38	5.83
15:15	4 hours	5.09	5.94	5.36
19:15	8 hours	7.02	6.20	7.31
23:15	12 hours	6.49	6.28	6.02
3:15	16 hours	5.06	5.92	4.32
Maximum Change:		1.96	0.46	2.99



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1 IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number: [illegible]

5. Generator's Name and Mailing Address: MIDLANDS ENVIRONMENTAL, 134 TWO NOTCH ROAD, LEXINGTON, SC 29073

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: TK TANK SERVICE — SUMTER, SC — U.S. EPA ID Number: 982573557

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: TK TANK SERVICES, 426 BOULEVARD ROAD, SUMTER, SC 29153 — U.S. EPA ID Number: 982573557

Facility's Phone: 803-418-6314

GENERATOR

9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	3996	Gallons
2.				
13.				
14.				

Site	ID#	Gallons	Site	ID#	Gallons
Bulk Plant	14052	200	Blythewood S & S	10503	150
Bulk Plant	14052	175	York Co. SBS	9164	155
Lena Quick Stop	14483	125	Midway Service	13046	100
H&H Transfer	17195	125	Burrow's Service	12487	400
Gregory's Store	8979	225	Quick Mart 34	7003	150
Former McCoy Oil	19002	100	Quick Mart 34	7003	100
Bay Creek Villas	18662	250	Phillips Rental Prop.	19328	40
Bay Creek Villas	18662	250	Movie Gallery	19077	150
EZ Stop	6097	1	King Property	14821	150
Mack's Camp	1253	125	Highway 11 Grocery	3439	125
Pratt's Grocery	6974	150	Former Adams Oil	19416	125
Ben Altman	6216	200	Clamps BP	11412	300
Venters Grocery	9081	125			

Ge — disposal of Hazardous Waste.

Month | Day | Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Stan A. Gamble — Signature: Stan A. Gamble — Month 6 Day 22 Year 11

Transporter 2 Printed/Typed Name — Signature — Month | Day | Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month | Day | Year

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

JUN 28 2011

10 Rec'd
UST DOCKET

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Reports received June 24, 2011
Colleton County

Dear Mr. Padgett:

As you are aware, two 16-hour Aggressive Fluid Vapor Recovery (AFVR) events took place on June 6-7 and June 13-14, 2011. A copy of the reports is enclosed. No free product was found before or after each event. Approximately 0.36 and 3.12 equivalent gallons of petroleum vapor was recovered during each event, respectively, along with 500 gallons of contaminated water. The monitoring well network will be sampled to quantify the current dissolved petroleum concentrations and the corresponding effectiveness of the AFVR events.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Reports

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, SC 29201
Telephone (803) 896-6240

MEMORANDUM

110-Tech Docket #

DATE: March 15, 2006

TO: Matt Winslow
Bureau of Business Management

FROM: Laura Jean Pace, CGFO, CPM, Manager
Financial Section

SUBJECT: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565

The referenced corrective action was originally awarded to Consultech Environmental in late 2002. Since that time, Consultech has performed limited corrective action activities, but has been unsuccessful at documenting any progress toward meeting corrective action goals. Although Consultech has recently increased their treatment intensity, the increased efforts are considered far too small to result in a timely completion of clean-up. Based upon discussions between Kent Coleman, Director in the Assessment and Corrective Action Division, Read Miner, and James Wilson with Consultech Environmental, it has been decided that the best course of action is cancellation of this job. Upon cancellation of the purchase order, the UST Program will return Consultech's performance bond.

To date, Consultech has been paid the initial 40% ($32,000) for treatment system installation and startup in February 2003. As discussed with Mr. Wilson, no further payments would be forthcoming as Consultech has been unsuccessful at documenting any progress.

If you have any questions, please contact Read Miner at 896-6584 or by e-mail at minerrs@dhec.sc.gov.

cc: Technical File

D H E C
PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

CERTIFIED MAIL
7001 2510 0008 4156 1849

MAR 30 2006

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Correspondence received March 28, 2006
Colleton County

Dear Mr. Wilson:

In response to the correspondence dated March 27, 2006 from the SCDHEC Bureau of Business Management to Consultech Environmental Services, please find enclosed the Performance Bond for the referenced facility. Both the purchase order and cost agreement have also been closed.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

Enc: Performance Bond (original)

cc: Technical File (without enclosure)
E. Madison Winslow, Bureau of Business Management (without enclosure)

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

MAR 28 2006

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071-0854

Re: **Notice to Proceed**
Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC
UST Permit # 18662, CA # 26739
SB-26144-7/27/04-EMW; PO # 543967
Colleton County

Dear Mr. Shane:

As discussed by telephone on March 24, 2006, the Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) requests up to ten 8-hour Aggressive Fluid Vapor Recovery (AFVR) events to remove free product and vapors from monitoring wells MW-3 and the newly installed monitoring wells at the referenced facility. The initial AFVR events should concentrate on the wells containing free phase product. If the vapor recovery declines at a given well, the AFVR event should shift to other wells in a manner that will maximize the recovery of free product and vapors during each event. The effectiveness of each event should be used to optimize the frequency of subsequent events. As the AFVR events take place, please keep me informed of your findings and your proposed recovery frequency. You may commence with a site reconnaissance and the AFVR events. The final report and invoice are due within 60 days from the date of this letter.

Cost Agreement # 26739 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 UST Program reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with bid number SB-26144-7/27/04-EMW. Further, the UST Program reserves the right to question and/or reject costs if deemed unreasonable. The UST Program reserves the right to audit project records at any time during the project or after completion of the work.

Future invoices and/or other criteria included therein must comply with current State Underground Petroleum Environmental Response Bank (SUPERB) criteria per Section 44-2-20(2). Please reference Cost Agreement # 26739 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 UST Program is obtained. If for any reason there is a change in this cost agreement, any associated changes to this cost agreement must be pre-approved by the UST Program in order for Midlands Environmental Consultants to seek future cost compensation. Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

The UST Program grants pre-approval for transportation of free phase product and petroleum contaminated groundwater from the referenced site to a permitted treatment facility. The free product and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included in the report.

On all correspondence regarding this site, please reference the UST Permit # 18662 and Cost Agreement # 26739. If you have questions concerning this correspondence, or would like to submit additional information, please contact me by phone at (803) 896-6584, by fax at (803) 896-6245, or by email at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Approved Cost Agreement # 26739
Site Information

cc: Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with approved cost agreement)
Dan Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438 (with approved cost agreement)
Technical File (with approved cost agreement)

Approved Cost Agreement [illegible]6739

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	10.0000	385.00	3,850.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	1,000.0000	0.25	250.00
23 EFR						
		A	8 HOUR EVENT	10.0000	600.00	6,000.00
		C	OFF GAS TREATMENT	10.0000	50.00	500.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
					Total Amount	10,675.00

D H E C

South Carolina Department of Health and Environmental Control

RECEIVED
OCT 2 2 2002
Underground Storage Tank Program

Purchase Order

PURCHASE ORDER NO.	REVISION	PAGE
437565	0	1 of 2

THIS PURCHASE ORDER NO. MUST APPEAR ON ALL INVOICES, PACKING LISTS, CARTONS AND CORRESPONDENCE RELATED TO THIS ORDER.

VENDOR:
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR #F
LAWRENCEVILLE, GA 30043-1505

SHIP TO:
UST MANAGEMENT
SC DHEC
2600 BULL STREET
COLUMBIA, SC 29201-1708
United States

BILL TO:
UST MANAGEMENT
SC DHEC
2600 BULL STREET
COLUMBIA, SC 29201-1708
United States

CUSTOMER ACCOUNT NO.	VENDOR NO.	DATE OF ORDER/BUYER	REVISED DATE / BUYER
	17339	17-OCT-02 WINSLOW, E	
PAYMENT TERMS		SHIP VIA	F.O.B.
NET 30			Destination
FREIGHT TERMS		REQUESTOR/DELIVER TO	CONFIRM TO / TELEPHONE
Prepaid		PACE, Ms. LAURA J	(678) 377-0400

ITEM	PART NUMBER / DESCRIPTION	DELIVERY DATE	QUANTITY	UNIT	UNIT PRICE	EXTENSION	
	BUYER: E. Madison Winslow, (803) 898-3487						
	DHEC PROJECT MANAGER: Read Miner, (803) 896-6584						
	CONTRACTOR CONTACT PERSON: Richard Goodspeed, (678) 377-0400						
	PRICE PER SB-20713-10/8/02-EMW, signed by Richard Goodspeed on 10/7/02.						
	ALL TERMS AND CONDITIONS OF THE SOLICITATION DO APPLY.						
	SEE REVERSE SIDE OF PURCHASE ORDER FOR ADDITIONAL TERMS AND CONDITIONS THAT APPLY.						
	Planned Purchase Order Effective From: 17-OCT-02 To:						
1	918.43 Corrective action at site #18662		40,000	US D	1	40,000.00	N
	Payments through cost proposal method of expenses incurred in remediation of release from underground storage tanks as provided under Section 44-2-130 SC Code of Laws (SUPERB Act).						
	Contract total cost: $80,000.00						

BY ACCEPTANCE OF THIS PURCHASE ORDER, YOU AGREE TO THE TERMS AND CONDITIONS LOCATED ON THE REVERSE PAGE.

Total Continued

Purchase Order

E. Madison Winslow

AUTHORIZED SIGNATURE

DHEC 0109 (01/01)

See Reverse for Terms & Conditions

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Purchase Order

PURCHASE ORDER NO.	REVISION	PAGE
437565	0	2 of 2

THIS PURCHASE ORDER NO. MUST APPEAR ON ALL INVOICES, PACKING LISTS, CARTONS AND CORRESPONDENCE RELATED TO THIS ORDER.

SHIP TO:

UST MANAGEMENT
SC DHEC
2600 BULL STREET
COLUMBIA, SC 29201-1708
United States

VENDOR:

CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR #F
LAWRENCEVILLE, GA 30043-1505

BILL TO:

UST MANAGEMENT
SC DHEC
2600 BULL STREET
COLUMBIA, SC 29201-1708
United States

CUSTOMER ACCOUNT NO.	VENDOR NO.	DATE OF ORDER/BUYER	REVISED DATE / BUYER
	17339	17-OCT-02 WINSLOW, E	
PAYMENT TERMS		SHIP VIA	F.O.B.
NET 30			Destination
FREIGHT TERMS		REQUESTOR/DELIVER TO	CONFIRM TO / TELEPHONE
Prepaid		PACE, Ms. LAURA J	(678) 377-0400

ITEM	PART NUMBER / DESCRIPTION	DELIVERY DATE	QUANTITY	UNIT	UNIT PRICE	EXTENSION

THIS CONTRACT WILL CONTINUE UNTIL THE SITE REHABILITATION ACTIVITY AS DESCRIBED IN THE SOLICITATION HAS BEEN COMPLETED; PROVIDED, HOWEVER, THAT COMMITTED FUNDS FOR THE SITE REHABILITATION ACTIVITY UNDER THIS CONTRACT REVERT TO UNCOMMITTED STATUS AFTER FOUR MONTHS OF THE DATE OF THE CONTRACT AWARD IF NO INVOICE FOR THE SITE REHABILITATION ACTIVITIES HAVE BEEN RECEIVED BY THE DEPARTMENT, PURSUANT TO SC CODE 44-2-40(B)(1976), AS AMENDED. IF THE FUNDS REVERT TO UNCOMMITTED STATUS, ANY SUBSEQUENT INVOICE WILL NOT BE PROCESSED FOR PAYMENT UNTIL ALL OTHER COMMITTED FUNDS ARE PAID OR MONEY BECOMES AVAILABLE.

BY ACCEPTANCE OF THIS PURCHASE ORDER, YOU AGREE TO THE TERMS AND CONDITIONS LOCATED ON THE REVERSE PAGE.

Total 40,000.00

Purchase Order

E. Madison Winslow

AUTHORIZED SIGNATURE

DHEC 0109 (01/01)

See Reverse for Terms & Conditions

UST BID SHEET

SOUTH CAROLINA
DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL

SOLICITATION NUMBER: SB 20713

PROCUREMENT OFFICER: Matt Winslow

OPENING/CLOSING DATE: 10-8-02

BID CLERK: Tina Brazeau

TIME: 2:30 pm

DATE AWARD WILL BE POSTED: 10/15/02

COMPANY NAME	Site 1	Site 2	Total		
PHA Environmental Restoration	98,050	223,900	305,850		
SEI Environmental	127,000	180,000	307,000		
Applied Earth Sciences	97,400	140,900	214,470		
Consultech Environmental	80,000	107,000	187,000		awarded bid
Palmetto Environmental Group	126,300	159,200	280,000		
Gage Group	133,000	156,000	289,000		
H2O Environmental	180,000	No Bid	No Bid		
Terry Environmental	132,000	154,000	286,000		

Revised 02/11/00 JSS

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

BUREAU OF
BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

STATEMENT OF AWARD

DATE: October 17, 2002

DHEC REQUISITION: 20713

BID NUMBER: SB-20713-10/8/02-EMW

PURCHASE ORDERS: 437565, 437619

FOR FURNISHING: Perform corrective action of a petroleum release from a regulated underground storage tank.

BID ISSUED: 9/5/02

DATE BID OPENED: 10/8/02

AWARD DATE: 10/17/02

AMOUNT OF AWARD: $187,000.00

AWARD IS MADE TO:

Consultech Environmental, Inc.
1800 MacLeod Drive, Suite F
Lawrenceville, GA 30043

E. Madison Winslow
Procurement Officer
(803) 898-3487

NOTE: QUESTIONS REGARDING THIS AWARD SHOULD BE DIRECTED TO THE PROCUREMENT OFFICER.

ANY ACTUAL BIDDER WHO IS AGGRIEVED IN CONNECTION WITH THE AWARD OF A CONTRACT SHALL SUBMIT A LETTER OF CONCERN TO THE DHEC PROCUREMENT OFFICER RESPONSIBLE FOR THE SOLICITATION WITHIN SEVEN CALENDAR DAYS OF THE AWARD PUBLICATION DATE.

Cc: Requester.

award 11/01/96

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

BUREAU OF
BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

October 8, 2002

RECEIVED
OCT 0 9 2002
UNDERGROUND STORAGE
TANK PROGRAM

TO: Laura Pace

FROM: Matt Winslow
Division of Procurement Services
SC Department of Health and Environmental Control

SUBJECT: SB-20713-10/8/02-EMW

The bidding has been completed on this solicitation. I am enclosing copies of the apparent low bids for your review. The anticipated date for posting the award is October 15, 2002. Please call or e-mail me with any questions or comments. Thanks!

UST BID SHEET

SOUTH CAROLINA
DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL

SOLICITATION NUMBER: SB 20713

PROCUREMENT OFFICER: Matt Winslow

OPENING/CLOSING DATE: 10-8-02

BID CLERK: Ina Brazeau

TIME: 2:30 pm

DATE AWARD WILL BE POSTED: 10/15/02

COMPANY NAME	Site 1	Site 2	Total		
P HA Environmental Restoration	98,050	223,900	305,850		
SEI Environmental	127,000	180,000	307,000		
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Gage Group	133,000	156,000	289,000		
H2O Environmental	180,000	No Bid	No Bid		
Terry Environmental	132,000	154,000	286,000		

Revised 02/11/00 JSS

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

BUREAU OF
BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

SEALED BID INVITATION

BID MUST BE SUBMITTED ON THIS FORM TO BE ACCEPTED

SOLICITATION NUMBER: **SB-20713-10/8/02-EMW**

(Number Must Be Shown On Front Of Envelope)

DATE ISSUED: 9/5/02

SEALED BIDS WILL BE RECEIVED UNTIL:

TIME **2:30 pm** *(EST)* DATE: **10/8/02**

AND THEN PUBLICLY OPENED

Mail To:
ATTENTION: BID CLERK
SOLICITATION NO: **SB-20713-10/8/02-EMW**
S.C. Department of Health & Environmental Control
Division of Procurement Services
2600 Bull Street
Columbia, South Carolina 29201-1708

DIRECT INQUIRIES TO: **E. Madison Winslow** E. Madison Winslow Phone: **(803) 898-3487**

REASON FOR NO BID:

This Section Must Be Completed By Vendor:

Consultech Environmental, Inc.
Vendor Name

1800 MacLeod Drive, Suite F
Mailing Address

Lawrenceville, GA 30043
City State Zip Code

Telephone Number: (678) 377-0400

Fax Number: (678) 377-0051

E-mail Address: rgoodspeed@consultechenv.com

Toll Free Number: (888) 368-9222

FEIN Or SSN: 58-1975219

By signing this bid I certify:

- This bid is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same materials, supplies or equipment and is in all respects fair and without collusion or fraud.

By signing this bid I agree:

- To abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.
- If this quotation is accepted within 60 days from date of opening, to furnish any and all items/services at the prices quoted.

Drug-Free Workplace: Required by Section 44-107-10 (Drug Free Workplace Act) of the South Carolina Code of Laws, 1976, as amended. By submission of a bid, the bidder certifies that he/she will comply with all aspects of the Drug-Free Workplace Act and will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of this contract. This certification also applies to any individual or firm employed by the contractor.

Authorized Signature (Manual)

Richard Goodspeed/President
Authorized Signature (Typed) Title

10 / 7 / 02
Date Signed

COMMODITY: Perform corrective action of petroleum releases from regulated underground storage tank sites.

METHOD OF BID AWARD: Award will be made to a South Carolina Certified UST Site Rehabilitation Contractor based on the total cost of active corrective action and other factors. (See Special Conditions #3)

CORRECTIVE ACTION SOLICITATION RESPONSE

Please respond to the following questions:

A. SITE 1 – Bay Creek Villas, (UST Permit #18662), 3701 Docksite Road, Edisto Beach, South Carolina.

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer:
   Air Sparge/Bio Remediation

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately 24 months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment B, Figure #5) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is:
   $ 80,000.00

B. SITE 2 – Joker Joe's Truck Stop, (UST Permit #10658), Exit 8 and I-95, Hardeeville, South Carolina.

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer:
   Air Sparge/Soil Vapor Extraction/Bio Remediation

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately 24 months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment C, Figure #2) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation

verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is:
$ 107,000.00

C. Total Cost for Sites 1 and 2 is $ 187,000.00

D. ACCEPTANCE and DELIVERY STATEMENT

In compliance with the solicitation and subject to all conditions thereof, the offeror agrees, if this bid is accepted within 30 days from date of opening, to complete the corrective action as specified at the price set forth (combined cost for all sites or individual cost for each site as stated above).

For the purpose of this submittal and acceptance of financial approval should it occur, I certify that this company understands the nature of the release and the geologic conditions at this facility as documented in the technical file and this solicitation. Additionally, I certify that this company understands that acceptance is based on total cost to treat the area of concern.

Consultech Environmental, Inc. — Certification No. 65
Contractor (Print)

Richard Goodspeed
Authorized Representative (Print)

Signature

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

BUREAU OF
BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

10/8

SEALED BID INVITATION

BID MUST BE SUBMITTED ON THIS FORM TO BE ACCEPTED

SOLICITATION NUMBER: **SB-20713-10/8/02-EMW**

(Number Must Be Shown On Front Of Envelope)

DATE ISSUED: 9/5/02

SEALED BIDS WILL BE RECEIVED UNTIL:

TIME **2:30 pm** *(EST)* DATE: **10/8/02**

AND THEN PUBLICLY OPENED

Mail To:
ATTENTION: BID CLERK
SOLICITATION NO: **SB-20713-10/8/02-EMW**
S.C. Department of Health & Environmental Control
Division of Procurement Services
2600 Bull Street
Columbia, South Carolina 29201-1708

DIRECT INQUIRIES TO: **E. Madison Winslow** E. Madison Winslow Phone: **(803) 898-3487**

REASON FOR NO BID:

This Section Must Be Completed By Vendor:

Applied Earth Sciences, Inc.
Vendor Name

434 Copperfield Blvd ste B
Mailing Address

Concord, NC 28025
City State Zip Code

Telephone Number: (704) 795-7075

Fax Number: (704) 795-7076

E-mail Address: twitner@appliedearth.com

Toll Free Number: ( )

FEIN Or SSN: 74 2365512

By signing this bid I certify:

- This bid is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same materials, supplies or equipment and is in all respects fair and without collusion or fraud.

By signing this bid I agree:

- To abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.
- If this quotation is accepted within 60 days from date of opening, to furnish any and all items/services at the prices quoted.

Drug-Free Workplace: Required by Section 44-107-10 (Drug Free Workplace Act) of the South Carolina Code of Laws, 1976, as amended. By submission of a bid, the bidder certifies that he/she will comply with all aspects of the Drug-Free Workplace Act and will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of this contract. This certification also applies to any individual or firm employed by the contractor.

Thomas Witner — Thomas Witner Senior Geologist — 10/7/02

Authorized Signature (Manual) | Authorized Signature (Typed) Title | Date Signed

COMMODITY: Perform corrective action of petroleum releases from regulated underground storage tank sites.

METHOD OF BID AWARD: Award will be made to a South Carolina Certified UST Site Rehabilitation Contractor based on the total cost of active corrective action and other factors. (See Special Conditions #3)

PURPOSE and SCOPE OF WORK

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (DHEC) is seeking services to perform active corrective action of petroleum releases from regulated underground storage tank sites in accordance with defined remediation goals. The objective is to *remove measurable free product and reduce the levels of chemicals of concern (CoC) in the ground water to or below defined site-specific target levels (SSTLs).* All offerors must be South Carolina Certified Class I Site Rehabilitation Contractors. The two scopes of work defined in this solicitation are to be implemented at the Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, South Carolina (UST Permit #18662), and at Joker Joe's Truck Stop, Exit 8 at I-95, Hardeeville, SC (UST Permit #10658).

SPECIAL CONDITIONS

1. CONTRACT PERIOD: The contract will be effective from date of award until the corrective action is complete as described in this contract.

2. This contract is for corrective action at two sites in South Carolina. Compensation from the SUPERB Account is not considered a state contract for purposes of procurement or subject to state bid requirements in accordance with Section 44-2-130(D) of the SUPERB Act.

3. AWARD: Award will be made to a South Carolina Certified UST Site Rehabilitation Contractor based on the total cost, method(s), and estimated time for active corrective action to SSTLs and removal or abandonment of assessment and rehabilitation items for all sites listed, provided the proposed implementation schedule(s) to achieve the remediation goals, the removal of all equipment and abandonment of wells (including pre-existing wells), trenches, etc. installed by the contractor, and the proposed remediation technology(ies) or method(s) are protective of public health and the environment and are eligible for permitting by DHEC. The total cost, methods, and estimated time to complete the contract must be advantageous to the State of South Carolina. **DHEC may award sites on an individual basis or as a block of sites, whichever is deemed most advantageous to the State**

4. REASONABLE COST: DHEC reserves the right to reject any and all bids that appear to be above the customary and reasonable cost for the same scope of work in a similar geologic setting, that propose a technology that cannot be permitted in South Carolina, or that propose an estimated time frame for cleanup that is not protective of human health or the environment.

5. Contractor must agree to make positive efforts to employ women- and minority-owned businesses.

6. AMENDMENTS: All amendments to this solicitation shall be in writing from the DHEC Procurement Officer indicated on page one of this solicitation. DHEC shall not be legally bound by any amendment or interpretation that is not in writing.

7. QUESTIONS: Questions or requests for information must be submitted in writing and received by 5:00 pm ET, September 30, 2002. After this date, no further questions will be addressed. A written response will be mailed to all requestors of the solicitation. The questions may be faxed to E. Madison Winslow, fax number (803) 898-3505.

8. **NOTE . . . THE ONLY OFFICIAL CONTACT PERSON AT DHEC DURING THE SOLICITATION AND AWARDING PROCESS IS THE PROCUREMENT OFFICER INDICATED ON PAGE ONE OF THIS SOLICITATION. OFFERORS ARE NOT TO CONTACT DHEC PERSONNEL LOCATED OUTSIDE THE BUREAU OF BUSINESS MANAGEMENT.**

9. The contractor(s) will be required to treat the area where the dissolved petroleum chemicals of concern are above site-specific target levels for each site in Attachment A. Verification that interim corrective action goals have been met will be based upon ground-water quality samples collected from the monitoring wells indicated for each site in Attachment A. Verification that final corrective action goals have been met will be based upon ground-water quality samples for each site from all existing monitoring wells and additional verification wells to be installed at locations designated by SCDHEC (See Specification **#11** for more details).

10. REPORTS: Deliver the reports to: SCDHEC, Bureau of Land and Waste Management, UST Program, 2600 Bull Street, Columbia, SC 29201. A minimum of three (3) copies of each plan and two (2) copies of each report for each site in Attachment A must be delivered to the above address to the attention of the UST Program Project Manager. Based on permitting and other requirements, an engineering report, UIC permits, air-modeling forms, or NPDES Permits may be required. Please contact the Department for the exact number of copies of each document to be submitted.

11. INVOICING: Invoices will be submitted to: SCDHEC, Bureau of Land and Waste Management, UST Program, ATTN.: Financial Section, 2600 Bull Street, Columbia, SC 29201, using the Department's Corrective Action (CA) Invoice form. The initial invoice must be received at the above address within four months of CAP approval or funds will be uncommitted as required by the Section 44-2-40(B) of the SUPERB Act. If funds are uncommitted the submitted invoice will be held until funding is available. **Payment will only be made for achieving the corrective action goals as specified in this contract. No interim or partial payments will be made once corrective action is initiated, except as outlined in Specification #4.** Payment to the contractor will be a pay for performance system as follows:

    A. Payment of forty percent (40%) of the total corrective action price for each site will be made within 90 days of operation of the remediation system or implementation of corrective action as described in the approved corrective action plan (CAP) for each site, subject to the limitations of Section 44-2-40 of the SUPERB Act. **The first $15,434.15 in costs for UST Permit #10658 will be paid by the UST owner for that site.** Implementation should be documented in the first corrective action monitoring report for each site.

    B. Payment of thirty-five percent (35%) of the total corrective action price for each site will be made based on achieving interim CoC mass reduction goals at the site as verified in the monitoring wells listed in Attachment A for each site. Payment will be made for interim goals of 25, 50, and 75 percent reduction of <u>total</u> CoC mass by the implementation of corrective action. The CoC mass requiring reduction at each site is listed in Attachment A.

        1) 25 percent total mass reduction will be achieved when free product has been removed to 0.01

foot (if required) and one-quarter of the initial BTEX, MTBE, and Naphthalene mass from the monitoring wells specified for each site in Attachment A is removed as compared to the SSTLs. The following formula will be used to calculate the percent total mass reduction: total mass above SSTLs from initial sampling less total mass above SSTLs from subsequent sampling divided by total mass above SSTLs from initial sampling. Payment of 10 percent (10%) of the total corrective action price will be made upon verification (see Specifications item 11 for the method of verification) of at least one-quarter of the total CoC mass above SSTLs is removed.

The following is an example to demonstrate the CoC Mass Reduction Calculation: Table 1

Well			Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Naphthalene	Mass > SSTL
MW-1	Initial	A	7,500	4,000	2,000	15,000	3,000	1,000	A
	SSTL	B	10	2,000	1,400	10,000	80	50	B
	Initial > SSTL	C	7,490	2,000	600	5,000	2,920	950	18,960 C
	Subsequent	D	3,000	1,000	900	13,000	2,000	5	D
	SSTL	E	10	2,000	1,400	10,000	80	50	E
	Subsequent > SSTL	F	2,990	0	0	3,000	1,920	0	7,910 F
MW-4	Initial	G	150	400	50	250	300	25	G
	SSTL	H	5	400	50	250	40	25	H
	Initial > SSTL	I	145	0	0	0	260	0	405 I
	Subsequent	J	100	100	1	1	100	1	J
	SSTL	K	5	400	50	250	40	25	K
	Subsequent > SSTL	L	95	0	0	0	60	0	155 L
Totals	Initial > SSTL	M	(sum of initial mass above SSTL for all wells) (C+I)						19,365 M
	Subsequent > SSTL	N	(sum of subsequent mass above SSTL for all wells) (F+L)						8,065 N

Notes: If subsequent sampling indicates a CoC concentration at or below the SSTL and/or a CoC concentration at BDL but the reporting limit is at/or below the SSTL value for any constituent, the value for the mass reduction will be 0 (no negative numbers).

If subsequent sampling indicates a CoC concentration at BDL but the reporting limit is above the SSTL, the value for any constituent will be the analytical reporting limit.

Mass Reduction Calculation

$$\text{CoC Mass Reduction} = \frac{(M-N)}{(M)} = \frac{(19{,}365-8{,}065)}{19{,}365} = 0.5835 * 100 = 58.35\% \text{ CoC Reduction}$$

2) 50 percent total mass reduction will be achieved when one-half of the initial BTEX, MTBE, and Naphthalene mass from the monitoring wells specified for each site in Attachment A is removed as compared to the SSTLs. The formula outlined in Item 11. B. (1) will be used. Payment of 10 percent (10%) of the total corrective action price will be made upon verification (see Specifications Item 11 for the method of verification) of at least one-half of the total CoC mass above SSTLs removed.

3) 75 percent total mass reduction will be achieved when three-quarters of the initial BTEX, MTBE, and Naphthalene mass from the monitoring wells specified for each site in Attachment A is removed as compared to the SSTLs. The formula outlined in Item 11 B (1) will be used. Payment of 15 percent (15%) of the total corrective action price will be made upon verification (see Specifications Item 11 for the method of verification) of at least three-quarters of the total CoC mass above SSTLs removed.

C. **The final 25 percent (25%) of the total corrective action price will be paid upon: 1) verification that the thickness of free product does not exceed 0.01 foot and the levels of CoC do not exceed the site specific target levels (SSTLs) defined in Specification 11 for each site at any point in the area of concern for that site. Verification that the SSTLs have been met will be based upon ground-water quality samples collected from all existing monitoring wells and additional verification wells to be installed at locations designated by DHEC (see specification #11 for more details); and 2) all remediation and assessment items installed by the contractor (e.g., wells [including pre-existing wells], trenches, etc.) are removed from the site or properly abandoned. The SSTLs for each site are given in Attachment A.**

12. NOTIFICATION FOR FAILURE TO PERFORM: If the contractor fails to meet any specification of corrective action as outlined in this document, DHEC will notify the contractor by certified letter of the deficiency(ies). If the contractor does not correct the deficiency(ies) within 30 days, the contractor will be in breach of contract and the corrective action award may be voided by DHEC. DHEC will notify the contractor by certified letter that the corrective action award is void and any invoices are payable upon review and approval by DHEC. If the contractor corrects the deficiency(ies) within 30 days, the corrective action award will continue. Please note contractor-owned items used on-site for the contract that are destroyed by acts of nature, improper maintenance or handling, theft or vandalism will not be replaced or reimbursed by the SUPERB Account. The accepted corrective action cost will be final and will not be increased for any reason (e.g., unanticipated iron fouling of a system, wells clogging because of biological activity or sediments, increased subcontractor costs, loss of utilities, modification to the system to meet the remediation goals, etc.) with the exception of unforeseen geologic circumstances or identification of additional CoC from another release. **Payment will only be made for achieving the corrective action goals as specified in this contract. No interim or partial payments will be made once corrective action is initiated, except as outlined in Specification #4. Once site rehabilitation has been initiated under this contract, in the event of a cancellation due to the prescribed circumstances, final payment will be a percentage of the contract amount equal to the actual percent reduction of the CoC mass as calculated based on the last sampling results from all wells listed in Special Condition 11.C. of the contract less the amount previously paid.**

13. SITE SPECIFIC DETAILS: A brief technical summary of the releases, including location map and specifics of existing wells for each site are provided in Attachments B (Bay Creek Villas) and C (Joker Joe's Truck Stop). The detailed technical files will be available for review through the Freedom of Information (FOI) Office located at the Stern Building, 8901 Farrow Road, Columbia, SC. **Review of the detailed technical file is not mandatory; however, offerers are strongly encouraged to review the file to ensure a complete understanding of the contract requirements. The successful offeror will be responsible for all information in the technical file.** Appointments to view the technical files may be scheduled on weekdays between the hours of 8:30 A.M. to 5:00 P.M. by calling the SCDHEC Freedom of Information Office at (803) 898-3882. Please request file #18662 for (Bay Creek Villas), and #10658 for Joker Joe's Truck Stop. **NOTE: Free phase product may be present at these sites. Free product was detected in the baseline-sampling event at #10658. No free phase product was detected in the baseline-sampling event at #18662. The application of corrective action technologies or natural fluctuations in the water table can result in the mobilization and possible appearance or increased thickness of free phase product or elevated CoC concentrations in the monitoring wells.**

14. **The contractor will submit a Corrective Action Plan (CAP) for each site within 30 days of the date the Purchase Order is issued from the Bureau of Business Management in accordance with Specification item #2.** The implementation of the CAP will be initiated immediately upon DHEC approval of the CAP and all associated permit(s), and in accordance with the schedule presented in the CAP. A performance bond or irrevocable standby letter of credit, equal to the total award price, will be required by DHEC. The issuing institution for an irrevocable standby letter of credit must be an entity that has authority to issue letters of credit in South Carolina and whose letter-of-credit operations are regulated and examined by a federal or state agency. The original performance bond or irrevocable standby letter of credit will be submitted to the Bureau of Land and Waste Management, UST Program, Attn: Pat Holland, within 30 days of award. The performance bond or irrevocable standby letter of credit will specify the SUPERB Account as the recipient of any forfeiture. Since DHEC is responsible for disbursement of funds from the SUPERB Account, the financial responsibility mechanism (i.e., bond or letter of credit) will be held by the Bureau of Land and Waste Management, UST Program until the work is successfully completed at all awarded sites.

15. MINIMUM REQUIREMENTS: **Corrective action will be considered complete at each site once the levels of CoC in the area of concern for that site are verified to be at or below the SSTLs for that site and the removal or abandonment of all remediation and assessment items installed by the contractor (e.g., wells [including pre-existing wells], trenches, etc.) is complete.** All rehabilitation activities associated with a UST release must be performed by a SCDHEC certified Class I Site Rehabilitation Contractor as required by R.61-98. All corrective action plans and reports must be sealed by a Professional Engineer or Professional Geologist registered in the State of South Carolina. All engineering reports, drawings and plans must be sealed by a Professional Engineer registered in the State of South Carolina. All laboratory analysis for CoC must be performed by a SC certified laboratory. All monitoring, verification, injection, or recovery wells must be installed and abandoned by a SC certified well driller. **The corrective action method or technology will be designed to prevent vapors from entering onsite or adjacent structures.** All applicable certification, training, permits, applications, and fees associated with well installation; injection, discharge, treatment, or transportation of ground water, air, or soil; construction or operation of a remediation system; and any other action requiring a permit are the responsibility of the contractor. Any required business or

occupation license and occupational safety and health training (e.g., OSHA) as defined by the laws and regulations of the United States of America, the State of South Carolina, the county or city is also the responsibility of the contractor. The terms and conditions of all applicable permits will be met. Any contaminated ground water, soil, or construction material must be properly transported and disposed of, or treated at an approved facility with prior approval from DHEC. Any costs for utilities construction and service (electric, telephone, sewer, etc.) required by the corrective action are the responsibility of the contractor.

SPECIFICATIONS for CORRECTIVE ACTION

All offerors must meet the following specifications for **each site** as required by the proposed treatment method(s) or corrective action technology(ies):

1. Submit a Corrective Action Solicitation Response. The response will outline in general terms an approach to achieve the remediation goals (e.g., reduction of each CoC to SSTL). The proposal must outline the following:

   A. A description of the proposed treatment method(s) or technology(ies) for corrective action.

   B. The estimated amount of time in months to complete site rehabilitation to meet the remediation goals and remove or abandon all assessment and remediation items installed as part of corrective action.

   C. The total cost (in U.S. dollars) to complete site rehabilitation to meet the remediation goals and to remove or abandon all assessment and remediation items installed as part of corrective action.

2. **The successful contractor must complete and submit a detailed CAP (three copies) for each site: 1) Bay Creek Villas (UST Permit #18662), 3701 Dock Site Road, Edisto Beach, South Carolina, and 2) Joker Joe's Truck Stop (Site #10658), Exit 8 and I-95, Hardeeville, South Carolina within 30 days from the date the Purchase Order is issued by the Bureau of Business Management. NOTE: Use of monitoring well(s) for injection, extraction, or free phase product recovery purposes is not allowed.** A condition of the plan may include installation of additional recovery, sparge, compliance, or injection wells. The plan must define all active (pump and treat, sparge, vapor extraction, excavation of impacted soils, bioremediation, etc.) and passive (intrinsic remediation, monitoring, etc.) corrective action method(s) proposed to reduce CoC to SSTLs. It must be shown, by use of scientific models, computations, or discussion, how each CoC will be reduced to the SSTL for each remediation method proposed for the release. Any assumptions used in a model will be listed or shown, as well as appropriate references. Intrinsic corrective action will require monitoring to verify remediation. General construction details will be included (e.g., install four additional recovery wells, construct a compliance point, install four air injection wells, excavate 3,000 cubic yards of impacted soils, etc.) as well as details of well abandonment and equipment removal. A remediation timetable including abandonment of wells and removal of equipment will be included with the CAP. The Bureau of Land and Waste Management, UST Program will review the CAP and initiate a public notice period for a maximum of 30 days. The contractor must obtain a copy of the applicable portion of the tax map. This map will depict the location of the facility, all impacted properties, and all properties located adjacent to the impacted properties. The names and addresses of the owners of each of these properties will be

provided. The contractor may be required to attend or provide input at a public meeting upon request by DHC. Any CAP amendments and modification arising from public notice must be submitted within 15 days of notification by DHEC. The CAP and any amendments or modifications must be sealed by a qualified Professional Geologist or Engineer registered in the State of South Carolina. The owner/operator of each site,Thomas Kontinos for UST Permit #18662 and Smith Tysinger for UST Permit #10658 and any other affected property owners will be consulted and will approve the location of the corrective action system. If permanent, the system must be enclosed in a fenced area or small building.

3. Complete and submit all applications for permits (injection, NPDES, BAQC modeling form, thermal treatment, construction, etc.; 3 copies) and an engineering report (ER; 4 copies) with the CAP for each site. Any required permit changes or corrections will be submitted within 15 days of notification by DHEC. The ER and any ER amendments and modifications, must be sealed by a Professional Engineer registered in the State of South Carolina. After review and approval of the CAPs and all permit applications by DHEC, the Bureau of Land and Waste Management, UST Program will issue a notice to proceed with CAP implementation.

4. An initial monitoring report for each site documenting CoC concentrations in all wells and potentiometric conditions prior to start up must be submitted to the Bureau of Land and Waste Management, UST Program **within 45 days** after award.

Based on naturally occurring conditions, the dissolved concentration of petroleum chemicals of concern (CoC) will increase or decrease. For the purposes of this contract, the total CoC mass for the wells included in the bid package may reasonably increase up to 150 percent or decrease as much as 50 percent. If the total CoC concentration in all wells listed in Special Condition 11.B. increases more than 150 percent based on this initial sampling or if measurable free product that has not been previously documented in any report is detected during the initial sampling event, the contractor may request in writing that the award be canceled. **If either of these conditions occurs, the contractor will contact the UST project manager within two days of problem identification and will submit written documentation within five days of notification.** The contractor will be reimbursed based on the following rate schedule:

Subcontract Costs*	Invoice + 15%
Personnel Mobilization	$ 125.00
Equipment Mobilization	$ 250.00
Groundwater Sample Collection	$ 35.00 each
Gauging Free Phase Product	$ 30.00 per well
Wastewater Disposal	$ 90.00 per drum
CAP Preparation and Assoc. Costs	$6,000.00

* Includes laboratory, drilling, electrical, etc.

The contract will be canceled and the performance bond or irrevocable letter of credit will be returned to the company. If the total CoC concentration in all wells listed in Special Condition 11.B. decreases more than 50 percent based on this initial sampling the DHEC may cancel the award. If the contract is canceled by DHEC, the contractor will be notified by certified letter and an invoice for the above outlined items shall be submitted within 20 days from the date of the certified letter canceling the

contract. If the corrective action system is started or treatment is performed, the contractor will be required to complete the contract unless unforeseen geological conditions are encountered or another release is confirmed. See special condition 12. **Once CAP implementation has been initiated under this contract, in the event of a cancellation due to the prescribed circumstances and before any mass reduction has been achieved, final payment will not exceed 40 percent of the award price under any circumstances as no reduction of CoC mass has been accomplished.**

5. Implement the CAPs within 30 days of receipt of notice to proceed and any required permit(s) to construct. Disruption to the owner/operator's normal business will be kept to a minimum. The contractor will repair the site to the condition as it existed prior to installation of the corrective action system (e.g., asphalt paved areas will be repaved with asphalt, concrete areas replaced with concrete, grass area will have soil replaced to the original grade and reseeded or sodded with grass, etc.) Upon completion of any required construction, DHEC will inspect the system and issue a permit to operate. The contractor will, at all times, keep the site free from waste materials and rubbish related to the corrective action. Until completion of the corrective action, the contractor will keep the premises in a clean, neat and workmanlike condition satisfactory to DHEC. Disposition of all generated soil and wastewater must be included in the appropriate report.

   Implementation of the corrective action plan(s) before the completion of the public notice process and approval of all permits by DHEC is not authorized. If premature implementation occurs, the UST Program will not reimburse those costs from the SUPERB Account and the corrective action price will be reduced by that amount. If the Department agrees with early implementation to better protect human health in an emergency and provides approval in writing, early implementation without any reduction to the corrective action amount will be authorized.

6. Gain access to adjacent or other affected properties to sample monitoring wells and to install any corrective action equipment, as required. The contractor will repair the site to the condition as it existed prior to installation of the corrective action system (e.g., asphalt paved areas will be repaved with asphalt, concrete areas will be replaced with concrete, grass areas will have soil replaced to the original grade and reseeded or sodded with grass, etc.).

7. Initiate system startup within 15 days of receipt of the permit to operate. Remediation as defined in the CAPs and ERs will begin upon system startup. **If any problem with CAP implementation occurs, the contractor will contact the UST project manager for the site within 24 hours of problem identification and will submit written documentation within five days of notification.** ***NOTE: Free phase product may be present at these sites. Free product was detected in the baseline-sampling event at #10658. No free phase product was detected in the baseline-sampling event at #18662. The application of corrective action technologies or natural fluctuations in the water table can result in the mobilization and possible appearance or increased thickness of free phase product or elevated CoC concentrations in the monitoring wells.***

8. Complete and submit a corrective action monitoring report (2 copies for each site plus one copy for any DHEC Bureau that issued a permit) on a quarterly basis. A copy of the corrective action monitoring report for each site will be mailed directly to the owner/operator of each site. The first quarter

corrective action monitoring report for each site is due within 90 days of the permit to operate. The corrective action monitoring reports must include:

A. A narrative portion that documents current site conditions, verification of system operation or CAP implementation, and system effectiveness in achieving the remediation goals (e.g., free product removal, reducing CoC to the SSTLs) as outlined in the CAP. Any system down time and the associated reason(s) will be included in the report.

B. Conclusions and recommendations based on the reported data.

C. Ground-water laboratory analytical data for all monitoring wells in the following format (additional parameters such as dissolved oxygen may be required; do not sample wells containing measurable free product):

Analytical Data (μg/l) Table 2

Monitoring Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
MW-1	7/15/97 10/15/97	145 140	200 190	146 140	1,000 900	170 50	47 165
MW-2	7/15/97 10/15/97	580 480	800 690	300 257	1,000 912	60 50	20 19

D. Ground-water potentiometric data for all monitoring wells in the following format:

Ground-water Data (feet) Table 3

Monitoring Well	Date	TOC Elevation	TOC to GW	TOC to FP	FP Thickness	GW Elevation
MW-1	7/15/97 10/15/97	98.0 98.0	17.54 17.90			80.46 80.10
MW-2	7/15/97 10/15/97	100.0 100.0	20.50 21.50	20.47 21.48	0.03 0.02	79.50 78.50

E. A ground-water elevation contour map of the site based on current ground-water potentiometric data.

F. A CoC map based upon current ground-water laboratory analytical data. The ground-water data should be adjacent to the relevant monitoring well using the following format (additional parameters such as dissolved oxygen may be required):

MW - Number
Benzene (μg/l)
Toluene (μg/l)
Ethylbenzene (μg/l)
Xylenes (μg/l)
MTBE (μg/l)
Naphthalene (μg/l)

G. A copy of the DHEC approval letter and manifests for any contaminated soil and ground water removed from the site for treatment and/or disposal.

H. Additional data required by permits (e.g., air analyses, wastewater effluent analyses and amounts, etc.). The data should be reported on a form or in a format specified in the permits, and attached to the monitoring report as an addendum.

All rehabilitation activities associated with the UST release must be performed by a SCDHEC Certified Site Rehabilitation Contractor. All air, soil, and ground-water analyses must be performed by a South Carolina certified laboratory. The corrective action monitoring report must be sealed by a Professional Engineer or Geologist registered in the State of South Carolina. All monitoring wells associated with the release will be sampled on a quarterly basis for the first year. Thereafter, the number of wells sampled may be reduced and/or the interval between corrective action monitoring reports may be lengthened upon clear demonstration of CoC reduction, unless restricted by permit requirements. Any approval to reduce the number of wells sampled or the frequency of sampling must be in writing from the UST Program. DHEC may require data to be reported on a form or in a specific format. The contractor will be provided with the proper report forms and format prior to system startup. The contractor will be notified of any revisions to the report forms or format 90 days prior to the due date for the next corrective action monitoring report.

9. Collect one (1) ground-water sample per monitoring event for all monitoring wells associated with the release for each site. Each well should be purged prior to sampling. Purging is considered complete once the ground-water temperature and pH have stabilized. Sampling logs should note all temperature and pH measurements, as well as the location and type of each sample submitted for laboratory analysis. Each ground-water sample will be collected in accordance with established QA/QC protocol and submitted to a certified laboratory for analysis. The samples must be analyzed for the following parameters:

Table 4

Analyte	Analytical Method	Reporting Limit (μg/l)
BTEX**	8260B/5030B	5
Naphthalene**	8260B/5030B	5
MTBE**	8260B/5030B	5
PAH*	8270C/3510C	10

*or EPA equivalent method that can achieve the same reporting level
**The UST Program no longer accepts equivalent methods for VOC Analysis.

Additional samples (air, groundwater, effluent, soil) required by permits must be collected in accordance with established QA/QC protocol and submitted to a certified laboratory for analysis. The samples will be analyzed for parameters stipulated in the permits. Sampling and analytical data for each sample (e.g., field sampling logs, chain of custody forms, certificates of analysis, and the lab

certification number) will be included in the corrective action monitoring report.

10. Properly dispose of all contaminated soil and ground water generated during the implementation of the CAPs and installation of verification wells. DHEC must approve the disposal facility selected for treatment and disposal of the free product and contaminated soil and ground water. The owner/operator of the facility is considered the generator for any contaminated soil and ground water. The contractor must document all disposal of free product and contaminated soil and ground water in the corrective action monitoring reports.

11. Verification for the removal of free product will be conducted by SCDHEC personnel with an interface probe. If the remediation technology is in-situ (e.g., pump and treat, air sparging, vapor extraction): suspend operation of the system once the remediation goals for all CoC have been maintained for a period of 30 days. Samples are to be taken after one (1) quarter or after all CoC levels have reached equilibrium and again after a second quarter. Along with the parameters listed in Specification #9, the ground-water samples should also be sampled for the following parameters:

Analyte	Analytical Method*	Reporting Limit (µg/l)
Dissolved Oxygen	SM4500-O G	500
Ferrous Iron	SM3500-Fe D	30
Methane	Kerr Method	1000
Nitrate	9056/9210	100
Sulfate	9038/9056	1000

*or EPA equivalent method that can achieve the same reporting level

If sample results indicate that the remediation goals are not sustained, the contractor must submit a corrective action status report (3 copies) that outlines the deficiency(ies) and offers recommendations for achieving the remediation goals with a revised timetable. Modifying and restarting of the system may be necessary. All remediation goals must be again maintained for a minimum of 30 days. Corrective action will then be suspended again and samples taken to verify that remediation goals are sustained. This cycle of activity, including status reports, will be repeated until all CoC levels remain below SSTLs for all wells listed in Attachment A for two (2) consecutive quarters. Verification wells may be installed at locations designated by DHEC (See Attachment A for number of verification wells for each site). Costs for verification well installation are considered part of this bid price. Each well will be sampled in accordance with Specifications item 9 and the analyses compared to the calculated SSTLs for the CoC at that well location. If the laboratory analyses are at or below the SSTLs, corrective action will be considered complete. If any analysis is above the SSTL, the corrective action will not be considered complete, and the activity cycle described above must be repeated until all CoC levels remain below SSTLs for those wells listed in Attachment A. Split or duplicate samples may be collected by DHEC (or its subcontractors) to verify achievement of remediation goals. In addition to the ground water collected from the monitoring wells, the UST Program may provide up to three standards or

prepared blanks for the contractor's laboratory to analyze. The laboratory analysis from the contractor's and the UST Program's laboratory will be compared. In the event of substantial variance (more than 15%), a second sampling event with field and trip blanks will be sent to a SC certified laboratory by the UST Program for analysis. The contractor will be notified when the wells will be resampled, can observe this second sampling event, and will be provided analytical results for comment. DHEC Laboratory Certification will be provided copies of all sample data sets with all relevant quality assurance/quality control data to assist the UST program in determining the cause of a laboratory variation. The Director of the Assessment and Corrective Action Division will make the final decision on which analytical values will be the basis for payment or closure based on the recommendation of the site rehabilitation contractor, DHEC Laboratory Certification, the UST Section Manager, and the UST Project Manager. The site rehabilitation contractor will be provided a written record of any decision. **At least two weeks notice will be provided to the UST Project Manager prior to mobilizing to the site for sampling to verify attainment of remediation goals.** Costs for transportation and analysis of split or duplicate samples will be paid by DHEC.

or

If the remediation technology is a single event (e. g. excavation of impacted soils, vacuum enhanced recovery): collect sufficient samples as outlined in the CAP to verify the reduction of CoC to the remediation goals. The contractor may be required to install and sample verification wells at locations designated by DHEC. (See Appendix A for number of verification wells for each site). If the levels of CoC in all samples are at or below SSTLs, corrective action will be considered complete. If the level of any CoC is above the SSTL, additional corrective action will be required. The contractor will submit one (1) corrective action status report to document the reduction of CoC to the remediation goals. Split or duplicate samples will be collected by DHEC (or its subcontractors) to verify achievement of remediation goals. **At least two weeks notice will be provided to the UST Project Manager prior to mobilizing to the site for sampling to verify attainment of remediation goals.** Costs for transportation and analysis of split or duplicate samples will be paid by DHEC.

12. Disassemble and remove the remediation system and all associated remediation items including utilities from the site within 60 days of notification by DHEC that the remediation goal for the release associated with the UST(s) at the site has been achieved. Disruption to the owner/operator's normal business will be kept to a minimum.

13. Properly abandon all monitoring, recovery, and/or injection wells (including pre-existing wells), borings, trenches, and piping/utility runs installed by the contractor as part of corrective action within 60 days of notification by DHEC that the remediation goal for the release associated with the UST(s) at the site has been achieved. The abandonment will be in accordance with South Carolina Well Standards and Regulations R. 61-71 and accepted industry standards for abandonment of trenches and piping/utility runs. Disruption to the owner/operator normal business will be kept to a minimum. The contractor must notify DHEC of the method of well abandonment and final disposal of any free product and contaminated soil or ground water. The contractor will return the site to the condition prior to corrective action (e.g., asphalt paved areas will be repaved with asphalt, concrete areas will be replaced with concrete, grass areas will have soil replaced to the original grade and reseeded or sodded with grass, etc.).

CORRECTIVE ACTION SOLICITATION RESPONSE

Please respond to the following questions:

A. SITE 1 - Bay Creek Villas, (UST Permit #18662), 3701 Docksite Road, Edisto Beach, South Carolina.

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer:
   Pulsed Air Sparge and Soil Vapor Extraction

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately 24 months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment B, Figure #5) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is:
   $ 97,400.00

B. SITE 2 - Joker Joe's Truck Stop, (UST Permit #10658), Exit 8 and I-95, Hardeeville, South Carolina.

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer:
   Pulsed Air Sparge and AFVR

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately 36 months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment C, Figure #2) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation

verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is:
$ 140,900.00

C. Total Cost for Sites 1 and 2 is $ 214,470.00

D. ACCEPTANCE and DELIVERY STATEMENT

In compliance with the solicitation and subject to all conditions thereof, the offeror agrees, if this bid is accepted within 90 days from date of opening, to complete the corrective action as specified at the price set forth (combined cost for all sites or individual cost for each site as stated above).

For the purpose of this submittal and acceptance of financial approval should it occur, I certify that this company understands the nature of the release and the geologic conditions at this facility as documented in the technical file and this solicitation. Additionally, I certify that this company understands that acceptance is based on total cost to treat the area of concern.

Applied Earth Sciences, Inc. Certification No. 209
Contractor (Print)

Thomas Witner
Authorized Representative (Print)

Signature

PLEASE READ THE FOLLOWING CAREFULLY PRIOR TO COMPLETING BID

INSTRUCTIONS TO BIDDERS

DISCUSSIONS AND NEGOTIATIONS: By submission of a bid, bidder agrees that during the period following issuance of this solicitation and prior to notification of intent or award of a contract, the bidder shall not discuss this procurement with any party except members of the DHEC Procurement Division or other parties designated in this solicitation. Bidder shall not discuss or attempt to negotiate with the using area or program any aspects of the procurement without prior approval of the DHEC Procurement Division Buyer responsible for the procurement. Infractions may result in rejection of the violator's bid.

1. Unless otherwise required herein, only one signed copy of the invitation to bid is required.
2. Bids "faxed" directly to the DHEC Procurement Office will not be accepted or considered for award.
3. Bids, amendments thereto or withdrawal request must be received by the time advertised for bid opening. It is the bidder's sole responsibility to insure that these documents are received by the person (or office) at the time indicated in this solicitation document. DHEC Underground Storage Tank Environmental Remediation Procedures shall govern any withdrawal request received after the time of the bid opening.
4. When specifications or descriptive papers are submitted with the bid submission, enter bidder's name thereon.
5. Submit your signed bid on this form. Show the bid number on the envelope as instructed. DHEC assumes no responsibility for unmarked or improperly marked envelopes. All envelopes received showing a bid number are placed directly under locked security until the date and time of opening. Do not include more than one bid invitation per envelope. If directing any other correspondence, address the envelope to the Procurement Officer but do not include the bid number on the envelope since it does not include your bid.
6. Bidders must clearly mark as "CONFIDENTIAL" each part of their bid which they consider to be proprietary information that could be **exempt from disclosure** under Section 30-4-40, Code of Laws of South Carolina 1976 (1986 Cum. Supp.; Freedom of Information Act). If any part is designated as confidential, there must be attached to that part an explanation of how this information fits within one or more categories listed in Section 30-4-40. DHEC reserves the right to determine whether this information should be exempt from disclosure and no legal action may be brought against the State, DHEC or its agents for its determination in this regard.
7. By submission of a bid, **you are guaranteeing** that all goods and services meet the requirements of this solicitation during the contract period.
8. **Tie bids** will be resolved as outlined in DHEC Underground Storage Tank Environmental Remediation Procedures.
9. **Do not include any taxes** that DHEC may be required to pay in the bid price. Upon submission of a bid by a state agency, the Procurement Officer will compute a 5% sales and use tax to the non-state agency bids when applicable (service and labor excluded) in determining the low bidder. This procedure conforms to the SC Tax Commission Sales and Use Tax Regulation 117-174-.95.
10. **Correction of errors on this bid form:** All prices and notations should be printed in ink or typewritten. Errors should be crossed out, corrections entered and initialed by the person signing the bid. Erasures or use of typewriter correction fluid may be cause for rejection. No bid shall be altered or amended after the time specified for the bid opening.
11. **Ambiguous bids** that are uncertain as to terms, delivery, quantity, or compliance with this solicitation may be rejected or otherwise disregarded.
12. Any bidder desiring to exercise a grievance may do so under section IV of DHEC Underground Storage Tank Environmental Remediation Procedures. All correspondence should be directed to the Director of Procurement Services, Bureau of Business Management, 2600 Bull Street, Columbia, SC 29201.
13. **Failure to respond** to three consecutive bid notices may result in removal of bidder's name from the mailing list.

GENERAL PROVISIONS

14. DHEC reserves the right to reject any and all bids, and to cancel this solicitation.
15. **Unit prices** will govern over extended prices unless otherwise stated in this solicitation.

16. **Prohibition of Gratuities:** Amended section 8-13-420 of the 1976 Code of Laws of South Carolina States: "Whoever gives or offers to any public official or public employee any compensation, including a promise of future employment, to influence his action, vote, opinion or judgment as a public official or public employee or such public official solicits or accepts such compensation to influence his action, vote, opinion or judgment shall be subject to the punishment as provided by Section 16-9-210 and Section 16-9-220. The provisions of this section shall not apply to political contributions unless such contributions are conditioned upon the performance of specific actions of the person accepting such contribution nor shall they prohibit a parent, grand-parent or relative from making a gift to a child, grandchild, or other close relative for love and affection except as hereafter provided".
17. **Bidder's Qualification:** Bidders must, upon request of DHEC, furnish satisfactory evidence of their ability to furnish products or services in accordance with the terms and conditions of these specifications. DHEC reserves the right to make the final determination as to the bidder's ability to provide the products or services requested herein.
18. **Bidder's Responsibility:** Each bidder shall fully acquaint himself with conditions relating to the scope and restrictions attending the execution of the work under the conditions of this solicitation. It is expected that this will sometimes require on-site observation. The failure or omission of a bidder to acquaint himself with existing conditions shall in no way relieve him of any obligation with respect to this bid or to the subsequent contract.
19. **Amendments:** All amendments to and interpretations of this solicitation shall be in writing from the DHEC Procurement Office. Neither DHEC nor the Procurement Officer shall be legally bound by any amendment or interpretation that is not in writing.
20. **Award Criteria:** Award shall be as indicated herein to the lowest responsible and responsive bidder whose bid meets the requirements and criteria set forth in this solicitation. Award may take longer than fourteen days. A copy of the award notice should be posted on the Procurement Bulletin Board located at 2600 Bull Street in the Aycock Building directly across from the Personnel Division and next to the Bureau of Business Management Procurement Services Division.
21. **Rejection:** DHEC reserves the right to reject any bid that contains prices for individual items or services that are unreasonable when compared to the same or other bids if the rejection is in the best interest of the State.
22. **Competition:** This solicitation is intended to promote competition. If the language, specifications, terms and conditions, or any combination thereof restricts or limits the requirements in this solicitation to a single source, it shall be the responsibility of the interested bidders to notify the DHEC Procurement Office in writing so as to be received five days prior to the opening date. Notification may be "faxed" to the DHEC Procurement Office, (803) 734-4874. The solicitation may or may not be changed but a review of such notification will be made prior to award.
23. **Order of Precedence:** In the event of inconsistency between provisions of this solicitation, the inconsistency shall be resolved by giving precedence in the following order; (A) the bidding schedule, (B) the specifications, (C) general conditions, (D) special provisions or special conditions of the contract whether incorporated by reference or otherwise, and (E) instruction to bidders.

GENERAL CONDITIONS

24. **Contract Administration:** Questions or problems arising after award of this solicitation/contract shall be directed to the DHEC Procurement Office, 2600 Bull Street, Columbia, SC, 29201. Reference the solicitation and contract number.
25. **Default:** In case of default by the contractor, DHEC reserves the right to purchase any or all items in default in the open market, charging the contractor with any additional costs. The defaulting contractor shall not be considered a responsible bidder until the assessed charge has been satisfied.
26. **Save Harmless:** (This General Condition does not apply to solicitations for service requirements). The successful bidder shall indemnify and save harmless the State of South Carolina and DHEC and all its officers, agents and employees from all suits or claims of any character brought by reason of infringing on any patent, trade mark or copyright. The bidder shall have no liability to DHEC if such patent, trademark or copyright infringement or claim is based upon the bidder's use of material furnished to the bidder by the State.

27. **Publicity Releases:** By submission of a bid, the contractor agrees not to refer to award of this contract in commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by DHEC or user.
28. **Tax Credit Availability:** Bidders interested in income tax credit availability by subcontracting with Certified Minority Firms should contact the Office of Minority Business Assistance, 1205 Pendleton Street, Columbia, SC, 29201. (803-734-0562)
29. **Affirmative Action:** The successful bidder will take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of the handicapped, and concerning the treatment of all employees, without regard or discrimination by reason of race, color, religion, sex, national origin or physical handicap.
30. **Assignment:** Unless otherwise indicated in this solicitation, no contract or its provisions may be assigned, sublet, subcontracted, or transferred without the prior written consent of the DHEC Procurement Office.
31. **Termination:** Any contract resulting from this solicitation may be terminated by DHEC by providing a thirty-day advance notice in writing to the successful contractor.
32. **Non-Appropriations:** Any contract entered into by DHEC resulting from this solicitation shall be subject to cancellation without damages or further obligation when funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period or appropriated year.
33. **Convenience:** In the event that this contract is terminated or canceled upon request and for the convenience of DHEC without the required thirty days advance written notification, then DHEC shall negotiate reasonable applicable termination costs.
34. **Cause:** Any contract resulting from this solicitation may be terminated without advance notice by DHEC for cause, default or negligence on the part of the successful contractor.
35. **S.C. Law Clause:** Upon award of a contract under this bid, the person/partnership, association or corporation to whom the award is made must comply with the laws of South Carolina which require such person or entity to be authorized and/or licensed to do business with this State. Notwithstanding the fact that applicable statutes may exempt or exclude the successful bidder from requirements that it be authorized and/or licensed to do business in this State. By submission of a bid, the bidder agrees to subject himself to the jurisdiction and process of the courts of the State of South Carolina as to all matters and disputes arising or to arise under the contract and the performance thereof, including any questions as to the liability for taxes, licenses or fees levied by the State of South Carolina.
36. **Quality of Product:** (This general condition does not apply to solicitations for printing or service requirements.) Unless otherwise indicated in this solicitation, it is understood and agreed that any item offered or shipped as a result of this solicitation shall be new and in first class condition, that all containers shall be new and suitable for storage or shipment, and that prices include standard commercial packaging. If items that are other than new (i.e., remanufactured or refurbished) are desired to be bid, the bidder must obtain written permission to bid such items at least five days in advance of the bid opening date. Written permission must be obtained from the DHEC Procurement Office.
37. **Compliance with Federal Requirements:** S.C. State or Federal requirements that are more restrictive shall be followed in bidding, awarding and performance of this contract.
38. **Drug-Free Workplace:** Required by Section 44-107-10 (Drug Free Work-Place Act) of the SC Code of Laws, 1976, as amended. By submission of a bid, the bidder certifies that he will comply with all aspects of the Drug-Free Workplace Act and will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of this contract. This certification also applies to any individual or firm employed by the contractor.
39. **Confidentiality Policy:** The successful contractor agrees to abide by DHEC's policy of confidentiality which states in part that all information as to personal facts and circumstances given or made available to employees and/or contractors of DHEC in administration of programs shall be held confidential and shall not be divulged without the express written consent of the individual(s) to which it pertains.
40. **Item Substitution:** No substitution of items will be allowed on any purchase made from the awarded contract without written permission from the DHEC Procurement Office.
41. **Outside Contractor Program:** If applicable to scope of contract, contracted employees working on DHEC properties are entitled to information about hazardous chemicals present at DHEC; and DHEC's personnel are entitled to information about hazardous chemicals brought to the facilities by contractors. In order to assure continued compliance with the Hazard Communication Standards while contractors are on DHEC

property and to control potential compliance obligations under the Superfund Amendments and Re-authorization Act, it is DHEC's policy to:

A. Obtain written assurance that the contractor's employees have been trained to understand the hazards of the chemicals at DHEC and how to use appropriate personal protective equipment. All personal protective equipment and training required for the contractor's employees will be provided by the contractor at the contractor's expense. (This includes SC State General Services employees).

B. Require the contractor to notify the DHEC Bureau of Business Management or the appropriate DHEC unit Director when introducing hazardous chemicals into DHEC work areas, which may harmfully expose DHEC employees. If the contractor is introducing such hazardous chemicals into any DHEC facility or onto DHEC property, the contractor shall provide the DHEC Division of Procurement Services or the DHEC unit Director copies of the Material Safety Data Sheets (MSDS) for those chemicals. The DHEC Division of Procurement Services or the DHEC unit Director should provide appropriate information to the DHEC employees before the contractor(s) enter any DHEC facility with chemicals.

C. DHEC reserves the right to refuse to allow any contractor to bring any chemical onto DHEC property. The Department also reserves the right to refuse to allow any contractor to bring certain quantities of chemicals on DHEC property.

Attachment A

(Baseline CoC Mass, SSTL Mass, Number of Verification Wells)

SITE 1 – Bay Creek Villas, (UST Permit #18662), 3701 Docksite Road, Edisto Beach, South Carolina.

CoC mass in parts per billion (μg/l) based on May 29, 2002 sampling: **Table A-1**

Well	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	Total Mass
MW- 1	3	<1	4	<1	<5	<5	19
MW- 3	2,720	2,170	1,880	4,090	<50	580	11,490
MW- 4	196	935	1,370	3,230	<50	479	6,260
MW- 5	<1	<1	<1	<1	<5	<5	14
MW- 9	1,140	5,400	1,520	5,580	<50	412	14,102
MW- 13	<1	<1	31	2	<5	30	70
Marsh-N	<1	<1	<1	<1	<5	<5	14
Initial Mass	4,062	8,509	4,807	12,905	170	1,516	31,969
SSTL Mass	21	2,939	2,137	12,905	140	115	18,257
Initial Mass above SSTL	4,041	5,570	2,670	0	30	1,401	13,712

* Laboratory analysis is below calculated SSTLs; therefore, SSTL mass is set equal to current CoC mass.

Site-specific target levels (SSTLs) in parts per billion (μg/l) **Table A-2**

Well	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
MW- 1	3*	<1**	4*	<1**	<5**	<5**
MW- 3	5	1,000	700	4,090*	40	25
MW- 4	5	935*	700	3,230*	40	25
MW- 5	<1**	<1**	<1**	<1**	<5**	<5**
MW- 9	5	1,000	700	5,580*	40	25
MW- 13	<1**	<1**	31*	2*	<5**	25
Marsh-N	<1**	<1**	<1**	<1**	<5**	<5**
Total	21	2,939	2,137	12,905	140	115

* Laboratory analysis is less than calculated SSTLs; therefore, SSTL mass is set equal to laboratory mass.

** Laboratory analysis is below detection limits; therefore, SSTL mass is set equal to detection limits.

Number of Verification Wells that may be installed:2
UST Program Project Manager: Read Miner

(Technical Summary)

The following facilities adjacent to the site have regulated USTs (operating) registered with DHEC: Edisto Marina, Permit ID#01442. The USTs are located adjacent to monitoring wells 6, 7, and 8.

SITE 2 – Joker Joe's Truck Stop (UST Permit # 10658), Exit 8 and I-95, Hardeeville, South Carolina.

CoC mass in parts per billion (μg/l) based on May 28, 2002 sampling: **Table A-3**

Well	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	Total Mass
MW- 2	<1	<1	<1	<1	<5	<5	14
MW- 5	151	<1	66	6	<5	47	276
MW- 7	<1	4	<1	<1	<5	<5	17
MW- 8	<1	1	<1	<1	<5	<5	14
MW- 9	2	6	<1	<1	6	<5	21
MW- 14	<1	<1	<1	<1	<5	<5	14
MW- 18	<1	<1	<1	<1	<5	<5	14
MW- 20	140	<1	<1	3	72	<5	222
MW- 21	226,000	301,000	280,000	278,000	5,110,000	2,000	6,197,000
MW- 22	226,000	301,000	280,000	278,000	5,110,000	2,000	6,197,000
MW- 23	<1	<1	<1	<1	<5	<5	14
MW- 24	<1	3	1	4	17	6	32
MW- 25	11,300	4,900	900	4,140	<1000	<1000	23,240
Ditch	4	16	4	23	<5	15	67
Initial Mass	463,604	606,936	560,979	560,183	10,221,135	5,108	12,417,945
SSTL Mass	38	3,036	2,179	30,043	255	156	35,707
Initial Mass above SSTL	463,566	603,900	558,800	530,140	10,220,880	4,952	12,382,238

* Laboratory analysis is below calculated SSTLs; therefore, SSTL mass is set equal to current CoC mass.

** CoC values based on maximum solubility. Free product thickness was 3.78 feet in MW-21, 1.14 feet in MW-22.

Site-specific target levels (SSTLs) in parts per billion (μg/l) **Table A-4**

Well	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
MW- 2	<1**	<1**	<1**	<1**	<5**	<5**
MW- 5	5	<1**	66*	6*	<5**	25
MW- 7	<1**	4*	<1**	<1**	<5**	<5**
MW- 8	<1**	1*	<1**	<1**	<5**	<5**
MW- 9	2*	6*	<1**	<1**	6*	<5**
MW- 14	<1**	<1**	<1**	<1**	<5**	<5**
MW- 18	<1**	<1**	<1**	<1**	<5**	<5**
MW- 20	5	<1**	<1**	3*	72*	<5**
MW- 21	5	1,000	700	10,000	40	25
MW- 22	5	1,000	700	10,000	40	25
MW- 23	<1**	<1**	<1**	<1**	<5**	<5**
MW- 24	<1**	3*	1*	4*	17*	6*
MW- 25	5	1,000	700	10,000	40	25
Ditch	4*	16*	4*	23*	<5**	15*
Total	38	3,036	2,179	30,043	255	156

* Laboratory analysis is less than calculated SSTLs; therefore, SSTL mass is set equal to laboratory mass.
** Laboratory analysis is below detection limits; therefore, SSTL mass is set equal to detection limits.

Number of Verification Wells that may be installed: 2
UST Program Project Manager: Read Miner

(Technical Summary)

There are no other facilities adjacent to the site with regulated USTs (operating/abandoned) registered with DHEC.

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

BUREAU OF BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

SEALED BID INVITATION

BID MUST BE SUBMITTED ON THIS FORM TO BE ACCEPTED

SOLICITATION NUMBER: **SB-20713-10/8/02-EMW** ***(Number Must Be Shown On Front Of Envelope)***	DATE ISSUED: 9/5/02 PAGE 1 OF 108
SEALED BIDS WILL BE RECEIVED UNTIL: TIME **2:30 pm** DATE: **10/8/02** *(EST)* AND THEN PUBLICLY OPENED	**Mail To:** ATTENTION: BID CLERK SOLICITATION NO: **SB-20713-10/8/02-EMW** S.C. Department of Health & Environmental Control Division of Procurement Services 2600 Bull Street Columbia, South Carolina 29201-1708

DIRECT INQUIRIES TO: **E. Madison Winslow** E. Madison Winslow Phone: **(803) 898-3487**

REASON FOR NO BID:

This Section Must Be Completed By Vendor:

Palmetto Env. Group, Inc.
Vendor Name

P.O Box 427
Mailing Address

Elgin, SC. 29045
City State Zip Code

Telephone Number: 803 438-1331

Fax Number: 803 438-1331

E-mail Address: SLOTSKY@BELLSOUTH.NET

Toll Free Number: ( )

FEIN Or SSN: 57-1102894

By signing this bid I certify:

- This bid is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same materials, supplies or equipment and is in all respects fair and without collusion or fraud.

By signing this bid I agree:

- To abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.
- If this quotation is accepted within 60 days from date of opening, to furnish any and all items/services at the prices quoted.

Drug-Free Workplace: Required by Section 44-107-10 (Drug Free Workplace Act) of the South Carolina Code of Laws, 1976, as amended. By submission of a bid, the bidder certifies that he/she will comply with all aspects of the Drug-Free Workplace Act and will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of this contract. This certification also applies to any individual or firm employed by the contractor.

James L Cooper	JAMES L COOPER PRES.	10/7/2002
Authorized Signature (Manual)	Authorized Signature (Typed) Title	Date Signed

COMMODITY: Perform corrective action of petroleum releases from regulated underground storage tank sites.

METHOD OF BID AWARD: Award will be made to a South Carolina Certified UST Site Rehabilitation Contractor based on the total cost of active corrective action and other factors. (See Special Conditions #3)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

BID NUMBER: SB-20713-10/8/02-EMW

CORRECTIVE ACTION SOLICITATION RESPONSE

Please respond to the following questions:

A. SITE 1 – Bay Creek Villas, (UST Permit #18662), 3701 Docksite Road, Edisto Beach, South Carolina.

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer: Air sparging, vacuum extraction, and/or chemical oxidation

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately 30 months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment B, Figure #5) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is:
$ 126,300.00

B. SITE 2 – Joker Joe's Truck Stop, (UST Permit #10658), Exit 8 and I-95, Hardeeville, South Carolina.

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer: Air sparging, vacuum extraction, and/or chemical oxidation

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately 30 months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment C, Figure #2) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

BID NUMBER: SB-20713-10/8/02-EMW

verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is:
$ 159,200.00

C. Total Cost for Sites 1 and 2 is $ 280,000.00

D. ACCEPTANCE and DELIVERY STATEMENT

In compliance with the solicitation and subject to all conditions thereof, the offeror agrees, if this bid is accepted within 60 days from date of opening, to complete the corrective action as specified at the price set forth (combined cost for all sites or individual cost for each site as stated above).

For the purpose of this submittal and acceptance of financial approval should it occur, I certify that this company understands the nature of the release and the geologic conditions at this facility as documented in the technical file and this solicitation. Additionally, I certify that this company understands that acceptance is based on total cost to treat the area of concern.

PALMETTO ENVIRONMENTAL GROUP, INC. Certification No. 260
Contractor (Print)

JAMES L COOPER
Authorized Representative (Print)

Signature

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

BUREAU OF
BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

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SOLICITATION NUMBER: **SB-20713-10/8/02-EMW**

(Number Must Be Shown On Front Of Envelope)

DATE ISSUED: 9/5/02

SEALED BIDS WILL BE RECEIVED UNTIL:

TIME **2:30 pm** *(EST)* DATE: **10/8/02**

AND THEN PUBLICLY OPENED

Mail To:
ATTENTION: BID CLERK
SOLICITATION NO: **SB-20713-10/8/02-EMW**
S.C. Department of Health & Environmental Control
Division of Procurement Services
2600 Bull Street
Columbia, South Carolina 29201-1708

DIRECT INQUIRIES TO: **E. Madison Winslow** E. Madison Winslow Phone: **(803) 898-3487**

REASON FOR NO BID:

This Section Must Be Completed By Vendor:

Vendor Name

Mailing Address

City State Zip Code

Telephone Number: ( ) _____

Fax Number: ( ) _____

E-mail Address: _____

Toll Free Number: ( ) _____

FEIN Or SSN: _____

By signing this bid I certify:

- This bid is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same materials, supplies or equipment and is in all respects fair and without collusion or fraud.

By signing this bid I agree:

- To abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.
- If this quotation is accepted within 60 days from date of opening, to furnish any and all items/services at the prices quoted.

Drug-Free Workplace: Required by Section 44-107-10 (Drug Free Workplace Act) of the South Carolina Code of Laws, 1976, as amended. By submission of a bid, the bidder certifies that he/she will comply with all aspects of the Drug-Free Workplace Act and will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of this contract. This certification also applies to any individual or firm employed by the contractor.

Authorized Signature (Manual) Authorized Signature (Typed) Title ___/___/___ Date Signed

COMMODITY: Perform corrective action of petroleum releases from regulated underground storage tank sites.

METHOD OF BID AWARD: Award will be made to a South Carolina Certified UST Site Rehabilitation Contractor based on the total cost of active corrective action and other factors. (See Special Conditions #3)

PURPOSE and SCOPE OF WORK

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (DHEC) is seeking services to perform active corrective action of petroleum releases from regulated underground storage tank sites in accordance with defined remediation goals. The objective is to *remove measurable free product and reduce the levels of chemicals of concern (CoC) in the ground water to or below defined site-specific target levels (SSTLs).* All offerors must be South Carolina Certified Class I Site Rehabilitation Contractors. The two scopes of work defined in this solicitation are to be implemented at the Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, South Carolina (UST Permit #18662), and at Joker Joe's Truck Stop, Exit 8 at I-95, Hardeeville, SC (UST Permit #10658).

SPECIAL CONDITIONS

1. CONTRACT PERIOD: The contract will be effective from date of award until the corrective action is complete as described in this contract.

2. This contract is for corrective action at two sites in South Carolina. Compensation from the SUPERB Account is not considered a state contract for purposes of procurement or subject to state bid requirements in accordance with Section 44-2-130(D) of the SUPERB Act.

3. AWARD: Award will be made to a South Carolina Certified UST Site Rehabilitation Contractor based on the total cost, method(s), and estimated time for active corrective action to SSTLs and removal or abandonment of assessment and rehabilitation items for all sites listed, provided the proposed implementation schedule(s) to achieve the remediation goals, the removal of all equipment and abandonment of wells (including pre-existing wells), trenches, etc. installed by the contractor, and the proposed remediation technology(ies) or method(s) are protective of public health and the environment and are eligible for permitting by DHEC. The total cost, methods, and estimated time to complete the contract must be advantageous to the State of South Carolina. **DHEC may award sites on an individual basis or as a block of sites, whichever is deemed most advantageous to the State**

4. REASONABLE COST: DHEC reserves the right to reject any and all bids that appear to be above the customary and reasonable cost for the same scope of work in a similar geologic setting, that propose a technology that cannot be permitted in South Carolina, or that propose an estimated time frame for cleanup that is not protective of human health or the environment.

5. Contractor must agree to make positive efforts to employ women- and minority-owned businesses.

6. AMENDMENTS: All amendments to this solicitation shall be in writing from the DHEC Procurement Officer indicated on page one of this solicitation. DHEC shall not be legally bound by any amendment or interpretation that is not in writing.

7. QUESTIONS: Questions or requests for information must be submitted in writing and received by 5:00 pm ET, September 30, 2002. After this date, no further questions will be addressed. A written response will be mailed to all requestors of the solicitation. The questions may be faxed to E. Madison Winslow, fax number (803) 898-3505.

8. **NOTE . . . THE ONLY OFFICIAL CONTACT PERSON AT DHEC DURING THE SOLICITATION AND AWARDING PROCESS IS THE PROCUREMENT OFFICER INDICATED ON PAGE ONE OF THIS SOLICITATION. OFFERORS ARE NOT TO CONTACT DHEC PERSONNEL LOCATED OUTSIDE THE BUREAU OF BUSINESS MANAGEMENT.**

9. The contractor(s) will be required to treat the area where the dissolved petroleum chemicals of concern are above site-specific target levels for each site in Attachment A. Verification that interim corrective action goals have been met will be based upon ground-water quality samples collected from the monitoring wells indicated for each site in Attachment A. Verification that final corrective action goals have been met will be based upon ground-water quality samples for each site from all existing monitoring wells and additional verification wells to be installed at locations designated by SCDHEC (See Specification **#11** for more details).

10. REPORTS: Deliver the reports to: SCDHEC, Bureau of Land and Waste Management, UST Program, 2600 Bull Street, Columbia, SC 29201. A minimum of three (3) copies of each plan and two (2) copies of each report for each site in Attachment A must be delivered to the above address to the attention of the UST Program Project Manager. Based on permitting and other requirements, an engineering report, UIC permits, air-modeling forms, or NPDES Permits may be required. Please contact the Department for the exact number of copies of each document to be submitted.

11. INVOICING: Invoices will be submitted to: SCDHEC, Bureau of Land and Waste Management, UST Program, ATTN.: Financial Section, 2600 Bull Street, Columbia, SC 29201, using the Department's Corrective Action (CA) Invoice form. The initial invoice must be received at the above address within four months of CAP approval or funds will be uncommitted as required by the Section 44-2-40(B) of the SUPERB Act. If funds are uncommitted the submitted invoice will be held until funding is available. **Payment will only be made for achieving the corrective action goals as specified in this contract. No interim or partial payments will be made once corrective action is initiated, except as outlined in Specification #4.** Payment to the contractor will be a pay for performance system as follows:

    A. Payment of forty percent (40%) of the total corrective action price for each site will be made within 90 days of operation of the remediation system or implementation of corrective action as described in the approved corrective action plan (CAP) for each site, subject to the limitations of Section 44-2-40 of the SUPERB Act. **The first $15,434.15 in costs for UST Permit #10658 will be paid by the UST owner for that site.** Implementation should be documented in the first corrective action monitoring report for each site.

    B. Payment of thirty-five percent (35%) of the total corrective action price for each site will be made based on achieving interim CoC mass reduction goals at the site as verified in the monitoring wells listed in Attachment A for each site. Payment will be made for interim goals of 25, 50, and 75 percent reduction of <u>total</u> CoC mass by the implementation of corrective action. The CoC mass requiring reduction at each site is listed in Attachment A.

        1) 25 percent total mass reduction will be achieved when free product has been removed to 0.01

foot (if required) and one-quarter of the initial BTEX, MTBE, and Naphthalene mass from the monitoring wells specified for each site in Attachment A is removed as compared to the SSTLs. The following formula will be used to calculate the percent total mass reduction: total mass above SSTLs from initial sampling less total mass above SSTLs from subsequent sampling divided by total mass above SSTLs from initial sampling. Payment of 10 percent (10%) of the total corrective action price will be made upon verification (see Specifications item 11 for the method of verification) of at least one-quarter of the total CoC mass above SSTLs is removed.

The following is an example to demonstrate the CoC Mass Reduction Calculation: Table 1

Well		Benzene	Toluene	Ethylbenzene	Xylene	MTBE	Naphthalene	Mass > SSTL
MW-1	Initial A	7,500	4,000	2,000	15,000	3,000	1,000	A
	SSTL B	10	2,000	1,400	10,000	80	50	B
	Initial > SSTL C	7,490	2,000	600	5,000	2,920	950	18,960 C
	Subsequent D	3,000	1,000	900	13,000	2,000	5	D
	SSTL E	10	2,000	1,400	10,000	80	50	E
	Subsequent > SSTL F	2,990	0	0	3,000	1,920	0	7,910 F
MW-4	Initial G	150	400	50	250	300	25	G
	SSTL H	5	400	50	250	40	25	H
	Initial > SSTL I	145	0	0	0	260	0	405 I
	Subsequent J	100	100	1	1	100	1	J
	SSTL K	5	400	50	250	40	25	K
	Subsequent > SSTL L	95	0	0	0	60	0	155 L
Totals	Initial > SSTL M	(sum of initial mass above SSTL for all wells) (C+I)						19,365 M
	Subsequent > SSTL N	(sum of subsequent mass above SSTL for all wells) (F+L)						8,065 N

Notes: If subsequent sampling indicates a CoC concentration at or below the SSTL and/or a CoC concentration at BDL but the reporting limit is at/or below the SSTL value for any constituent, the value for the mass reduction will be 0 (no negative numbers).

If subsequent sampling indicates a CoC concentration at BDL but the reporting limit is above the SSTL, the value for any constituent will be the analytical reporting limit.

Mass Reduction Calculation

$$\text{CoC Mass Reduction} = \frac{(M-N)}{(M)} = \frac{(19{,}365-8{,}065)}{19{,}365} = 0.5835 * 100 = 58.35\% \text{ CoC Reduction}$$

2) 50 percent total mass reduction will be achieved when one-half of the initial BTEX, MTBE, and Naphthalene mass from the monitoring wells specified for each site in Attachment A is removed as compared to the SSTLs. The formula outlined in Item 11. B. (1) will be used. Payment of 10 percent (10%) of the total corrective action price will be made upon verification (see Specifications Item 11 for the method of verification) of at least one-half of the total CoC mass above SSTLs removed.

3) 75 percent total mass reduction will be achieved when three-quarters of the initial BTEX, MTBE, and Naphthalene mass from the monitoring wells specified for each site in Attachment A is removed as compared to the SSTLs. The formula outlined in Item 11 B (1) will be used. Payment of 15 percent (15%) of the total corrective action price will be made upon verification (see Specifications Item 11 for the method of verification) of at least three-quarters of the total CoC mass above SSTLs removed.

C. **The final 25 percent (25%) of the total corrective action price will be paid upon: 1) verification that the thickness of free product does not exceed 0.01 foot and the levels of CoC do not exceed the site specific target levels (SSTLs) defined in Specification 11 for each site at any point in the area of concern for that site. Verification that the SSTLs have been met will be based upon ground-water quality samples collected from all existing monitoring wells and additional verification wells to be installed at locations designated by DHEC (see specification #11 for more details); and 2) all remediation and assessment items installed by the contractor (e.g., wells [including pre-existing wells], trenches, etc.) are removed from the site or properly abandoned. The SSTLs for each site are given in Attachment A.**

12. NOTIFICATION FOR FAILURE TO PERFORM: If the contractor fails to meet any specification of corrective action as outlined in this document, DHEC will notify the contractor by certified letter of the deficiency(ies). If the contractor does not correct the deficiency(ies) within 30 days, the contractor will be in breach of contract and the corrective action award may be voided by DHEC. DHEC will notify the contractor by certified letter that the corrective action award is void and any invoices are payable upon review and approval by DHEC. If the contractor corrects the deficiency(ies) within 30 days, the corrective action award will continue. Please note contractor-owned items used on-site for the contract that are destroyed by acts of nature, improper maintenance or handling, theft or vandalism will not be replaced or reimbursed by the SUPERB Account. The accepted corrective action cost will be final and will not be increased for any reason (e.g., unanticipated iron fouling of a system, wells clogging because of biological activity or sediments, increased subcontractor costs, loss of utilities, modification to the system to meet the remediation goals, etc.) with the exception of unforeseen geologic circumstances or identification of additional CoC from another release. **Payment will only be made for achieving the corrective action goals as specified in this contract. No interim or partial payments will be made once corrective action is initiated, except as outlined in Specification #4. Once site rehabilitation has been initiated under this contract, in the event of a cancellation due to the prescribed circumstances, final payment will be a percentage of the contract amount equal to the actual percent reduction of the CoC mass as calculated based on the last sampling results from all wells listed in Special Condition 11.C. of the contract less the amount previously paid.**

13. SITE SPECIFIC DETAILS: A brief technical summary of the releases, including location map and specifics of existing wells for each site are provided in Attachments B (Bay Creek Villas) and C (Joker Joe's Truck Stop). The detailed technical files will be available for review through the Freedom of Information (FOI) Office located at the Stern Building, 8901 Farrow Road, Columbia, SC. **Review of the detailed technical file is not mandatory; however, offerers are strongly encouraged to review the file to ensure a complete understanding of the contract requirements. The successful offeror will be responsible for all information in the technical file.** Appointments to view the technical files may be scheduled on weekdays between the hours of 8:30 A.M. to 5:00 P.M. by calling the SCDHEC Freedom of Information Office at (803) 898-3882. Please request file #18662 for (Bay Creek Villas), and #10658 for Joker Joe's Truck Stop. **NOTE: Free phase product may be present at these sites. Free product was detected in the baseline-sampling event at #10658. No free phase product was detected in the baseline-sampling event at #18662. The application of corrective action technologies or natural fluctuations in the water table can result in the mobilization and possible appearance or increased thickness of free phase product or elevated CoC concentrations in the monitoring wells.**

14. **The contractor will submit a Corrective Action Plan (CAP) for each site within 30 days of the date the Purchase Order is issued from the Bureau of Business Management in accordance with Specification item #2.** The implementation of the CAP will be initiated immediately upon DHEC approval of the CAP and all associated permit(s), and in accordance with the schedule presented in the CAP. A performance bond or irrevocable standby letter of credit, equal to the total award price, will be required by DHEC. The issuing institution for an irrevocable standby letter of credit must be an entity that has authority to issue letters of credit in South Carolina and whose letter-of-credit operations are regulated and examined by a federal or state agency. The original performance bond or irrevocable standby letter of credit will be submitted to the Bureau of Land and Waste Management, UST Program, Attn: Pat Holland, within 30 days of award. The performance bond or irrevocable standby letter of credit will specify the SUPERB Account as the recipient of any forfeiture. Since DHEC is responsible for disbursement of funds from the SUPERB Account, the financial responsibility mechanism (i.e., bond or letter of credit) will be held by the Bureau of Land and Waste Management, UST Program until the work is successfully completed at all awarded sites.

15. **MINIMUM REQUIREMENTS: Corrective action will be considered complete at each site once the levels of CoC in the area of concern for that site are verified to be at or below the SSTLs for that site and the removal or abandonment of all remediation and assessment items installed by the contractor (e.g., wells [including pre-existing wells], trenches, etc.) is complete.** All rehabilitation activities associated with a UST release must be performed by a SCDHEC certified Class I Site Rehabilitation Contractor as required by R.61-98. All corrective action plans and reports must be sealed by a Professional Engineer or Professional Geologist registered in the State of South Carolina. All engineering reports, drawings and plans must be sealed by a Professional Engineer registered in the State of South Carolina. All laboratory analysis for CoC must be performed by a SC certified laboratory. All monitoring, verification, injection, or recovery wells must be installed and abandoned by a SC certified well driller. **The corrective action method or technology will be designed to prevent vapors from entering onsite or adjacent structures.** All applicable certification, training, permits, applications, and fees associated with well installation; injection, discharge, treatment, or transportation of ground water, air, or soil; construction or operation of a remediation system; and any other action requiring a permit are the responsibility of the contractor. Any required business or

occupation license and occupational safety and health training (e.g., OSHA) as defined by the laws and regulations of the United States of America, the State of South Carolina, the county or city is also the responsibility of the contractor. The terms and conditions of all applicable permits will be met. Any contaminated ground water, soil, or construction material must be properly transported and disposed of, or treated at an approved facility with prior approval from DHEC. Any costs for utilities construction and service (electric, telephone, sewer, etc.) required by the corrective action are the responsibility of the contractor.

SPECIFICATIONS for CORRECTIVE ACTION

All offerors must meet the following specifications for **each site** as required by the proposed treatment method(s) or corrective action technology(ies):

1. Submit a Corrective Action Solicitation Response. The response will outline in general terms an approach to achieve the remediation goals (e.g., reduction of each CoC to SSTL). The proposal must outline the following:

   A. A description of the proposed treatment method(s) or technology(ies) for corrective action.

   B. The estimated amount of time in months to complete site rehabilitation to meet the remediation goals and remove or abandon all assessment and remediation items installed as part of corrective action.

   C. The total cost (in U.S. dollars) to complete site rehabilitation to meet the remediation goals and to remove or abandon all assessment and remediation items installed as part of corrective action.

2. **The successful contractor must complete and submit a detailed CAP (three copies) for each site: 1) Bay Creek Villas (UST Permit #18662), 3701 Dock Site Road, Edisto Beach, South Carolina, and 2) Joker Joe's Truck Stop (Site #10658), Exit 8 and I-95, Hardeeville, South Carolina within 30 days from the date the Purchase Order is issued by the Bureau of Business Management. NOTE: Use of monitoring well(s) for injection, extraction, or free phase product recovery purposes is not allowed.** A condition of the plan may include installation of additional recovery, sparge, compliance, or injection wells. The plan must define all active (pump and treat, sparge, vapor extraction, excavation of impacted soils, bioremediation, etc.) and passive (intrinsic remediation, monitoring, etc.) corrective action method(s) proposed to reduce CoC to SSTLs. It must be shown, by use of scientific models, computations, or discussion, how each CoC will be reduced to the SSTL for each remediation method proposed for the release. Any assumptions used in a model will be listed or shown, as well as appropriate references. Intrinsic corrective action will require monitoring to verify remediation. General construction details will be included (e.g., install four additional recovery wells, construct a compliance point, install four air injection wells, excavate 3,000 cubic yards of impacted soils, etc.) as well as details of well abandonment and equipment removal. A remediation timetable including abandonment of wells and removal of equipment will be included with the CAP. The Bureau of Land and Waste Management, UST Program will review the CAP and initiate a public notice period for a maximum of 30 days. The contractor must obtain a copy of the applicable portion of the tax map. This map will depict the location of the facility, all impacted properties, and all properties located adjacent to the impacted properties. The names and addresses of the owners of each of these properties will be

provided. The contractor may be required to attend or provide input at a public meeting upon request by DHC. Any CAP amendments and modification arising from public notice must be submitted within 15 days of notification by DHEC. The CAP and any amendments or modifications must be sealed by a qualified Professional Geologist or Engineer registered in the State of South Carolina. The owner/operator of each site,Thomas Kontinos for UST Permit #18662 and Smith Tysinger for UST Permit #10658 and any other affected property owners will be consulted and will approve the location of the corrective action system. If permanent, the system must be enclosed in a fenced area or small building.

3. Complete and submit all applications for permits (injection, NPDES, BAQC modeling form, thermal treatment, construction, etc.; 3 copies) and an engineering report (ER; 4 copies) with the CAP for each site. Any required permit changes or corrections will be submitted within 15 days of notification by DHEC. The ER and any ER amendments and modifications, must be sealed by a Professional Engineer registered in the State of South Carolina. After review and approval of the CAPs and all permit applications by DHEC, the Bureau of Land and Waste Management, UST Program will issue a notice to proceed with CAP implementation.

4. An initial monitoring report for each site documenting CoC concentrations in all wells and potentiometric conditions prior to start up must be submitted to the Bureau of Land and Waste Management, UST Program **within 45 days** after award.

Based on naturally occurring conditions, the dissolved concentration of petroleum chemicals of concern (CoC) will increase or decrease. For the purposes of this contract, the total CoC mass for the wells included in the bid package may reasonably increase up to 150 percent or decrease as much as 50 percent. If the total CoC concentration in all wells listed in Special Condition 11.B. increases more than 150 percent based on this initial sampling or if measurable free product that has not been previously documented in any report is detected during the initial sampling event, the contractor may request in writing that the award be canceled. **If either of these conditions occurs, the contractor will contact the UST project manager within two days of problem identification and will submit written documentation within five days of notification.** The contractor will be reimbursed based on the following rate schedule:

Subcontract Costs*	Invoice + 15%
Personnel Mobilization	$ 125.00
Equipment Mobilization	$ 250.00
Groundwater Sample Collection	$ 35.00 each
Gauging Free Phase Product	$ 30.00 per well
Wastewater Disposal	$ 90.00 per drum
CAP Preparation and Assoc. Costs	$6,000.00

* Includes laboratory, drilling, electrical, etc.

The contract will be canceled and the performance bond or irrevocable letter of credit will be returned to the company. If the total CoC concentration in all wells listed in Special Condition 11.B. decreases more than 50 percent based on this initial sampling the DHEC may cancel the award. If the contract is canceled by DHEC, the contractor will be notified by certified letter and an invoice for the above outlined items shall be submitted within 20 days from the date of the certified letter canceling the

contract. If the corrective action system is started or treatment is performed, the contractor will be required to complete the contract unless unforeseen geological conditions are encountered or another release is confirmed. See special condition 12. **Once CAP implementation has been initiated under this contract, in the event of a cancellation due to the prescribed circumstances and before any mass reduction has been achieved, final payment will not exceed 40 percent of the award price under any circumstances as no reduction of CoC mass has been accomplished.**

5. Implement the CAPs within 30 days of receipt of notice to proceed and any required permit(s) to construct. Disruption to the owner/operator's normal business will be kept to a minimum. The contractor will repair the site to the condition as it existed prior to installation of the corrective action system (e.g., asphalt paved areas will be repaved with asphalt, concrete areas replaced with concrete, grass area will have soil replaced to the original grade and reseeded or sodded with grass, etc.) Upon completion of any required construction, DHEC will inspect the system and issue a permit to operate. The contractor will, at all times, keep the site free from waste materials and rubbish related to the corrective action. Until completion of the corrective action, the contractor will keep the premises in a clean, neat and workmanlike condition satisfactory to DHEC. Disposition of all generated soil and wastewater must be included in the appropriate report.

   Implementation of the corrective action plan(s) before the completion of the public notice process and approval of all permits by DHEC is not authorized. If premature implementation occurs, the UST Program will not reimburse those costs from the SUPERB Account and the corrective action price will be reduced by that amount. If the Department agrees with early implementation to better protect human health in an emergency and provides approval in writing, early implementation without any reduction to the corrective action amount will be authorized.

6. Gain access to adjacent or other affected properties to sample monitoring wells and to install any corrective action equipment, as required. The contractor will repair the site to the condition as it existed prior to installation of the corrective action system (e.g., asphalt paved areas will be repaved with asphalt, concrete areas will be replaced with concrete, grass areas will have soil replaced to the original grade and reseeded or sodded with grass, etc.).

7. Initiate system startup within 15 days of receipt of the permit to operate. Remediation as defined in the CAPs and ERs will begin upon system startup. **If any problem with CAP implementation occurs, the contractor will contact the UST project manager for the site within 24 hours of problem identification and will submit written documentation within five days of notification.** ***NOTE: Free phase product may be present at these sites. Free product was detected in the baseline-sampling event at #10658. No free phase product was detected in the baseline-sampling event at #18662. The application of corrective action technologies or natural fluctuations in the water table can result in the mobilization and possible appearance or increased thickness of free phase product or elevated CoC concentrations in the monitoring wells.***

8. Complete and submit a corrective action monitoring report (2 copies for each site plus one copy for any DHEC Bureau that issued a permit) on a quarterly basis. A copy of the corrective action monitoring report for each site will be mailed directly to the owner/operator of each site. The first quarter

corrective action monitoring report for each site is due within 90 days of the permit to operate. The corrective action monitoring reports must include:

A. A narrative portion that documents current site conditions, verification of system operation or CAP implementation, and system effectiveness in achieving the remediation goals (e.g., free product removal, reducing CoC to the SSTLs) as outlined in the CAP. Any system down time and the associated reason(s) will be included in the report.

B. Conclusions and recommendations based on the reported data.

C. Ground-water laboratory analytical data for all monitoring wells in the following format (additional parameters such as dissolved oxygen may be required; do not sample wells containing measurable free product):

Analytical Data (µg/l) Table 2

Monitoring Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
MW-1	7/15/97 10/15/97	145 140	200 190	146 140	1,000 900	170 50	47 165
MW-2	7/15/97 10/15/97	580 480	800 690	300 257	1,000 912	60 50	20 19

D. Ground-water potentiometric data for all monitoring wells in the following format:

Ground-water Data (feet) Table 3

Monitoring Well	Date	TOC Elevation	TOC to GW	TOC to FP	FP Thickness	GW Elevation
MW-1	7/15/97 10/15/97	98.0 98.0	17.54 17.90			80.46 80.10
MW-2	7/15/97 10/15/97	100.0 100.0	20.50 21.50	20.47 21.48	0.03 0.02	79.50 78.50

E. A ground-water elevation contour map of the site based on current ground-water potentiometric data.

F. A CoC map based upon current ground-water laboratory analytical data. The ground-water data should be adjacent to the relevant monitoring well using the following format (additional parameters such as dissolved oxygen may be required):

MW - Number
Benzene (µg/l)
Toluene (µg/l)
Ethylbenzene (µg/l)
Xylenes (µg/l)
MTBE (µg/l)
Naphthalene (µg/l)

G. A copy of the DHEC approval letter and manifests for any contaminated soil and ground water removed from the site for treatment and/or disposal.

H. Additional data required by permits (e.g., air analyses, wastewater effluent analyses and amounts, etc.). The data should be reported on a form or in a format specified in the permits, and attached to the monitoring report as an addendum.

All rehabilitation activities associated with the UST release must be performed by a SCDHEC Certified Site Rehabilitation Contractor. All air, soil, and ground-water analyses must be performed by a South Carolina certified laboratory. The corrective action monitoring report must be sealed by a Professional Engineer or Geologist registered in the State of South Carolina. All monitoring wells associated with the release will be sampled on a quarterly basis for the first year. Thereafter, the number of wells sampled may be reduced and/or the interval between corrective action monitoring reports may be lengthened upon clear demonstration of CoC reduction, unless restricted by permit requirements. Any approval to reduce the number of wells sampled or the frequency of sampling must be in writing from the UST Program. DHEC may require data to be reported on a form or in a specific format. The contractor will be provided with the proper report forms and format prior to system startup. The contractor will be notified of any revisions to the report forms or format 90 days prior to the due date for the next corrective action monitoring report.

9. Collect one (1) ground-water sample per monitoring event for all monitoring wells associated with the release for each site. Each well should be purged prior to sampling. Purging is considered complete once the ground-water temperature and pH have stabilized. Sampling logs should note all temperature and pH measurements, as well as the location and type of each sample submitted for laboratory analysis. Each ground-water sample will be collected in accordance with established QA/QC protocol and submitted to a certified laboratory for analysis. The samples must be analyzed for the following parameters:

Table 4

Analyte	Analytical Method	Reporting Limit (μg/l)
BTEX**	8260B/5030B	5
Naphthalene**	8260B/5030B	5
MTBE**	8260B/5030B	5
PAH*	8270C/3510C	10

*or EPA equivalent method that can achieve the same reporting level
**The UST Program no longer accepts equivalent methods for VOC Analysis.

Additional samples (air, groundwater, effluent, soil) required by permits must be collected in accordance with established QA/QC protocol and submitted to a certified laboratory for analysis. The samples will be analyzed for parameters stipulated in the permits. Sampling and analytical data for each sample (e.g., field sampling logs, chain of custody forms, certificates of analysis, and the lab

certification number) will be included in the corrective action monitoring report.

10. Properly dispose of all contaminated soil and ground water generated during the implementation of the CAPs and installation of verification wells. DHEC must approve the disposal facility selected for treatment and disposal of the free product and contaminated soil and ground water. The owner/operator of the facility is considered the generator for any contaminated soil and ground water. The contractor must document all disposal of free product and contaminated soil and ground water in the corrective action monitoring reports.

11. Verification for the removal of free product will be conducted by SCDHEC personnel with an interface probe. If the remediation technology is in-situ (e.g., pump and treat, air sparging, vapor extraction): suspend operation of the system once the remediation goals for all CoC have been maintained for a period of 30 days. Samples are to be taken after one (1) quarter or after all CoC levels have reached equilibrium and again after a second quarter. Along with the parameters listed in Specification #9, the ground-water samples should also be sampled for the following parameters:

Analyte	Analytical Method*	Reporting Limit (μg/l)
Dissolved Oxygen	SM4500-O G	500
Ferrous Iron	SM3500-Fe D	30
Methane	Kerr Method	1000
Nitrate	9056/9210	100
Sulfate	9038/9056	1000

*or EPA equivalent method that can achieve the same reporting level

If sample results indicate that the remediation goals are not sustained, the contractor must submit a corrective action status report (3 copies) that outlines the deficiency(ies) and offers recommendations for achieving the remediation goals with a revised timetable. Modifying and restarting of the system may be necessary. All remediation goals must be again maintained for a minimum of 30 days. Corrective action will then be suspended again and samples taken to verify that remediation goals are sustained. This cycle of activity, including status reports, will be repeated until all CoC levels remain below SSTLs for all wells listed in Attachment A for two (2) consecutive quarters. Verification wells may be installed at locations designated by DHEC (See Attachment A for number of verification wells for each site). Costs for verification well installation are considered part of this bid price. Each well will be sampled in accordance with Specifications item 9 and the analyses compared to the calculated SSTLs for the CoC at that well location. If the laboratory analyses are at or below the SSTLs, corrective action will be considered complete. If any analysis is above the SSTL, the corrective action will not be considered complete, and the activity cycle described above must be repeated until all CoC levels remain below SSTLs for those wells listed in Attachment A. Split or duplicate samples may be collected by DHEC (or its subcontractors) to verify achievement of remediation goals. In addition to the ground water collected from the monitoring wells, the UST Program may provide up to three standards or

prepared blanks for the contractor's laboratory to analyze. The laboratory analysis from the contractor's and the UST Program's laboratory will be compared. In the event of substantial variance (more than 15%), a second sampling event with field and trip blanks will be sent to a SC certified laboratory by the UST Program for analysis. The contractor will be notified when the wells will be resampled, can observe this second sampling event, and will be provided analytical results for comment. DHEC Laboratory Certification will be provided copies of all sample data sets with all relevant quality assurance/quality control data to assist the UST program in determining the cause of a laboratory variation. The Director of the Assessment and Corrective Action Division will make the final decision on which analytical values will be the basis for payment or closure based on the recommendation of the site rehabilitation contractor, DHEC Laboratory Certification, the UST Section Manager, and the UST Project Manager. The site rehabilitation contractor will be provided a written record of any decision. **At least two weeks notice will be provided to the UST Project Manager prior to mobilizing to the site for sampling to verify attainment of remediation goals.** Costs for transportation and analysis of split or duplicate samples will be paid by DHEC.

or

If the remediation technology is a single event (e. g. excavation of impacted soils, vacuum enhanced recovery): collect sufficient samples as outlined in the CAP to verify the reduction of CoC to the remediation goals. The contractor may be required to install and sample verification wells at locations designated by DHEC. (See Appendix A for number of verification wells for each site). If the levels of CoC in all samples are at or below SSTLs, corrective action will be considered complete. If the level of any CoC is above the SSTL, additional corrective action will be required. The contractor will submit one (1) corrective action status report to document the reduction of CoC to the remediation goals. Split or duplicate samples will be collected by DHEC (or its subcontractors) to verify achievement of remediation goals. **At least two weeks notice will be provided to the UST Project Manager prior to mobilizing to the site for sampling to verify attainment of remediation goals.** Costs for transportation and analysis of split or duplicate samples will be paid by DHEC.

12. Disassemble and remove the remediation system and all associated remediation items including utilities from the site within 60 days of notification by DHEC that the remediation goal for the release associated with the UST(s) at the site has been achieved. Disruption to the owner/operator's normal business will be kept to a minimum.

13. Properly abandon all monitoring, recovery, and/or injection wells (including pre-existing wells), borings, trenches, and piping/utility runs installed by the contractor as part of corrective action within 60 days of notification by DHEC that the remediation goal for the release associated with the UST(s) at the site has been achieved. The abandonment will be in accordance with South Carolina Well Standards and Regulations R. 61-71 and accepted industry standards for abandonment of trenches and piping/utility runs. Disruption to the owner/operator normal business will be kept to a minimum. The contractor must notify DHEC of the method of well abandonment and final disposal of any free product and contaminated soil or ground water. The contractor will return the site to the condition prior to corrective action (e.g., asphalt paved areas will be repaved with asphalt, concrete areas will be replaced with concrete, grass areas will have soil replaced to the original grade and reseeded or sodded with grass, etc.).

CORRECTIVE ACTION SOLICITATION RESPONSE

Please respond to the following questions:

A. SITE 1 – Bay Creek Villas, (UST Permit #18662), 3701 Docksite Road, Edisto Beach, South Carolina.

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer:

   _____

   _____

   _____

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately _____ months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment B, Figure #5) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is:
   $_____

B. SITE 2 – Joker Joe's Truck Stop, (UST Permit #10658), Exit 8 and I-95, Hardeeville, South Carolina.

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer:

   _____

   _____

   _____

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately _____ months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see Attachment C, Figure #2) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation

verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is:
$_____

C. Total Cost for Sites 1 and 2 is $ _____

D. ACCEPTANCE and DELIVERY STATEMENT

In compliance with the solicitation and subject to all conditions thereof, the offeror agrees, if this bid is accepted within _____ days from date of opening, to complete the corrective action as specified at the price set forth (combined cost for all sites or individual cost for each site as stated above).

For the purpose of this submittal and acceptance of financial approval should it occur, I certify that this company understands the nature of the release and the geologic conditions at this facility as documented in the technical file and this solicitation. Additionally, I certify that this company understands that acceptance is based on total cost to treat the area of concern.

_____ Certification No. _____
Contractor (Print)

_____ _____
Authorized Representative (Print) Signature

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

BID NUMBER: SB-20713-10/8/02-EMW

PLEASE READ THE FOLLOWING CAREFULLY PRIOR TO COMPLETING BID

INSTRUCTIONS TO BIDDERS

DISCUSSIONS AND NEGOTIATIONS: By submission of a bid, bidder agrees that during the period following issuance of this solicitation and prior to notification of intent or award of a contract, the bidder shall not discuss this procurement with any party except members of the DHEC Procurement Division or other parties designated in this solicitation. Bidder shall not discuss or attempt to negotiate with the using area or program any aspects of the procurement without prior approval of the DHEC Procurement Division Buyer responsible for the procurement. Infractions may result in rejection of the violator's bid.

1. Unless otherwise required herein, only one signed copy of the invitation to bid is required.
2. Bids "faxed" directly to the DHEC Procurement Office will not be accepted or considered for award.
3. Bids, amendments thereto or withdrawal request must be received by the time advertised for bid opening. It is the bidder's sole responsibility to insure that these documents are received by the person (or office) at the time indicated in this solicitation document. DHEC Underground Storage Tank Environmental Remediation Procedures shall govern any withdrawal request received after the time of the bid opening.
4. When specifications or descriptive papers are submitted with the bid submission, enter bidder's name thereon.
5. Submit your signed bid on this form. Show the bid number on the envelope as instructed. DHEC assumes no responsibility for unmarked or improperly marked envelopes. All envelopes received showing a bid number are placed directly under locked security until the date and time of opening. Do not include more than one bid invitation per envelope. If directing any other correspondence, address the envelope to the Procurement Officer but do not include the bid number on the envelope since it does not include your bid.
6. Bidders must clearly mark as "CONFIDENTIAL" each part of their bid which they consider to be proprietary information that could be **exempt from disclosure** under Section 30-4-40, Code of Laws of South Carolina 1976 (1986 Cum. Supp.; Freedom of Information Act). If any part is designated as confidential, there must be attached to that part an explanation of how this information fits within one or more categories listed in Section 30-4-40. DHEC reserves the right to determine whether this information should be exempt from disclosure and no legal action may be brought against the State, DHEC or its agents for its determination in this regard.
7. By submission of a bid, **you are guaranteeing** that all goods and services meet the requirements of this solicitation during the contract period.
8. **Tie bids** will be resolved as outlined in DHEC Underground Storage Tank Environmental Remediation Procedures.
9. **Do not include any taxes** that DHEC may be required to pay in the bid price. Upon submission of a bid by a state agency, the Procurement Officer will compute a 5% sales and use tax to the non-state agency bids when applicable (service and labor excluded) in determining the low bidder. This procedure conforms to the SC Tax Commission Sales and Use Tax Regulation 117-174-.95.
10. **Correction of errors on this bid form:** All prices and notations should be printed in ink or typewritten. Errors should be crossed out, corrections entered and initialed by the person signing the bid. Erasures or use of typewriter correction fluid may be cause for rejection. No bid shall be altered or amended after the time specified for the bid opening.
11. **Ambiguous bids** that are uncertain as to terms, delivery, quantity, or compliance with this solicitation may be rejected or otherwise disregarded.
12. Any bidder desiring to exercise a grievance may do so under section IV of DHEC Underground Storage Tank Environmental Remediation Procedures. All correspondence should be directed to the Director of Procurement Services, Bureau of Business Management, 2600 Bull Street, Columbia, SC 29201.
13. **Failure to respond** to three consecutive bid notices may result in removal of bidder's name from the mailing list.

GENERAL PROVISIONS

14. DHEC reserves the right to reject any and all bids, and to cancel this solicitation.
15. **Unit prices** will govern over extended prices unless otherwise stated in this solicitation.

16. **Prohibition of Gratuities:** Amended section 8-13-420 of the 1976 Code of Laws of South Carolina States: "Whoever gives or offers to any public official or public employee any compensation, including a promise of future employment, to influence his action, vote, opinion or judgment as a public official or public employee or such public official solicits or accepts such compensation to influence his action, vote, opinion or judgment shall be subject to the punishment as provided by Section 16-9-210 and Section 16-9-220. The provisions of this section shall not apply to political contributions unless such contributions are conditioned upon the performance of specific actions of the person accepting such contribution nor shall they prohibit a parent, grand-parent or relative from making a gift to a child, grandchild, or other close relative for love and affection except as hereafter provided".
17. **Bidder's Qualification:** Bidders must, upon request of DHEC, furnish satisfactory evidence of their ability to furnish products or services in accordance with the terms and conditions of these specifications. DHEC reserves the right to make the final determination as to the bidder's ability to provide the products or services requested herein.
18. **Bidder's Responsibility:** Each bidder shall fully acquaint himself with conditions relating to the scope and restrictions attending the execution of the work under the conditions of this solicitation. It is expected that this will sometimes require on-site observation. The failure or omission of a bidder to acquaint himself with existing conditions shall in no way relieve him of any obligation with respect to this bid or to the subsequent contract.
19. **Amendments:** All amendments to and interpretations of this solicitation shall be in writing from the DHEC Procurement Office. Neither DHEC nor the Procurement Officer shall be legally bound by any amendment or interpretation that is not in writing.
20. **Award Criteria:** Award shall be as indicated herein to the lowest responsible and responsive bidder whose bid meets the requirements and criteria set forth in this solicitation. Award may take longer than fourteen days. A copy of the award notice should be posted on the Procurement Bulletin Board located at 2600 Bull Street in the Aycock Building directly across from the Personnel Division and next to the Bureau of Business Management Procurement Services Division.
21. **Rejection:** DHEC reserves the right to reject any bid that contains prices for individual items or services that are unreasonable when compared to the same or other bids if the rejection is in the best interest of the State.
22. **Competition:** This solicitation is intended to promote competition. If the language, specifications, terms and conditions, or any combination thereof restricts or limits the requirements in this solicitation to a single source, it shall be the responsibility of the interested bidders to notify the DHEC Procurement Office in writing so as to be received five days prior to the opening date. Notification may be "faxed" to the DHEC Procurement Office, (803) 734-4874. The solicitation may or may not be changed but a review of such notification will be made prior to award.
23. **Order of Precedence:** In the event of inconsistency between provisions of this solicitation, the inconsistency shall be resolved by giving precedence in the following order; (A) the bidding schedule, (B) the specifications, (C) general conditions, (D) special provisions or special conditions of the contract whether incorporated by reference or otherwise, and (E) instruction to bidders.

GENERAL CONDITIONS

24. **Contract Administration:** Questions or problems arising after award of this solicitation/contract shall be directed to the DHEC Procurement Office, 2600 Bull Street, Columbia, SC, 29201. Reference the solicitation and contract number.
25. **Default:** In case of default by the contractor, DHEC reserves the right to purchase any or all items in default in the open market, charging the contractor with any additional costs. The defaulting contractor shall not be considered a responsible bidder until the assessed charge has been satisfied.
26. **Save Harmless:** (This General Condition does not apply to solicitations for service requirements). The successful bidder shall indemnify and save harmless the State of South Carolina and DHEC and all its officers, agents and employees from all suits or claims of any character brought by reason of infringing on any patent, trade mark or copyright. The bidder shall have no liability to DHEC if such patent, trademark or copyright infringement or claim is based upon the bidder's use of material furnished to the bidder by the State.

27. **Publicity Releases:** By submission of a bid, the contractor agrees not to refer to award of this contract in commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by DHEC or user.
28. **Tax Credit Availability:** Bidders interested in income tax credit availability by subcontracting with Certified Minority Firms should contact the Office of Minority Business Assistance, 1205 Pendleton Street, Columbia, SC, 29201. (803-734-0562)
29. **Affirmative Action:** The successful bidder will take affirmative action in complying with all Federal and State requirements concerning fair employment and employment of the handicapped, and concerning the treatment of all employees, without regard or discrimination by reason of race, color, religion, sex, national origin or physical handicap.
30. **Assignment:** Unless otherwise indicated in this solicitation, no contract or its provisions may be assigned, sublet, subcontracted, or transferred without the prior written consent of the DHEC Procurement Office.
31. **Termination:** Any contract resulting from this solicitation may be terminated by DHEC by providing a thirty-day advance notice in writing to the successful contractor.
32. **Non-Appropriations:** Any contract entered into by DHEC resulting from this solicitation shall be subject to cancellation without damages or further obligation when funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period or appropriated year.
33. **Convenience:** In the event that this contract is terminated or canceled upon request and for the convenience of DHEC without the required thirty days advance written notification, then DHEC shall negotiate reasonable applicable termination costs.
34. **Cause:** Any contract resulting from this solicitation may be terminated without advance notice by DHEC for cause, default or negligence on the part of the successful contractor.
35. **S.C. Law Clause:** Upon award of a contract under this bid, the person/partnership, association or corporation to whom the award is made must comply with the laws of South Carolina which require such person or entity to be authorized and/or licensed to do business with this State. Notwithstanding the fact that applicable statutes may exempt or exclude the successful bidder from requirements that it be authorized and/or licensed to do business in this State. By submission of a bid, the bidder agrees to subject himself to the jurisdiction and process of the courts of the State of South Carolina as to all matters and disputes arising or to arise under the contract and the performance thereof, including any questions as to the liability for taxes, licenses or fees levied by the State of South Carolina.
36. **Quality of Product:** (This general condition does not apply to solicitations for printing or service requirements.) Unless otherwise indicated in this solicitation, it is understood and agreed that any item offered or shipped as a result of this solicitation shall be new and in first class condition, that all containers shall be new and suitable for storage or shipment, and that prices include standard commercial packaging. If items that are other than new (i.e., remanufactured or refurbished) are desired to be bid, the bidder must obtain written permission to bid such items at least five days in advance of the bid opening date. Written permission must be obtained from the DHEC Procurement Office.
37. **Compliance with Federal Requirements:** S.C. State or Federal requirements that are more restrictive shall be followed in bidding, awarding and performance of this contract.
38. **Drug-Free Workplace:** Required by Section 44-107-10 (Drug Free Work-Place Act) of the SC Code of Laws, 1976, as amended. By submission of a bid, the bidder certifies that he will comply with all aspects of the Drug-Free Workplace Act and will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of this contract. This certification also applies to any individual or firm employed by the contractor.
39. **Confidentiality Policy:** The successful contractor agrees to abide by DHEC's policy of confidentiality which states in part that all information as to personal facts and circumstances given or made available to employees and/or contractors of DHEC in administration of programs shall be held confidential and shall not be divulged without the express written consent of the individual(s) to which it pertains.
40. **Item Substitution:** No substitution of items will be allowed on any purchase made from the awarded contract without written permission from the DHEC Procurement Office.
41. **Outside Contractor Program:** If applicable to scope of contract, contracted employees working on DHEC properties are entitled to information about hazardous chemicals present at DHEC; and DHEC's personnel are entitled to information about hazardous chemicals brought to the facilities by contractors. In order to assure continued compliance with the Hazard Communication Standards while contractors are on DHEC

property and to control potential compliance obligations under the Superfund Amendments and Re-authorization Act, it is DHEC's policy to:

A. Obtain written assurance that the contractor's employees have been trained to understand the hazards of the chemicals at DHEC and how to use appropriate personal protective equipment. All personal protective equipment and training required for the contractor's employees will be provided by the contractor at the contractor's expense. (This includes SC State General Services employees).

B. Require the contractor to notify the DHEC Bureau of Business Management or the appropriate DHEC unit Director when introducing hazardous chemicals into DHEC work areas, which may harmfully expose DHEC employees. If the contractor is introducing such hazardous chemicals into any DHEC facility or onto DHEC property, the contractor shall provide the DHEC Division of Procurement Services or the DHEC unit Director copies of the Material Safety Data Sheets (MSDS) for those chemicals. The DHEC Division of Procurement Services or the DHEC unit Director should provide appropriate information to the DHEC employees before the contractor(s) enter any DHEC facility with chemicals.

C. DHEC reserves the right to refuse to allow any contractor to bring any chemical onto DHEC property. The Department also reserves the right to refuse to allow any contractor to bring certain quantities of chemicals on DHEC property.

Attachment A

(Baseline CoC Mass, SSTL Mass, Number of Verification Wells)

SITE 1 – Bay Creek Villas, (UST Permit #18662), 3701 Docksite Road, Edisto Beach, South Carolina.

CoC mass in parts per billion (μg/l) based on May 29, 2002 sampling: **Table A-1**

Well	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	Total Mass
MW- 1	3	<1	4	<1	<5	<5	19
MW- 3	2,720	2,170	1,880	4,090	<50	580	11,490
MW- 4	196	935	1,370	3,230	<50	479	6,260
MW- 5	<1	<1	<1	<1	<5	<5	14
MW- 9	1,140	5,400	1,520	5,580	<50	412	14,102
MW- 13	<1	<1	31	2	<5	30	70
Marsh-N	<1	<1	<1	<1	<5	<5	14
Initial Mass	4,062	8,509	4,807	12,905	170	1,516	31,969
SSTL Mass	21	2,939	2,137	12,905	140	115	18,257
Initial Mass above SSTL	4,041	5,570	2,670	0	30	1,401	13,712

* Laboratory analysis is below calculated SSTLs; therefore, SSTL mass is set equal to current CoC mass.

Site-specific target levels (SSTLs) in parts per billion (μg/l) **Table A-2**

Well	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
MW- 1	3*	<1**	4*	<1**	<5**	<5**
MW- 3	5	1,000	700	4,090*	40	25
MW- 4	5	935*	700	3,230*	40	25
MW- 5	<1**	<1**	<1**	<1**	<5**	<5**
MW- 9	5	1,000	700	5,580*	40	25
MW- 13	<1**	<1**	31*	2*	<5**	25
Marsh-N	<1**	<1**	<1**	<1**	<5**	<5**
Total	21	2,939	2,137	12,905	140	115

* Laboratory analysis is less than calculated SSTLs; therefore, SSTL mass is set equal to laboratory mass.

** Laboratory analysis is below detection limits; therefore, SSTL mass is set equal to detection limits.

Number of Verification Wells that may be installed:2
UST Program Project Manager: Read Miner

(Technical Summary)

The following facilities adjacent to the site have regulated USTs (operating) registered with DHEC: Edisto Marina, Permit ID#01442. The USTs are located adjacent to monitoring wells 6, 7, and 8.

SITE 2 – Joker Joe's Truck Stop (UST Permit # 10658), Exit 8 and I-95, Hardeeville, South Carolina.

CoC mass in parts per billion (μg/l) based on May 28, 2002 sampling: **Table A-3**

Well	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	Total Mass
MW- 2	<1	<1	<1	<1	<5	<5	14
MW- 5	151	<1	66	6	<5	47	276
MW- 7	<1	4	<1	<1	<5	<5	17
MW- 8	<1	1	<1	<1	<5	<5	14
MW- 9	2	6	<1	<1	6	<5	21
MW- 14	<1	<1	<1	<1	<5	<5	14
MW- 18	<1	<1	<1	<1	<5	<5	14
MW- 20	140	<1	<1	3	72	<5	222
MW- 21	226,000	301,000	280,000	278,000	5,110,000	2,000	6,197,000
MW- 22	226,000	301,000	280,000	278,000	5,110,000	2,000	6,197,000
MW- 23	<1	<1	<1	<1	<5	<5	14
MW- 24	<1	3	1	4	17	6	32
MW- 25	11,300	4,900	900	4,140	<1000	<1000	23,240
Ditch	4	16	4	23	<5	15	67
Initial Mass	463,604	606,936	560,979	560,183	10,221,135	5,108	12,417,945
SSTL Mass	38	3,036	2,179	30,043	255	156	35,707
Initial Mass above SSTL	463,566	603,900	558,800	530,140	10,220,880	4,952	12,382,238

* Laboratory analysis is below calculated SSTLs; therefore, SSTL mass is set equal to current CoC mass.

** CoC values based on maximum solubility. Free product thickness was 3.78 feet in MW-21, 1.14 feet in MW-22.

Site-specific target levels (SSTLs) in parts per billion (μg/l) **Table A-4**

Well	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene
MW- 2	<1**	<1**	<1**	<1**	<5**	<5**
MW- 5	5	<1**	66*	6*	<5**	25
MW- 7	<1**	4*	<1**	<1**	<5**	<5**
MW- 8	<1**	1*	<1**	<1**	<5**	<5**
MW- 9	2*	6*	<1**	<1**	6*	<5**
MW- 14	<1**	<1**	<1**	<1**	<5**	<5**
MW- 18	<1**	<1**	<1**	<1**	<5**	<5**
MW- 20	5	<1**	<1**	3*	72*	<5**
MW- 21	5	1,000	700	10,000	40	25
MW- 22	5	1,000	700	10,000	40	25
MW- 23	<1**	<1**	<1**	<1**	<5**	<5**
MW- 24	<1**	3*	1*	4*	17*	6*
MW- 25	5	1,000	700	10,000	40	25
Ditch	4*	16*	4*	23*	<5**	15*
Total	38	3,036	2,179	30,043	255	156

* Laboratory analysis is less than calculated SSTLs; therefore, SSTL mass is set equal to laboratory mass.
** Laboratory analysis is below detection limits; therefore, SSTL mass is set equal to detection limits.

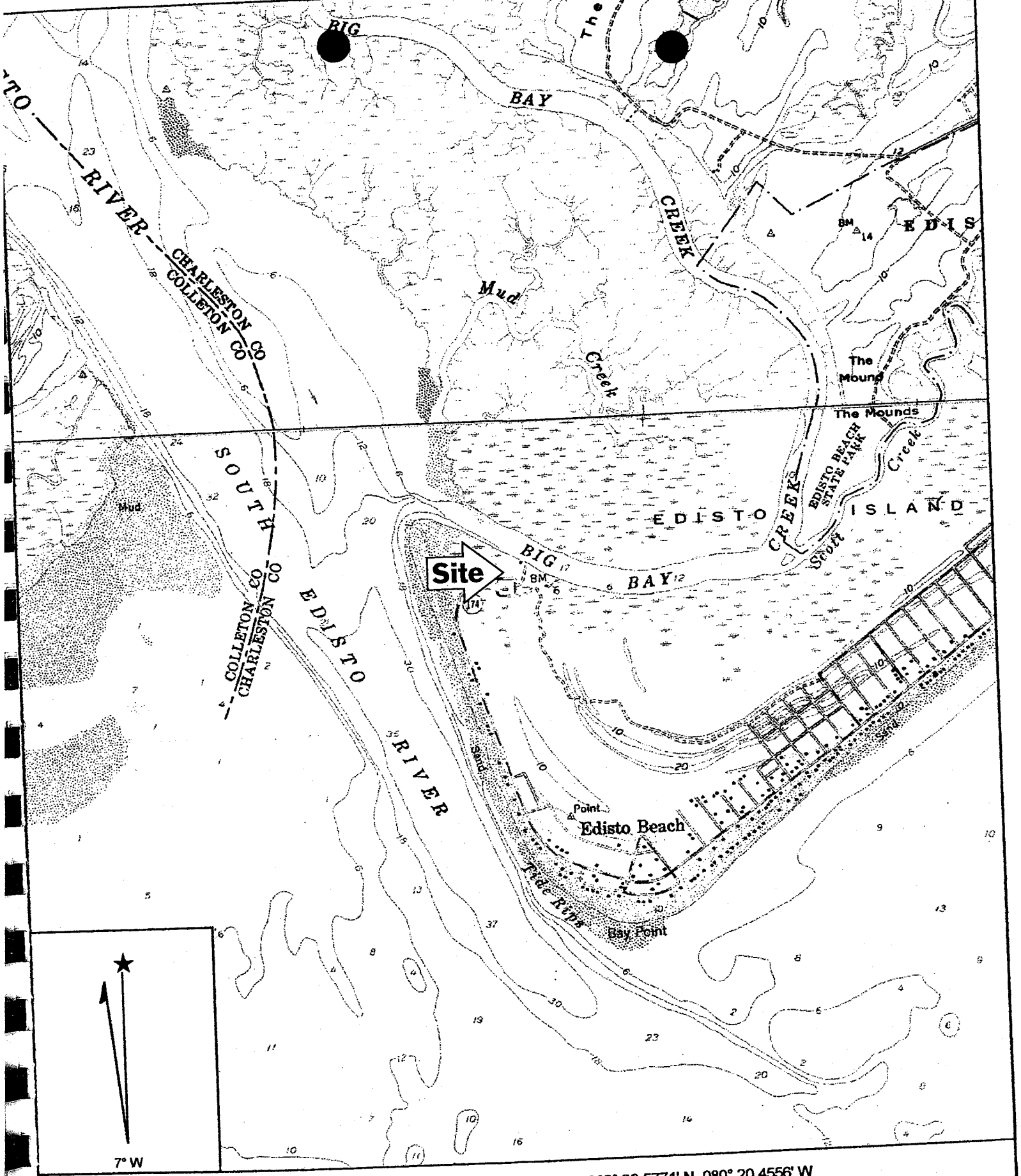
Number of Verification Wells that may be installed: 2
UST Program Project Manager: Read Miner

(Technical Summary)

There are no other facilities adjacent to the site with regulated USTs (operating/abandoned) registered with DHEC.

Attachment B

(Technical Summary – Bay Creek Villas, UST Permit #18662)

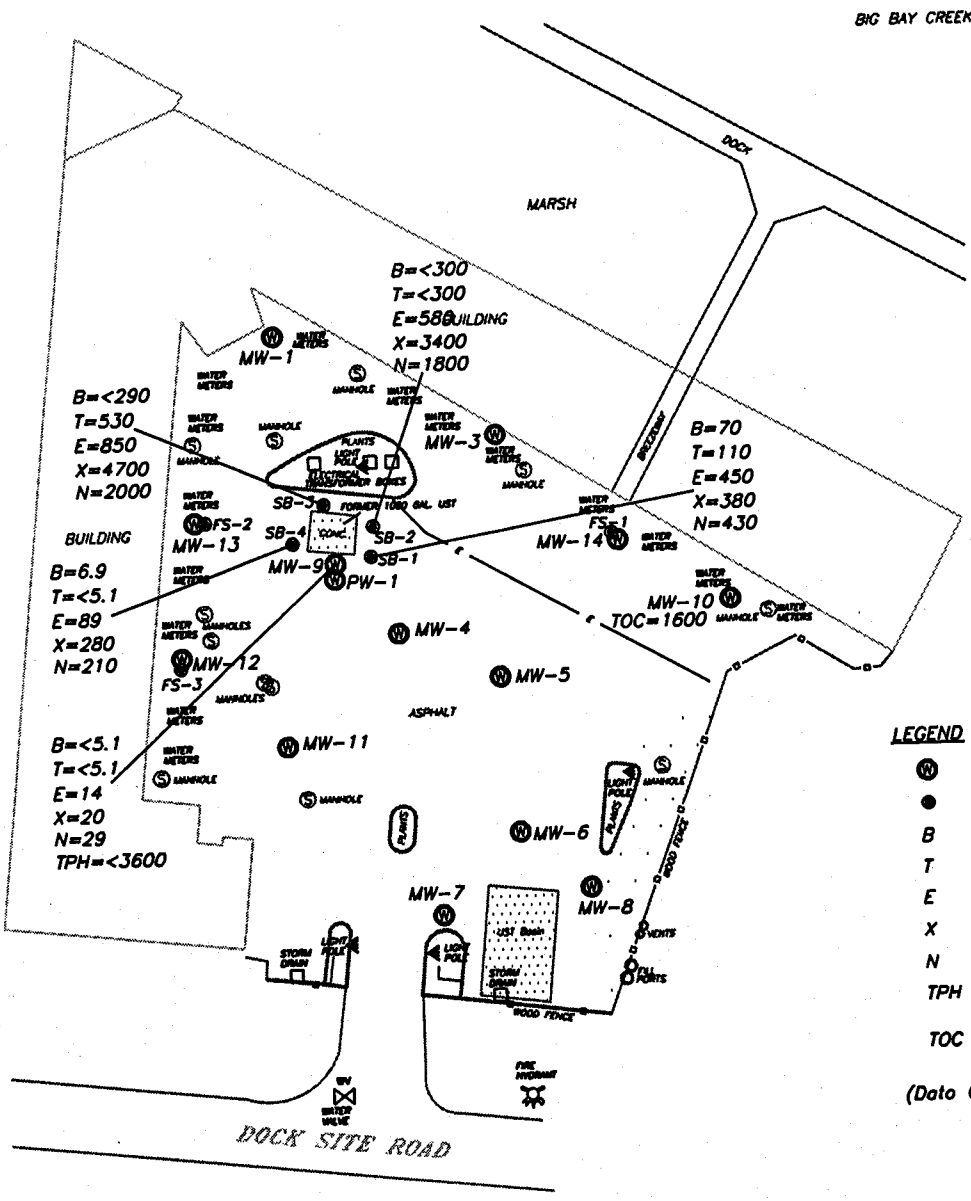


Name: EDISTO BEACH
Date: 2/7/2002
Scale: 1 inch equals 2000 feet

Location: 032° 29.5771' N 080° 20.4556' W
Caption: FIGURE 1.0 - SITE LOCATION MAP
BAY CREEK VILLAS
EDISTO BEACH, SC

Copyright (C) 1997, Maptech, Inc.

FIGURE 1



LEGEND

- Monitoring Well
- Soil Boring
- B Benzene (ug/l)
- T Toluene (ug/l)
- E Ethylbenzene (ug/l)
- X Xylenes (ug/l)
- N Naphthalene (ug/l)
- TPH Total Petroleum Hydrocarbons (mg/l)
- TOC Total Organic Carbon (mg/l)

(Data Collected on 12/6/01)

NESCO
For Practical Solutions.

CONSULTING ENGINEERS & SCIENTISTS
521 CLEMSON ROAD, COLUMBIA, SOUTH CAROLINA, 29229 USA
PHONE: 803 699 1976 FAX: 803 699 9863

BAY CREEK VILLAS
UST PERMIT #18662
3701 DOCK SITE RD.
EDISTO BEACH, SC

DRAWN BY:	LAST REVISED:
Brian Kvam	2/6/02

SOIL CoC MAP

40 0 20 40
GRAPHIC SCALE IN FEET

NORTH

FIGURE NUMBER: 3.0
JOB NO: 21-1151c

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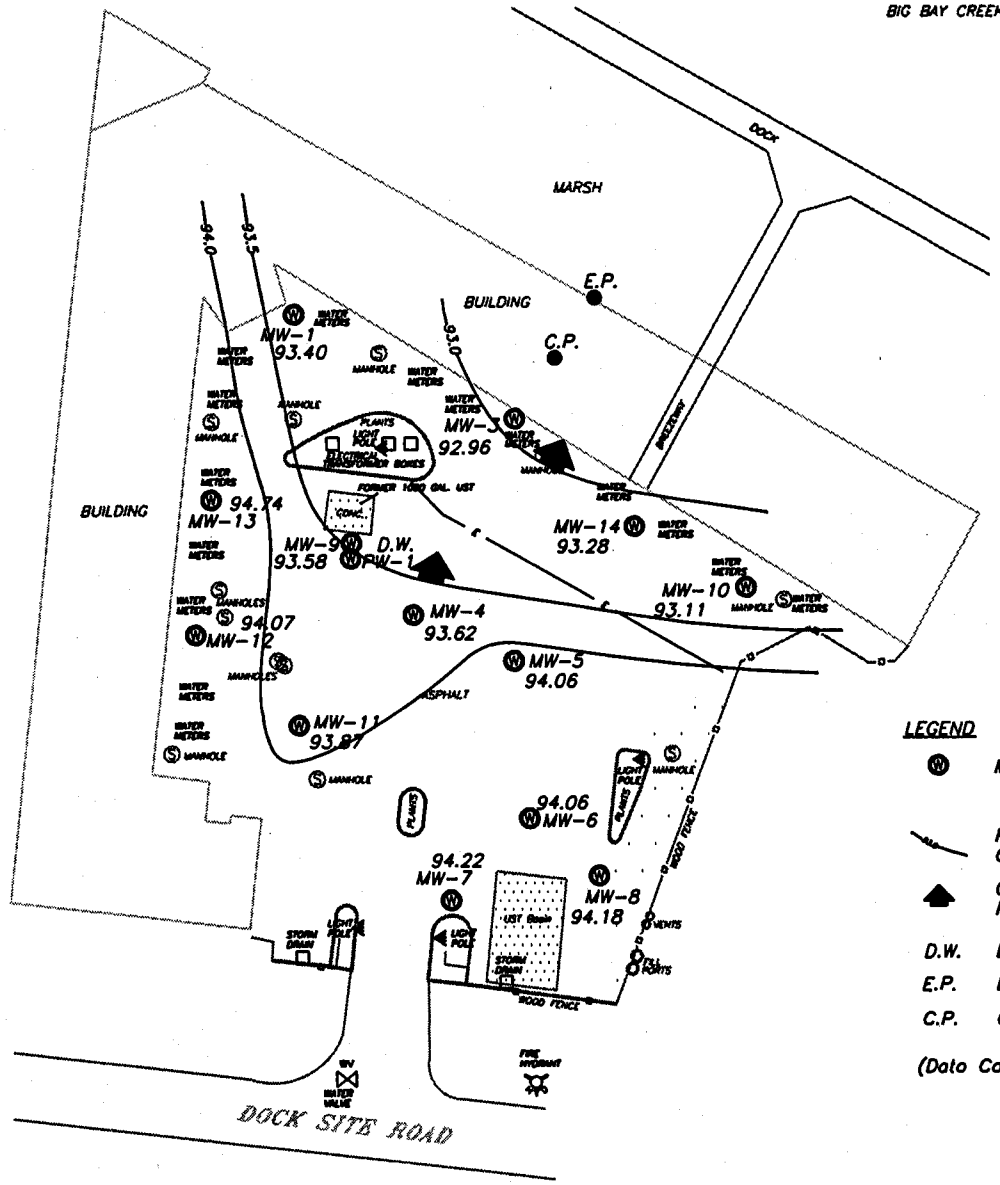
page: 27

Average Hydraulic Gradient = $\frac{94.74\ ft - 92.96\ ft}{157\ ft} = 1.13\ E^{-2}\ ft/ft$



LEGEND

- Monitoring Well
- Potentiometric Line C.I. = 0.5 ft
- General Groundwater Flow Direction
- D.W. Deep Well
- E.P. Exposure Point
- C.P. Compliance Point

(Data Collected on 1/10/02)

NESCO
For Practical Solutions.

CONSULTING ENGINEERS & SCIENTISTS
521 CLEMSON ROAD, COLUMBIA, SOUTH CAROLINA, 29229 USA
PHONE: 803 699 1976 FACSIMILE: 803 699 9863

BAY CREEK VILLAS
UST PERMIT #18662
3701 DOCK SITE RD.
EDISTO BEACH, SC

DRAWN BY:	LAST REVISED:
Brian Kvam	2/6/02

POTENTIOMETRIC MAP

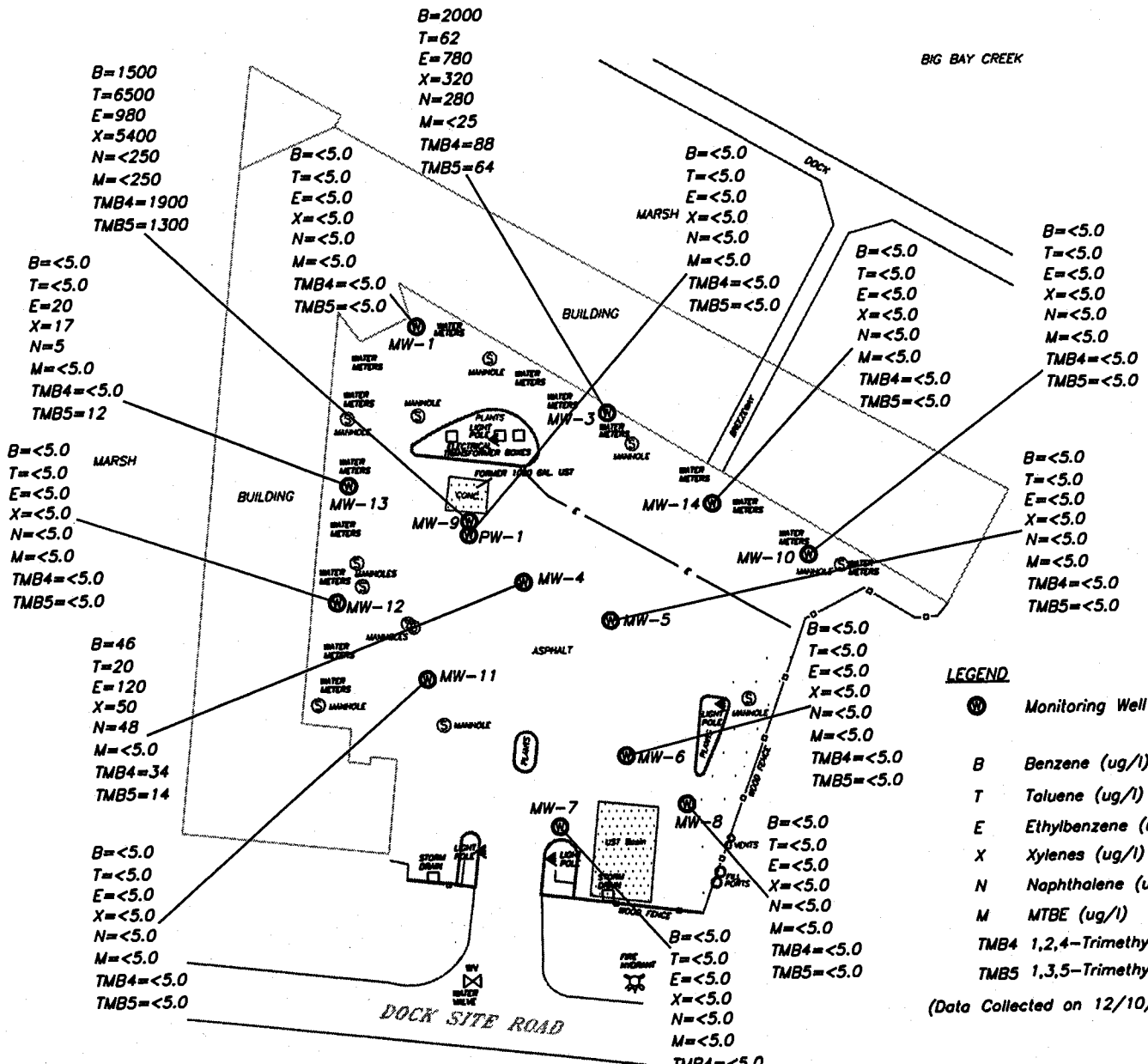
40 0 20 40
GRAPHIC SCALE IN FEET

NORTH

FIGURE NUMBER: 4.0

JOB NO: 21-1151c

SCDHEC
SB-20713-10/8/02-EMW
page: 28



NESCO
For Practical Solutions.

CONSULTING ENGINEERS & SCIENTISTS

521 CLEMSON ROAD, COLUMBIA, SOUTH CAROLINA, 29229 USA
PHONE: 803 699 1976 FACSIMILE: 803 699 9863

BAY CREEK VILLAS
UST PERMIT #18662
3701 DOCK SITE RD.
EDISTO BEACH, SC

DRAWN BY:	LAST REVISED:
Brian Kvam	2/6/02

GROUNDWATER CoC MAP

40 0 20 40
GRAPHIC SCALE IN FEET

FIGURE NUMBER:
5.0

SCDHEC
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page: 29

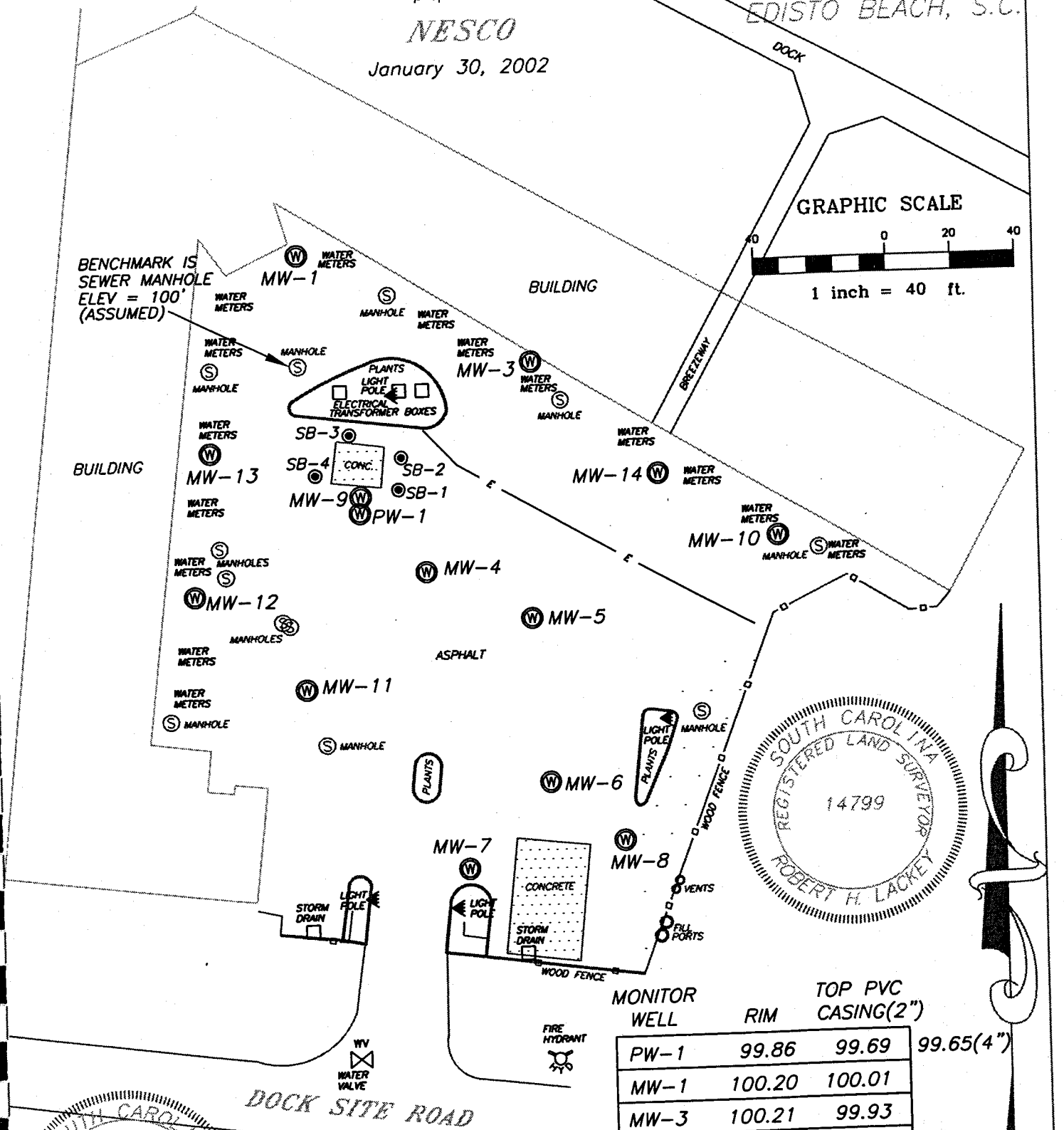
SITE MAP

prepared for

NESCO

January 30, 2002

BAY CREEK VILLIAS
3[illegible]1 DOCK SITE ROAD
EDISTO BEACH, S.C.



MONITOR WELL	RIM	TOP PVC CASING(2")	
PW-1	99.86	99.69	99.65(4")
MW-1	100.20	100.01	
MW-3	100.21	99.93	
MW-4	100.16	99.95	
MW-5	100.11	99.92	
MW-6	99.32	99.06	
MW-7	99.72	99.48	
MW-8	99.50	99.27	
MW-9	99.91	99.59	
MW-10	100.02	99.89	

MW-11	99.48	99.17
MW-14	99.94	99.69
MW-12	100.08	99.92
MW-13	100.00	99.82

ROBERT H. LACKEY SURVEYING, INC.
P.O. BOX 713 - CAMDEN, S.C. 29020
office 803-432-0968 - fax 803-425-4439

NES-EDIS.DWG NES-13

FIGURE 6

TABLE 1
SUMMARY OF SOIL QUALITY ANALYSIS
BAY CREEK VILLAS
EDISTO BEACH, SC

SAMPLE ID	DATE SAMPLED	SAMPLE DEPTH	BENZENE (ug/l)	TOLUENE (ug/l)	ETHYL-BENZENE (ug/l)	TOTAL XYLENES (ug/l)	NAPH-THALENE (ug/l)	TPH (mg/l)	TOC (mg/l)
SB-1	12/06/01	3'	**70**	110	450	380	**430**	NA	NA
SB-2	12/06/01	3'	<300	<300	580	3400	**1800**	NA	NA
SB-3	12/06/01	3'	<290	530	850	4700	**2000**	NA	NA
SB-4	12/06/01	3'	**6.9**	<5.1	89	280	210	NA	NA
MW-9	12/06/01	3'	<5.1	<5.1	14	20	29	<3600	NA
MW-10	12/06/01	3'	NA	NA	NA	NA	NA	NA	1600
RBSLs			5	1640	1292	42898	211	NA	NA

NOTES: Risk-Based Screening Levels (RBSLs) from RBCA Table B3 for sandy soils 5-10 ft
Bolded Values exceed RBSLs
NA = Not Applicable

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TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS
BAY CREEK VILLAS
EDISTO BEACH, SC

WELL	DATE MEASURED	TOC ELEVATION	TOC to PL	TOC to WL	PRODUCT THICKNESS	WL ELEVATION
MW-1	1/10/02	100.01	ND	6.61	NA	93.40
MW-3	1/10/02	99.93	ND	6.97	NA	92.96
MW-4	1/10/02	99.95	ND	6.33	NA	93.62
MW-5	1/10/02	99.92	ND	5.86	NA	94.06
MW-6	1/10/02	99.06	ND	5.00	NA	94.06
MW-7	1/10/02	99.48	ND	5.26	NA	94.22
MW-8	1/10/02	99.27	ND	5.09	NA	94.18
MW-9	1/10/02	99.59	ND	6.01	NA	93.58
MW-10	1/10/02	99.89	ND	6.78	NA	93.11
MW-11	1/10/02	99.17	ND	5.30	NA	93.87
MW-12	1/10/02	99.91	ND	5.84	NA	94.07
MW-13	1/10/02	99.82	ND	5.08	NA	94.74
MW-14	1/10/02	99.69	ND	6.41	NA	93.28
PW-1	1/10/02	99.69	ND	6.62	NA	93.07

NOTES: Measurements in feet
TOC = Top of Casing
WL = Water Level
PL = Free Product Level
ND = Not Detected
NA = Not Applicable

TABLE 3A
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BAY CREEK VILLAS
EDISTO BEACH, SC

MONITOR WELL	DATE COLLECTED	BENZENE (ug/l)	TOLUENE (ug/l)	ETHYL-BENZENE (ug/l)	TOTAL XYLENES (ug/l)	TOTAL BTEX (ug/l)	NAPH-THALENE (ug/l)	MTBE (ug/l)	EDB (ug/l)	1,2,4-TRIMETHYL-BENZENE (ug/l)	1,3,5-TRIMETHYL-BENZENE (ug/l)
MW-1	12/10/01	**14**	<5.0	19	16	<54.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-3	12/10/01	**1900**	52	**740**	270	2962	**220**	<25	<25	26	97
	01/10/02	**2000**	62	**780**	320	3162	**280**	<25	NA	88	64
MW-4	12/10/01	**71**	7.1	140	76	294.1	**94**	<5.0	<5.0	37	22
	01/10/02	**46**	20	120	50	236	**48**	<5.0	NA	34	13
MW-5	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-6	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-7	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-8	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-9	12/10/01	**1200**	**3900**	**900**	2700	8700	**310**	<25	<25	360	1500
	01/10/02	**1500**	**6500**	**980**	5400	14380	<250	<250	NA	1900	1300
MW-10	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-11	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-12	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
MW-13	01/10/02	<5.0	<5.0	20	17	<47	5	<5.0	<5.0	<5.0	12
MW-14	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
PW-1	12/10/01	<5.0	<5.0	13	8.6	31.6	5.5	<5.0	<5.0	<5.0	9.1
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	<5.0	<5.0
RBSLs		5	1000	700	10000	NA	25	40	NA	NA	NA

NOTES: **Bolded Values** Exceed Risk-Based Screening Levels (RBSLs)
NA = Not Applicable
MTBE = Methyl Tertiary Butyl Ether
EDB = 1,2-Dibromoethane

LOG OF BORING: MW

NESCO

For Practical Solutions.

MW-1

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
5		6ppm	Clayey Sand - Tan	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: MW-2

NESCO

For Practical Solutions.

MW -2

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
5		>1000ppm	Silty Sand - Gray	Moist		5
			Hit concrete @ 6' then auger dropped 5 '	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

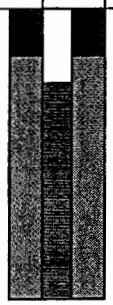
LOG OF BORING: MW-3

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	6.21
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft-bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Sand - Gray			
5		300ppm	Sandy Clay - Brown	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: MW

NESCO

For Practical Solutions.

MW-4

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	6.05
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft-bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Sand - Gray			
5		>1000ppm	Sandy Clay - Brown	Moist/Staining		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

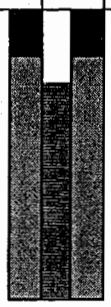
LOG OF BORING: MW-5

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	5.71
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Clay - Tan	Fill		
5		60ppm	Sandy Clay - Tan	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: M[illegible]

NESCO

For Practical Solutions.

Mw-6

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	4.35
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft-bgs	Sample	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Sand - Gray			
5		4ppm	Sandy Clay - Brown	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

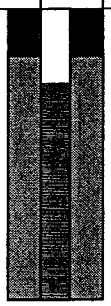
LOG OF BORING: MW-7

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	4.51
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Sand - Gray			
5		40ppm	Sandy Clay - Brown	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: MW-8

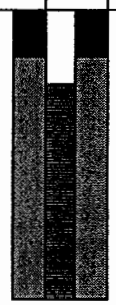
NESCO

For Practical Solutions.

MW-8

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	4.75
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft-bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Sand - Gray			
5		6ppm	Sandy Clay - Brown	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

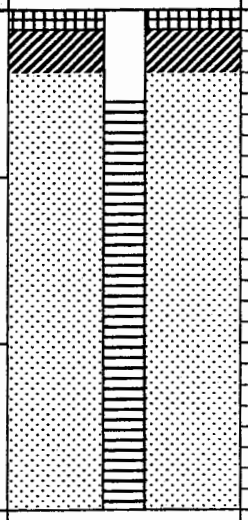
LOG OF BORING: MW-9

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.59
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/5/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/5/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
2					Asphalt/fill Tan/gray fine SAND (Soil sample collected @ 3')
4					
6	Strong Petroleum	424			Dark gray fine sandy CLAY (Saturated @ 4')
8					
10	Strong	678			Gray black fine to medium SAND w/shell hash
12					T.D. (Set 2" well, 10' of screen)
14					
16					
18					
20					
22					
24					
26					
28					
30					

Construction



ft-bgs

COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

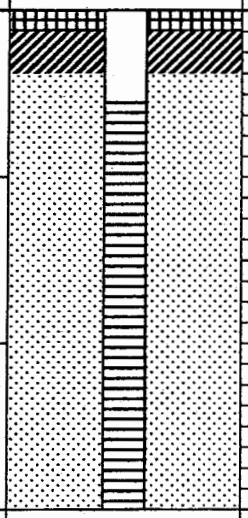
LOG OF BORING: MW-10

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.89
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/6/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/6/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft-bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
2					Asphalt/fill Tan brown fine to medium SAND
4					(TOC Soil sample collected @ 3')
6	None	0			Dark gray fine sandy CLAY (Saturated @ 4')
8					
10	None	0			Gray black fine to medium SAND w/shell hash
12					T.D. (Set 2" well, 10' of screen)
14					
16					
18					
20					
22					
24					
26					
28					
30					

Construction



COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

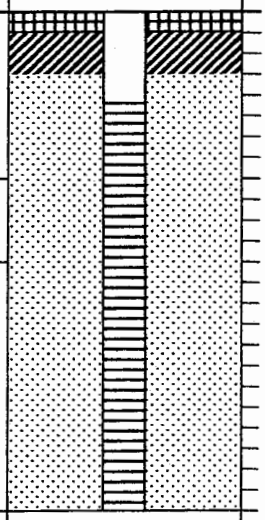
LOG OF BORING: MW-11

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.17
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/6/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/6/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft-bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
2, 4					Asphalt/fill Tan/gray fine SAND
6	None	0			Dark gray fine sandy CLAY (Saturated @ 4')
8, 10, 12	None	0			Gray black fine to medium SAND w/shell hash T.D. (Set 2" well, 10' of screen)
14, 16, 18, 20, 22, 24, 26, 28, 30					

Construction



COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

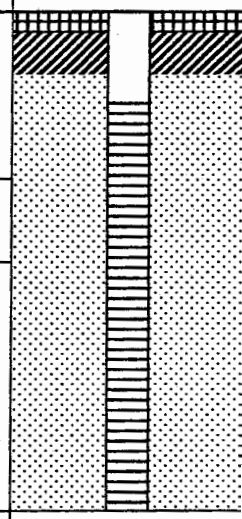
LOG OF BORING: MW-12

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.91
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	1/8/02	Driller	Nate Rollins (1411)	Longitude	80° 19' 43" W
Date/Time Completed:	1/8/02	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
2, 4					Asphalt/fill Tan/gray fine SAND
6	None	0			Dark gray fine sandy CLAY (Saturated @ 4')
8, 10, 12	None	0			Gray black fine to medium SAND w/shell hash T.D. (Set 2" well, 10' of screen)
14, 16, 18, 20, 22, 24, 26, 28, 30					

Construction



COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

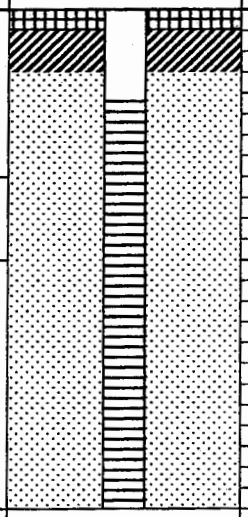
LOG OF BORING: MW-13

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.82
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	1/8/02	Driller	Nate Rollins (1411)	Longitude	80° 19' 43" W
Date/Time Completed:	1/8/02	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
2					Asphalt/fill Tan/gray fine SAND
4	None	0			Dark gray fine sandy CLAY (Saturated @ 4')
6					
8	None	0			Gray black fine to medium SAND w/shell hash
10					
12					T.D. (Set 2" well, 10' of screen)
14					
16					
18					
20					
22					
24					
26					
28					
30					

Construction



COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: MW-14

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.69
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	1/8/02	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	1/8/02	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)	Construction	ft-bgs
2, 4					Asphalt/fill Tan brown fine to medium SAND		
6, 8	None	0			Dark gray fine sandy CLAY (Saturated @ 4')		
10, 12	None	0			Gray black fine to medium SAND w/shell hash T.D. (Set 2" well, 10' of screen)		
14, 16, 18, 20, 22, 24, 26, 28, 30							

COMMENTS:

In - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

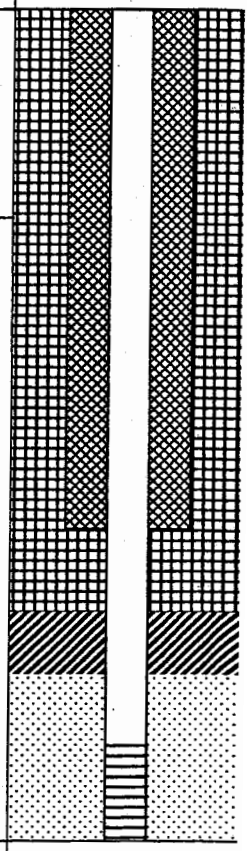
LOG OF BORING: PW-1

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	H.S. Augers w/Mud Rotary	Total Boring Depth (ft):	40
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.69
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/5/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/6/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
					Asphalt/fill Tan/gray fine SAND
5	Strong Petroleum	784			(Saturated @ 4')
10					
	Strong	>1000			Gray black clayey fine to medium SAND w/shell hash
15	Moderate	246			
20	Slight	20			
25	Slight	0			(Set 4" Outer Casing @ 25') (Begin mud rotary drilling)
30					
35					
40					T.D. (Set 2" well, 5' of screen)
45					
50					
55					
60					

Construction



COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

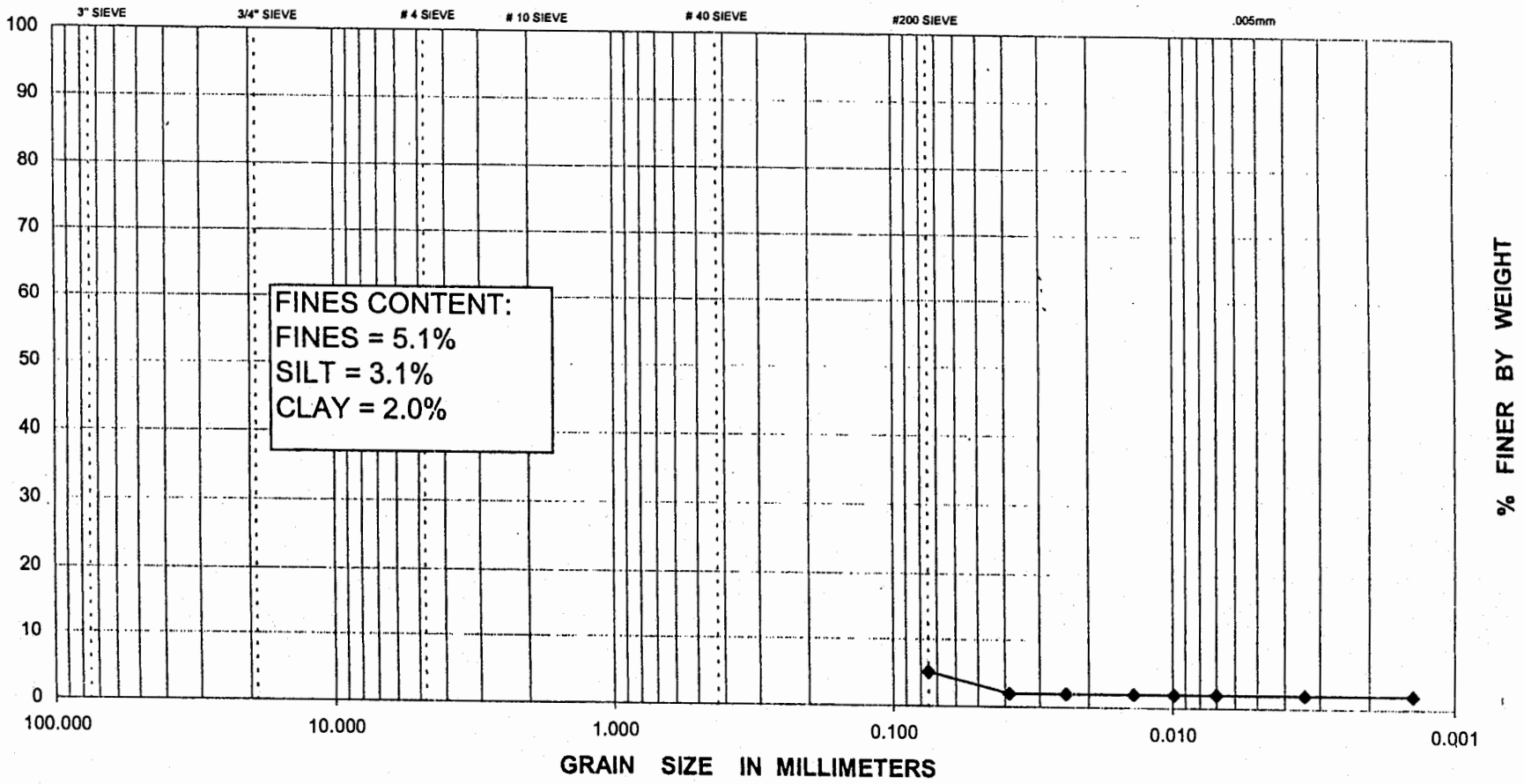
N/A - indicates not applicable to this boring
ppm - indicates parts per million

GAGE GROUP

GRAIN SIZE DISTRIBUTION TEST REPORT
(ASTM D422)

JOB NAME : Baycreek Villas			
JOB NO. : 0201-287	DATE : 01/08/02	TESTED BY : RS	REVIEWED BY : PM
BORING / PIT NO. :	DEPTH / ELEV. : 3	SAMPLE NO. : 1	SAMPLE TYPE :
SAMPLE LOCATION : N/A			
SOIL DESCRIPTION : Gray fine to medium SAND with trace of silt			SP. GRAVITY, Gs : -
LIQUID LIMIT, % :		MOISTURE , % :	FINES , % : 5.1
D10 , MM :	D30 , MM :	D60 , MM :	COEFF. OF CURVATURE , C_C :
CLASSIFICATION	UNIFIED :	AASHTO : -	COEFF. OF UNIFORMITY , C_U :

GRAVEL		SAND			FINES	
COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY



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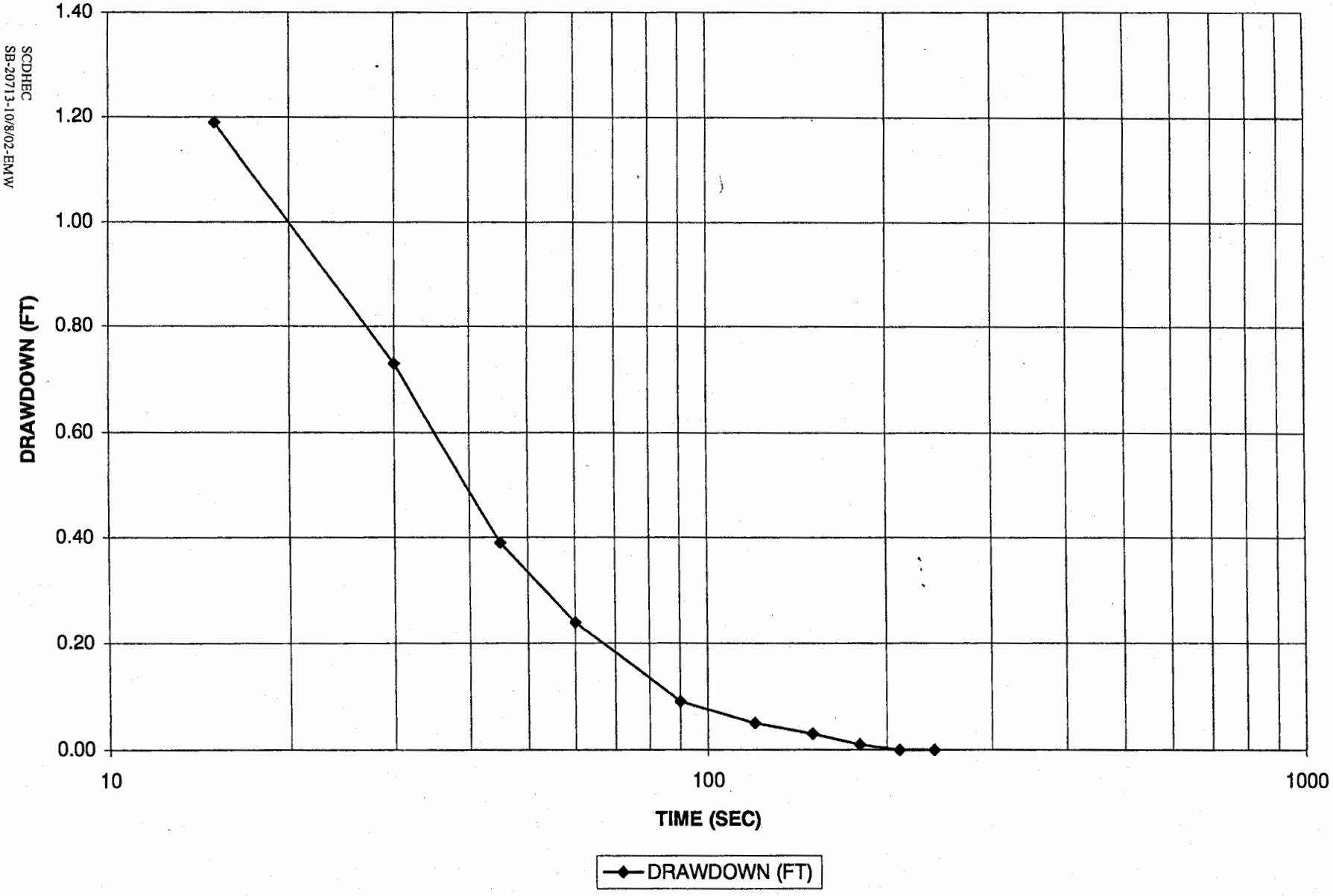
HYDROGEOLOGIC DATA TABLE
BAY CREEK VILLAS
EDISTO BEACH, SC

MONITOR WELL	TEST DATE	HYDRAULIC CONDUCTIVITY (ft/min)	HYDRAULIC CONDUCTIVITY (ft/day)	HYDRAULIC CONDUCTIVITY (cm/sec)	AQUIFER THICKNESS (ft)	TRANSMISSIVITY (ft^2/day)
MW-3	12/10/01	1.01E-02	14.6	5.15E-03	50.0	730.0
MW-9	12/10/01	3.89E-03	5.6	1.98E-03	50.0	280.0
PW-1	12/10/01	2.57E-03	3.7	1.31E-03	50.0	185.0

SLUG TEST MW-3
BAY CREEK VILLAS
EDISTO BEACH, SC



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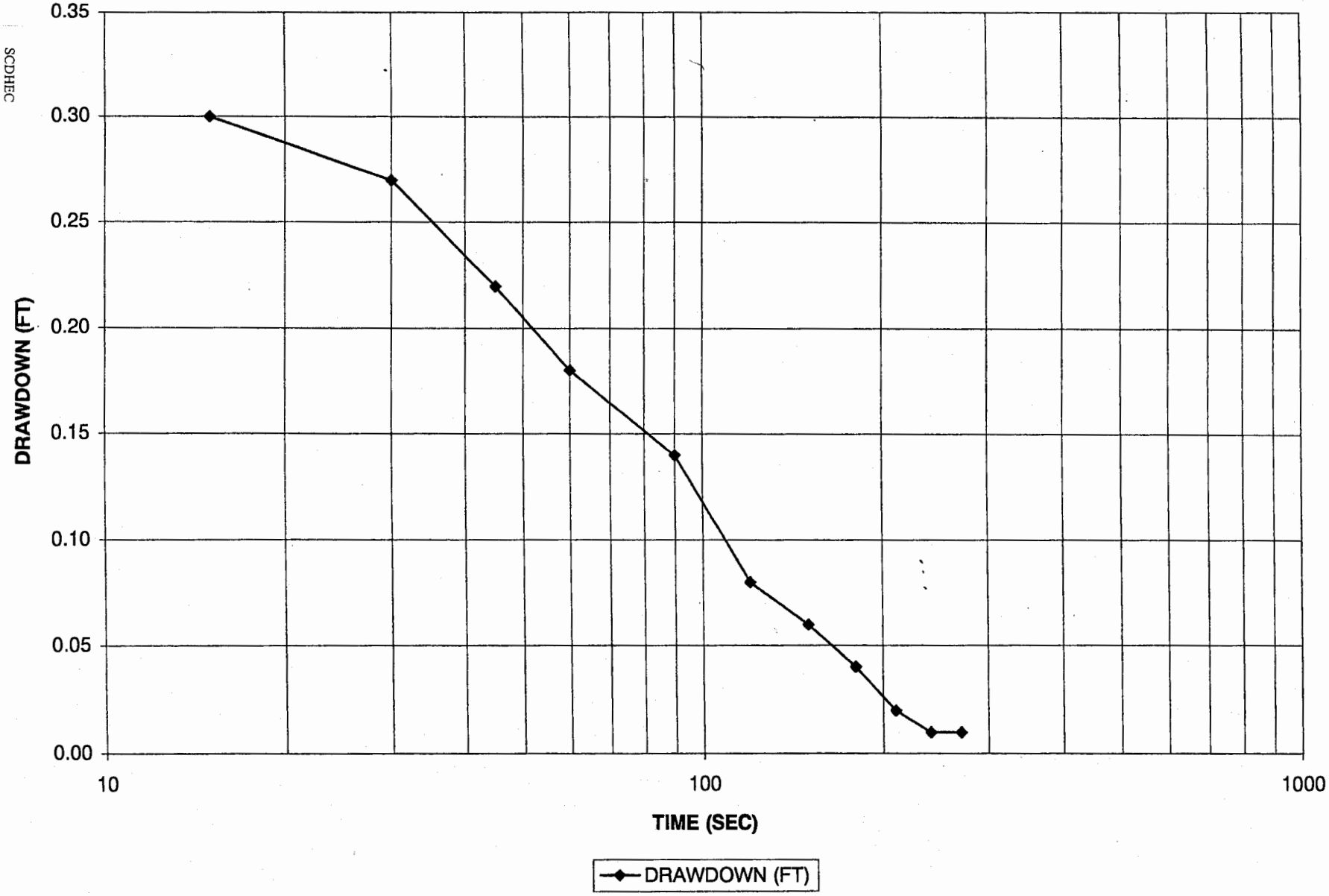
NESCO Job #21-1151c
Bay Creek Villas
UST Permit #18662

2/5/02
SLUG TEST DATA

SLUG TEST MW-9
BAY CREEK VILLAS
EDISTO BEACH, SC



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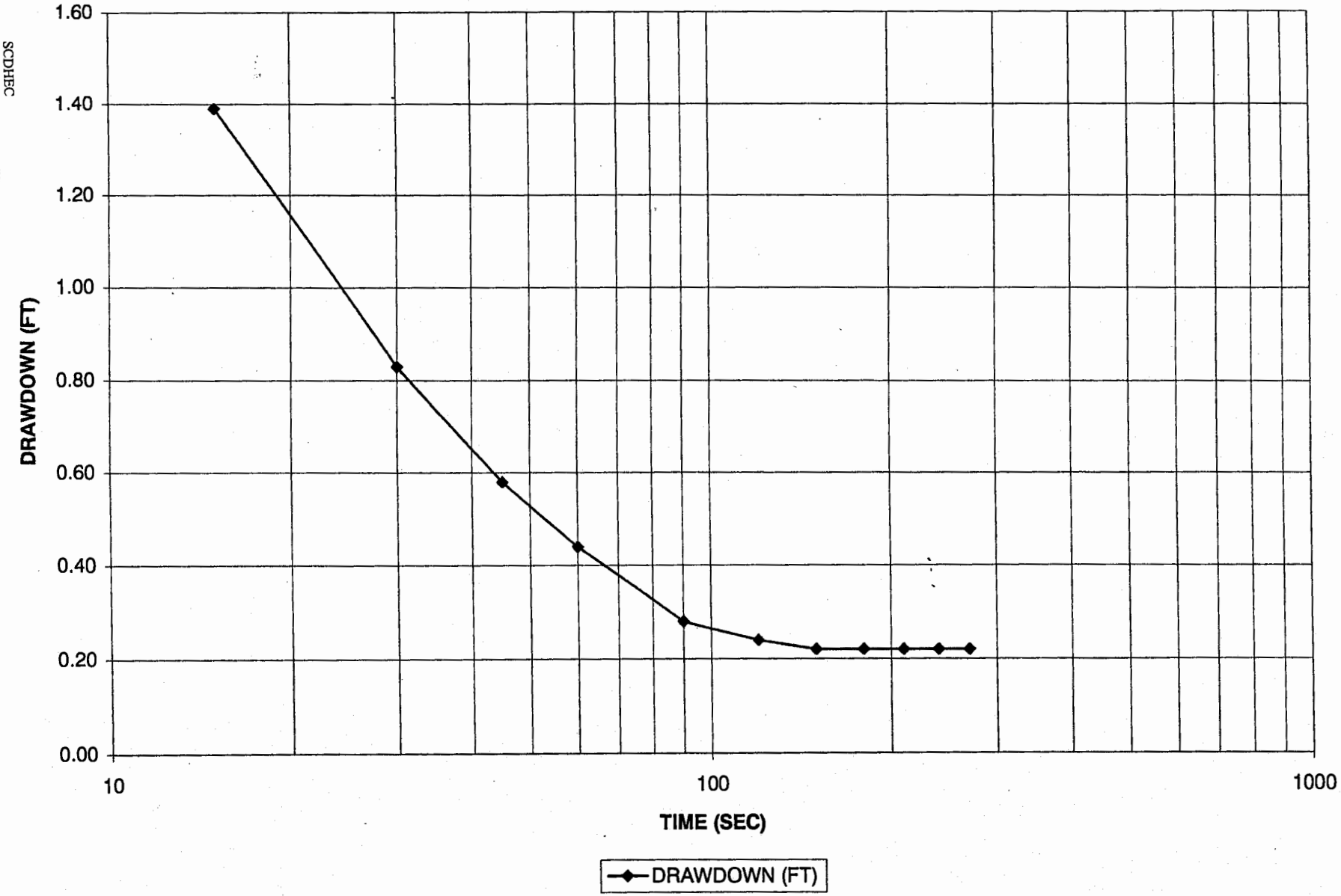
page: 52

NESCO Job #21-1151c
Bay Creek Villas
UST Permit #18662

2/5/02
SLUG TEST DATA

SLUG TEST PW-1
BAY CREEK VILLAS
EDISTO BEACH, SC



SCDHEC
SB-20713-10/8/02-EMW
page: 53

NESCO Job #21-1151c
Bay Creek Villas
UST Permit #18662

2/5/02
SLUG TEST DATA

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87756
Sample ID: MW-1
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:25
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	2.9	ug/L	1.0	1.0	6/ 4/02	14:23	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	6/ 4/02	14:23	T.Johnson	8260B	1121
Ethylbenzene	3.5	ug/L	1.0	1.0	6/ 4/02	14:23	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 4/02	14:23	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 4/02	14:23	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	6/ 4/02	14:23	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	75.	60. - 158.
VOA Surr Toluene-d8	96.	82. - 127.
VOA Surr, 4-BFB	79.	72. - 136.
VOA Surr, DBFM	96.	81. - 137.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87757
Sample ID: MW-3
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:16
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	2720	ug/L	100.	100.	5/31/02	23:43	J.Haley	8260B	9395
Toluene	2170	ug/L	100.	100.	5/31/02	23:43	J.Haley	8260B	9395
Ethylbenzene	1880	ug/L	10.0	10.0	5/31/02	23:12	J.Haley	8260B	9389
Xylenes (Total)	4090	ug/L	10.0	10.0	5/31/02	23:12	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	50.0	10.0	5/31/02	23:12	J.Haley	8260B	9389
Naphthalene	580.	ug/L	50.0	10.0	5/31/02	23:12	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	125.	60. - 158.
VOA Surr Toluene-d8	100.	82. - 127.
VOA Surr, 4-BFB	110.	72. - 136.
VOA Surr, DBFM	107.	81. - 137.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

2960 Foster Creighton Drive / Nashville,TN 37204 / 615-726-0177 / Fax: 615-726-0954 / 800-765-0980

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87758
Sample ID: MW-4
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 11:18
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	196.	ug/L	10.0	10.0	6/ 1/02	0:14	J.Haley	8260B	9389
Toluene	935.	ug/L	10.0	10.0	6/ 1/02	0:14	J.Haley	8260B	9389
Ethylbenzene	1370	ug/L	10.0	10.0	6/ 1/02	0:14	J.Haley	8260B	9389
Xylenes (Total)	3230	ug/L	10.0	10.0	6/ 1/02	0:14	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	50.0	10.0	6/ 1/02	0:14	J.Haley	8260B	9389
Naphthalene	479.	ug/L	50.0	10.0	6/ 1/02	0:14	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	118.	60. - 158.
VOA Surr Toluene-d8	102.	82. - 127.
VOA Surr, 4-BFB	103.	72. - 136.
VOA Surr, DBFM	105.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87759
Sample ID: MW-5
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 11:08
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	1:16	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	1:16	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	1:16	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	1:16	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	1:16	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	1:16	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	123.	60. - 158.
VOA Surr Toluene-d8	100.	82. - 127.
VOA Surr, 4-BFB	108.	72. - 136.
VOA Surr, DBFM	109.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87760
Sample ID: MW-6
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 10:59
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	124.	60. - 158.
VOA Surr Toluene-d8	99.	82. - 127.
VOA Surr, 4-BFB	109.	72. - 136.
VOA Surr, DBFM	109.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87761
Sample ID: MW-7
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 10:47
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	2:18	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	2:18	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	2:18	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	2:18	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	2:18	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	2:18	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	126.	60. - 158.
VOA Surr Toluene-d8	101.	82. - 127.
VOA Surr, 4-BFB	108.	72. - 136.
VOA Surr, DBFM	110.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87762
Sample ID: MW-8
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 10:38
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	126.	60. - 158.
VOA Surr Toluene-d8	100.	82. - 127.
VOA Surr, 4-BFB	111.	72. - 136.
VOA Surr, DBFM	110.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87763
Sample ID: MW-9
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 11:44
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	1140	ug/L	10.0	10.0	6/ 1/02	3:20	J.Haley	8260B	9389
Toluene	5400	ug/L	100.	100.	6/ 1/02	3:51	J.Haley	8260B	9395
Ethylbenzene	1520	ug/L	10.0	10.0	6/ 1/02	3:20	J.Haley	8260B	9389
Xylenes (Total)	5580	ug/L	10.0	10.0	6/ 1/02	3:20	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	50.0	10.0	6/ 1/02	3:20	J.Haley	8260B	9389
Naphthalene	412.	ug/L	50.0	10.0	6/ 1/02	3:20	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	125.	60. - 158.
VOA Surr Toluene-d8	100.	82. - 127.
VOA Surr, 4-BFB	109.	72. - 136.
VOA Surr, DBFM	107.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

2960 Foster Creighton Drive / Nashville,TN 37204 / 615-726-0177 / Fax: 615-726-0954 / 800-765-0980

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87764
Sample ID: MW-10
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 11:55
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	125.	60. - 158.
VOA Surr Toluene-d8	100.	82. - 127.
VOA Surr, 4-BFB	109.	72. - 136.
VOA Surr, DBFM	110.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87765
Sample ID: MW-11
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:54
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	121.	60. - 158.
VOA Surr Toluene-d8	101.	82. - 127.
VOA Surr, 4-BFB	110.	72. - 136.
VOA Surr, DBFM	109.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

2960 Foster Creighton Drive / Nashville,TN 37204 / 615-726-0177 / Fax: 615-726-0954 / 800-765-0980

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87766
Sample ID: MW-12
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:13
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	125.	60. - 158.
VOA Surr Toluene-d8	101.	82. - 127.
VOA Surr, 4-BFB	109.	72. - 136.
VOA Surr, DBFM	111.	81. - 137.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87767
Sample ID: MW-13
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:34
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867
Ethylbenzene	30.5	ug/L	1.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867
Xylenes (Total)	1.8	ug/L	1.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867
Naphthalene	30.1	ug/L	5.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	117.	60. - 158.
VOA Surr Toluene-d8	98.	82. - 127.
VOA Surr, 4-BFB	96.	72. - 136.
VOA Surr, DBFM	105.	81. - 137.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

2960 Foster Creighton Drive / Nashville,TN 37204 / 615-726-0177 / Fax: 615-726-0954 / 800-765-0980

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87768
Sample ID: MW-14
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:05
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	109.	60. - 158.
VOA Surr Toluene-d8	93.	82. - 127.
VOA Surr, 4-BFB	100.	72. - 136.
VOA Surr, DBFM	101.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87769
Sample ID: PW-1
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 11:33
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	124.	60. - 158.
VOA Surr Toluene-d8	95.	82. - 127.
VOA Surr, 4-BFB	100.	72. - 136.
VOA Surr, DBFM	107.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87770
Sample ID: MARSH-N
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:56
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	11:35	J.Haley	8260B	9383
Toluene	ND	ug/L	1.0	1.0	5/31/02	11:35	J.Haley	8260B	9383
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	11:35	J.Haley	8260B	9383
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	11:35	J.Haley	8260B	9383
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	11:35	J.Haley	8260B	9383
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	11:35	J.Haley	8260B	9383

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	111.	60. - 158.
VOA Surr Toluene-d8	102.	82. - 127.
VOA Surr, 4-BFB	104.	72. - 136.
VOA Surr, DBFM	98.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87771
Sample ID: MARSH-W
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:59
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	12:06	J.Haley	8260B	9383
Toluene	ND	ug/L	1.0	1.0	5/31/02	12:06	J.Haley	8260B	9383
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	12:06	J.Haley	8260B	9383
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	12:06	J.Haley	8260B	9383
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	12:06	J.Haley	8260B	9383
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	12:06	J.Haley	8260B	9383

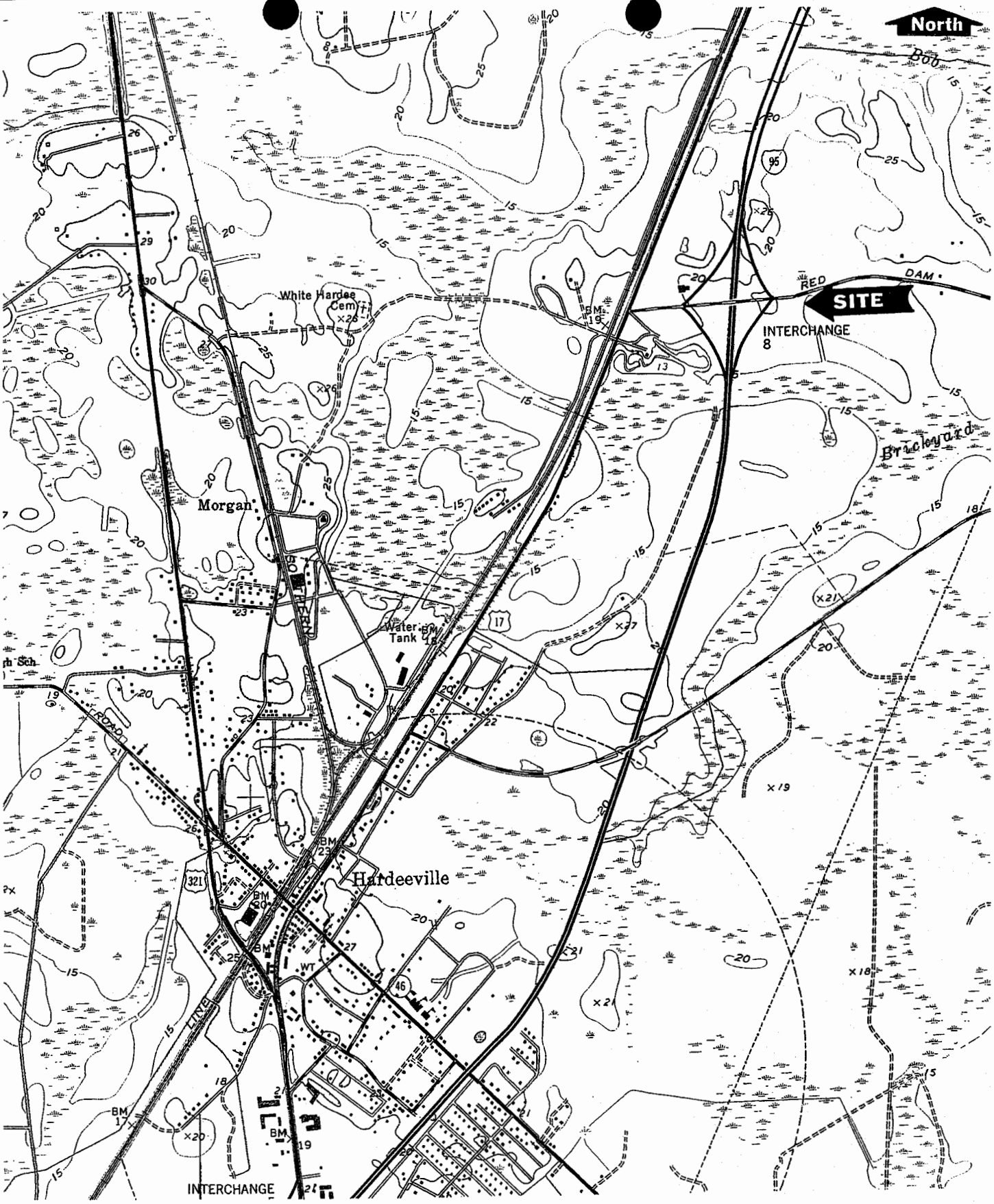
Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	130.	60. - 158.
VOA Surr Toluene-d8	101.	82. - 127.
VOA Surr, 4-BFB	108.	72. - 136.
VOA Surr, DBFM	105.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

Attachment C

(Technical Summary – Joker Joes Truck Stop, UST Permit #10658)



Taken From USGS 7.5 minute series topographic quadrangle Hardeeville quadrant 1962 Photorevised 1979

SCALE: As Shown	S&ME ENVIRONMENTAL SERVICES	Site Vicinity Map Joker Joe's I-95 @ US 278 Hardeeville, South Carolina UST #10658	FIGURE NO: 1
CHECKED BY: PG			
DRAWN BY: JM			
DATE: February 9, 2001		JOB NO: 1144-00-331	

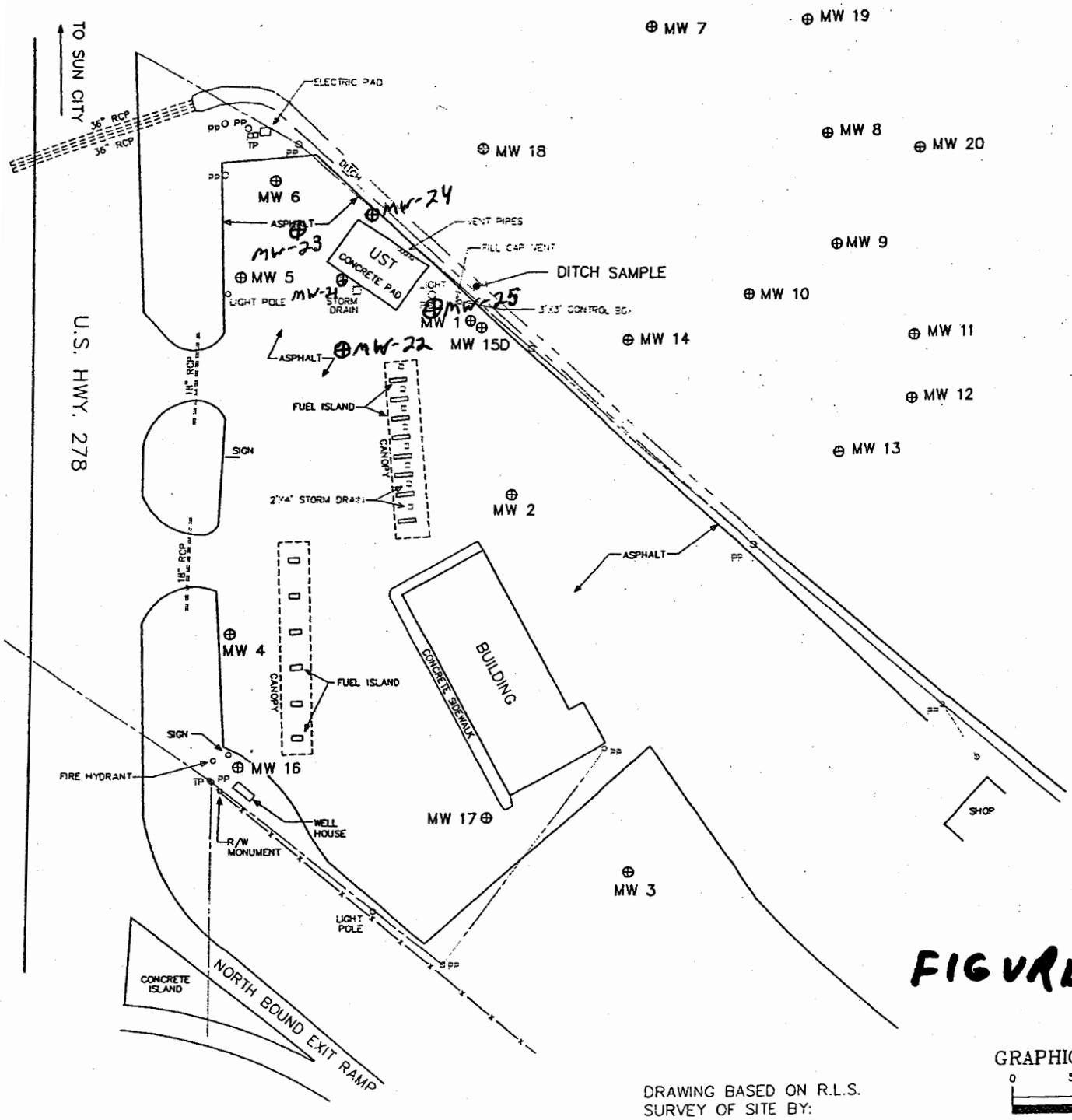
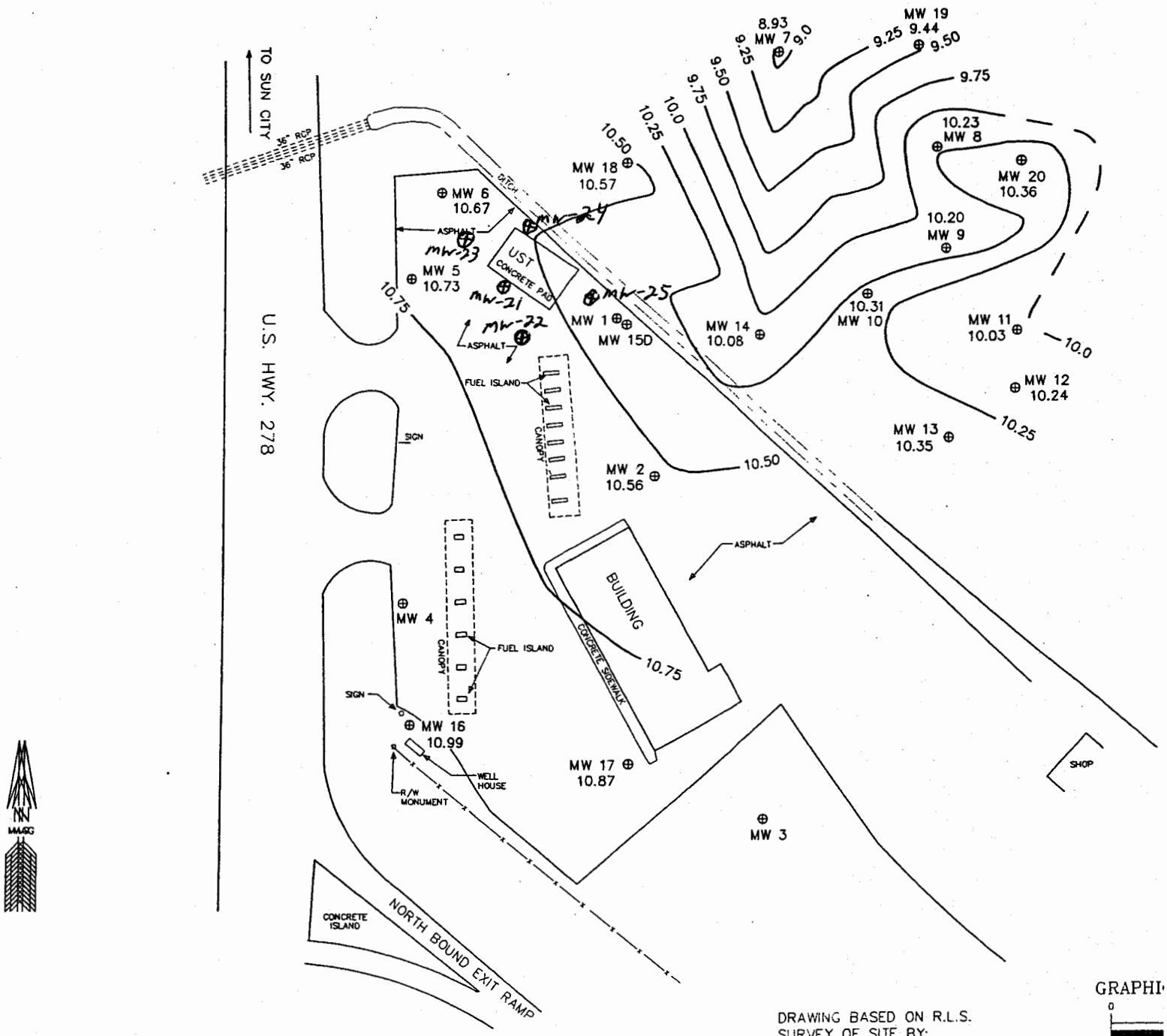


FIGURE 2

GRAPHIC SCALE
0 50 100
1 inch = 100 ft.

DRAWING BASED ON R.L.S.
SURVEY OF SITE BY:
JAY S. JOSHI, PLS
DATED NOVEMBER 11,1998

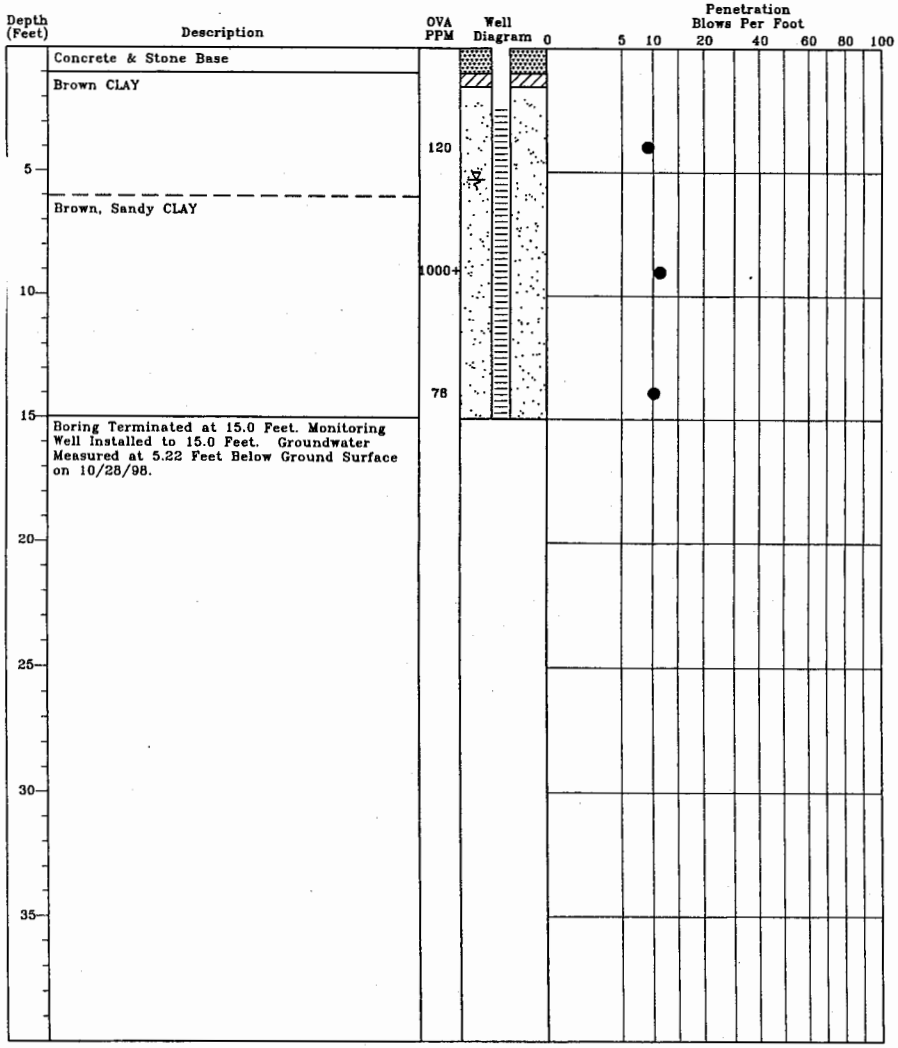


D
RING WELL LOCATION

DRAWING BASED ON R.L.S.
SURVEY OF SITE BY:
JAY S. JOSHI, PLS
DATED NOVEMBER 11,1998

SCDHEC
SB-20713-10/8/02-EMW
page: 65

FIGURE 3



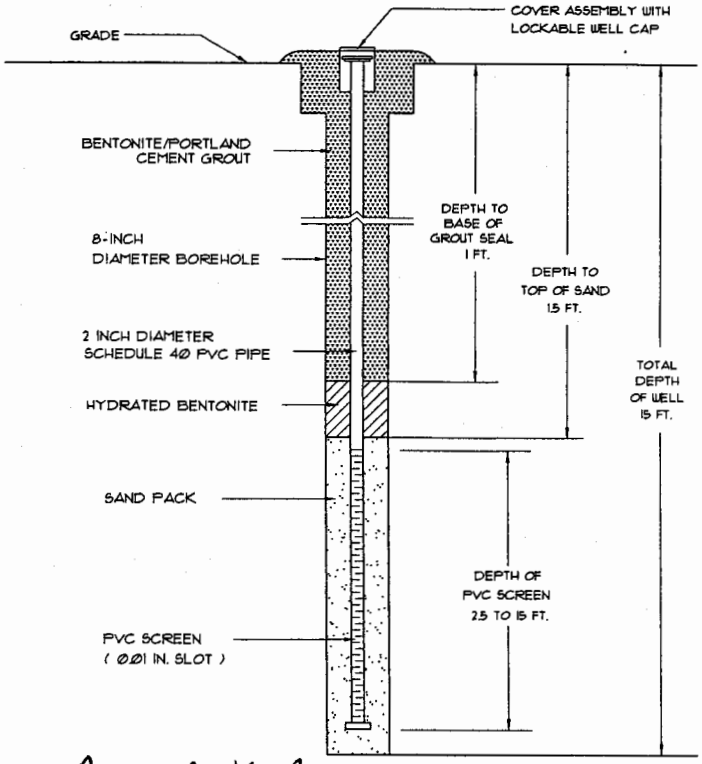
TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-1
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

MONITORING WELL INSTALLATION RECORD

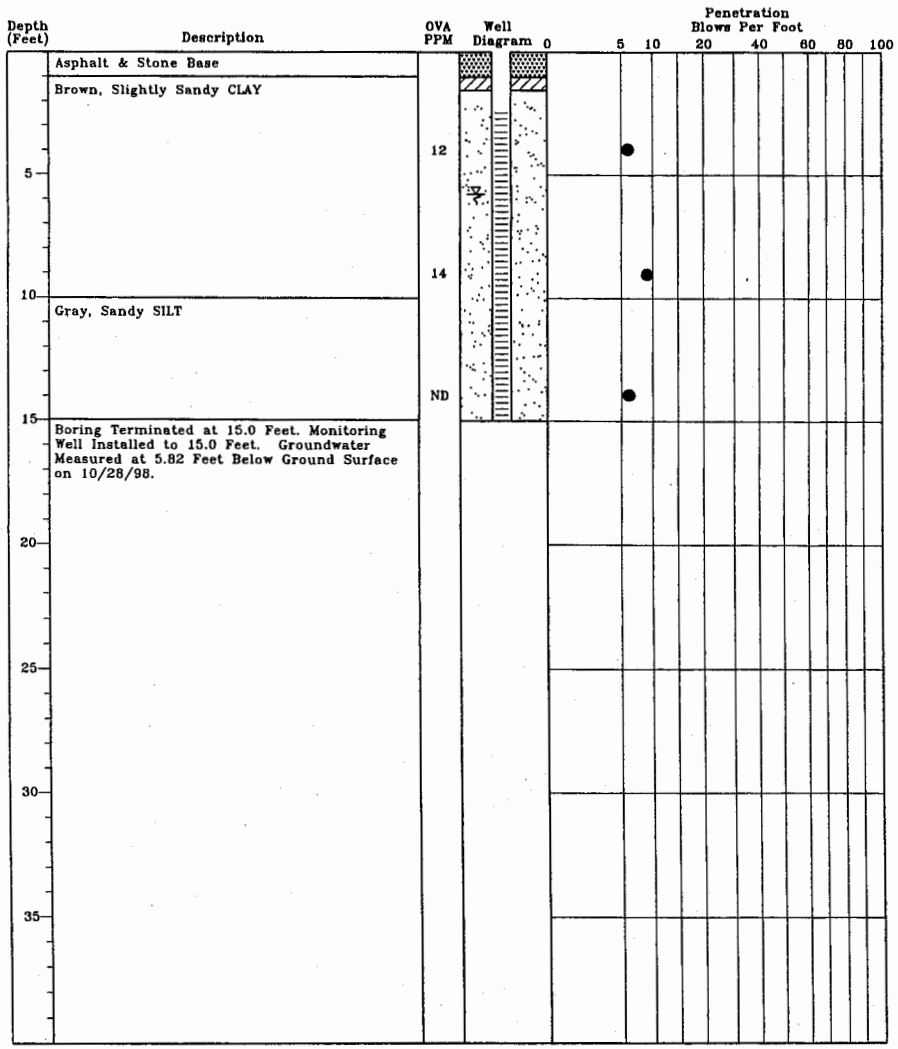
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



DESTROYED

Well Number:	MW-1
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration, Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642



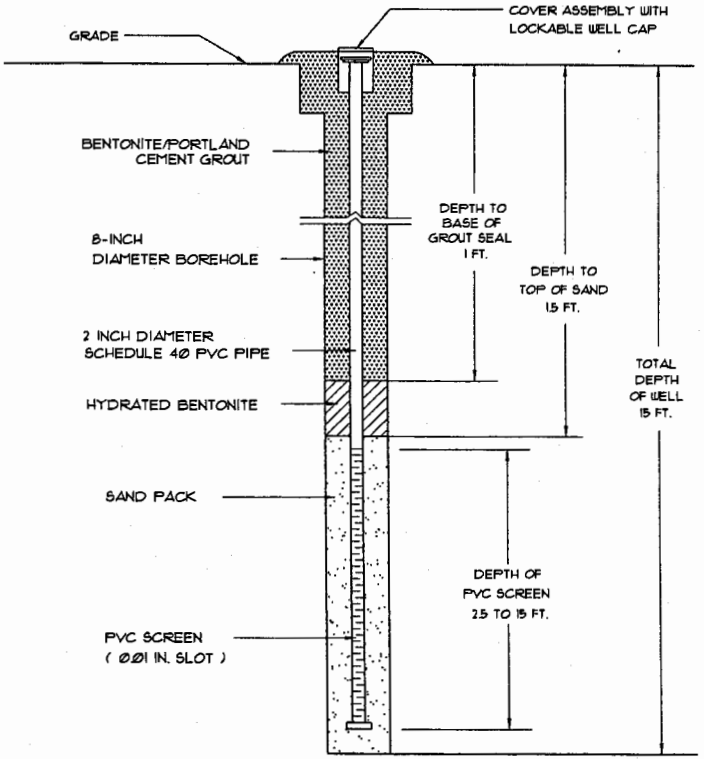
TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-2
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

MONITORING WELL INSTALLATION RECORD

Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

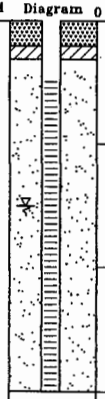


Well Number:	MW-2
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration, Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

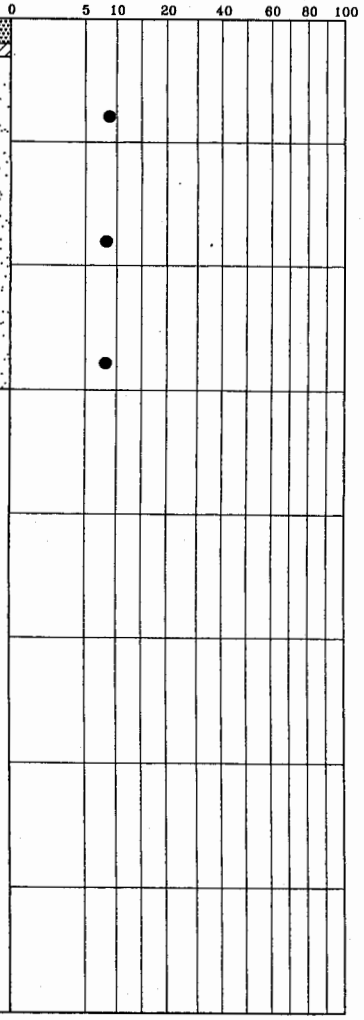
Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Depth (Feet)	Description	OVA PPM
	Asphalt & Stone Base	
	Gray, Clayey Medium to Coarse SAND	3.6
5		
	Mottled, Silghtly Sandy CLAY	ND
10		
		7
15	Boring Terminated at 15.0 Feet. Monitoring Well Installed to 15.0 Feet. Groundwater Measured at 7.52 Feet Below Ground Surface on 10/28/98.	
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot



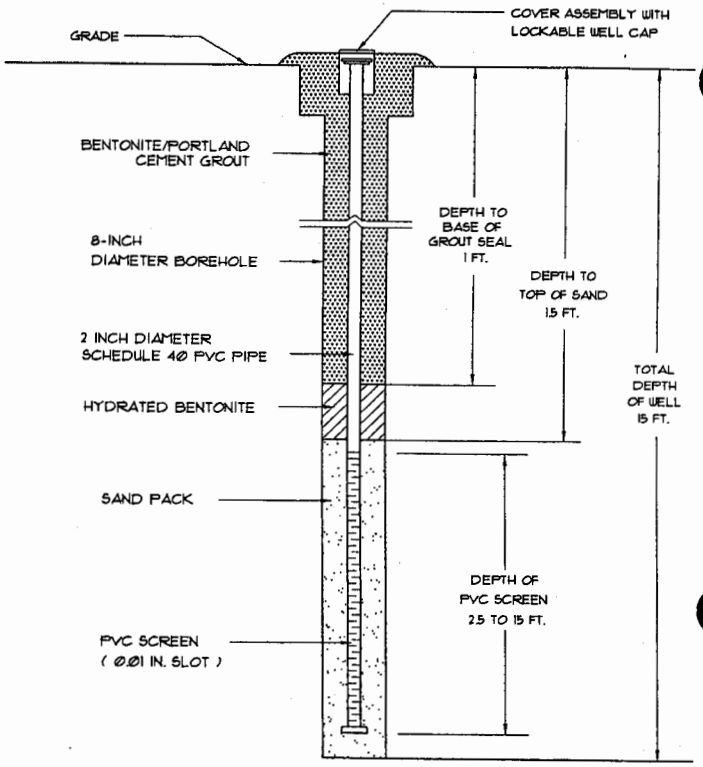
TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-3
Date Drilled:	10/21/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

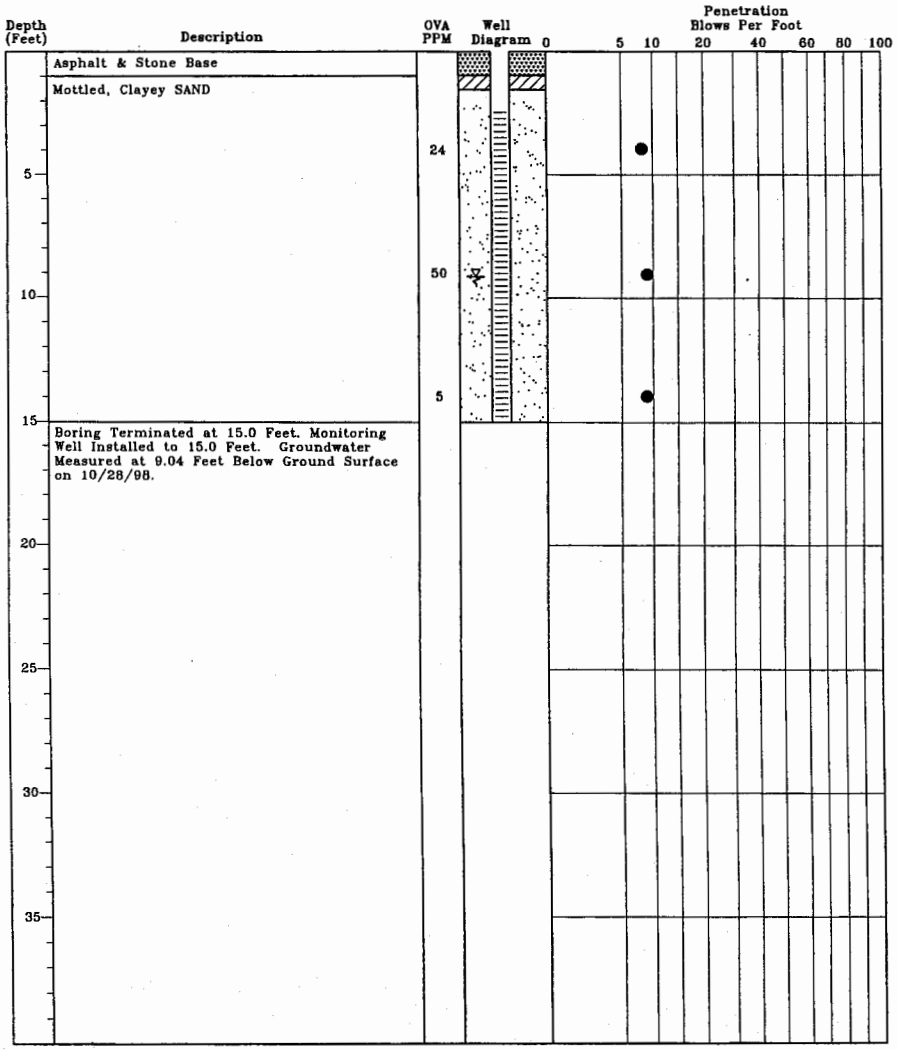
MONITORING WELL INSTALLATION RECORD

Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



Well Number:	MW-3
Date Drilled:	10/21/98
Drilled By:	Geologic Exploration, Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642



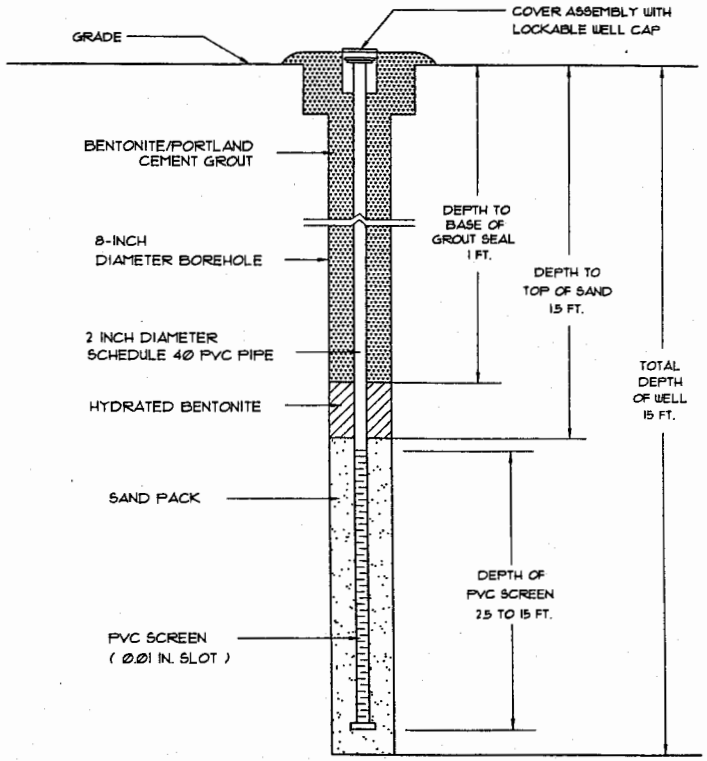
TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-4
Date Drilled:	10/21/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

MONITORING WELL INSTALLATION RECORD

Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

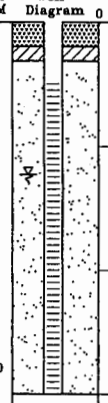


Well Number:	MW-4
Date Drilled:	10/21/98
Drilled By:	Geologic Exploration, Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

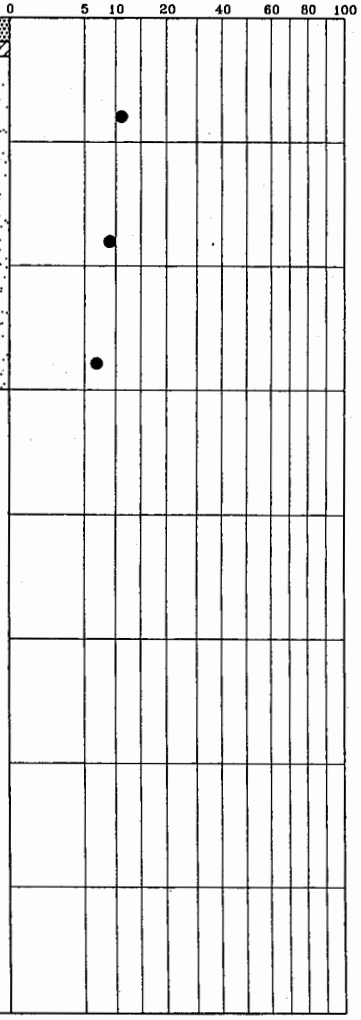
Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Depth (Feet)	Description	OVA PPM
	Asphalt & Stone Base	
	Red, Clayey SAND	32
5		
		88
10		
	Orange, Silty Clayey SAND	140
15	Boring Terminated at 15.0 Feet. Monitoring Well Installed to 15.0 Feet. Groundwater Measured at 6.16 Feet Below Ground Surface on 10/28/98.	
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot



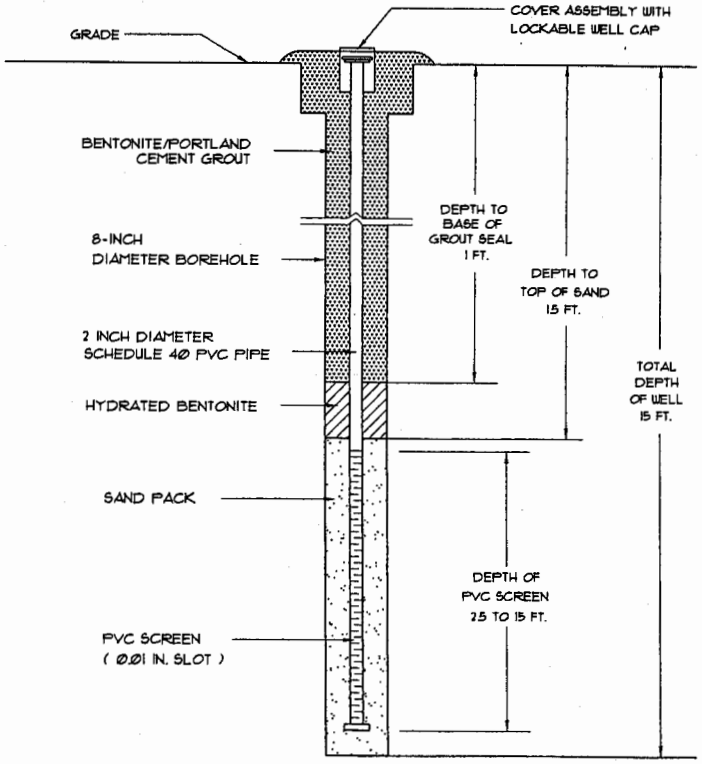
TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-5
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

MONITORING WELL INSTALLATION RECORD

Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



Well Number:	MW-5
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration, Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0 5 10 20 40 60 80 100)
	Asphalt & Stone Base			
	Mottled, Clayey SAND			
5		3.2		●
10		3.6		●
	Mottled, Clayey Fine SAND			
15		3.4		●
	Boring Terminated at 15.0 Feet. Monitoring Well Installed to 15.0 Feet. Groundwater Measured at 5.00 Feet Below Ground Surface on 10/28/98.			
20				
25				
30				
35				

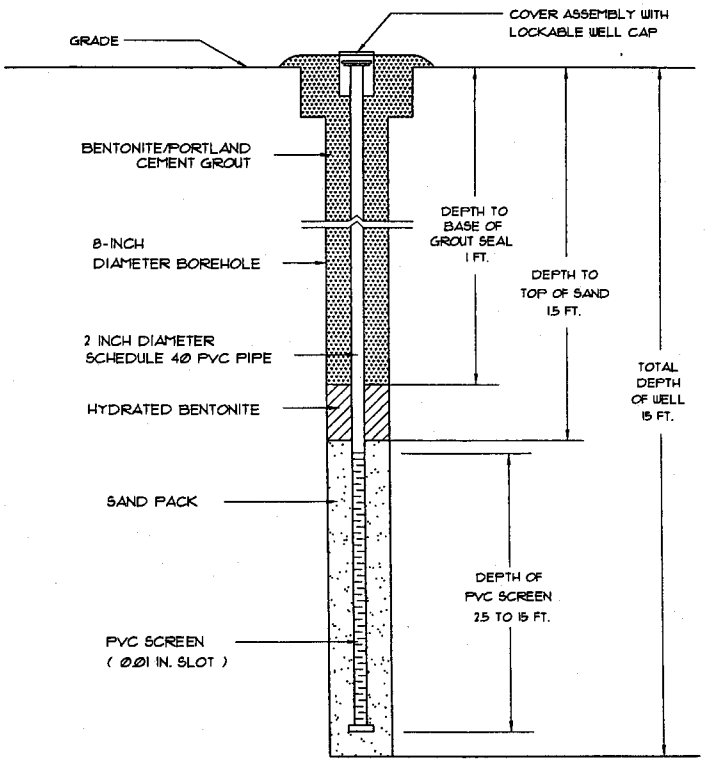
TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-6
Date Drilled:	10/21/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

MONITORING WELL INSTALLATION RECORD

Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



Well Number:	MW-6
Date Drilled:	10/21/98
Drilled By:	Geologic Exploration, Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McCLary

Prepared By:
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SCDHEC
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SCDHEC
SB-20713-10/8/02-EMW
page 77

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Grass and Topsoil			
	Gray, Slightly Silty CLAY	ND		No Blowcounts Recorded
5	Gray, Sandy CLAY	ND		No Blowcounts Recorded
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 5.06 Feet Below Ground Surface on 10/28/98.			
15				
20				
25				
30				
35				

TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-7
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Grass and Topsoil			
	Gray, Silty CLAY	4		No Blowcounts Recorded
5	Gray, Clayey Fine to Medium SAND	3		No Blowcounts Recorded
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 5.78 Feet Below Ground Surface on 10/28/98.			
15				
20				
25				
30				
35				

TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-8
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0 5 10 20 40 60 80 100)
	Grass and Topsoil			
	Gray, Slightly Sandy CLAY	800		No Blowcounts Recorded
5				
	Gray, Clayey Fine to Medium SAND	50		No Blowcounts Recorded
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 5.71 Feet Below Ground Surface on 10/28/98.			
15				
20				
25				
30				
35				

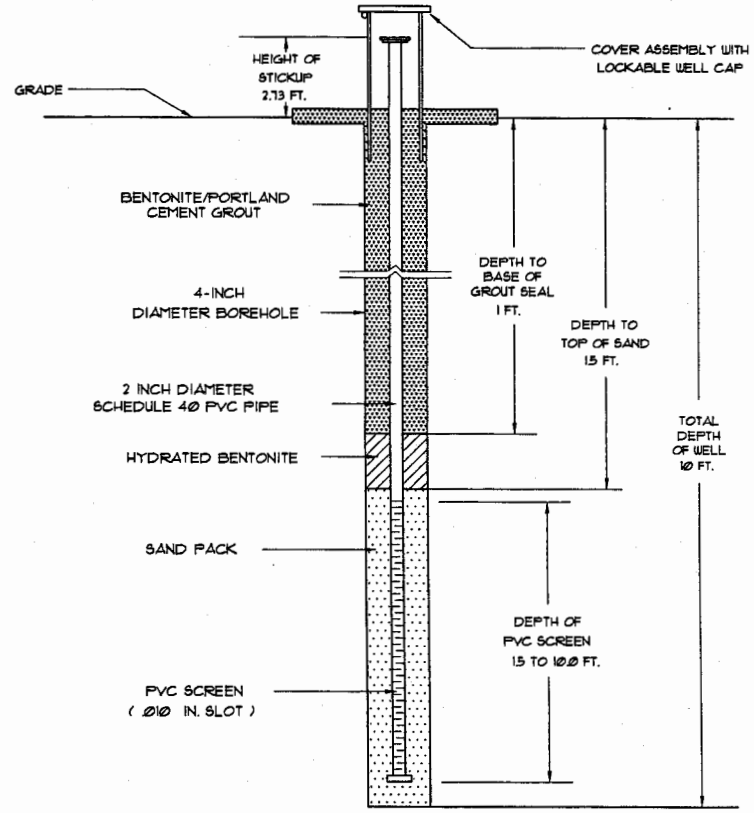
TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-9
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

MONITORING WELL INSTALLATION RECORD

Joker Joe's
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



Well Number:	MW-9
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Grass and Topsoil			
	Orange, Slightly Sandy CLAY	8		No Blowcounts Recorded
5				
	Gray, Clayey Medium to Coarse SAND	6.4		No Blowcounts Recorded
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 5.69 Feet Below Ground Surface on 10/28/98.			
15				
20				
25				
30				
35				

TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-10
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
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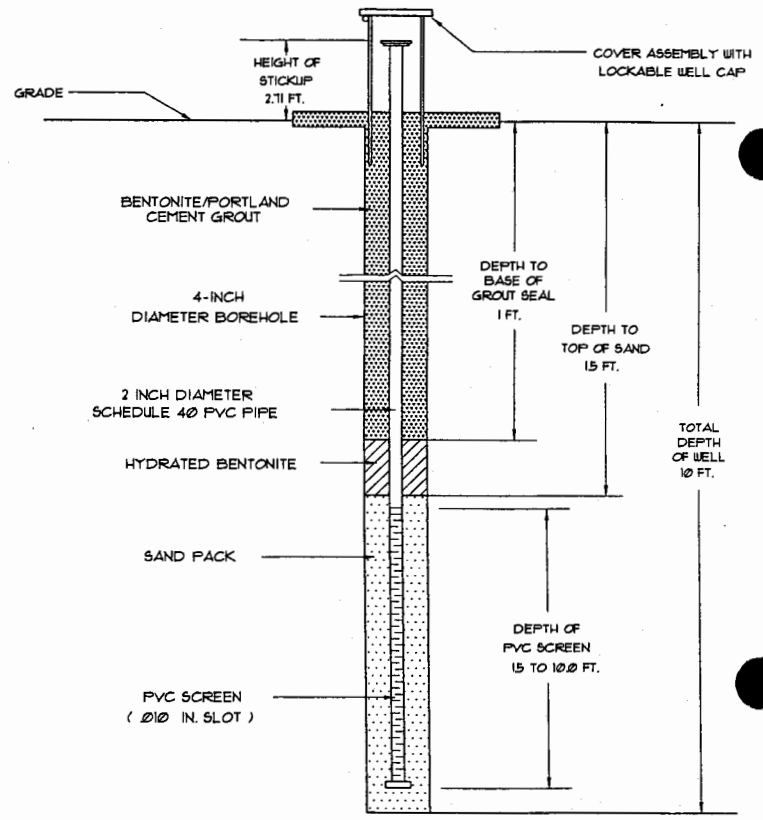
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

MONITORING WELL INSTALLATION RECORD

Joker Joe's
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



Well Number:	MW-10
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0 5 10 20 40 60 80 100)
	Grass and Topsoil			
	Gray, Clayey Medium SAND	4		No Blowcounts Recorded
5	Gray, Slightly Sandy CLAY	ND		No Blowcounts Recorded
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 6.02 Feet Below Ground Surface on 10/28/98.			
15				
20				
25				
30				
35				

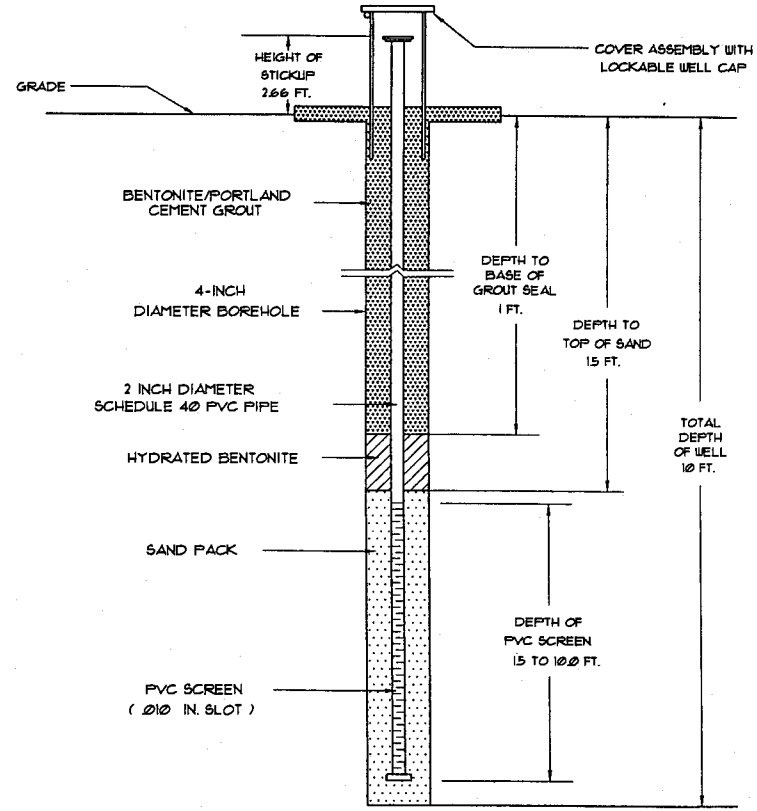
TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-11
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

MONITORING WELL INSTALLATION RECORD

Joker Joe's
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



Well Number:	MW-11
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

Prepared By:
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Columbia, South Carolina 29204
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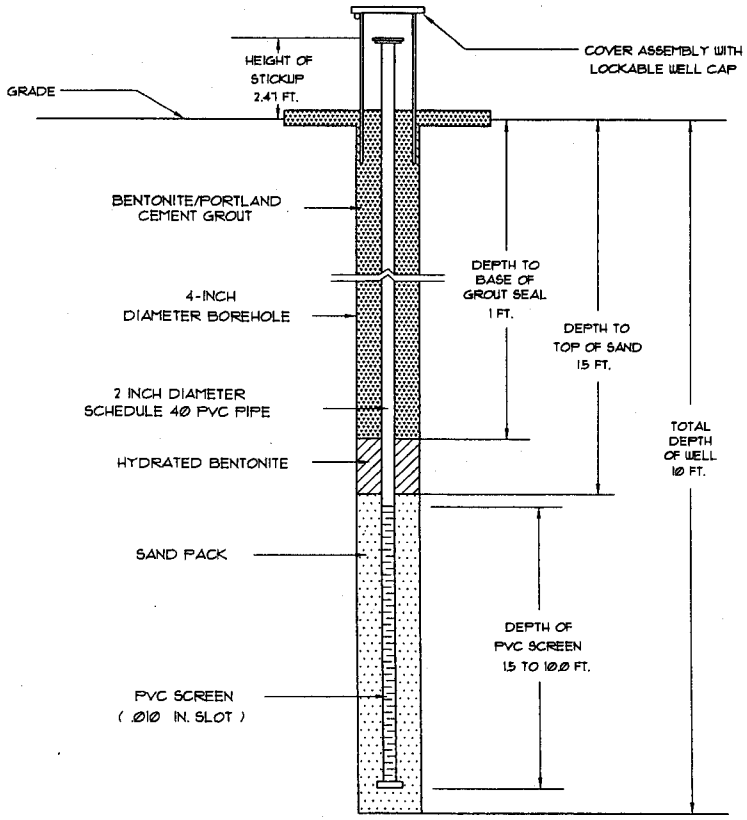
MONITORING WELL INSTALLATION RECORD

Joker Joe's
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



Well Number:	MW-12
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Grass and Topsoil			
	Mottled CLAY	30		No Blowcounts Recorded
5	Gray, Clayey SAND	3.6		No Blowcounts Recorded
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 5.73 Feet Below Ground Surface on 10/28/98.			
15				
20				
25				
30				
35				

TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-12
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
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3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
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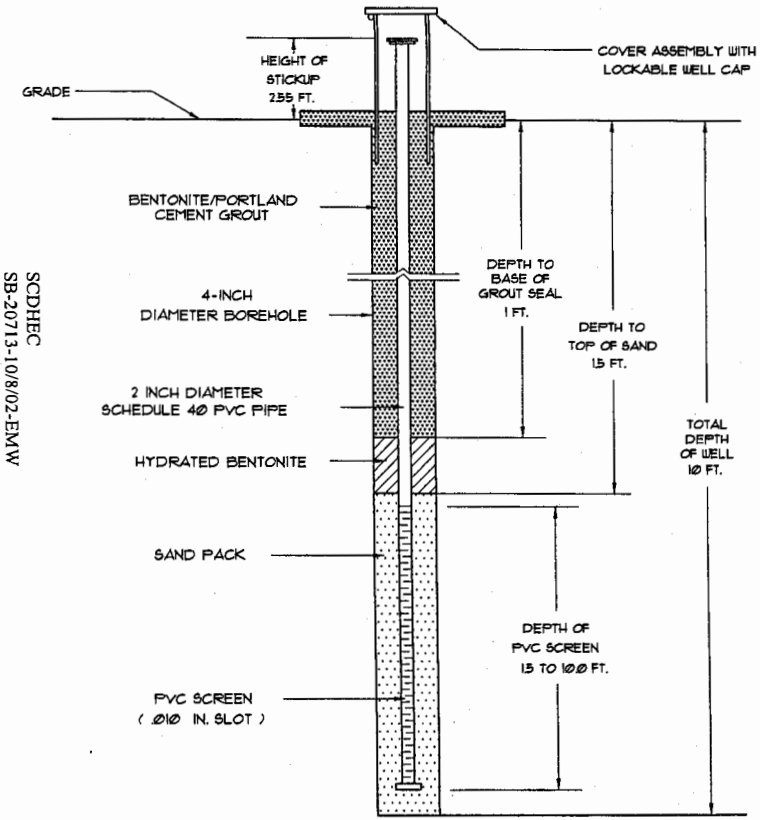
MONITORING WELL INSTALLATION RECORD

Joker Joe's
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



Well Number:	MW-13
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

Prepared By:
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Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

SCDHEC
SB-20713-10/8/02-EMW
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Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Grass and Topsoil			
	Gray, Clayey Medium SAND	14		No Blowcounts Recorded
5	Brown CLAY	66		No Blowcounts Recorded
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 5.59 Feet Below Ground Surface on 10/28/98.			
15				
20				
25				
30				
35				

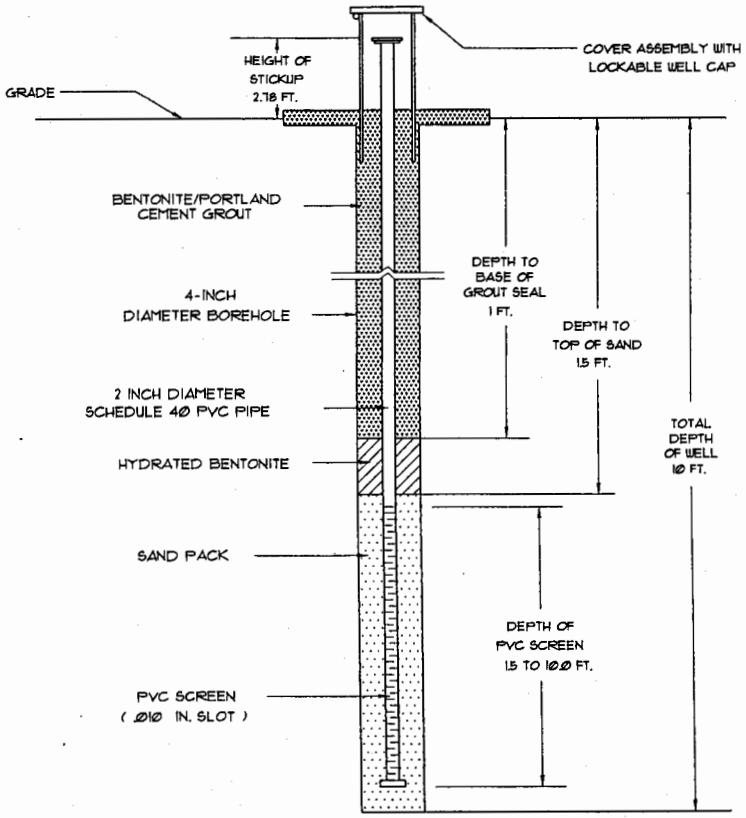
TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-13
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

MONITORING WELL INSTALLATION RECORD

Joker Joe's
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



Well Number:	MW-14
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
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Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

SCDHEC
SB-20713-10/8/02-EMW
page: 78

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Grass and Topsoil			
	Gray, Slightly Sandy CLAY	40		No Blowcounts Recorded
5				
	Gray, Silty SAND	ND		No Blowcounts Recorded
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 5.76 Feet Below Ground Surface on 10/28/98.			
15				
20				
25				
30				
35				

TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-14
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Depth (Feet)	Description	OVA PPM
	Gray, Sandy CLAY	4.2
45		
	Gray, Fine Sandy SILT	ND
50		
	Boring Terminated at 51.0 Feet. Monitoring Well Installed to 51.0 Feet. Groundwater Measured at 4.88 Feet on 10/28/98.	
55		
60		
65		
70		
75		

Well Diagram

Penetration Blows Per Foot: 0, 10, 20, 40, 60, 80, 100

TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

Boring Number:	MW-15D
Date Drilled:	10/22/98
Drilled By:	Geologic Exploration, Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Depth (Feet)	Description	OVA PPM
	Asphalt & Stone Base	
	Mottled CLAY	66
5		
	Mottled, Slightly Sandy CLAY	10
10		
	Gray, Clayey SAND	18
15		
	Gray, Medium to Coarse SAND	7.4
20		
	Gray, Clayey Medium to Coarse SAND	36
25		
	Gray, Sandy CLAY	
	NOTE: 8-inch boring terminated at 31 feet. 6-inch outer casing set at 31 feet and 4-inch boring initiated	88
30		
	Brown, Sandy CLAY	8.8
35		
	Gray, Sandy CLAY	ND

Well Diagram

Penetration Blows Per Foot: 0, 10, 20, 40, 60, 80, 100

TEST BORING RECORD
Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187

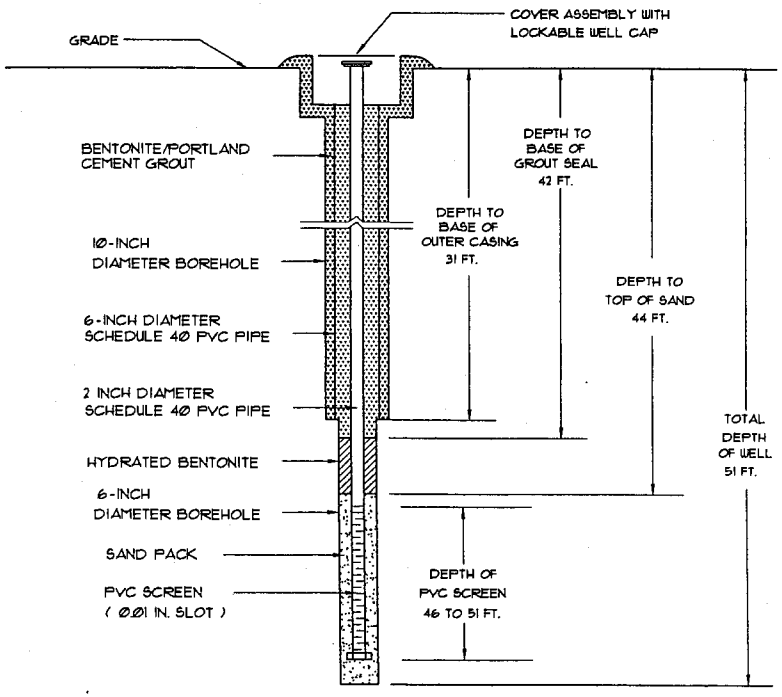
Boring Number:	MW-15D
Date Drilled:	10/22/98
Drilled By:	Geologic Exploration, Inc.
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

DESTROYED

MONITORING WELL INSTALLATION RECORD

Joker Joes
Hardeeville, South Carolina
SCDHEC Site ID 10658
MECI Project Number 98-187



Well Number:	MW-15D
Date Drilled:	10/20/98
Drilled By:	Geologic Exploration, Inc.
Driller: M. Gettys	S.C. I.D. #: 1086
Logged By:	C. McClary

Prepared By:
Midlands Environmental Consultants, Inc.
3610 Landmark Drive, Suite A-1
Columbia, South Carolina 29204
(803) 782-0062 fax: 782-4642

Water Well Record

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL: MW-16

County: JASPER

Latitude: Longitude:

Distance and Direction from Road Intersections:

Street Address & City of Well Location:

Sketch Map:

See Attached

2. CUTTING SAMPLES: ☑ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☑ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Red/Brown Clay	4.0	4.0
Red/Brown Clayey Sand	8.0	12.0

*Indicate Water Bearing Zones
(Use a 2nd sheet if needed)

3. REMARKS:
MW-16

4. OWNER OF WELL: SMITH TYSINGER, INC.
Address: P.O. BOX 671
HARDEEVILLE, SC 29927
Telephone No.: (843) 784-3181

Engineer: FORCE & ASSOCIATES, INC.
Address: 138 MIDDLEBROOK DRIVE
LEXINGTON, SC 29072
Telephone No.: (803) 359-7847

5. WELL DEPTH (completed) 12.0 ft.
Date Started: 2/25/00
Date Completed: 2/25/00

6. ☐ Mud Rotary ☐ Air Rotary ☐ Jetted ☐ Driven ☑ Bored ☐ Cable tool ☐ Dug ☐ Other

7. USE: ☐ Domestic ☐ Irrigation ☐ Test Well ☐ Public Supply-Permit No. ____ ☐ Air Conditioning ☑ Monitoring Well ☐ Industry ☐ Commercial ☐ ____

8. CASING: ☑ Threaded ☐ Welded
Diam.: 2.0"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 2 ft.
____ in. to ____ ft.
Height: Above/Below Surface 0 ft.
Weight ____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

9. SCREEN Type PVC Diam.: 2.0"
Slot/Gauge: #10 Length: 10.0'
Set Between: 12.0 ft. and 2.0 ft. NOTE: MULTIPLE SCREENS
____ ft. and ____ ft. USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

10. STATIC WATER LEVEL
7.70

11. PUMPING LEVEL Below Land Surface.
____ ft. after ____ hrs. Pumping ____ G.P.M.
Pumping Test: ☐ Yes (please enclosed) ☑ No
Yield: ____

12. WATER QUALITY
Chemical Analysis ☑ Yes ☐ No Bacterial Analysis ☐ Yes ☑ No
Pumping Tests: ☐ Yes (please enclosed) ☐ No
Yield: ____

13. ARTIFICIAL FILTER (gravel pack) ☑ Yes ☐ No
Installed from 12.0 ft. to 1.0 ft.
Effective size "FX-50" Uniformity Coefficient ____

14. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Sand Cement ☑ Concrete ☑ Other - Bentonite
Depth: From 1.0 ft. to ground surface

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ___ft. ___direction
____ Type well disinfected upon completion ☐ Yes ☐ No Type: ____ Amount: ____

16. PUMP: Date installed: ____ Not installed ☑
Mfr. Name: ____ Model No.: ____
H.P. ____ Volts ____ Length of drop pipe ___ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Registered Business Name: Force & Associates, Inc. Date: ____
Address: 138 Middlebrook Drive, Lexington, SC 29072
Signed: Kerry Drake Cert. No.: 9109
Kerry Drake Authorized Representative

Water Well Rec

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL: MW-17

County: JASPER

Latitude: **Longitude:**

Distance and Direction from Road Intersections:

Street Address & City of Well Location:

Sketch Map:

See Attached

2. CUTTING SAMPLES: ☑ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☑ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Black Clayey Sand	7.0	7.0
Black Sandy Clay	1.0	8.0
Dark Brown Slightly Sandy Clay	4.0	12.0

*Indicate Water Bearing Zones
(Use a 2nd sheet if needed)

3. REMARKS:
MW-17

4. OWNER OF WELL: SMITH TYSINGER, INC.
Address: P.O. BOX 671
HARDEEVILLE, SC 29927
Telephone No.: (843) 784-3181

Engineer: FORCE & ASSOCIATES, INC.
Address: 138 MIDDLEBROOK DRIVE
LEXINGTON, SC 29072
Telephone No.: (803) 359-7847

5. WELL DEPTH (completed) 12.0 ft.
Date Started: 2/25/00
Date Completed: 2/25/00

6. ☐ Mud Rotary ☐ Air Rotary ☐ Jetted ☐ Driven ☑ Bored ☐ Cable tool ☐ Dug ☐ Other

7. USE: ☐ Domestic ☐ Irrigation ☐ Test Well ☐ Public Supply-Permit No. ____ ☑ Monitoring Well ☐ Air Conditioning ☐ Industry ☐ Commercial ☐ ____

8. CASING: ☑ Threaded ☐ Welded
Diam.: 2.0"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 2 ft.
____ in. to ____ ft.
Height: Above/Below Surface 0 ft.
Weight ____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

9. SCREEN **Type** PVC **Diam.:** 2.0"
Slot/Gauge: #10 **Length:** 10.0'
Set Between: 12.0 ft. and 2.0 ft. **NOTE: MULTIPLE SCREENS**
____ ft. and ____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

10. STATIC WATER LEVEL
4.70

11. PUMPING LEVEL Below Land Surface.
____ ft. after ____ hrs. Pumping ____ G.P.M.
Pumping Test: ☐ Yes (please enclosed) ☑ No
Yield: ____

12. WATER QUALITY
Chemical Analysis ☑ Yes ☐ No **Bacterial Analysis** ☐ Yes ☑ No
Pumping Tests: ☐ Yes (please enclosed) ☐ No
Yield: ____

13. ARTIFICIAL FILTER (gravel pack) ☑ Yes ☐ No
Installed from 12.0 ft. to 1.0 ft.
Effective size "FX-50" Uniformity Coefficient ____

14. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Sand Cement ☑ Concrete ☑ Other - Bentonite
Depth: From 1.0 ft. to ground surface

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
____ Type well disinfected upon completion ☐ Yes ☐ No Type: ____ Amount: ____

16. PUMP: Date installed: ____ **Not installed** ☑
Mfr. Name: ____ Model No.: ____
H.P. ____ Volts ____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (deep) ☐ Jet (shallow) ☐ Reciprocating ☐ Turbine ☐ 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: Force & Associates, Inc. Date: ____
Address: 138 Middlebrook Drive, Lexington, SC 29072
Signed: Kerry Drake Cert. No.: 969
Kerry Drake Authorized Representative

Water Well Rec

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL: MW-18

County: JASPER

Latitude: **Longitude:**

Distance and Direction from Road Intersections:

Street Address & City of Well Location:

Sketch Map:

See Attached

2. CUTTING SAMPLES: ☑ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☑ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Clay	6.2	6.2

*Indicate Water Bearing Zones
(Use a 2nd sheet if needed)

3. REMARKS:

MW-18

4. OWNER OF WELL: SMITH TYSINGER, INC.
Address: P.O. BOX 671
HARDEEVILLE, SC 29927
Telephone No.: (843) 784-3181

Engineer: FORCE & ASSOCIATES, INC.
Address: 138 MIDDLEBROOK DRIVE
LEXINGTON, SC 29072
Telephone No.: (803) 359-7847

5. WELL DEPTH (completed) 6.2 ft. **Date Started:** 2/25/00 **Date Completed:** 2/25/00

6. ☐ Mud Rotary ☐ Air Rotary ☐ Jetted ☐ Driven ☑ Bored ☐ Cable tool ☐ Dug ☐ Other

7. USE: ☐ Domestic ☐ Irrigation ☐ Test Well ☐ Public Supply-Permit No. ____ ☐ Air Conditioning ☑ Monitoring Well ☐ Industry ☐ Commercial ☐ ____

8. CASING: ☑ Threaded ☐ Welded
Diam.: 2.0"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 1.2 ft.
____ in. to ____ ft.
Height: Above/Below Surface 2.8 ft.
Weight ____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

9. SCREEN Type PVC **Diam.:** 2.0"
Slot/Gauge: #10 **Length:** 5.0'
Set Between: 6.2 ft. and 1.2 ft. **NOTE: MULTIPLE SCREENS**
____ ft. and ____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

10. STATIC WATER LEVEL
3.73

11. PUMPING LEVEL Below Land Surface.
____ ft. after ____ hrs. Pumping ____ G.P.M.
Pumping Test: ☐ Yes (please enclosed) ☑ No
Yield: ____

12. WATER QUALITY
Chemical Analysis ☑ Yes ☐ No **Bacterial Analysis** ☐ Yes ☑ No
Pumping Tests: ☐ Yes (please enclosed) ☐ No
Yield: ____

13. ARTIFICIAL FILTER (gravel pack) ☑ Yes ☐ No
Installed from 6.2 ft. to 1.0 ft.
Effective size "FX-50" Uniformity Coefficient ____

14. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Sand Cement ☑ Concrete ☑ Other - Bentonite
Depth: From 1.0 ft. to ground surface

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ___ft. ____direction
____ Type well disinfected upon completion ☐ Yes ☐ No Type: ____ Amount: ____

16. PUMP: Date installed: ____ **Not installed** ☑
Mfr. Name: ____ Model No.: ____
H.P. ____ Volts ____ Length of drop pipe ___ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (deep) ☐ Jet (shallow) ☐ Reciprocating ☐ Turbine ☐ 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: Force & Associates, Inc. Date: ____
Address: 138 Middlebrook Drive, Lexington, SC 29072
Signed: Kerry Drake Cert. No.: 969
Kerry Drake Authorized Representative

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Water Well Rec

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL: MW-19

County: JASPER

Latitude: **Longitude:**

Distance and Direction from Road Intersections:

Street Address & City of Well Location:

Sketch Map:

See Attached

2. CUTTING SAMPLES: ☑ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☑ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Clay	6.0	6.0
Brown Sandy Clay	2.5	8.5
Gray Clayey Sand	2.6	11.1

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

MW-19

4. OWNER OF WELL: SMITH TYSINGER, INC.
Address: P.O. BOX 671
HARDEEVILLE, SC 29927
Telephone No.: (843) 784-3181

Engineer: FORCE & ASSOCIATES, INC.
Address: 138 MIDDLEBROOK DRIVE
LEXINGTON, SC 29072
Telephone No.: (803) 359-7847

5. WELL DEPTH (completed) 11.1 ft.
Date Started: 2/25/00
Date Completed: 2/25/00

6. ☐ Mud Rotary ☐ Air Rotary ☐ Jetted ☐ Driven ☑ Bored ☐ Cable tool ☐ Dug ☐ Other

7. USE: ☐ Domestic ☐ Irrigation ☐ Test Well ☐ Public Supply-Permit No. ____ ☑ Monitoring Well ☐ Industry ☐ Commercial ☐ ____

8. CASING: ☑ Threaded ☐ Welded
Diam.: 2.0"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 1.1 ft.
____ in. to ____ ft.

Height: Above/Below Surface 3.9 ft.
Weight ____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

9. SCREEN **Type** PVC **Diam.:** 2.0"
Slot/Gauge: #10 **Length:** 10.0'
Set Between: 11.1 ft. and 1.1 ft. **NOTE: MULTIPLE SCREENS**
____ ft. and ____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

10. STATIC WATER LEVEL
4.55

11. PUMPING LEVEL Below Land Surface.
____ ft. after ____ hrs. Pumping ____ G.P.M.
Pumping Test: ☐ Yes (please enclosed) ☑ No
Yield: ____

12. WATER QUALITY
Chemical Analysis ☑ Yes ☐ No **Bacterial Analysis** ☐ Yes ☑ No
Pumping Tests: ☐ Yes (please enclosed) ☐ No
Yield: ____

13. ARTIFICIAL FILTER (gravel pack) ☑ Yes ☐ No
Installed from 11.1 ft. to 1.0 ft.
Effective size "FX-50" Uniformity Coefficient ____

14. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Sand Cement ☑ Concrete ☑ Other - Bentonite
Depth: From 1.0 ft. to ground surface

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ft. ____direction
____ Type well disinfected upon completion ☐ Yes ☐ No Type: ____ Amount: ____

16. PUMP: Date installed: ____ **Not installed** ☑
Mfr. Name: ____ Model No.: ____
H.P. ____ Volts ____ Length of drop pipe ____ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Registered Business Name: Force & Associates, Inc. Date: ____
Address: 138 Middlebrook Drive, Lexington, SC 29072
Signed: Kerry Drake Cert. No.: 969
Kerry Drake Authorized Representative

Water Well Record

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL: MW-20

County: JASPER

Latitude: **Longitude:**

Distance and Direction from Road Intersections:

Street Address & City of Well Location:

Sketch Map:

See Attached

2. CUTTING SAMPLES: ☑ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☑ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Clay	6.0	6.0
Brown Sandy Clay	2.5	8.5
Gray Clayey Sand	2.6	11.1

*Indicate Water Bearing Zones
(Use a 2nd sheet if needed)

3. REMARKS:

MW-20

4. OWNER OF WELL: SMITH TYSINGER, INC.
Address: P.O. BOX 671
HARDEEVILLE, SC 29927
Telephone No.: (843) 784-3181

Engineer: FORCE & ASSOCIATES, INC.
Address: 138 MIDDLEBROOK DRIVE
LEXINGTON, SC 29072
Telephone No.: (803) 359-7847

5. WELL DEPTH (completed) 11.1 ft. **Date Started:** 2/25/00 **Date Completed:** 2/25/00

6. ☐ Mud Rotary ☐ Air Rotary ☐ Jetted ☐ Driven ☑ Bored ☐ Cable tool ☐ Dug ☐ Other

7. USE: ☐ Domestic ☐ Irrigation ☐ Test Well ☐ Public Supply-Permit No. ____ ☑ Monitoring Well ☐ Air Conditioning ☐ Industry ☐ Commercial ☐ ____

8. CASING: ☑ Threaded ☐ Welded
Diam.: 2.0"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 1.1 ft.
____ in. to ____ ft.
Height: Above/Below Surface 2.9 ft.
Weight ____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

9. SCREEN Type PVC **Diam.:** 2.0"
Slot/Gauge: #10 **Length:** 10.0'
Set Between: 11.1 ft. and 1.1 ft. **NOTE: MULTIPLE SCREENS**
____ ft. and ____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☑ No

10. STATIC WATER LEVEL
3.71

11. PUMPING LEVEL Below Land Surface.
____ ft. after ____ hrs. Pumping ____ G.P.M.
Pumping Test: ☐ Yes (please enclosed) ☑ No
Yield: ____

12. WATER QUALITY
Chemical Analysis ☑ Yes ☐ No **Bacterial Analysis** ☐ Yes ☑ No
Pumping Tests: ☐ Yes (please enclosed) ☐ No
Yield: ____

13. ARTIFICIAL FILTER (gravel pack) ☑ Yes ☐ No
Installed from 11.1 ft. to 1.0 ft.
Effective size "FX-50" Uniformity Coefficient ____

14. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Sand Cement ☑ Concrete ☑ Other - Bentonite
Depth: From 1.0 ft. to ground surface

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ft. ____direction
____ Type well disinfected upon completion ☐ Yes ☐ No Type: ____ Amount: ____

16. PUMP: Date installed: ____ **Not installed** ☑
Mfr. Name: ____ Model No.: ____
H.P. ____ Volts ____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Registered Business Name: Force & Associates, Inc. Date: ____
Address: 138 Middlebrook Drive, Lexington, SC 29072
Signed: Kerry Drake Cert. No.: 969
Kerry Drake Authorized Representative

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PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Bureau of Water
2600 Bull Street Columbia SC 29201-1708 (803)

1. LOCATION OF WELL:

County: **Jasper** System Name: **MW-1** 21

Latitude: Longitude:

Distance and Direction from Road Intersection:
See attached site location map

Street Address & City of Well Location: **Hardeeville, SC**

Sketch Map:
See attached site map

2. CUTTING SAMPLES: ☒ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grey Sandy CLAY/Clayey SAND	**12**	**12**

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. Remarks:

4. OWNER OF WELL: **Smith & Tysinger, Inc.**
Address: **PO Box 671**
Hardeeville, SC
Telephone No.: **843-686-5005**

Engineer: **S&ME, Inc.**
Address:
Savannah, GA
Telephone No.: **912-353-8885**

5. WELL DEPTH (completed) Date Started: **1-22-01**

12 ft. Date Completed: **1-22-01**

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
2 in. to **2** 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: **2** ft. and **12** ft. NOTE: MULTIPLE SCREENS
ft. and ft. USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

10. STATIC WATER LEVEL
____ 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 **1.5** ft. to **12.0** ft.
Effective size **#2** Uniformity Coefficient ____

14. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other ____
Depth: From **0.0** ft. to **0.5** 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: **Cypress Bay Geological** Date: **2/1/01**

Address: **262 Geology Lane, Walterboro, South Carolina 29488**

Signed ____ Cert. No.: **835**
Authorized Representative

DHEC 1903 (10/96) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

COMPLETION REPORT OF WELL No. MW-2 2

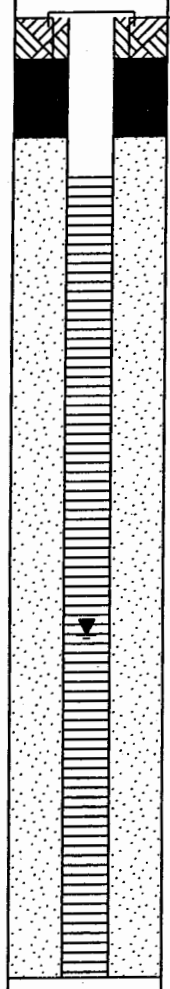
PROJECT: **Joker Joe's Truck Stop**
PROJECT NO: **1144-00-331**
PROJECT LOCATION: **Hardeeville, South Carolina**

WATER LEVEL: **7.76**

LATITUDE:
LONGITUDE:
TOP OF CASING ELEVATION:
DATUM:
LOGGED BY: **CK**

DRILLING CONTRACTOR: **Cypress Bay**
DRILLING METHOD: **4¼" H.S.A.**
DATE DRILLED: **11/11/01**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
				0.00	GS	
Asphalt		0		0.50	CG	
Silty fine sand, brown.				1.50	BS	
				2.00	FP	
Silty fine sand, tan.		5				
		10		12.00	TD	



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter: **8 Inches**
Type: **Water Tight Traffic Rated**
Interval: **0 - .5'**

RISER CASING
Diameter: **2.067"**
Type: **PVC**
Interval: **0 - 2'**

GROUT
Type: **Portland**
Interval: **0 - .5'**

SEAL
Type: **Bentonite**
Interval: **.5 - 1.5'**

FILTERPACK
Type: **Sand**
Interval: **1,5 - 12**

SCREEN
Diameter: **2.067"**
Type: **0.01 Slotted**
Interval: **2' - 12'**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
FP	FILTER PACK
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

MONITORING WELL 00-331.GPJ S&ME.GDT 1/4/02

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COMPLETION REPORT OF WELL No. MW-2

COMPLETION REPORT OF WELL No. MW-~~1~~ 23

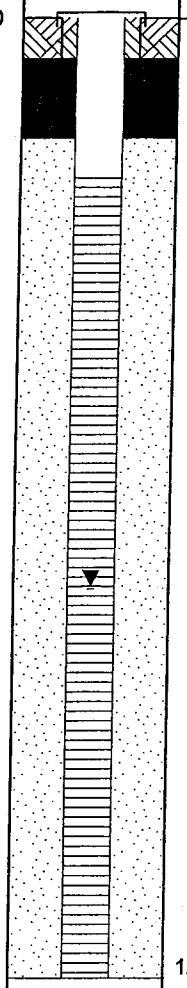
PROJECT: **Joker Joe's Truck Stop**
PROJECT NO: **1144-00-331**
PROJECT LOCATION: **Hardeeville, South Carolina**

WATER LEVEL: **7.14**

LATITUDE:
LONGITUDE:
TOP OF CASING ELEVATION:
DATUM:
LOGGED BY: **CK**

DRILLING CONTRACTOR: **Cypress Bay**
DRILLING METHOD: **4¼" H.S.A.**
DATE DRILLED: **11/11/01**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
				0.00	GS	
Asphalt		0		0.50	CG	
Silty fine sand, brown.				1.50	BS	
				2.00	FP	
Silty fine sand, tan and black.		5				
Silty fine sand, tan.		10		12.00	TD	



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter: **8 Inches**
Type: **Water Tight Traffic Rated**
Interval: **0 - .5'**

RISER CASING
Diameter: **2.067"**
Type: **PVC**
Interval: **0 - 2'**

GROUT
Type: **Portland**
Interval: **0 - .5'**

SEAL
Type: **Bentonite**
Interval: **.5 - 1.5'**

FILTERPACK
Type: **Sand**
Interval: **1,5 - 12**

SCREEN
Diameter: **2.067"**
Type: **0.01 Slotted**
Interval: **2' - 12'**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
FP	FILTER PACK
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

MONITORING WELL 00-331.GPJ S&ME.GDT 1/4/02

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COMPLETION REPORT OF WELL No. MW-3

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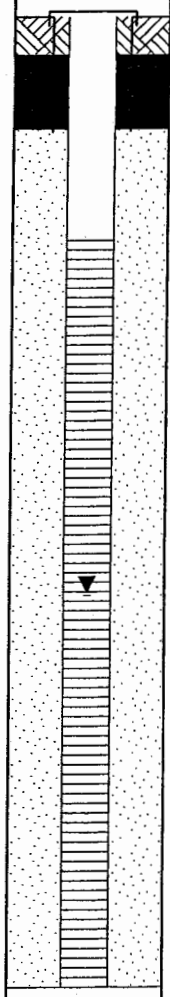
PROJECT: **Joker Joe's Truck Stop**
PROJECT NO: **1144-00-331**
PROJECT LOCATION: **Hardeeville, South Carolina**

WATER LEVEL: **7.75**

LATITUDE:
LONGITUDE:
TOP OF CASING ELEVATION:
DATUM:
LOGGED BY: **CK**

DRILLING CONTRACTOR: **Cypress Bay**
DRILLING METHOD: **Hand Auger**
DATE DRILLED: **11/11/01**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
				0.00	GS	
Silty fine sand, brown.		0		0.50	CG	
				1.50	BS	
				3.00	FP	
Silty fine sand, tan.		5				
		10		13.00	TD	



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter: **8 Inches**
Type: **Water Tight Traffic Rated**
Interval: **0 - .5'**

RISER CASING
Diameter: **2.067"**
Type: **PVC**
Interval: **0 - 3'**

GROUT
Type: **Portland**
Interval: **0 - .5'**

SEAL
Type: **Bentonite**
Interval: **.5 - 1.5'**

FILTERPACK
Type: **Sand**
Interval: **1,5 - 13**

SCREEN
Diameter: **2.067"**
Type: **0.01 Slotted**
Interval: **2' - 12'**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
FP	FILTER PACK
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

MONITORING WELL 00-331.GPJ S&ME.GDT 1/4/02

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COMPLETION REPORT OF WELL No. MW-4

COMPLETION REPORT OF WELL No. MW-~~4~~ 25

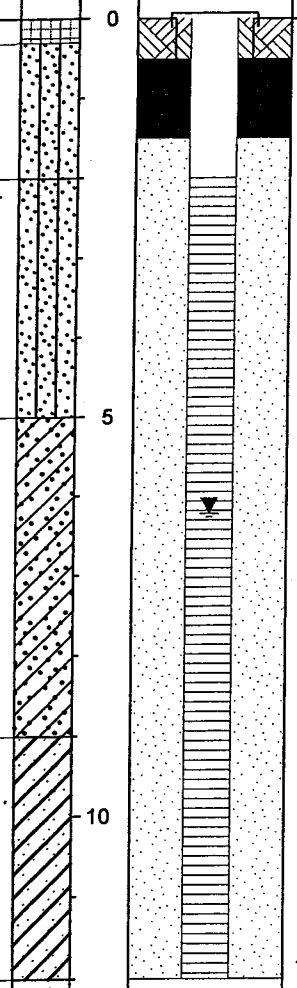
PROJECT: **Joker Joe's Truck Stop**
PROJECT NO: **1144-00-331**
PROJECT LOCATION: **Hardeeville, South Carolina**

WATER LEVEL: **6.23**

LATITUDE:
LONGITUDE:
TOP OF CASING ELEVATION:
DATUM:
LOGGED BY: **CK**

DRILLING CONTRACTOR: **Cypress Bay**
DRILLING METHOD: **4¼" H.S.A.**
DATE DRILLED: **11/11/01**

STRATA DESCRIPTION	SYMBOL	DEPTH (ft.)	WELL DETAILS	DEPTH (ft.)	LEGEND	ELEVATION (ft.)
				0.00	GS	
Asphalt		0		0.50	CG	
Silty fine sand, dark brown.				1.50	BS	
				2.00	FP	
Silty fine sand, brown.						
Clayey sand, brown.		5				
Sandy clay, gray.		10		12.00	TD	



WELL CONSTRUCTION DETAILS

PROTECTIVE CASING
Diameter: **8 Inches**
Type: **Water Tight Traffic Rated**
Interval: **0 - .5'**

RISER CASING
Diameter: **2.067"**
Type: **PVC**
Interval: **0 - 2'**

GROUT
Type: **Portland**
Interval: **0 - .5'**

SEAL
Type: **Bentonite**
Interval: **.5 - 1.5'**

FILTERPACK
Type: **Sand**
Interval: **1,5 - 12**

SCREEN
Diameter: **2.067"**
Type: **0.01 Slotted**
Interval: **2' - 12'**

LEGEND

- FILTER PACK
- BENTONITE
- CEMENT GROUT
- CUTTINGS / BACKFILL
- STATIC WATER LEVEL

TOC	TOP OF CASING
GS	GROUND SURFACE
BS	BENTONITE SEAL
FP	FILTER PACK
TSC	TOP OF SCREEN
BSC	BOTTOM OF SCREEN
TD	TOTAL DEPTH
CG	CEMENT GROUT

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COMPLETION REPORT OF WELL No. MW-5

MONITORING WELL 00-331.GPJ S&ME.GDT 1/4/02

FREE PRODUCT RECOVERY TEST SUMMARY TABLE

DATE: 12-Dec-01
SITE: Joker Joe's Truck Stop

DTP: 7.69
DTW: 10.79
Initial thickness of free product (ft): 3.10
Initial volume of free product (gal): 0.527

Time at start of recovery test: 10:35am
Time at end of recovery test: 11:08am
Duration of test (min): 33

Bailer #	FP Thickness (inches)	Volume (cu. inches)	Volume (gal)
1	29	51.25	0.222
2	22.5	39.76	0.172
3	14.5	25.62	0.111
4	4	7.07	0.031
5	3	5.30	0.023
6	1.75	3.09	0.013
7	0.5	0.88	0.004
8	0.5	0.88	0.004
9	1	1.77	0.008
10	0.5	0.88	0.004
11	0.75	1.33	0.006
12	0.25	0.44	0.002
13	0.25	0.44	0.002
14	0.25	0.44	0.002
15	0.125	0.22	0.001
16	0.125	0.22	0.001
17	0.125	0.22	0.001
18	0.5	0.88	0.004
19	0.125	0.22	0.001
20	0.25	0.44	0.002
21	0.125	0.22	0.001
22	0.125	0.22	0.001
23	0.125	0.22	0.001
24	0.125	0.22	0.001
25	sheen	0.00	0.000
26	sheen	0.00	0.000
27	sheen	0.00	0.000
28	sheen	0.00	0.000
29	sheen	0.00	0.000
	SUM	**142.26**	**0.62**

Free product recovery rate = Excess volume removed / Test duration: **0.003 gal/min**

SUMMARY of SLUG TEST (page 1 of 2)

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # 10658 COUNTY Jasper

FACILITY NAME Joker Joe's

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	MW-1	MW-10	MW-15D	
Initial Rise/Drawdown in well (feet)	0.33	1.52	7.63	
Radius of well casing (feet)	0.083	0.083	0.083	
Effective Radius of Well (feet)	0.33	0.167	0.167	
Static Saturated Aquifer Thickness (feet)	9.91	7.23	46.12	
Length of Well Screen (feet)	13.5	8.5	7	
Static Height of Water Column in Well (ft)	9.91	7.23	46.12	

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	MW-1	MW-10	MW-15D		
Hydraulic Conductivity	1.41E-04	3.34E-04	2.83E-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 2 feet per year based on a hydraulic conductivity of 2.38E-04 cm/sec, a hydraulic gradient of 9.00E-04 ft/ft, and a porosity of 12 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 # 10658 COUNTY Jasper

FACILITY NAME Joker Joe's

Hydraulic Conductivity (average)

Hydraulic Conductivity Average = 2.38E-04 cm/sec
(Shallow Zone MW-1 and MW-10)

6.73E-01 ft./day

4.68E-04 ft./min

Groundwater Seepage Velocity

V = (Ki)/(Ne)
(ft./day)

* Enter Values in Shaded Areas Only

where:

K = Hydraulic Conductivity (ft./day)
I = Hydraulic Gradient (ft./ft.)
Ne = Effective Permeability

K =	6.73E-01	ft./day
I =	9.00E-04	ft./ft.
Ne =	0.12	

V = **5.0E-03** ft./day **2** ft./year

Groundwater Seepage Velocity Calculations

Inflow Permeability Calculation

JOKER JOE'S

Test Performed: 10/28/98

MW-1

Static: 5.22 ft

Type II (Uncased Well)

*Enter Values in Shaded Areas Only

Time (min)	Depth	delta H	Ht/Ho
0.00	5.55	0.33	1.00
0.25	5.46	0.24	0.73
0.50	5.41	0.19	0.58
0.75	5.39	0.17	0.52
1.50	5.35	0.13	0.39
1.75	5.33	0.11	0.33
2.00	5.32	0.10	0.30
2.50	5.31	0.09	0.27
3.00	5.30	0.08	0.24
4.00	5.29	0.07	0.21

Information from data and plot of Ht/Ho vs time

Bore Hole Diameter:	8	in
Total Depth of Well:	15.13	ft
Stand Pipe Area:	50.27	in^2
	0.35	ft^2

Coordinates from Graph for Slope Calc:

H1/Ho:	0.39	
t1:	1.50	min
H2/Ho:	0.27	
t2:	2.50	min

H1:	0.13	H2:	0.09
t1:	1.50	t2:	2.50
Radius	R:	4.00 in	
Radius	R:	0.33 ft	
Depth	D:	9.91 ft	
	R/D:	0.034	
	D/R:	29.73	

Shape Factor Determination Value: 0.989011 *

*This value is used in conjunction with

Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor S: 0.3

Coeff. of Permeability (K):

2.77E-04 ft/min

4.00E-01 ft/day

1.41E-04 cm/sec

Ref [1]: Naval Fac. Engr. Command, Design Manual 7.01, soil Mechanics, Condition A.

Inflow Permeability Calculation

JOKER JOE'S

Test Performed: 10/28/98

MW-10

Type II (Uncased Well)

Static: 5.69 ft

*Enter Values in Shaded Areas Only

Time (min)	Depth	delta H	Ht/Ho
0.00	7.21	1.52	1.00
0.25	6.58	0.89	0.59
0.50	6.29	0.60	0.39
0.75	6.10	0.41	0.27
1.00	5.98	0.29	0.19
1.50	5.84	0.15	0.10
2.00	5.77	0.08	0.05
2.50	5.74	0.05	0.03
3.00	5.72	0.03	0.02
3.50	5.71	0.02	0.01
4.00	5.70	0.01	0.01

Information from data and plot of Ht/Ho vs time

Bore Hole Diameter:	4	in
Total Depth of Well:	12.92	ft
Stand Pipe Area:	12.57	in^2
	0.09	ft^2

Coordinates from Graph for Slope Calc:

H1/Ho:	0.19	
t1:	1.00	min
H2/Ho:	0.10	
t2:	1.50	min

H1:	0.29	H2:	0.15
t1:	1.00	t2:	1.50

Radius	R:	2.00	in
Radius	R:	0.17	ft
Depth	D:	7.23	ft
	R/D:	0.023	
	D/R:	43.38	

Shape Factor Determination Value: 0.969516 *

*This value is used in conjunction with

Figure 13 of Reference [1] to obtain the shape factor.

Shape Factor S: 0.6

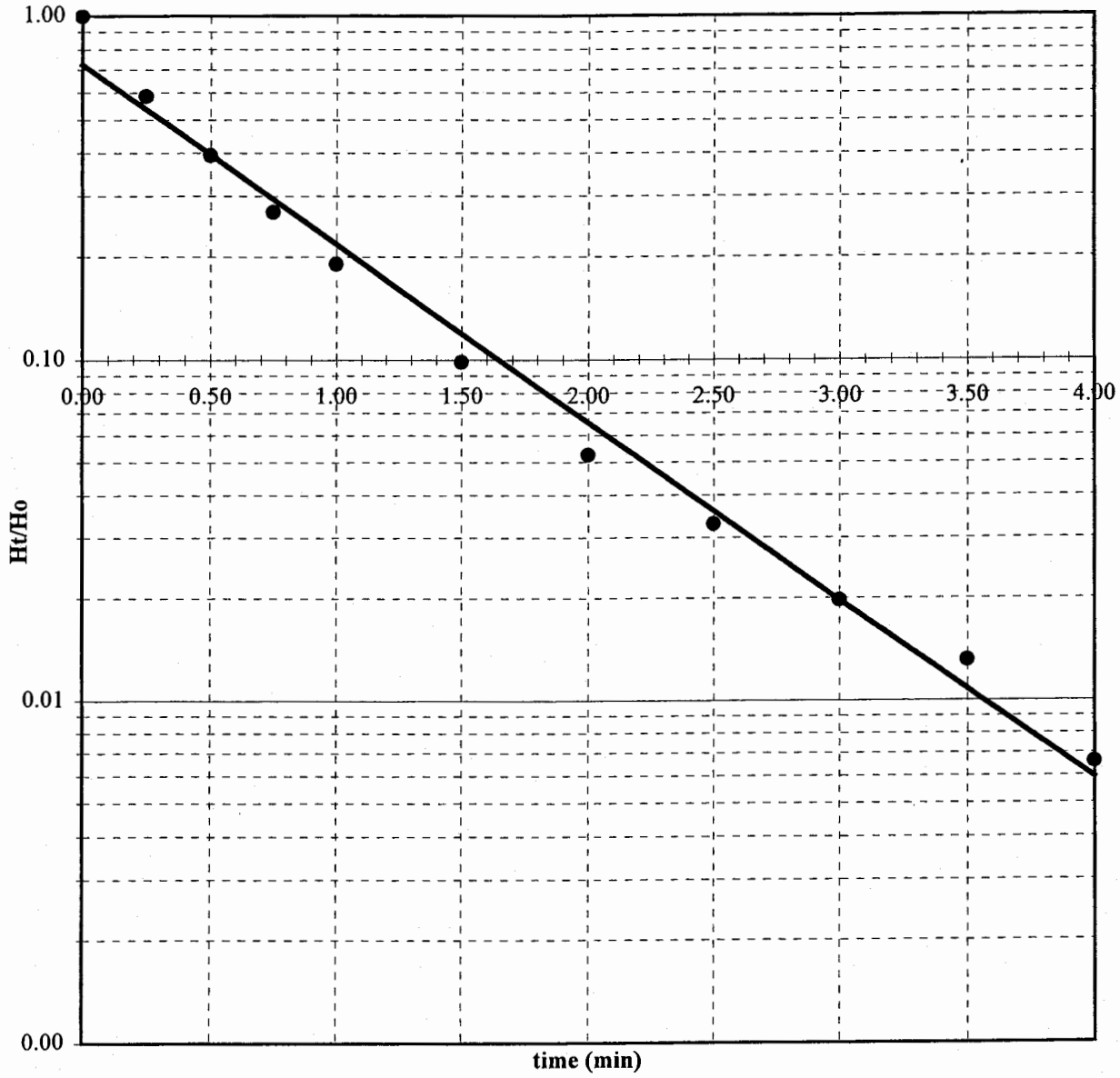
Coeff. of Permeability (K):

6.57E-04 ft/min

9.46E-01 ft/day

3.34E-04 cm/sec

Ref [1]: Naval Fac. Engr. Command, Design Manual 7.01, soil Mechanics, Condition A.



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Inflow Permeability Calculation

JOKER JOE'S

Test Performed: 10/28/98

MW-15D

Static: 4.88 ft

*Enter Values in Shaded Areas Only

Time (min)	Depth	delta H	H_t/H_o
0.00	12.51	7.63	1.00
0.50	10.82	5.94	0.78
0.75	10.27	5.39	0.71
1.00	9.64	4.76	0.62
1.25	9.22	4.34	0.57
1.50	8.84	3.96	0.52
1.75	8.48	3.60	0.47
2.00	8.18	3.30	0.43
2.50	7.63	2.75	0.36
3.00	7.18	2.30	0.30
4.00	6.57	1.69	0.22
5.00	6.14	1.26	0.17
7.00	5.65	0.77	0.10
10.00	5.33	0.45	0.06
13.00	5.19	0.31	0.04
16.00	5.13	0.25	0.03

Information from data and plot of Ht/H0 vs time

Diameter of Intake:	4	in
Length of Intake (L):	7	ft
Diameter of Standpipe:	2	in

* Formation Data Taken From SCDHEC Files

Coordinates from Graph for Slope Calc:

H_1/H_o:	0.36	
t_1:	2.50	min
H_2/H_o:	0.17	
t_2:	5.00	min

H_1:	2.75	H_2:	1.30
t_1:	2.50	t_2:	5.00

Intake Radius:	2.00	in
Intake Radius (rint):	0.17	ft
Standpipe Radius:	1.00	in
Standpipe Radius (rsp):	0.083	ft

Calc1=	0.000496	$(rsp^2)/2L$
Calc2=	3.73767	ln(L/rint)
Calc3=	0.750306	$\ln(H_1/H_2)$
Calc4=	2.5	(t_2-t_1)

K=Calc1*Calc2*(Calc3/Calc4)

Coeff. of Permeability (K):

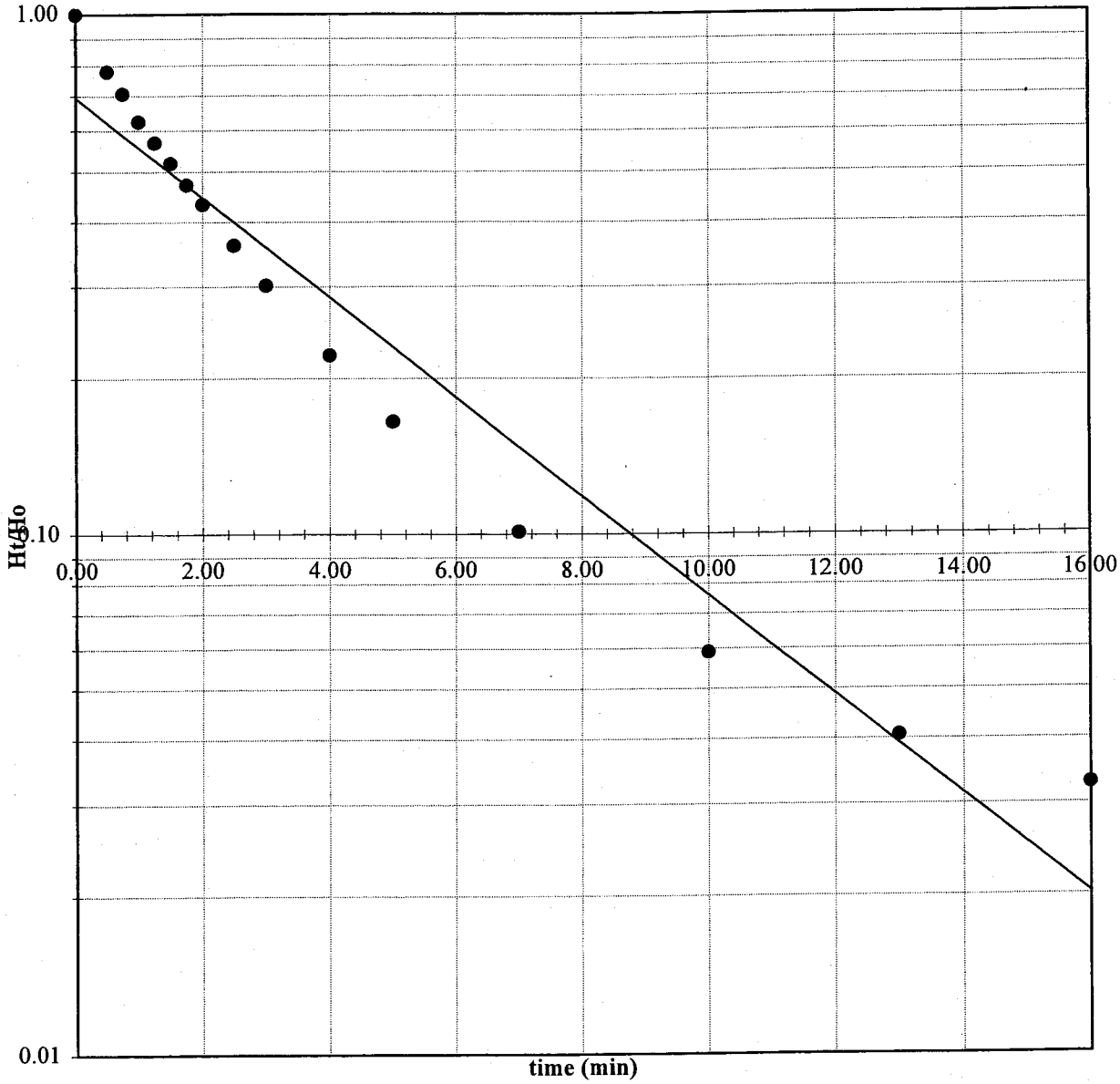
5.56E-04 ft/min

8.01E-01 ft/day

2.83E-04 cm/sec

Naval Fac. Engr. Command, Design Manual 7.01, Soil Mechanics: Condition C

Inflow for Type III Well MW-15D.x



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TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87450
Sample ID: MW-2
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 14:22
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/30/02	21:30	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/30/02	21:30	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/30/02	21:30	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/30/02	21:30	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/30/02	21:30	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/30/02	21:30	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	114.	60. - 158.
VOA Surr Toluene-d8	94.	82. - 127.
VOA Surr, 4-BFB	89.	72. - 136.
VOA Surr, DBFM	121.	81. - 137.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87451
Sample ID: MW-3
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 14:52
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/30/02	22:01	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/30/02	22:01	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/30/02	22:01	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/30/02	22:01	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/30/02	22:01	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/30/02	22:01	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	111.	60. - 158.
VOA Surr Toluene-d8	91.	82. - 127.
VOA Surr, 4-BFB	88.	72. - 136.
VOA Surr, DBFM	117.	81. - 137.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Lab Number: 02-A87452
Sample ID: MW-5
Sample Type: Water
Site ID: JASPER

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Date Collected: 5/28/02
Time Collected: 15:25
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	151.	ug/L	1.0	1.0	5/30/02	22:32	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/30/02	22:32	T.Johnson	8260B	1121
Ethylbenzene	65.8	ug/L	1.0	1.0	5/30/02	22:32	T.Johnson	8260B	1121
Xylenes (Total)	5.6	ug/L	1.0	1.0	5/30/02	22:32	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/30/02	22:32	T.Johnson	8260B	1121
Naphthalene	47.0	ug/L	5.0	1.0	5/30/02	22:32	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	109.	60. - 158.
VOA Surr Toluene-d8	94.	82. - 127.
VOA Surr, 4-BFB	83.	72. - 136.
VOA Surr, DBFM	111.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Lab Number: 02-A87453
Sample ID: MW-7
Sample Type: Water
Site ID: JASPER

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Date Collected: 5/28/02
Time Collected: 12:17
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/30/02	23:04	T.Johnson	8260B	1121
Toluene	3.7	ug/L	1.0	1.0	5/30/02	23:04	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/30/02	23:04	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/30/02	23:04	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/30/02	23:04	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/30/02	23:04	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	89.	60. - 158.
VOA Surr Toluene-d8	90.	82. - 127.
VOA Surr, 4-BFB	84.	72. - 136.
VOA Surr, DBFM	106.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87454
Sample ID: MW-8
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 11:59
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/30/02	23:35	T.Johnson	8260B	1121
Toluene	1.4	ug/L	1.0	1.0	5/30/02	23:35	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/30/02	23:35	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/30/02	23:35	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/30/02	23:35	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/30/02	23:35	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	103.	60. - 158.
VOA Surr Toluene-d8	87.	82. - 127.
VOA Surr, 4-BFB	87.	72. - 136.
VOA Surr, DBFM	113.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87455
Sample ID: MW-9
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 11:36
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	2.1	ug/L	1.0	1.0	5/31/02	0:07	T.Johnson	8260B	1121
Toluene	5.8	ug/L	1.0	1.0	5/31/02	0:07	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	0:07	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	0:07	T.Johnson	8260B	1121
Methyl-t-butyl ether	6.2	ug/L	5.0	1.0	5/31/02	0:07	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	0:07	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	106.	60. - 158.
VOA Surr Toluene-d8	90.	82. - 127.
VOA Surr, 4-BFB	86.	72. - 136.
VOA Surr, DBFM	115.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

2960 Foster Creighton Drive / Nashville,TN 37204 / 615-726-0177 / Fax: 615-726-0954 / 800-765-0980

JUN-04-2002 20:25 FROM:TEST AMERICA TO:18038984330 P.012/027

TestAmerica
INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87456
Sample ID: MW-10
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 11:00
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	0:38	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/31/02	0:38	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	0:38	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	0:38	T.Johnson	8260B	1121
Methyl-t-butyl ether	5.9	ug/L	5.0	1.0	5/31/02	0:38	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	0:38	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	109.	60. - 158.
VOA Surr Toluene-d8	91.	82. - 127.
VOA Surr, 4-BFB	90.	72. - 136.
VOA Surr, DBFM	113.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

2960 Foster Creighton Drive / Nashville,TN 37204 / 615-726-0177 / Fax: 615-726-0954 / 800-765-0980

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TestAmerica
INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87457
Sample ID: MW-11
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 11:25
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	1:10	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/31/02	1:10	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	1:10	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	1:10	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	1:10	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	1:10	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	114.	60. - 158.
VOA Surr Toluene-d8	92.	82. - 127.
VOA Surr, 4-BFB	88.	72. - 136.
VOA Surr, DBFM	120.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87458
Sample ID: MW-12
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 11:12
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	1:42	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/31/02	1:42	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	1:42	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	1:42	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	1:42	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	1:42	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	115.	60. - 158.
VOA Surr Toluene-d8	92.	82. - 127.
VOA Surr, 4-BFB	91.	72. - 136.
VOA Surr, DBFM	122.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87459
Sample ID: MW-13
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 10:47
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	2:13	T.Johnson	8260B	1121
Toluene	20.4	ug/L	1.0	1.0	5/31/02	2:13	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	2:13	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	2:13	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	2:13	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	2:13	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	115.	60. - 158.
VOA Surr Toluene-d8	88.	82. - 127.
VOA Surr, 4-BFB	89.	72. - 136.
VOA Surr, DBFM	121.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87460
Sample ID: MW-14
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 10:35
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	2:44	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/31/02	2:44	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	2:44	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	2:44	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	2:44	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	2:44	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	118.	60. - 158.
VOA Surr Toluene-d8	93.	82. - 127.
VOA Surr, 4-BFB	89.	72. - 136.
VOA Surr, DBFM	123.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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JUN-04-2002 20:26 FROM:TEST AMERICA TO:18038984330 P.017/027

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INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87461
Sample ID: MW-17
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 14:35
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	3:16	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/31/02	3:16	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	3:16	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	3:16	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	3:16	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	3:16	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	117.	60. - 158.
VOA Surr Toluene-d8	93.	82. - 127.
VOA Surr, 4-BFB	88.	72. - 136.
VOA Surr, DBFM	123.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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JUN-04-2002 20:26 FROM:TEST AMERICA TO:18038984330 P.018/027

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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87462
Sample ID: MW-18
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 10:21
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	3:47	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/31/02	3:47	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	3:47	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	3:47	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	3:47	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	3:47	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	120.	60. - 158.
VOA Surr Toluene-d8	96.	82. - 127.
VOA Surr, 4-BFB	89.	72. - 136.
VOA Surr, DBFM	123.	81. - 137.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87463
Sample ID: MW-19
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 12:08
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	4:18	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/31/02	4:18	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	4:18	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	4:18	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	4:18	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	4:18	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	125.	60. - 158.
VOA Surr Toluene-d8	89.	82. - 127.
VOA Surr, 4-BFB	92.	72. - 136.
VOA Surr, DBFM	131.	81. - 137.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87464
Sample ID: MW-20
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 11:47
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	140.	ug/L	1.0	1.0	5/31/02	4:50	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/31/02	4:50	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	4:50	T.Johnson	8260B	1121
Xylenes (Total)	2.6	ug/L	1.0	1.0	5/31/02	4:50	T.Johnson	8260B	1121
Methyl-t-butyl ether	71.6	ug/L	5.0	1.0	5/31/02	4:50	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	4:50	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	112.	60. - 158.
VOA Surr Toluene-d8	90.	82. - 127.
VOA Surr, 4-BFB	90.	72. - 136.
VOA Surr, DBFM	113.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87465
Sample ID: MW-23
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 13:18
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	5:21	T.Johnson	8260B	1121
Toluene	ND	ug/L	1.0	1.0	5/31/02	5:21	T.Johnson	8260B	1121
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	5:21	T.Johnson	8260B	1121
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	5:21	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	5:21	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	5:21	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	120.	60. - 158.
VOA Surr Toluene-d8	95.	82. - 127.
VOA Surr, 4-BFB	92.	72. - 136.
VOA Surr, DBFM	122.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Lab Number: 02-A87466
Sample ID: MW-24
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 13:48
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	5:53	T.Johnson	8260B	1121
Toluene	3.0	ug/L	1.0	1.0	5/31/02	5:53	T.Johnson	8260B	1121
Ethylbenzene	1.1	ug/L	1.0	1.0	5/31/02	5:53	T.Johnson	8260B	1121
Xylenes (Total)	4.0	ug/L	1.0	1.0	5/31/02	5:53	T.Johnson	8260B	1121
Methyl-t-butyl ether	16.8	ug/L	5.0	1.0	5/31/02	5:53	T.Johnson	8260B	1121
Naphthalene	5.9	ug/L	5.0	1.0	5/31/02	5:53	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	117.	60. - 158.
VOA Surr Toluene-d8	92.	82. - 127.
VOA Surr, 4-BFB	87.	72. - 136.
VOA Surr, DBFM	124.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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TestAmerica INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Lab Number: 02-A87467
Sample ID: MW-25
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 14:04
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	11300	ug/L	200.	200.	6/ 4/02	14:55	T.Johnson	8260B	1121
Toluene	4900	ug/L	200.	200.	6/ 4/02	14:55	T.Johnson	8260B	1121
Ethylbenzene	900.	ug/L	200.	200.	6/ 4/02	14:55	T.Johnson	8260B	1121
Xylenes (Total)	4140	ug/L	200.	200.	6/ 4/02	14:55	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	1000	200.	6/ 4/02	14:55	T.Johnson	8260B	1121
Naphthalene	ND	ug/L	1000	200.	6/ 4/02	14:55	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	80.	60. - 158.
VOA Surr Toluene-d8	97.	82. - 127.
VOA Surr, 4-BFB	82.	72. - 136.
VOA Surr, DBFM	96.	81. - 137.

LABORATORY COMMENTS:
ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 10658
Project Name: JOKER JOE'S
Sampler: JOEL LENK

Lab Number: 02-A87468
Sample ID: DITCH
Sample Type: Water
Site ID: JASPER

Date Collected: 5/28/02
Time Collected: 15:56
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	3.8	ug/L	1.0	1.0	6/ 4/02	13:51	T.Johnson	8260B	1121
Toluene	15.8	ug/L	1.0	1.0	6/ 4/02	13:51	T.Johnson	8260B	1121
Ethylbenzene	3.7	ug/L	1.0	1.0	6/ 4/02	13:51	T.Johnson	8260B	1121
Xylenes (Total)	22.9	ug/L	1.0	1.0	6/ 4/02	13:51	T.Johnson	8260B	1121
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 4/02	13:51	T.Johnson	8260B	1121
Naphthalene	14.5	ug/L	5.0	1.0	6/ 4/02	13:51	T.Johnson	8260B	1121

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	91.	60. - 138.
VOA Surr Toluene-d8	98.	82. - 127.
VOA Surr, 4-BFB	80.	72. - 136.
VOA Surr, DBFM	104.	81. - 137.

LABORATORY COMMENTS:

ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

2960 Foster Creighton Drive / Nashville,TN 37204 / 615-726-0177 / Fax: 615-726-0954 / 800-765-0980

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South Carolina Department of Health
and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, SC 29201
Telephone (803) 896-6241, Fax (803) 896-6245

MEMORANDUM

111-Tech Docket #

Date: February 9, 2007

To: Dan Nunn, Bay Creek Villas

From: Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section

Subject: Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC
UST Permit #18662
Colleton

Summary of Aggressive Fluid Vapor Recovery (AFVR) events to date

Date	Period of Operation (hrs)	Gallons petroleum recovered	Recovery rate per hour
4/19/06	80	142	1.78 gallons per hour
6/20/06	8	0.9	0.11 gallons per hour
7/17/06	8	12.21	1.53 gallons per hour
8/2/06	8	6.17	0.77 gallons per hour
10/3/06	16	37.86	2.37 gallons per hour
10/9/06	16	28.1	1.76 gallons per hour
10/24/06	16	26.64	1.67 gallons per hour
10/31/06	16	15.03	0.94 gallons per hour
2/6/07	8	1	0.13 gallons per hour

Total gallons free product recovered to date: 269.91 gallons

The effectiveness appears to be directly proportional to the water levels during each AFVR event. During low tide, free product recovery appears to be most effective. Events are being scheduled to maximize this effectiveness whenever possible. In addition, it is believed that we have recovered a majority of the free product from the subsurface. The remaining product is believed to be limited to the area around monitoring well MW-18. The UST Program proposes to continue to use AFVR for free product removal until the free product is either gone, or until such time that AFVR is deemed to be no longer effective. The current round of AFVR events, starting February 2007, are proposed on approximately a weekly schedule. It is believed that the recovery rate per hour will likely continue to decline during each progressive event as the quantity of free product left in the ground declines.

cc: Technical file

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

JAN 12 2007

BRIAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071-0854

Re: Bid # IBF-30519-8/8/06-EMW; PO # 646282
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Aggressive Fluid Vapor Recovery (AFVR) event at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 646282 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit #	Facility	County	Release	Work Scope	Due Date*	CA #	Approved Amt
06456	Newberry County Maintenance	Newberry	1	6 AFVR	60 days	28504	6,150.00
18662	Bay Creek Villas	Colleton	1	6 AFVR	60 days	28636	6,420.00
03073	Weather Service Station	Dorchester	1	1 AFVR	60 days	28662	1,195.00
00822	Neighborhood Grocery	Bamberg	1	1 AFVR	60 days	28624	1,115.00
05419	Food Chief 47	Kershaw	1	1 AFVR	60 days	28600	1,225.00

Approved Cost Agreement 28636

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	6.0000	350.00	2,100.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	1,200.0000	0.10	120.00
23 EFR						
		A	8 HOUR EVENT	6.0000	600.00	3,600.00
		C	OFF GAS TREATMENT	6.0000	100.00	600.00
				Total Amount		6,420.00

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C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

JAN 0 2 2007

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Report received December 29, 2006
Colleton County

Dear Mr. Nunn:

On December 15, 2006, the monitoring well network was re-sampled. A copy of the report is enclosed. Although concentrations of chemical constituents have increased in selected monitoring wells since the August 2006 sampling event, the overall progress is still favorable. Free product is still continuing to recharge into monitoring well MW-18. Additional Aggressive Fluid Vapor Recovery events are proposed.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Monitoring Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

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C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

RONNY LOWDER
EMERALD INC
PO BOX 3050
SUMTER SC 29151

DEC 0 4 2006

Re: **Notice to Proceed-Groundwater Sampling**
Bid # SB-27496-03/08/05; PO# 574989

Dear Mr. Lowder:

Based on the award of the referenced bid package, enclosed are the information packets to conduct six (6) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order #574989 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	EMERALD CA#
02584	Grocery Corner	Colleton	12	R. Miner	12/21/06	BTEXMN & DCA	28345	28346
18662	Bay Creek Villas	Colleton	17	R. Miner	12/21/06	BTEXMN & DCA	28332	28333
12938	Wright's Grocery	Berkeley	4	R. Miner	12/21/06	BTEXMN, DCA & EDB	28275	28276
15445	Lebanon Quick Stop	Berkeley	8	R. Miner	12/21/06	BTEXMN, DCA & EDB	28350	28351
06797	Santee State Park	Orangeburg	2	R. Miner	12/21/06	BTEXMN & DCA	28357	28358
09454	Bargain City	York	6	D. Thoma	12/21/06	BTEXMN, DCA & EDB	27816	27817

Emerald, Inc. will perform services at the sites on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. Contact information has been provided in the information packet. The Bureau grants pre-approval for transportation of drums of groundwater from the referenced sites to a permitted treatment facility. The contaminated groundwater must be properly stored in labeled 55-gallon drums or equivalent containers. The contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included with the final report. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

Please contact me with the sampling schedule before commencing work at these facilities. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
Northeastern SC Corrective Action Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management

enc: Information Packets
Approved Cost Agreements

cc: Teresa Adams, PACE Analytical, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078 (w/ Approved CAs)
Technical Files

Approved Cost Agreement 28332

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	17.0000	23.00	391.00

Total Amount 391.00

Approved Cost Agreement 2[illegible]33

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	1.0000	114.40	114.40
10 SAMPLE COLLECTION						
		D	GROUNDWATER NO-PURGE	17.0000	10.00	170.00
				Total Amount		284.40

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NOV 09 2006

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received November 8, 2006
Colleton County

Dear Mr. Nunn:

As you are aware, additional Aggressive Fluid Vapor Recovery events were completed at Bay Creek Villas on October 3, 4, 9, 10, 24, 25, 31, and November 1, 2006. A copy of the report is enclosed. Based on the collected data, an estimated 107.63 gallons of petroleum was recovered during these events. The monitoring well network will be re-sampled in the near future in order to evaluate progress to date and to determine any additional necessary work.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

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PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
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OCTOBER 26, 2006

PHIL W BARTLES
PRUDENTIAL KAPP/LYONS REALTY
440 HWY 174
EDISTO ISLAND SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Correspondence received October 9, 2006
Colleton County

Dear Mr. Bartles:

The following is provided in response to the referenced correspondence. We received a report on January 28, 2000 documenting contamination in the subsurface in the vicinity of the former underground storage tank (UST) at Bay Creek Villas. Our records revealed that the UST owned by Bay Creek Villas was closed in place on December 13, 2000. In response to the initial report of contamination, we directed Bay Creek Villas, as the party responsible for performing this activity under state and federal law, to assess the extent and severity of the contamination. The assessment was completed and corrective action is currently in progress.

This release of petroleum products from the UST is qualified to receive funding under the conditions of the State Underground Petroleum Environmental Response Bank (SUPERB) Act. The $25,000 deductible has already been paid by Bay Creek Villas. This means that reasonable costs up to $1,000,000 can be paid by the SUPERB account for site rehabilitation actions associated with this release on behalf of Bay Creek Villas. Neither the seller nor the buyer of Bay Creek Villa Unit 213 will be charged by the UST Program for any repairs, maintenance, or site rehabilitation activities paid for by the SUPERB Account on behalf of Bay Creek Villas.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Dann Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach SC 29438

Prudential

Kapp / Lyons Realty

440 Highway 174
Edisto Island, SC 29438

1-800-945-9667
1-843-869-3440 FAX
E-Mail: info@kapplyons.com

Date 10/09/06

To: READ S. MINER

From: PHIL BARTLES

FAX: 803-896-6245

Subject: 213 BAY CREEK, EDISTO BEACH, S.C. 29438

==========

Total pages, including cover sheet 2

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OCT 0 9 2006

UNDERGROUND STORAGE
TANK PROGRAM

Prudential

Prudential Kapp/Lyons Realty
440 Highway 174
Edisto Island, SC 29438
Bus 843 869-2516 Fax 843 869-3440
info@kapplyons.com

Fax To: 803-896-6245

October 9, 2006

Read S. Miner, P.G. Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

Re: Permit 18662
Bay Creek Villas
3701 Docksite Road
Unit 213
Edisto Beach, South Carolina 29438
Colleton County

Dear Mr. Miner:

I am an associate broker with Prudential Kapp/Lyons Realty on Edisto Island, SC, and am representing the seller of 213 Bay Creek Villa. This unit is under contract and the buyer is requesting documentation of release of financial liability or any involvement regarding the above referenced permit, #18662. Please accept this as our concern letter on permit 18662.

Sincerely,

Phil W. Bartles

Phil W. Bartles
Fax 843-869-3440

CC: Wallace Edwards
Christina Morrissey

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TANK PROGRAM

REALTOR MLS

An independently owned and operated member of The Prudential Real Estate Affiliates, Inc.

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Promoting and protecting the health of the public and the environment.

AUG 31 2006

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Report received August 29, 2006
Colleton County

Dear Mr. Nunn:

On August 15, 2006, the monitoring wells at the referenced facility were re-sampled. A copy of the report and a table summarizing some of the historical data are enclosed. The concentrations of petroleum constituents continue to decline favorably. You will be contacted by Midlands Environmental in the very near future regarding the scheduling of additional Aggressive Fluid Vapor Recovery events.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Monitoring Report
Excel spreadsheet

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

D H E C

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C. Earl Hunter, Commissioner

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AUG 29 2006

BRIAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071-0854

Re: Bid # IFB-30519-8/8/06-EMW; PO # 646282
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Aggressive Fluid Vapor Recovery (AFVR) event at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 646282 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit#	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
18662	Bay Creek Villas	Colleton	1	8 AFVR events	60 days	27725	8,635.00
09152	York County Detention Center	York	1	1 AFVR event	60 days	27764	2,175.00

*From receipt of letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained.

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C. Earl Hunter, Commissioner
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If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval.

Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

The Department grants pre-approval for transportation of free phase product and petroleum contaminated groundwater from the referenced site to a permitted treatment facility. The free product and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 896-6664, by fax at (803) 896-6245 or by email at milenkmp@dhec.sc.gov.

Sincerely,

Maia Milenkova

Maia Milenkova, Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packages

cc: Technical Files (w/copies of ACA)

SCDHEC/UST/08/25/06/MPM

Approved Cost Agreement 27725

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	8.0000	350.00	2,800.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	1,600.0000	0.10	160.00
23 EFR						
		A	8 HOUR EVENT	8.0000	600.00	4,800.00
		C	OFF GAS TREATMENT	8.0000	100.00	800.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
				Total Amount		8,635.00

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PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

AUG 07 2006

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received August 7, 2006
Colleton County

Dear Mr. Nunn:

As you are aware, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed on August 2, 2006. A copy of the report is enclosed. During the event, approximately 6.17 equivalent gallons of petroleum was recovered. Additional AFVR events will be completed during August 2006. You will be provided copies of those reports as soon as they are available.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Midlands
Environmental
Consultants, Inc.

August 2, 2006

RECEIVED
AUG 07 2006
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID #18662; CA #27093
MECI Project Number 06-920

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

Prior to initiation of the Aggressive Fluid Vapor Recovery (AFVR) event conducted by MECI, free phase petroleum product was not detected in any of the monitoring wells of concern on August 2, 2006. An aggressive fluid vapor recovery event was conducted on monitoring wells MW-15, MW-16, and MW-18 to reduce CoC concentrations. The event was conducted by MECI personnel, utilizing a MECI vacuum extraction unit, for a total of 8 hours on August 2, 2006. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 35.71 pounds or approximately 6.17 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 4.46 pounds per hour. Concentrations of off gas produced during the event were recorded ranging from 2,344 to 882 parts per million by volume (PPM) during the event. These readings were taken before vapors entered the off gas treatment system. Vacuum readings were recorded from 11.0 to 12.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1.

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

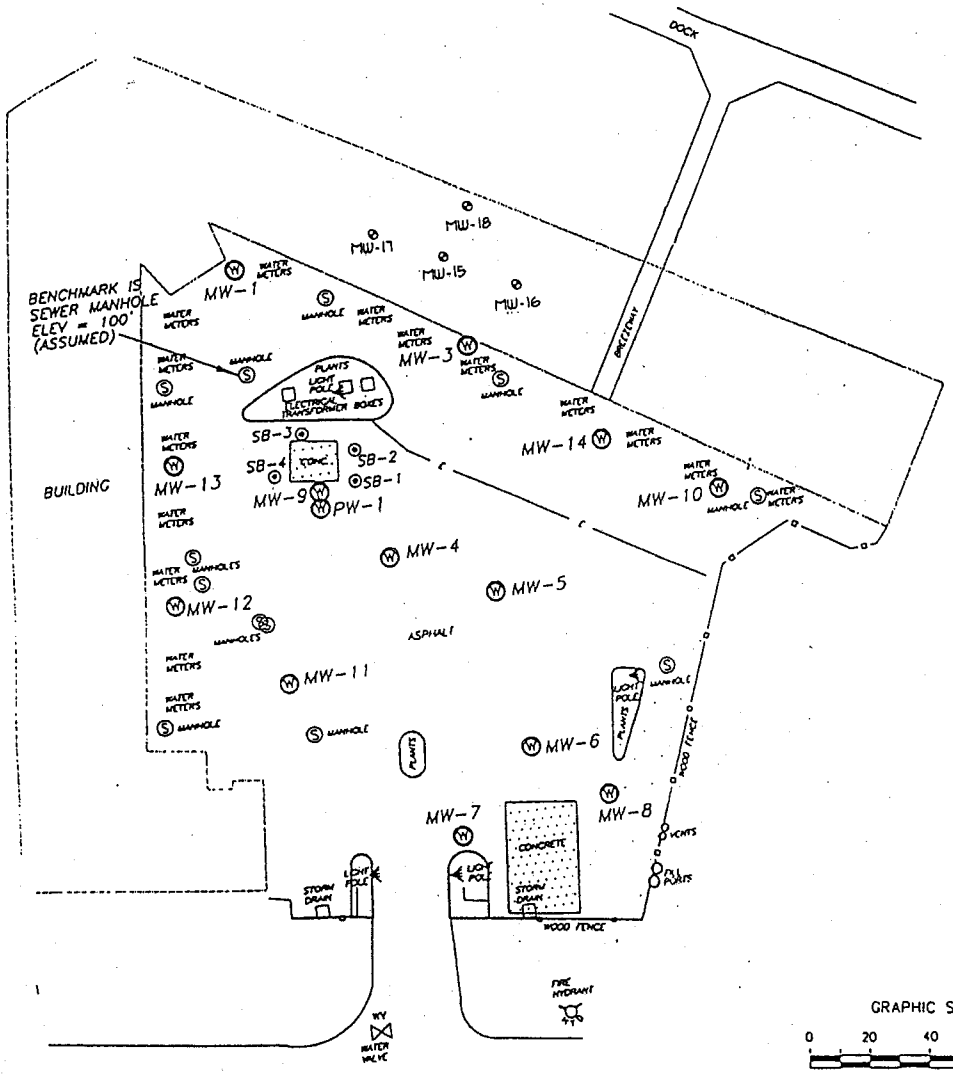
TABLE 1
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-920
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-15	08/02/06	6:00	0.50	12.0	2,344	2070	186.30	5.24	2.62
MW-16	08/02/06	6:30	0.50	12.0	2,335	2010	180.90	5.07	2.53
MW-18	08/02/06	7:00	0.50	12.0	2,340	2020	181.80	5.10	2.55
	08/02/06	7:30	0.50	11.0	2,449	2260	203.40	5.98	2.99
	08/02/06	8:00	0.50	11.0	2,329	2310	207.90	5.81	2.91
	08/02/06	8:30	0.50	11.0	2,178	2390	215.10	5.62	2.81
	08/02/06	9:00	0.50	11.0	2,086	2440	219.60	5.50	2.75
	08/02/06	9:30	0.50	11.0	1,872	2510	225.90	5.07	2.54
	08/02/06	10:00	0.50	11.0	1,540	2470	222.30	4.11	2.05
	08/02/06	10:30	0.50	11.0	1,475	2430	218.70	3.87	1.94
	08/02/06	11:00	0.50	11.0	1,331	2450	220.50	3.52	1.76
	08/02/06	11:30	0.50	11.0	1,211	2430	218.70	3.18	1.59
	08/02/06	12:00	0.50	11.0	1,193	2440	219.60	3.14	1.57
	08/02/06	12:30	0.50	11.0	1,024	2440	219.60	2.70	1.35
	08/02/06	13:00	0.50	11.0	1,001	2460	221.40	2.66	1.33
	08/02/06	13:30	0.50	11.0	975	2420	217.80	2.55	1.27
	08/02/06	14:00	0.50	11.0	882	2410	216.90	2.30	1.15
									TOTAL 35.71

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Water Change (ft)
MW-15	2"	10	**	5.89	**	***	5.11	***	-0.78
MW-17	2"	10	**	6.65	**	***	4.11	***	-2.54
MW-18	2"	10	**	6.56	**	***	5.60	***	-0.96

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-15	5.90
Truck Operator:	T. Raymond	MW-16	6.66
Stack I.D. (feet)	0.33 feet	MW-18	6.60

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	35.71	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	6.17	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	240	Gallons



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

C 118030

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 94146

2. Page 1 of 1

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone (803) 808-2043

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	1	TT	300	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

J+J ~~Manufacturing~~ EXXON 60 Gal. SCDHEC ID# 00825

Service Call ID: GLB0094146 Bay Creek Villas 240 Gal. SCDHEC ID# 18662

Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: X Lyle H. Lee — Signature: Lyle H. Lee — Month 08 Day 03 Year 06

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: X Lyle H. Lee — Signature: Lyle H. Lee — Month 08 Day 03 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Tom DeVon — Signature — Month 08 Day 03 Year 06

GENERATOR COPY

Midlands
Environmental
Consultants, Inc.

July 25, 2006

Mr. Read S. Miner P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
JUL 26 2006
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID #18662; CA #27093
MECI Project Number 06-920

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

Prior to initiation of the Aggressive Fluid Vapor Recovery (AFVR) event conducted by MECI, free phase petroleum product was detected in monitoring wells MW-3, MW-16, and MW-18 at thicknesses of 0.03 feet, 0.30 feet and 1.30 feet respectively on July 17, 2006. An aggressive fluid vapor recovery event was conducted on monitoring wells MW-3, MW-16, and MW-18 to reduce free phase product concentrations. The event was conducted by MECI personnel, utilizing a MECI vacuum extraction unit, for a total of 8 hours on July 17, 2006. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 70.70 pounds or approximately 12.21 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 8.84 pounds per hour. Concentrations of off gas produced during the event were recorded ranging from 6,520 to 3,650 parts per million by volume (PPM) during the event. These readings were taken before vapors entered the off gas treatment system. Vacuum readings were recorded from 13.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1.

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

RECEIVED

JUL 2 6 2006

UND STORAGE
PROGRAM

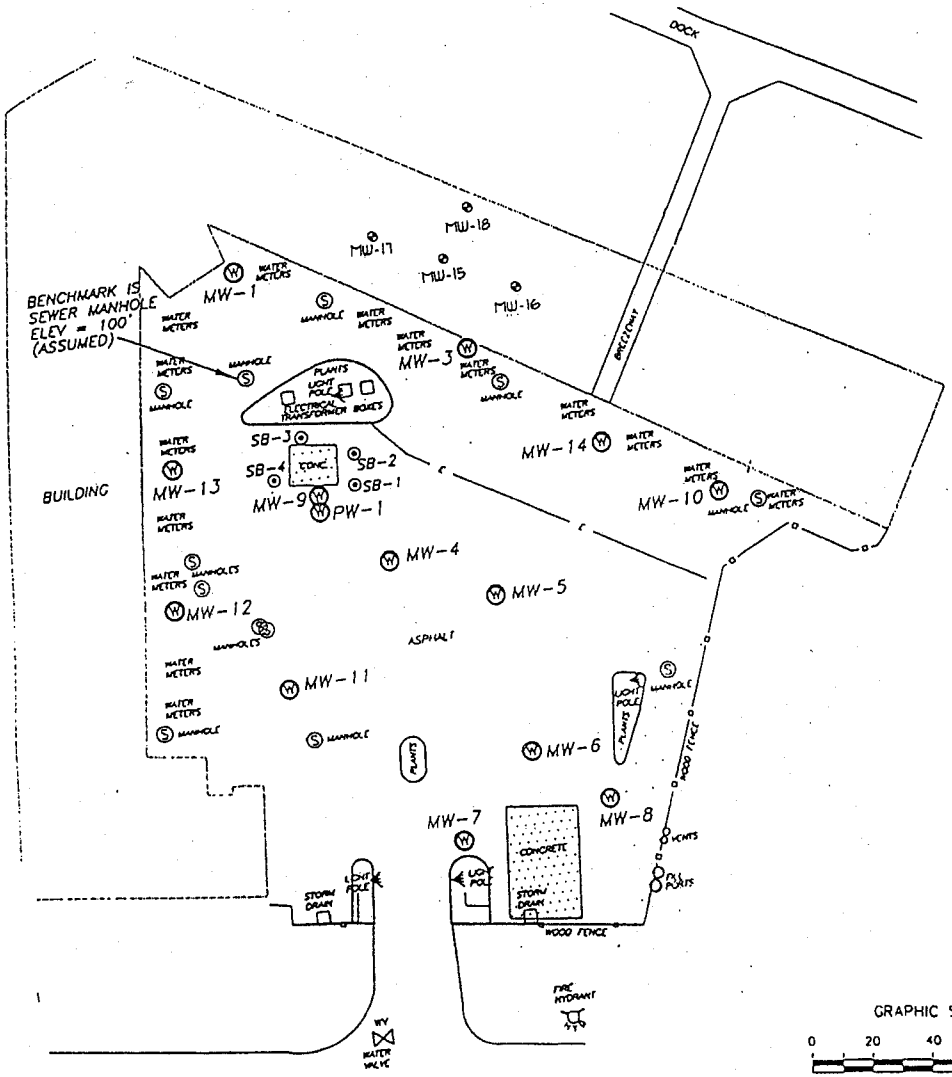
TABLE 1
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-920
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-3	07/17/06	10:30	0.50	14.0	6,520	1560	140.40	10.98	5.49
MW-16	07/17/06	11:00	0.50	14.0	6,490	1610	144.90	11.28	5.64
MW-18	07/17/06	11:30	0.50	14.0	5,810	1650	148.50	10.35	5.18
	07/17/06	12:00	0.50	14.0	5,630	1660	149.40	10.09	5.05
	07/17/06	12:30	0.50	13.0	4,010	2000	180.00	8.66	4.33
	07/17/06	13:00	0.50	13.0	3,980	2100	189.00	9.03	4.51
	07/17/06	13:30	0.50	13.0	3,760	2060	185.40	8.37	4.18
	07/17/06	14:00	0.50	13.0	3,710	2040	183.60	8.17	4.09
	07/17/06	14:30	0.50	13.0	3,640	2020	181.80	7.94	3.97
	07/17/06	15:00	0.50	13.0	3,010	2000	180.00	6.50	3.25
	07/17/06	15:30	0.50	15.0	3,830	1750	157.50	7.24	3.62
	07/17/06	16:00	0.50	15.0	3,790	1710	153.90	7.00	3.50
	07/17/06	16:30	0.50	15.0	3,910	1780	160.20	7.52	3.76
	07/17/06	17:00	0.50	15.0	3,840	1730	155.70	7.17	3.59
	07/17/06	17:30	0.50	15.0	3,840	1780	160.20	7.38	3.69
	07/17/06	18:00	0.50	15.0	3,790	1710	153.90	7.00	3.50
	07/17/06	18:30	0.50	15.0	3,650	1700	153.00	6.70	3.35
									TOTAL 70.70

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-3	2"	10	6.80	6.83	0.03	***	5.90	***	0.91
MW-17	2"	10	7.01	7.31	0.30	***	5.86	***	1.19
MW-18	2"	10	6.60	7.90	1.30	***	6.12	***	0.67

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-3	7.00
Truck Operator:	T. Raymond	MW-16	7.00
Stack I.D. (feet)	0.33 feet	MW-18	7.00
Corrected depth to water before AFVR Event in MW-3			6.81
Corrected depth to water before AFVR Event in MW-16			7.05
Corrected depth to water before AFVR Event in MW-18			6.79

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	70.70	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	12.21	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	200	Gallons



Explanation:

⊗ Location of Waterable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 3, 2006
FIGURE 1

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

JUL 21 2006

RONNY LOWDER
EMERALD INC
PO BOX 3050
SUMTER SC 29151

Re: **Notice to Proceed-Groundwater Sampling**
Bid # SB-27496-03/08/05; PO# 574989

Dear Mr. Lowder:

Based on the award of the referenced bid package, enclosed are the information packets to conduct six (6) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order #574989 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	EMERALD CA#
18662	Bay Creek Villas	Colleton	7	R. Miner	08/18/06	BTEXMN & 1,2-DCA	27447	27448
04643	Henderson Gulf	Greenwood	51	S. Utz	08/18/06	BTEXMN, 1,2-DCA, EDB, Oxygenates, & filtered lead	27386	27387
00822	Neighborhood Groc	Bamberg	4	R. Miner	08/18/06	BTEXMN, EDB, & 1,2-DCA	27380	27381
19002	Frm McCoy Site	Fairfield	17	A. Shrader	08/18/06	17-BTEXMN, EDB, 1,2-DCA 3-Oxygenates, nitrate, sulfate, ferrous iron	27377	27378
05752	Easy Stop	Lee	15	D. Thoma	08/18/06	BTEXMN, & 1,2-DCA	27439	27440
05419	Food Chief 47	Kershaw	11	D. Thoma	08/18/06	BTEXMN & 1,2-DCA	27454	27455

Emerald, Inc. will perform services at the sites on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. Contact information has been provided in the information packet. The Bureau grants pre-approval for transportation of drums of groundwater from the referenced sites to a permitted treatment facility. The contaminated groundwater must be properly stored in labeled 55-gallon drums or equivalent containers. The contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included with the final report. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

Please contact me with the sampling schedule before commencing work at these facilities. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
Northeastern SC Corrective Action Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management

enc: Information Packets
Approved Cost Agreements

cc: Teresa Adams, PACE Analytical, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078 (w/ Approved CAs)
Technical/Read File

Approved Cost Agreement 27447

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	7.0000	23.00	161.00

Total Amount 161.00

Approved Cost Agreement [illegible]448

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	1.0000	114.40	114.40
10 SAMPLE COLLECTION						
		D	GROUNDWATER NO-PURGE	7.0000	10.00	70.00
				Total Amount		184.40

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

JUL 03 2006

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received June 29, 2006
Colleton County

Dear Mr. Nunn:

As you are aware, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event was completed on June 20, 2006. A copy of the report is enclosed. During the event, approximately 0.9 equivalent gallons of petroleum was recovered. Additional AFVR events will be completed through July and August 2006. You will be provided copies of those reports as soon as they are available.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

(CW)

South Carolina

Governor's Council on Physical Fitness

12:58

FEB 16 2000

01442

Michael Schraibman

mobil 803-238-6670

FAX - 252-4933

Edito Marina

#

David M. Beasley, Governor • William A. Webster, IV, Ph.D., Chairman
Mills Jarrett Complex • Box 101106 • Columbia, SC 29211 • (803) 737-3938

EDISTO MARINA MANAGEMENT CORP
3702 DOCKSITE RD
EDISTO BEACH SC 29438-3601
BILL HACKETT

EDISTO BAY CREEK VILLAGE
APARTMENTS

Midlands
Environmental
Consultants, Inc.

June 21, 2006

RECEIVED
JUN 29 2006
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID #18662; CA #27093
MECI Project Number 06-920

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

Prior to initiation of the Aggressive Fluid Vapor Recovery (AFVR) event conducted by MECI, free phase petroleum product was not detected in monitoring wells MW-15, MW-17, or MW-18 on June 20, 2006. An aggressive fluid vapor recovery event was conducted on monitoring wells MW-15, MW-17, and MW-18 to reduce CoC concentrations. The event was conducted by MECI personnel, utilizing a MECI vacuum extraction unit, for a total of 8 hours on June 20, 2006. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 5.21 pounds or approximately 0.90 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.65 pounds per hour. Concentrations of off gas produced during the event were recorded ranging from 1,113 to 19 parts per million by volume (PPM) throughout the event. These readings were taken before vapors entered the off gas treatment system. Vacuum readings were recorded from 14.0 to 10.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1.

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

TABLE 1
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-920
SCDHEC SITE ID NUMBER 18662

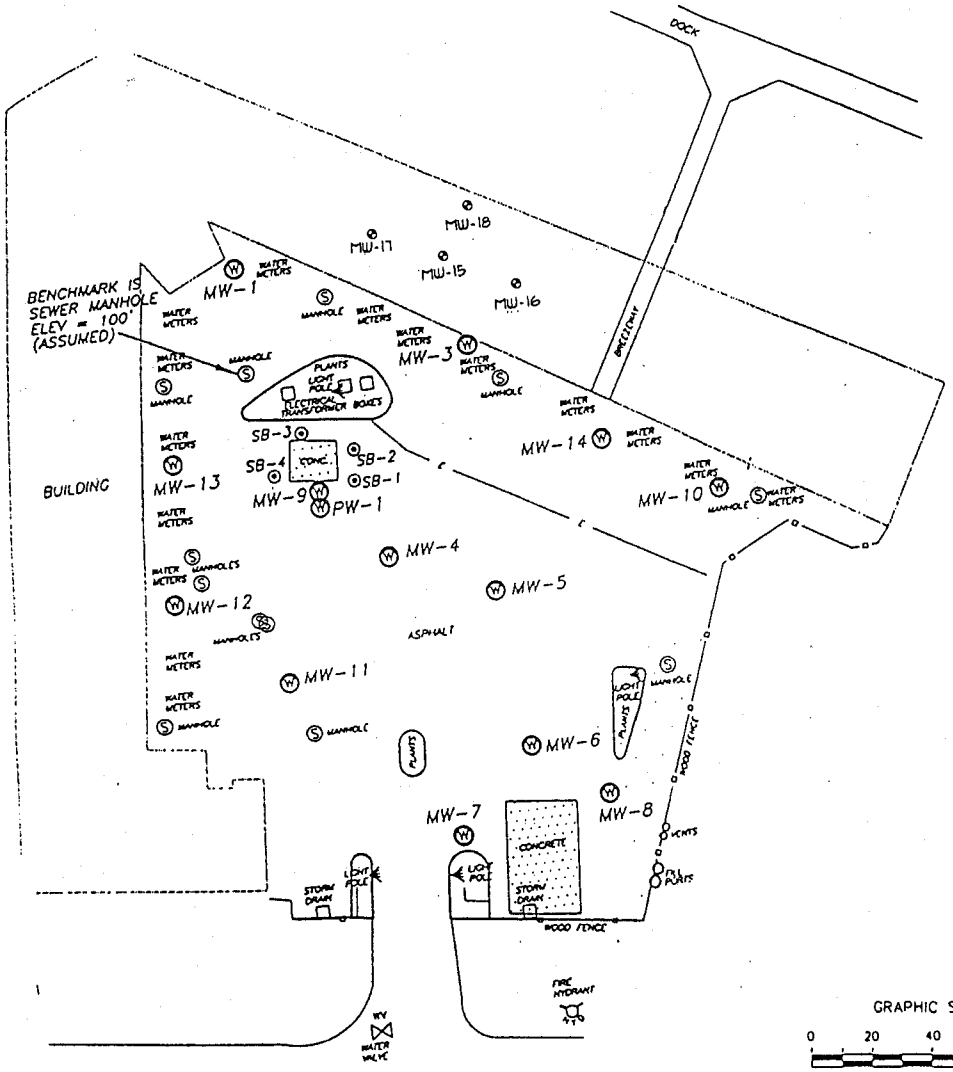
Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-15	06/20/06	6:30	0.50	14.0	1,113	1930	173.70	2.32	1.16
MW-17	06/20/06	7:00	0.50	14.0	1,069	1960	176.40	2.26	1.13
MW-18	06/20/06	7:30	0.50	14.0	851	1990	179.10	1.83	0.91
	06/20/06	8:00	0.50	13.0	529	2040	183.60	1.17	0.58
	06/20/06	8:30	0.50	11.0	352	2290	206.10	0.87	0.44
	06/20/06	9:00	0.50	11.0	197	2280	205.20	0.49	0.24
	06/20/06	9:30	0.50	10.0	113	2680	241.20	0.33	0.16
	06/20/06	10:00	0.50	10.0	95	2690	242.10	0.28	0.14
	06/20/06	10:30	0.50	10.0	87	2630	236.70	0.25	0.12
	06/20/06	11:00	0.50	10.0	42	2660	239.40	0.12	0.06
	06/20/06	11:30	0.50	10.0	30	2650	238.50	0.09	0.04
	06/20/06	12:00	0.50	10.0	31	2680	241.20	0.09	0.04
	06/20/06	12:30	0.50	10.0	29	2710	243.90	0.08	0.04
	06/20/06	13:00	0.50	10.0	24	2690	242.10	0.07	0.03
	06/20/06	13:30	0.50	10.0	25	2690	242.10	0.07	0.04
	06/20/06	14:00	0.50	10.0	20	2670	240.30	0.06	0.03
	06/20/06	14:30	0.50	10.0	19	2650	238.50	0.05	0.03
									TOTAL 5.21

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-15	2"	10	**	5.17	**	***	4.55	***	0.62
MW-17	2"	10	**	5.64			5.21		0.43
MW-18	2"	10	**	4.81			5.65		-0.84

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-15	5.20
Truck Operator:	L. Lee	MW-17	5.70
Stack I.D. (feet)	0.33 feet	MW-18	4.75

Corrected depth to water before AFVR Event in MW-15	5.17
Corrected depth to water before AFVR Event in MW-17	5.64
Corrected depth to water before AFVR Event in MW-18	4.81

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	5.21	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.90	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sni-Tech	
Total Liquids Removed:	300	Gallons



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 3, 2006
FIGURE 1

C 007760

Crandall

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 92454

2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone (803) 808-2043

5. Transporter 1 Company Name Crandall Corporation

6. US EPA ID Number SCD981864499

A. Transporter's Phone (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number SCD981864499

C. Facility's Phone (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	1	TT	525	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0092454

Bay Creek Villas - 18662 300 g
Matthew's Service - 00820 200 g
Corner Pantry 126 - 07791 25 g

Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

TRANSPORTER

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: T.E. Raymond — Signature: [signature] — Month 06 Day 26 Year 06

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: T.E. Raymond — Signature: [signature] — Month 06 Day 26 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Tony Dillon — Signature: [signature] — Month 06 Day 26 Year 06

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

JUN 06 2006

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071-0854

Re: **Notice to Proceed**
Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC
UST Permit # 18662, CA # 27093
SB-26144-7/27/04-EMW; PO # 543967
Colleton County

Dear Mr. Shane:

As discussed by telephone, analytical data suggests that the previous Aggressive Fluid Vapor Recovery (AFVR) events have been very effective. Therefore; the Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) requests six additional 8-hour Aggressive Fluid Vapor Recovery (AFVR) events to remove free product and vapors from monitoring wells MW-3, MW-15, MW-16, and MW-18. The events should be completed at two-week intervals through the summer months. The initial AFVR events should concentrate on the wells containing free phase product. If the vapor recovery declines at a given well, the AFVR event should shift to other wells in a manner that will maximize the recovery of free product and vapors during each event. The effectiveness of each event should be used to optimize the frequency of subsequent events. You may commence with a site reconnaissance and the AFVR events. The final report and invoice are due within 90 days from the date of this letter.

Cost Agreement # 27093 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 UST Program reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with bid number SB-26144-7/27/04-EMW. Further, the UST Program reserves the right to question and/or reject costs if deemed unreasonable. The UST Program reserves the right to audit project records at any time during the project or after completion of the work.

Future invoices and/or other criteria included therein must comply with current State Underground Petroleum Environmental Response Bank (SUPERB) criteria per Section 44-2-20(2). Please reference Cost Agreement # 27093 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 UST Program is obtained. If for any reason there is a change in this cost agreement, any associated changes to this cost agreement must be pre-approved by the UST Program in order for Midlands Environmental Consultants to seek future cost compensation. Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

The UST Program grants pre-approval for transportation of free phase product and petroleum contaminated groundwater from the referenced site to a permitted treatment facility. The free product and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included in the report.

On all correspondence regarding this site, please reference the UST Permit # 18662 and Cost Agreement # 27093. If you have questions concerning this correspondence, or would like to submit additional information, please contact me by phone at (803) 896-6584, by fax at (803) 896-6245, or by email at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Approved Cost Agreement # 27093
Site Information

cc: Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with approved cost agreement)
Dan Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438 (with approved cost agreement)
Technical File (with approved cost agreement)

Approved Cost Agreement 27093

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	6.0000	385.00	2,310.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	6,000.0000	0.25	1,500.00
23 EFR						
		A	8 HOUR EVENT	6.0000	600.00	3,600.00
		C	OFF GAS TREATMENT	6.0000	50.00	300.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
				Total Amount		7,785.00

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

MAY 23 2006

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Report received May 22, 2006
Colleton County

Dear Mr. Nunn:

As you are aware, Aggressive Fluid Vapor Recovery was completed for a period of 80 hours between April 10 and April 13, 2006. A subsequent sampling event took place on May 8, 2006. A copy of the report is enclosed. The data suggests that the AFVR event was very effective. During our May 22, 2006 telephone conversation, you agreed with the continuation of AFVR events through the summer. Midlands Environmental will be directed to coordinate with you so that the AFVR events can be completed on dates that are least likely to interfere with your clients.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Monitoring Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

APR 26 2006

RONNY LOWDER
EMERALD INC
PO BOX 3050
SUMTER SC 29151

Re: **Notice to Proceed-Groundwater Sampling**
Bid # SB-27496-03/08/05; PO# 574989

Dear Mr. Lowder:

Based on the award of the referenced bid package, enclosed are the information packets to conduct seven (7) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order #574989 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	EMERALD CA#
18662	Bay Creek Villas	Colleton	7	R. Miner	5/12/06	BTEXMN, 1,2-DCA, & EDB	26885	26886
17238	Frm Dicks Station	Berkeley	21	R. Miner	5/12/06	BTEXMN, 1,2-DCA, & EDB	26908	26909
17347	Brown Property	Georgetown	5	D. Thoma	5/12/06	BTEXMN	26171	26172
05747	Jimmys Mart	Lee	6	D. Thoma	5/19/06	BTEXMN, 1,2-DCA, & EDB	26383	26384
05722	Bishopville Maint	Lee	14	D. Thoma	5/19/06	BTEXMN, 1,2-DCA, & EDB	26381	26382
07326	Columbia Fire Dept	Richland	15	S. Block	5/19/06	BTEXMN & 1,2-DCA	26492	26493
19020	Frm McCoy Site	Fairfield	15	A. Shrader	05/19/06	BTEXMN, DCA, EDB, Oxygenates, Pb, NO3, SO4, Fe2+	26711	26712

Emerald, Inc. will perform services at the sites on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. Contact information has been provided in the information packet. The Bureau grants pre-approval for transportation of drums of groundwater from the referenced sites to a permitted treatment facility. The contaminated groundwater must be properly stored in labeled 55-gallon drums or equivalent containers. The contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included with the final report. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

Please contact me with the sampling schedule before commencing work at these facilities. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
Northeastern SC Corrective Action Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management

enc: Information Packets
Approved Cost Agreements

cc: Teresa Adams, PACE Analytical Services, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078 (w/ Approved CAs)
Technical/Read File

Approved Cost Agreement 6885

Facility: 18662 BAY CREEK VILLAS

MINERRS

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	7.0000	23.00	161.00
		F	EDB	7.0000	27.00	189.00
				Total Amount		350.00

Approved Cost Agreement 6886

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	1.0000	114.40	114.40
10 SAMPLE COLLECTION						
		D	GROUNDWATER NO-PURGE	7.0000	10.00	70.00
				Total Amount		184.40

Record Group # 169

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Report On Records Destroyed
Records and Forms Management Unit
(UST Program ONLY)

1. Return this form to:
DHEC Forms Manager-Heritage Building
1777 St. Julian Place
Columbia, SC 29204

The records listed below have been disposed of in accordance with provisions of the Public Records Act, Code of Laws of South Carolina, 1976, Sections 30-1-10 through 30-1-140, as amended, and approved Records Retention Schedules.

2. Signature: Read S Miner 3. Date: 3-17-06

Records Officer signature:

4. Record Series Titles	5. Record Series #	6. Inclusive Dates	7. Volume (cubic footage)	8. Date of Destruction
Monitoring Report	13300	11-05	.01	3-17-06
*Documents put in recycle box on date of destruction.			9) .01	Total cubic Feet destroyed .01

SITE ID # 18662 FACILITY NAME: Bay Creek Villas

REVIEWED BY Read Miner

DHEC 0521 (4/1998) Page 1 of 2 [Records Retention schedule #'s 12-300 and 12-331]

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

FEB 17 2006

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received February 16, 2006
Colleton County

Dear Mr. Nunn:

A Corrective Action Plan was implemented in January 2003 in response to groundwater contamination at Bay Creek Villas. Please find enclosed a copy of Consultech's Corrective Action System Evaluation (CASE) report. Consultech has proposed to further increase the duration of each air sparging event to two consecutive days and the air sparging events will take place twice monthly.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Corrective Action System Evaluation

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

FEB 17 2006

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation (CASE) report received February 16, 2006
Colleton County

Dear Mr. Wilson:

Thank you for submitting the referenced report. The data suggests that petroleum is being moved around in the sub-surface; however, a reduction in contaminant concentrations was not documented. Please take appropriate measures to aggressively clean-up the subsurface. The next quarterly CASE report should be submitted on or before May 7, 2006.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Peter Stipp, 210 King George Rd., Greenville, SC 29615
Dan Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

FEB 14 2006

BRIAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071

Re: Bid # SB-28162-5/26/05-EMW; PO# 586441
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct assessments at several facilities. The packets contain the necessary approval for work to begin. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 586441 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit#	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
11702	Colonel Creek Landing	Fairfield	1	MWI	60 days	26250	$6,312.50
15724	Burnett's Cleaners	Richland	1	MWI	60 days	26129	$10,684.50
17641	Pearman Dairy Road Site	Anderson	1	MWI	60 days	26385	$1,790.00
18662	Bay Creek Villas	Colleton	1	MWI	60 days	26482	$1,554.00

*From receipt of letter

Midland's Environmental Associates, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. **Please note, if there are any changes in the established cost agreement amounts (e.g., additional water supply wells sampled, additional well footage, etc.) contact the site's project manager for technical and/or financial approval. Failure to do so prior to submittal of invoice may result in delay of payment.**

The Bureau grants preapproval for transportation of drums of virgin petroleum contaminated soil and drums of groundwater from the referenced site to a permitted treatment facility. The contaminated soil and/or groundwater must be properly stored in labeled 55-gallon drums or equivalent containers. The contaminated soil and/or groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. Please note, transportation of waste oil contaminated soil must receive preapproval from the Division of Waste Assessment & Emergency Response.

Please provide this office with a schedule of drilling dates and coordinate all work with me before commencing work at the facility. If you have any questions or need further assistance, please contact me at (803) 896-6647.

Sincerely,

K. Akhvlediani

Konstantine T. Akhvlediani, Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc.: Monitoring Well Approvals (MWA)
Approved Cost Agreements (ACA)
Information Packets

cc: Technical Files (w/ copy of MWA)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

Monitoring Well Approval

Approval is hereby granted to: Midlands Environmental Consultants
(On behalf of): Bay Creek Villas
Facility: Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC
UST Permit Number: 18662
County: Colleton

This approval is for the installation of 4 monitoring wells. Wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.

2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.

3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f

4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.

5. If any of the information provided to the Department changes, notification to Read Miner (tel: 803-896-6584 or e-mail: minerrs@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.

7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002. A copy of this approval should be on the site during well installation.

Date of Issuance: **February 9, 2006** **Approval #:** **UMW-19800**

Read S Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Division of Assessment and Corrective Action
Bureau of Land and Waste Management

Approved Cost Agreement 2[illegible]32

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB					
		B PERSONNEL	3.0000	110.00	330.00
09 WELL INSTALLATION					
		B WATER TABLE (DRILLED)	40.0000	15.00	600.00
10 SAMPLE COLLECTION					
		A GROUND WATER	4.0000	30.00	120.00
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	4.0000	33.50	134.00
16 SUBSEQUENT SURVEY					
		SUBSEQUENT SURVEY	1.0000	50.00	50.00
17 DISPOSAL					
		A1 WASTEWATER - PURGING/SAMPLING	2.0000	10.00	20.00
		C SOIL (TREATMENT/DISPOSAL)	4.0000	50.00	200.00
23 EFR					
		D SITE RECONNAISSANCE	1.0000	100.00	100.00
			Total Amount		1,554.00

Record Group # 169

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Report On Records Destroyed
Records and Forms Management Unit
(UST Program ONLY)

1. Return this form to:
DHEC Forms Manager-Heritage Building
1777 St. Julian Place
Columbia, SC 29204

The records listed below have been disposed of in accordance with provisions of the Public Records Act, Code of Laws of South Carolina, 1976, Sections 30-1-10 through 30-1-140, as amended, and approved Records Retention Schedules.

2. Signature: Read B Miner 3. Date: 1-19-06

Records Officer signature:

4. Record Series Titles	5. Record Series #	6. Inclusive Dates	7. Volume (cubic footage)	8. Date of Destruction
Monitoring Report	13300	8-05	.01	1-19-06
*Documents put in recycle box on date of destruction.			9) .01	Total cubic Feet destroyed .01

SITE ID # 18662 FACILITY NAME: Bay Creek Villas

REVIEWED BY Read Miner

DHEC 0521 (4/1998) Page 1 of 2 [Records Retention schedule #'s 12-300 and 12-331]

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

NOV 17 2005

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received November 14, 2005
Colleton County

Dear Mr. Nunn:

A Corrective Action Plan was implemented in January 2003 in response to groundwater contamination at Bay Creek Villas. Please find enclosed a copy of Consultech's Corrective Action System Evaluation (CASE) report. Consultech has proposed to increase the frequency of air sparging events to twice monthly, but still anticipate that clean-up will take at least one more year to complete.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Corrective Action System Evaluation

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

APR 19 2006

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery Report received April 18, 2006
Colleton County

Dear Mr. Nunn:

As you are aware, Aggressive Fluid Vapor Recovery was completed for a period of 80 hours between April 10 and April 13, 2006. A copy of the report is enclosed. Through the duration of the event, Approximately 141.76 equivalent gallons of petroleum was recovered. The total volume of fluids (water and petroleum) was 7,257 gallons. The next work scope includes sampling of the monitoring well network to evaluate the overall effectiveness of the AFVR event. The sampling contractor will be Emerald, Inc. located out of Sumter, SC.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

APR 10 2006

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Well Installation Report received April 7, 2006
Colleton County

Dear Mr. Nunn:

As you are aware, four additional monitoring wells were installed and sampled on March 22, 2006. A copy of the report is enclosed. Based on the analytical results, petroleum extends under the building. By separate correspondence, Midlands Environmental Consultants has been directed to complete several Aggressive Fluid Vapor Recovery (AFVR) events to recover free phase product and reduce concentrations of petroleum in the groundwater.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Monitoring Well Installation Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

BUREAU OF
BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

March 27, 2006

RECEIVED
MAR 28 2006
UNDERGROUND STORAGE
TANK PROGRAM

James Wilson
Consultech Environmental
1800 MacLeod Drive, #F
Lawrenceville, GA 30043

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit # 18662; CA #16474
SB-20713-10/8/02-EMW; PO # 437565

Dear Mr. Wilson:

As you are aware, the referenced corrective action was originally awarded to Consultech Environmental in late 2002. Since that time, Consultech has performed limited corrective action activities, but has been unsuccessful at documenting any progress toward meeting corrective action goals. Although Consultech has recently increased its treatment intensity, the increased efforts are considered far too small to result in a timely completion of clean-up. Based upon discussions between Kent Coleman, Director in the Assessment and Corrective Action Division, Read Miner, and Consultech (represented by yourself), it was decided that the best course of action was cancellation of the order.

To date, Consultech has been paid the initial 40% ($32,000) for treatment system installation and startup in February 2003. As discussed, no further payments will be forthcoming. The purchase order has been cancelled, and the UST Program will return Consultech's performance bond.

If you have any questions, please contact me at (803) 898-3487.

Sincerely,

E. Madison Winslow

E. Madison Winslow, Procurement Officer
Bureau of Business Management

cc: Read Miner, UST Program
Kent Coleman, UST Program
Procurement Services file

WAJ

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

NOV 17 2005

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation (CASE) report received November 14, 2005
Colleton County

Dear Mr. Wilson:

Thank you for submitting the referenced report. The Underground Storage Tank (UST) program is pleased that Consultech has proposed to increase the frequency of the air sparging events to twice monthly, but Consultech still has not provided a firm implementation schedule to complete corrective action, as requested. Consultech simply stated that it will require at least one more year of air sparging to remove the total mass down to below SSTLs. Unless Consultech provides a more definitive schedule, the UST Program will expect to see at least a 25% reduction in concentrations by the next quarterly CASE report (due on or before February 7, 2006).

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Peter Stipp, 210 King George Rd., Greenville, SC 29615
Dan Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

OCT 14 2005

CHARLOTTE G MAIN
PRUDENTIAL KAPP/LYONS REALTY
440 HWY 174
EDISTO ISLAND SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Correspondence received October 11, 2005
Colleton County

Dear Ms. Main:

The following is provided in response to the referenced correspondence. We received a report on January 28, 2000 documenting contamination in the subsurface in the vicinity of the former underground storage tank (UST) at Bay Creek Villas. Our records revealed that the UST owned by Bay Creek Villas was closed in place on December 13, 2000. In response to the initial report of contamination, we directed Bay Creek Villas, as the party responsible for performing this activity under state and federal law, to assess the extent and severity of the contamination. The assessment was completed and corrective action is currently in progress.

This release of petroleum products from the UST is qualified to receive funding under the conditions of the State Underground Petroleum Environmental Response Bank (SUPERB) Act. The $25,000 deductible has already been paid by Bay Creek Villas. This means that reasonable costs up to $1,000,000 can be paid by the SUPERB account for site rehabilitation actions associated with this release on behalf of Bay Creek Villas. Neither the seller nor the buyer of Bay Creek Villa Unit 108 will be charged by the UST Program for any repairs, maintenance, or site rehabilitation activities paid for by the SUPERB Account on behalf of Bay Creek Villas.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Dann Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach SC 29438

Prudential

Prudential Kapp/Lyons Realty
440 Highway 174
Edisto Island, SC 29438
Bus 843 869-2516 Fax 843 869-3440
info@kapplyons.com

Fax To: 803/896-6245

October 11, 2005

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waster Management

RE: Permit 18662
Bay Creek Villas
3701 Dock Site Rd
Unit 108
Edisto Beach, SC 29438
Colleton County

Dear Mr. Miner:

I am a realtor with Prudential Kapp/Lyons Realty on Edisto Island, SC, and am in a dual agency relationship with both the seller of Villa 108 and buyer of Villa 108. The buyer is requesting documentation of release of financial liability or any involvement regarding the above referenced permit, #18662. Please accept this as our concern letter on permit 18662.

Cordially,

Charlotte Main

Charlotte G. Main
Realtor
Fax 843/869-3004

CC:Carla S. Thomas
Ira & Bonnie Coward

An independently owned and operated member of The Prudential Real Estate Affiliates, Inc.

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

AUG 26 2005

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474; UMW #18908
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation (CASE) report received August 3, 2005
Colleton County

Dear Mr. Wilson:

As you are aware, Consultech originally estimated a clean-up time frame of 2 years for the referenced facility. It has now been approximately 2 1/2 years since treatment first began, and corrective action is still far from completion. Both the Underground Storage Tank Program and the owners of Bay Creek Villas are concerned about the time frame. In addition to the environmental concerns, Mr. Peter Stipp with Bay Creek Villas indicated that other needed site renovations, such as re-paving of the parking lot, are being delayed until the corrective action is complete.

During our recent telephone conversations, you stated many reasons that you believe have contributed to the delays. As discussed, the most important issue at this point is to finish corrective action at Bay Creek Villas as expeditiously as possible. Consultech has proposed to continue with Aggressive Air Sparging events. This is acceptable; however, both the UST Program and Bay Creek Villas' management request a firm commitment for job completion. Please provide a new implementation schedule outlining when you anticipate reaching interim and final performance goals. If, at any time in the future, the treatment system fails to meet these interim and/or final goals, the treatment strategy should be re-evaluated to determine if it can be modified or changed to be more efficient. The implementation schedule should be incorporated into the next CASE report (3 copies) that is due on or before November 7, 2005.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Peter Stipp, 210 King George Rd., Greenville, SC 29615
Dan Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438

D H E C
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C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

AUG 12 2005

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474; UMW#18908
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received August 3, 2005
Colleton County

Dear Mr. Nunn:

A Corrective Action Plan was implemented in January 2003 in response to groundwater contamination at Bay Creek Villas. Please find enclosed a copy of Consultech's Corrective Action System Evaluation (CASE) report. The Underground Storage Tank (UST) Program shares your concern regarding the slow progress at this facility. The data suggests that the Aggressive Fluid Vapor Recovery (AFVR) events may have removed the free phase product and Consultech Environmental stated that they are resuming the aggressive air sparging events. The UST Program hopes that the AFVR events have helped Consultech overcome the free product obstacle and will be anxiously awaiting the next CASE progress report. A copy will be provided to you promptly upon receipt.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Corrective Action System Evaluation

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

AUG 12 2005

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474; UMW #18908
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation (CASE) report received August 3, 2005
Colleton County

Dear Mr. Wilson:

Thank you for submitting the referenced report. The data suggests that the Aggressive Fluid Vapor Recovery (AFVR) events may have removed the free phase product and the Underground Storage Tank (UST) Program understands that Consultech Environmental is resuming their aggressive air sparging events. This is acceptable; however, please take appropriate measures to maximize the treatment efficiency so that these corrective action efforts can be completed expeditiously. The next CASE report (3 copies) is due on or before November 7, 2005.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Peter Stipp, 210 King George Rd., Greenville, SC 29615
Dan Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438

Record Group # 169

DHEC
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control

Report On Records Destroyed
Records and Forms Management Unit
(UST Program ONLY)

1. Return this form to:
DHEC Forms Manager-Heritage Building
1777 St. Julian Place
Columbia, SC 29204

The records listed below have been disposed of in accordance with provisions of the Public Records Act, Code of Laws of South Carolina, 1976, Sections 30-1-10 through 30-1-140, as amended, and approved Records Retention Schedules.

2. Signature: Reed S Miner 3. Date: 8-5-05

Records Officer signature:

4. Record Series Titles	5. Record Series #	6. Inclusive Dates	7. Volume (cubic footage)	8. Date of Destruction
Monitoring Report	13300	5-05	.01	8-5-05
*Documents put in recycle box on date of destruction.			9) .01	Total cubic Feet destroyed .01

SITE ID # 18662 FACILITY NAME: Bay Creek Villas

REVIEWED BY Reed Miner

DHEC 0521 (4/1998) Page 1 of 2 [Records Retention schedule #'s 12-300 and 12-331]

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

JUL 25 2005

BUNNIE CRAWFORD
COLDWELL BANKER UNITED REALTY INC
1711 GERVAIS ST
COLUMBIA SC 29201

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Correspondence received July 20, 2005
Colleton County

Dear Ms. Crawford:

We received a report on January 28, 2000 documenting contamination in the subsurface in the vicinity of the former underground storage tank (UST) at Bay Creek Villas. Our records revealed that the UST owned by Bay Creek Villas was closed in place on December 13, 2000. In response to the initial report of contamination, we directed Bay Creek Villas, as the party responsible for performing this activity under state and federal law, to assess the extent and severity of the contamination. The assessment was completed and corrective action is currently in progress.

This release of petroleum products from the UST is qualified to receive funding under the conditions of the State Underground Petroleum Environmental Response Bank (SUPERB) Act. The $25,000 deductible has already been paid by Bay Creek Villas. This means that reasonable costs up to $1,000,000 can be paid by the SUPERB account for site rehabilitation actions associated with this release on behalf of Bay Creek Villas. The owners of Bay Creek Villa Unit 217 will not be charged by the UST Program for any repairs or maintenance paid for by the SUPERB Account on behalf of Bay Creek Villas.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Dann Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach SC 29438

Luxury Homes & Unique Properties

Serving Central & Coastal South Carolina

Bunni Crawford

RECEIVED

JUL 2 0 2005

UNDERGROUND STORAGE TANK PROGRAM

FAX

COVER SHEET

COLDWELL BANKER UNITED REALTY, INC.
1711 Gervais Street
Columbia, SC 29201
Direct Line # 758-1654
Direct Fax # 254-0106
Email: salecola@aol.com

To: 896-6245 Fax: Art Scraider

Company: Date: 7-20-05

RE: Pages: 1 incl. Cover

From: ☐ BUNNI CRAWFORD ☑ JESSICA GODWIN

☐ Urgent ☐ For Review ☐ Please Comment ☑ Please Reply ☐ Requested Information

☐ Comments:

Hi, I spoke with you earlier today. and we need a letter stating that owners of Bay Creek Villa Unit 217 will NOT be charged for repairs/maintenance done under UST permit 186662 Bay Creek Villas 3701 Dock Site Rd, Edisto Beach, SC 29438 Thank you. Please fax letter to: 803-254-0106, ATTN: BUNNI CRAWFORD

If you do not receive all of the pages, please contact us so that we may resend.
Thank You!

RECEIVED

JUL 25 2005

UNDERGROUND STORAGE TANK PROGRAM

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

JUL 25 2005

BUNNIE CRAWFORD
COLDWELL BANKER UNITED REALTY INC
1711 GERVAIS ST
COLUMBIA SC 29201

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Correspondence received July 20, 2005
Colleton County

Dear Ms. Crawford:

We received a report on January 28, 2000 documenting contamination in the subsurface in the vicinity of the former underground storage tank (UST) at Bay Creek Villas. Our records revealed that the UST owned by Bay Creek Villas was closed in place on December 13, 2000. In response to the initial report of contamination, we directed Bay Creek Villas, as the party responsible for performing this activity under state and federal law, to assess the extent and severity of the contamination. The assessment was completed and corrective action is currently in progress.

This release of petroleum products from the UST is qualified to receive funding under the conditions of the State Underground Petroleum Environmental Response Bank (SUPERB) Act. The $25,000 deductible has already been paid by Bay Creek Villas. This means that reasonable costs up to $1,000,000 can be paid by the SUPERB account for site rehabilitation actions associated with this release on behalf of Bay Creek Villas. The owners of Bay Creek Villa Unit 217 will not be charged by the UST Program for any repairs or maintenance paid for by the SUPERB Account on behalf of Bay Creek Villas.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Dann Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach SC 29438

Confirmation Report - Memory Send

Date & Time: Jul-25-2005 16:52
Tel line : +8038966245
Machine ID : UST PROGRAM

Job number	:	477
Date & Time	:	Jul-25 16:47
To	:	92540106
Number of pages	:	001
Start time	:	Jul-25 16:48
End time	:	Jul-25 16:48
Pages sent	:	001
Status	:	OK
Job number	:	477

*** SEND SUCCESSFUL ***

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

MAY 13 2005

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474; UMW #18908
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received May 11, 2005
Colleton County

Dear Mr. Wilson:

Thank you for the referenced report. The Underground Storage Tank Program understands that Consultech proposes the completion of two Aggressive Fluid Vapor Recovery events during the next quarter. This is acceptable. However, if it is determined that completion of more frequent AFVR events or the application of another treatment technology could expedite project completion, please advise me of your plans. Based on the implementation schedule outlined in bid specification #8, the next Corrective Action System Evaluation (3 copies) is due on or before August 7, 2005.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Peter Stipp, 210 King George Rd., Greenville, SC 29615
Dan Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

MAY 13 2005

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474; UMW#18908
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received May 11, 2005
Colleton County

Dear Mr. Nunn:

A Corrective Action Plan was implemented in January 2003 in response to groundwater contamination at Bay Creek Villas. Please find enclosed a copy of Consultech's Corrective Action System Evaluation (CASE) report. The report is sent to you in an effort to keep you informed of the remediation activities being conducted at the referenced facility. The report includes an overview of the current site conditions and details the most recent groundwater sampling activities. The report provides data that is used to determine the effectiveness of the remediation system.

As you are aware, Consultech Environmental installed additional recovery wells this year for free product recovery purposes. On March 15, 2005, an Aggressive Fluid Vapor Recovery (AFVR) event was conducted to remove free phase product from the ground. Free product was still found when they re-measured the wells in April 2005. Consultech Environmental has proposed to complete two additional AFVR events during the next quarter. The next CASE report will be forwarded to you as soon as this office has reviewed the findings.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Corrective Action System Evaluation
cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

FEB 08 2005

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474; UMW #18908
SB-20713-10/08/02; PO #437565
Monitoring Report received October 20, 2004
Corrective Action System Evaluation received February 7, 2005
Colleton County

Dear Mr. Wilson:

Thank you for the referenced report. With the addition of the two additional extraction points, the Underground Storage Tank Program anticipates the acceleration of corrective action progress. Please continue to take appropriate actions to re-establish corrective action progress and move toward completion of clean-up. Based on the implementation schedule outlined in bid specification #8, the next Corrective Action System Evaluation (3 copies) is due on or before May 7, 2005.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Peter Stipp, 210 King George Rd., Greenville, SC 29615
Dann Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

FEB 08 2005

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474; UMW#18908
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received February 7, 2005
Colleton County

Dear Mr. Nunn:

A Corrective Action Plan was implemented in January 2003 in response to groundwater contamination at Bay Creek Villas. Please find enclosed a copy of Consultech's Corrective Action System Evaluation (CASE) report. The report is sent to you in an effort to keep you informed of the remediation activities being conducted at the referenced facility. The report includes an overview of the current site conditions and details the most recent groundwater sampling activities. The report provides data that is used to determine the effectiveness of the remediation system. The next CASE report will be forwarded to you as soon as this office has reviewed the findings.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Corrective Action System Evaluation

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Record Group # 169

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Report On Records Destroyed
Records and Forms Management Unit
(UST Program ONLY)

1. Return this form to:
DHEC Forms Manager-Heritage Building
1777 St. Julian Place
Columbia, SC 29204

The records listed below have been disposed of in accordance with provisions of the Public Records Act, Code of Laws of South Carolina, 1976, Sections 30-1-10 through 30-1-140, as amended, and approved Records Retention Schedules.

2. Signature: Reed B Miller 3. Date: 2-8-05

Records Officer signature:

4. Record Series Titles	5. Record Series #	6. Inclusive Dates	7. Volume (cubic footage)	8. Date of Destruction
Monitoring Report	13300	12-04	.01	2-8-05
*Documents put in recycle box on date of destruction.			9) .01	Total cubic Feet destroyed .01

SITE ID # 18662 FACILITY NAME: Bay Creek Villas

REVIEWED BY Reed Moyer

DHEC 0521 (4/1998) Page 1 of 2 [Records Retention schedule #'s 12-300 and 12-331]

Record Group # 169

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Report On Records Destroyed
Records and Forms Management Unit
(UST Program ONLY)

1. Return this form to:
DHEC Forms Manager-Heritage Building
1777 St. Julian Place
Columbia, SC 29204

The records listed below have been disposed of in accordance with provisions of the Public Records Act, Code of Laws of South Carolina, 1976, Sections 30-1-10 through 30-1-140, as amended, and approved Records Retention Schedules.

2. Signature: Reed S Miner 3. Date: 1-6-05

Records Officer signature:

4. Record Series Titles	5. Record Series #	6. Inclusive Dates	7. Volume (cubic footage)	8. Date of Destruction
Monitoring Report	13300	10-04	.01	1-6-05
*Documents put in recycle box on date of destruction.			9) .01	Total cubic Feet destroyed .01

SITE ID # 18667 FACILITY NAME: Bay Creek Villas

REVIEWED BY Reed Miner

DHEC 0521 (4/1998) Page 1 of 2 [Records Retention schedule #'s 12-300 and 12-331]

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

DEC 22 2004

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474; UMW#18908
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received December 20, 2004
Colleton County

Dear Mr. Nunn:

A Corrective Action Plan was implemented in January 2003 in response to groundwater contamination at Bay Creek Villas. Please find enclosed a copy of Consultech's Corrective Action System Evaluation (CASE) report. The reports are sent to you in an effort to keep you informed of the remediation activities being conducted at the referenced facility. The report includes an overview of the current site conditions and details the most recent groundwater sampling activities. The report provides data that is used to determine the effectiveness of the remediation system. The next CASE report will be forwarded to you as soon as this office has reviewed the findings.

Please note, Consultech has proposed to install two additional treatment wells to help expedite corrective action. The locations are depicted on figures 2 and 3 of the enclosed report.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Corrective Action System Evaluation

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

DEC 22 2004

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474; UMW #18908
SB-20713-10/08/02; PO #437565
Monitoring Report received October 20, 2004
Corrective Action System Evaluation received December 20, 2004
Colleton County

Dear Mr. Wilson:

Thank you for the referenced report. As requested, well approval is enclosed for two extraction wells. Based on the implementation schedule outlined in bid specification #8, the next Corrective Action System Evaluation (3 copies) is due on or before February 7, 2005.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

Enc: Monitoring Well Approval

cc: Technical File (with enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)
Dann Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

Monitoring Well Installation Approval

Date of Issue: December 21, 2004 Approval No.: UMW-18908
Approval is hereby granted to: Consultech Environmental, Inc.
Location: Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC
UST Permit #: 18662
County: Colleton

This approval is for the construction of up to 2 extraction wells in accordance with the South Carolina Well Standards and Regulations. The well(s) are to be constructed for the intended purpose of corrective action 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 Read Miner at (803) 896-6584 or Minerrs@dhec.sc.gov.

5. Please provide groundwater 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: Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

Record Group # 169

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Report On Records Destroyed
Records and Forms Management Unit
(UST Program ONLY)

1. Return this form to:
DHEC Forms Manager-Heritage Building
1777 St. Julian Place
Columbia, SC 29204

The records listed below have been disposed of in accordance with provisions of the Public Records Act, Code of Laws of South Carolina, 1976, Sections 30-1-10 through 30-1-140, as amended, and approved Records Retention Schedules.

2. Signature: Reed S Miner 3. Date: 10-22-04

Records Officer signature:

4. Record Series Titles	5. Record Series #	6. Inclusive Dates	7. Volume (cubic footage)	8. Date of Destruction
Monitoring Report	13300	7-04	.01	10-22-04
*Documents put in recycle box on date of destruction.			9) .01	Total cubic Feet destroyed .01

SITE ID # 18662 FACILITY NAME: Bay Creek Villas

REVIEWED BY Reed Miner

DHEC 0521 (4/1998) Page 1 of 2 [Records Retention schedule #'s 12-300 and 12-331]

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

OCT 22 2004

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Monitoring Report received October 20, 2004
Corrective Action System Evaluation received October 21, 2004
Colleton County

Dear Mr. Nunn:

A Corrective Action Plan was implemented in January 2003 in response to groundwater contamination at Bay Creek Villas. Please find enclosed a copy of a monitoring report documenting the results of samples collected by the UST Program, and Consultech's Corrective Action System Evaluation (CASE) report. The reports are sent to you in an effort to keep you informed of the remediation activities being conducted at the referenced facility. The report includes an overview of the current site conditions and details the most recent groundwater sampling activities. The report provides data that is used to determine the effectiveness of the remediation system. The next CASE report will be forwarded to you as soon as this office has reviewed the findings.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Monitoring Report
Corrective Action System Evaluation

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

OCT 22 2004

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Monitoring Report received October 20, 2004
Corrective Action System Evaluation received October 21, 2004
Colleton County

Dear Mr. Wilson:

On October 5, 2004, I met with Consultech Environmental staff to split samples at the referenced facility for quality assurance purposes. A copy of the report is enclosed. Both of the referenced reports suggest that very little progress has been made since corrective action began.

Pursuant to bid specification #8, a reduction of the number of wells sampled can be considered upon clear demonstration of CoC reduction. Because of the limited progress shown to date, the requested reduction cannot be considered at this time.

Appropriate adjustments should be made to the treatment strategy to ensure that corrective action progress is re-established. If any additional permits or modifications to the existing permits are needed, please submit the required documentation promptly.

Based on the implementation schedule outlined in bid specification #8, the next Corrective Action System Evaluation (3 copies) is due on or before November 7, 2004.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

Enc: Monitoring Report
cc: Technical File (without enc.)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (without enc.)
Dann Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438 (without enc.)

Record Group # 169

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Report On Records Destroyed
Records and Forms Management Unit
(UST Program ONLY)

1. Return this form to:
DHEC Forms Manager-Heritage Building
1777 St. Julian Place
Columbia, SC 29204

The records listed below have been disposed of in accordance with provisions of the Public Records Act, Code of Laws of South Carolina, 1976, Sections 30-1-10 through 30-1-140, as amended, and approved Records Retention Schedules.

2. Signature: Reed S Miner 3. Date: 9-1-04

Records Officer signature:

4. Record Series Titles	5. Record Series #	6. Inclusive Dates	7. Volume (cubic footage)	8. Date of Destruction
monitoring Report	13300	4-04	.01	9-1-04
*Documents put in recycle box on date of destruction.			9) .01	Total cubic Feet destroyed .01

SITE ID # 18662 FACILITY NAME: Bay Creek Villas

REVIEWED BY Reed Miner

DHEC 0521 (4/1998) Page 1 of 2 [Records Retention schedule #'s 12-300 and 12-331]

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

JUL 21 2004

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received July 9, 2004
Colleton County

Dear Mr. Nunn:

A Corrective Action Plan was implemented in January 2003 in response to groundwater contamination at Bay Creek Villas. Please find enclosed a copy of the quarterly monitoring report. The report is sent to you in an effort to keep you informed of the remediation activities being conducted at the referenced facility. The report includes an overview of the current site conditions and details the most recent groundwater sampling activities. The report provides data that is used to determine the effectiveness of the remediation system. The next monitoring report will be forwarded to you as soon as this office has reviewed the findings.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Corrective Action System Evaluation

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

JUL 21 2004

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received July 9, 2004
Colleton County

Dear Mr. Nunn:

A Corrective Action Plan was implemented in January 2003 in response to groundwater contamination at Bay Creek Villas. Please find enclosed a copy of the quarterly monitoring report. The report is sent to you in an effort to keep you informed of the remediation activities being conducted at the referenced facility. The report includes an overview of the current site conditions and details the most recent groundwater sampling activities. The report provides data that is used to determine the effectiveness of the remediation system. The next monitoring report will be forwarded to you as soon as this office has reviewed the findings.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Corrective Action System Evaluation

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

JUL 21 2004

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received July 9, 2004
Colleton County

Dear Mr. Wilson:

Thank you for submitting the referenced report. Remarkable progress is indicated since last quarter. The UST Program desires to split samples from the SSTL wells with Consultech during the next sampling event. A reduction of the number of wells to be sampled is not approved at this time. Once the sample split is completed next quarter, your request will be reconsidered provided the data continues to support this remarkable progress. Please call me as soon as possible to schedule a date and time to meet and split samples. Based on the implementation schedule outlined in bid specification #8, the next Corrective Action System Evaluation (3 copies) is due on or before August 7, 2004.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Peter Stipp, 210 King George Rd., Greenville, SC 29615
Dann Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

JUL 12 2004

SHERRI STABEL
PACE ANALYTICAL SERVICES
9800 KINCEY AVE STE 100
HUNTERSVILLE NC 28078

Re: Laboratory Analyses
Bid # SB-19780-6/11/02-EMW, PO # 416276

Dear Ms. Stabel:

Under the terms and conditions of the referenced bid package, analytical sampling has been approved for the referenced facilities. The facilities have been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order #416276 on the appropriate invoice submitted for payment against the facility. SCDHEC personnel will perform the sampling during the week of July 26, 2004.

UST Permit #	County	Analyses-Groundwater	CA #	Bottles (Y/N)	Date Needed
18662	Colleton	7-BTEX, Naph, MTBE, 1-2 DCA (8260), EDB (8011), Oxygenates	22369:P	Y	7-23-04

If you have any questions or need further assistance, please contact me at (803) 896-6584 or (800) 826-5435 (within SC only).

Sincerely,

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

Enc: Approved Cost Agreement

cc: Debra Thoma, Northeastern SC Corrective Action Section
Technical File

Approved Cost Agreement 22369

Facility: 18662 BAY CREEK VILLAS
MINERRS
PO Number: 416276-1187

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	7.0000	30.00	210.00
		F	EDB	7.0000	40.00	280.00
		P	8 OXYGENATES	7.0000	200.00	1,400.00
				Total Amount		1,890.00

#18662

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

CERTIFIED MAIL
7001 0360 0002 0806 3576

JUL 09 2004

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC
SB-20713-10/8/02-EMW; PO #437565
Colleton County

Dear Mr. Wilson:

The referenced contract was awarded to your company on October 17, 2002. In accordance with Special Condition #7 of the contract, Corrective Action System Evaluation (CASE) reports are to be submitted to this office on a quarterly schedule. As of this writing, the CASE report due May 7, 2004 has not been received. At this time, Consultech Environmental is in breach of the terms and conditions of the referenced contract and is subject to the immediate termination of said contract.

However, for reasons befitting the Program, if the required CASE reports are received by the Underground Storage Tank Program no later than (20) twenty working days from your receipt of this letter, the Program will forego cancellation.

Please feel free to contact me at (803) 896-6677 if you have any questions or need additional information.

Sincerely,

Lee Monts, Manager
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Matt Winslow, Bureau of Business Management
Technical File
Contractor Certification File

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received April 5, 2004
Colleton County

Dear Mr. Nunn:

A Corrective Action Plan was implemented in January 2003 in response to groundwater contamination at Bay Creek Villas. Please find enclosed a copy of the quarterly monitoring report. The report is sent to you in an effort to keep you informed of the remediation activities being conducted at the referenced facility. The report includes an overview of the current site conditions and details the most recent groundwater sampling activities. The report provides data that is used to determine the effectiveness of the remediation system. The next monitoring report will be forwarded to you as soon as this office has reviewed the findings.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Corrective Action System Evaluation

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

JAMES WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043-5736

Re: Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662; CA #16474
SB-20713-10/08/02; PO #437565
Corrective Action System Evaluation received April 5, 2004
Colleton County

Dear Mr. Wilson:

The Underground Storage Tank Program has reviewed the referenced report. Although corrective action has been in progress for more than a year, the current concentration of petroleum chemicals exceeds those values measured prior to the initiation of corrective action. Based on the implementation schedule outlined in bid specification #8, the next Corrective Action System Evaluation (3 copies) is due on or before May 7, 2004. This document shall outline how Consultech proposes to re-establish corrective action progress.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, contact me at (803) 896-6584 or (800) 826-5435 (within South Carolina only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File
Peter Stipp, 210 King George Rd., Greenville, SC 29615
Dann Nunn, Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC 29438

Record Group # 169

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Report On Records Destroyed
Records and Forms Management Unit
(UST Program ONLY)

1. Return this form to:
DHEC Forms Manager-Heritage Building
1777 St. Julian Place
Columbia, SC 29204

The records listed below have been disposed of in accordance with provisions of the Public Records Act, Code of Laws of South Carolina, 1976, Sections 30-1-10 through 30-1-140, as amended, and approved Records Retention Schedules.

2. Signature: Reed S Miner 3. Date: 4-27-04

Records Officer signature:

4. Record Series Titles	5. Record Series.#	6. Inclusive Dates	7. Volume (cubic footage)	8. Date of Destruction
Monitoring Report	13300	12-02	.01	4-27-04
MR	13300	7-03	.01	4-27-04
MR	13300	10-03	.01	4-27-04
MR	13300	12-03	.01	4-27-04
*Documents put in recycle box on date of destruction.			9)	Total cubic Feet destroyed

SITE ID # 18662 FACILITY NAME: Bay Creek Villas

REVIEWED BY Reed Miner

DHEC 0521 (4/1998) Page 1 of 2 [Records Retention schedule #'s 12-300 and 12-331]

BOARD:
Elizabeth M. Hagood
Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

BOARD:
Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Coleman F. Buckhouse, MD

JAN 07 2004

DAN NUNN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received December 29, 2003
Colleton County

Dear Mr. Nunn:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report submitted by Consultech Environmental, Inc. on your behalf. Consultech is currently conducting corrective action activities in response to groundwater contamination at Bay Creek Villas. Enclosed is a copy of the referenced monitoring report. The results of the sampling event indicate a decrease in the total mass in source area monitoring well MW-3 since the September 2003 sampling event. Total mass in other source area monitoring wells (MW-4 and MW-9) have increased slightly.

The next quarterly sampling will be conducted in approximately three months; the UST Program will forward a copy of that report to you after review.

On all correspondence regarding this site, please reference UST Permit #18662. If there are any questions concerning this project, please contact me by phone at (803) 896-6676 or (800) 826-5435 (within South Carolina only), by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CASE report

cc: Mr. Peter Stipp, 210 King George Rd., Greenville, SC 29615 (w/ enc)
Technical File (w/out enc)

SCDHEC/UST/SEB/010504

BOARD:
Elizabeth M. Hagood
Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

BOARD:
Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Coleman F. Buckhouse, MD

JAN 07 2004

MS LISA SYKES
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received December 29, 2003
Colleton County

Dear Ms. Sykes:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report. The next corrective action monitoring report is due on or before April 30, 2004.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions or need additional information, please contact me by phone at (803) 896-6676 or (800) 826-5435 (within South Carolina only), by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File

SCDHEC/UST/SEB/010504

November 3, 2003

RECEIVED

NOV 0 5 2003

UNDERGROUND STORAGE
TANK PROGRAM

Underground Storage Tank Program
DHEC
2600 Bull Street
Columbia, SC 29201-1708

Dear Ms. Block,

Reference Letter Attached
September 2, 2003
UST Permit # ~~19662~~ 18662

In reference to paragraph #1, we have read the report; however, not having expertise in this area of work, we still have many questions.

1. Is the contamination improving?
2. If it is improving, when will it be totally corrected so we can repave?
3. If it is not improving, what do we do now?

In reference to paragraph #2, we offer the following.

1. Last spring, Main's Market repaired six lines at a cost of $500 per line plus the cost of gaskets. The approximate total cost was $3,500.
2. Attached is his quote for the remaining 56 lines at $1,250 each for a total of $70,000.

As we discussed prior to your letter, we don't know if any or all of the connections need to be changed but how do we know until you dig them up?

In the spring, two trenches were dug to make the six connections. This resulted in two patches approximately 3 feet wide and 23 feet long each. Now we are looking at 19 more patched trenches in our parking lot.

We strongly recommend that we have a meeting at Bay Creek Villas to discuss the following.

1. Progress on removing the contamination.
2. What can be expected in the future and when will it happen.
3. What is DHEC's position on correcting the 56 gaskets that can deteriorate over time with the contamination in the soil?
4. Review the condition of the current parking lot and the result of other patchwork coming from contaminated soil.

5. Establish DHEC'S position in participating in the repaving of the total parking lot once all corrections are made.

Once again we think it is paramount that we meet at Bay Creek Villas as soon as possible with all parties in attendance so that we might plan for the future.

Please let me know at your earliest convenience so we can meet. My telephone number is 864/297-0692.

Sincerely,

Peter A. Stipp
President-Bay Creek Villas Board of Directors

CC: Board of Directors
Bay Creek Villas

Jimmy Knight

85

Page 1 of 2

Main's Market

"We know what grows on Edisto"

1084 Highway 174 • P.O. Box 793 • Edisto Island, SC 29438
FIN: 57-0938709
(843) 869-1337

LANDSCAPING
Proposal / Invoice

DATE 10/6/03

Edisto Location: ______________________

Name Bay Creek Villas

Billing Address 3701 Docksite Rd Edisto Island SC.
Att Tom McGuire 29438

Daytime Phone ( ) 869-4270
Home Phone ( ) ______
Fax ( ) ______
Phone Edisto Island ( ) ______

Description of Work: ______________________

Terms: 50% Due upon initiation; Balance at completion. * Plants / Trees are not guaranteed unless stated in writing on this agreement.

PREPARATION	PLANTS	LANDSCAPE SERVICES
Clearing	1 Gal.	REMOVE EXISTING WATER LINES
Debris Removal	3 Gal.	& INSTALL WATER LINES
Tree Removal	5 Gal.	TO 56 UNITS AT BAY
Back Hoe Work	Gal.	CREEK
Grading	Gal.	PATCH ASPHALT
Building Pad	Flats	
Fill Dirt /Cu. yds. ____		$1250.00 per unit
Top Soil /Cu. yds. ____	SHRUBS	
Landscape Fabric	1 Gal.	TOTAL $70,000.00
Other	3 Gal.	Qty. / Material / Plants / Unit / Amount
LAWN INSTALLATION	5 Gal.	
Sod /No# of Pallets ____		
FENCE INSTALLATION	TREES	Each Pavement patch approximently
Style	Gal.	3' wide & 23' long
Ft. ____ Gates ____	B & B	
IRRIGATION		3 units per TRENCH →
Sprinkler System	DRIVEWAY/WALK	or 19 Trenches
Soaker System	Shell Sand /Cu. yds ____	
PLANTING AREAS	Rock /Tons ____	
Berms	Concrete /Cu. yds ____	SUBTOTAL
Beds	Stepping Stones # ____	TAX
Retainer Walls	Framing	LANDSCAPE SERVICES TOTAL
Framing	Other	Thank You! TOTAL
Other		DOWN PAYMENT

MAINTENANCE			
General Clean-up	Mowing	Blowing	BALANCE DUE
Storm Clean-up	Edging	Mulching	Client Approved:
	Trimming	Other	

Signature

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

NOV 0 4 2003

FAIRFIELD RESORTS
8427 SOUTH PARK CIR STE 300
ORLANDO FL 32819

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received October 22, 2003
Colleton County

Dear Sir or Madam:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report submitted by Consultech Environmental, Inc. Consultech is currently conducting corrective action activities in response to groundwater contamination at Bay Creek Villas. Enclosed is a copy of the monitoring report. This information is being sent to you in order to keep you informed of the environmental conditions in the area.

The next quarterly sampling will be conducted in approximately three months. The UST Program will forward a copy of that report to you after review if you wish to continue receiving such updates. You will be informed when corrective action activities are complete if you choose not to receive quarterly updates. If you do not wish to continue receiving quarterly updates, please contact me by phone at (800) 826-5435 (within South Carolina only) or (803) 896-6676, by fax at (803) 896-6245, or by e-mail at blockse@dhec.sc.gov, and I will remove your name from the mailing list. If you wish to continue to receive quarterly updates, you do not need to do anything.

If you have any questions or comments regarding the corrective action, please contact me by e-mail or at the telephone numbers listed above.

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CASE Report

cc: Technical file (without enclosure)

SCDHEC/UST/SEB/110303

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

NOV 0 4 2003

EDISTO MARINA MANAGEMENT CORP
3702 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received October 22, 2003
Colleton County

Dear Sir or Madam:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report submitted by Consultech Environmental, Inc. Consultech is currently conducting corrective action activities in response to groundwater contamination at Bay Creek Villas. Enclosed is a copy of the monitoring report. This information is being sent to you in order to keep you informed of the environmental conditions in the area.

The next quarterly sampling will be conducted in approximately three months. The UST Program will forward a copy of that report to you after review if you wish to continue receiving such updates. You will be informed when corrective action activities are complete if you choose not to receive quarterly updates. If you do not wish to continue receiving quarterly updates, please contact me by phone at (800) 826-5435 (within South Carolina only) or (803) 896-6676, by fax at (803) 896-6245, or by e-mail at blockse@dhec.sc.gov, and I will remove your name from the mailing list. If you wish to continue to receive quarterly updates, you do not need to do anything.

If you have any questions or comments regarding the corrective action, please contact me by e-mail or at the telephone numbers listed above.

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CASE Report

cc: Technical file (w/out enclosure)

SCDHEC/UST/SEB/110303

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

NOV 0 4 2003

WELDON BELL
3706 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received October 22, 2003
Colleton County

Dear Mr. Bell:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report submitted by Consultech Environmental, Inc. Consultech is currently conducting corrective action activities in response to groundwater contamination at Bay Creek Villas. Enclosed is a copy of the monitoring report. This information is being sent to you in order to keep you informed of the environmental conditions in the area.

The next quarterly sampling will be conducted in approximately three months. The UST Program will forward a copy of that report to you after review if you wish to continue receiving such updates. You will be informed when corrective action activities are complete if you choose not to receive quarterly updates. If you do not wish to continue receiving quarterly updates, please contact me by phone at (800) 826-5435 (within South Carolina only) or (803) 896-6676, by fax at (803) 896-6245, or by e-mail at blockse@dhec.sc.gov, and I will remove your name from the mailing list. If you wish to continue to receive quarterly updates, you do not need to do anything.

If you have any questions or comments regarding the corrective action, please contact me by e-mail or at the telephone numbers listed above.

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CASE Report

cc: Technical file (without enclosure)

SCDHEC/UST/SEB/110303

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

NOV 0 4 2003

TOM MAGUIRE
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received October 22, 2003
Colleton County

Dear Mr. Maguire:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report submitted by Consultech Environmental, Inc. on your behalf. Consultech is currently conducting corrective action activities in response to groundwater contamination at Bay Creek Villas. Enclosed is a copy of the referenced monitoring report. This information is being sent to you in order to keep you informed of the environmental conditions at the referenced facility. The next quarterly sampling will be conducted in approximately three months; the UST Program will forward a copy of that report to you after review.

On all correspondence regarding this site, please reference UST Permit #18662. If there are any questions concerning this project, please contact me by phone at (803) 896-6676 or (800) 826-5435 (within South Carolina only), by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CASE report

cc: Technical File (w/out enc)

SCDHEC/UST/SEB/110303

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

NOV 0 4 2003

MS LISA SYKES
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received October 22, 2003
Colleton County

Dear Ms. Sykes:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report. The next corrective action monitoring report is due on or before January 31, 2004.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions or need additional information, please contact me by phone at (803) 896-6676 or (800) 826-5435 (within South Carolina only), by fax at (803) 896-6245, or by email at blockse@dhec.sc.gov.

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File

SCDHEC/UST/SEB/110303

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

SEP 0 9 2003

MOSS FAMILY TRUST
3525 HERON COVE
EDISTO ISLAND SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received July 21, 2003
Colleton County

Dear Sir or Madam:

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The next quarterly sampling will be conducted in approximately three months. The UST Program will forward a copy of that report to you after review if you wish to continue receiving such updates. You will be informed when corrective action activities are complete if you choose not to receive quarterly updates. If you do not wish to continue receiving quarterly updates, please contact me at (800) 826-5435 (within South Carolina only) or (803) 896-6676, or by e-mail at blockse@dhec.sc.gov, and I will remove your name from the mailing list. If you wish to continue to receive quarterly updates, you do not need to do anything.

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Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: CASE Report

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SCDHEC/UST/SEB/082903

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Phone (803) 896-6240 Fax (803) 896-6245

SEP 0 2 2003

EDISTO MARINA MANAGEMENT CORP
3702 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
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BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

SEP 0 2 2003

WELDON BELL
3706 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
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Colleton County

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Assessment and Corrective Action Division

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SCDHEC/UST/SEB/082903

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SEP 0 2 2003

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Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: CASE Report

cc: Technical file (without enclosure)

SCDHEC/UST/SEB/082903

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Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
Phone (803) 896-6240 Fax (803) 896-6245

SEP 0 2 2003

FAIRFIELD RESORTS
8427 SOUTH PARK CIR STE 300
ORLANDO FL 32819

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received July 21, 2003
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Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: CASE Report

cc: Technical file (without enclosure)

SCDHEC/UST/SEB/082903

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2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
PHONE (803) 896-6240 FAX (803) 896-6245

SEP 0 2 2003

MS LISA SYKES
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received July 21, 2003
Colleton County

Dear Ms. Sykes:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report. The next corrective action monitoring report is due on or before December 15, 2003.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions or need additional information, please contact me at (803) 896-6676.

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

cc: Technical File

SCDHEC/UST/SEB/082903

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Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
PHONE (803) 896-6240 FAX (803) 896-6245

SEP 0 2 2003

PETER STIPP
BAY CREEK VILLAS
210 KING GEORGE RD
GREENVILLE SC 29615

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received July 21, 2003
Colleton County

Dear Mr. Stipp:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report submitted by Consultech Environmental, Inc. on your behalf. Consultech is currently conducting corrective action activities in response to groundwater contamination at Bay Creek Villas. Enclosed is a copy of the referenced monitoring report. This information is being sent to you in order to keep you informed of the environmental conditions at the referenced facility. The next quarterly sampling will be conducted in approximately three months; the UST Program will forward a copy of that report to you after review.

Before a decision can be made regarding your request for DHEC funds for replacement of water line gaskets, the Program requests that you send an estimate of how many replacements are needed, their locations, and estimated costs.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions or need additional information, please contact me at (803) 896-6676 or (800) 826-5435 (within South Carolina only).

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: CASE report

cc: Technical File (w/out enc)

SCDHEC/UST/SEB/082903

D H E C
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2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
PHONE (803) 896-6240 FAX (803) 896-6245

SEP 0 2 2003

TOM MAGUIRE
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Contract #SB-20713-10/08/02, PO # 437565, CA #16474
Corrective Action System Evaluation Report received July 21, 2003
Colleton County

Dear Mr. Maguire:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report submitted by Consultech Environmental, Inc. on your behalf. Consultech is currently conducting corrective action activities in response to groundwater contamination at Bay Creek Villas. Enclosed is a copy of the referenced monitoring report. This information is being sent to you in order to keep you informed of the environmental conditions at the referenced facility. The next quarterly sampling will be conducted in approximately three months; the UST Program will forward a copy of that report to you after review.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions or need additional information, please contact me at (803) 896-6676 or (800) 826-5435 (within South Carolina only).

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: CASE report

cc: Technical File (w/out enc)

SCDHEC/UST/SEB/082903

18662

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

February 7, 2003

RECEIVED

FEB 12 2003

Underground Storage Tank Program

COMMISSIONER:
C. Earl Hunter

BOARD:
Bradford W. Wyche
Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Larry R. Chewning, Jr., DMD

Tom McGuire
Bay Creek Villas
PO Box 881
Edisto Beach, SC 29438

Re: Underground Injection Control Permit #683
Bay Creek Villas Site
Colleton County

Dear Mr. McGuire:

Enclosed is a Permit to Operate for five (5) Class VA-I (Aquifer Remediation) injection wells at Bay Creek Villas Site, Colleton County, SC.

Affected parties may appeal this permit decision in accordance with State Regulation R.61-72. To contest a case, a request for a hearing must be made to the Clerk of the DHEC Board within 15 days of the date of this letter. All requests must include the following information:

1) name of the party requesting the hearing,
2) issue(s) for which the hearing is requested,
3) caption or other information sufficient to identify the decision, order, action or inaction which is the subject of the hearing,
4) relief requested.

Note further that Administrative Law Judge (ALJ) Division rules require that persons requesting a contested case hearing must file a copy of the request and pay a filing fee in the amount of $100 dollars (US) with the ALJ Division at the following address:

Clerk, ALJ Division
1205 Pendleton Street, Suite 224
P.O. Box 11667
Columbia, SC 29211

If you have any question, please call Todd Adams at (803) 898-3549.

Sincerely,

Rob Devlin, Manager
GroundWater Management Section
Bureau of Water

cc: Kimberly Wilson, BLWM-USTP
Jim Wilson, Consultech

Provisos to the Injection Well Operating Approval
for
Underground Injection Well Permit #683
Bay Creek Villas Site
Colleton County, S.C.
February 7, 2003

1) Construction of new or abandonment of existing wells must be reported to the Department within thirty (30) days of completion.

2) Only ambient air as described in the Corrective Action Plan may be injected into the subsurface. Any changes in the system operation other than as presented in the UIC Permit Application must be reported to the Department prior to implementation.

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
PHONE (803) 896-6240 FAX (803) 896-6245

FEB 10 2003

MR JIM WILSON
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Initial Groundwater Monitoring Report received December 10, 2002
System Installation Report received February 4, 2003
Colleton County

Dear Mr. Wilson:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report. The next corrective action monitoring report is due on or before May 7, 2003.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions or need additional information, please contact me at (803) 896-6584.

Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

cc: Technical File

SCDHEC/UST/02062003/KAW

D H E C
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BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

FEB 10 2003

EDISTO MARINA MANAGEMENT CORP
3702 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
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Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Monitoring Report
System Installation Report

cc: Technical file (w/out enclosure)

SCDHEC/UST/02062003/KAW

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Columbia, SC 29201-1708

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BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

FEB 10 2003

FAIRFIELD COMMUNITIES INC
PO BOX 3375
LITTLE ROCK AR 72203

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
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Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice (copy)

cc: Technical file (without enclosure)

SCDHEC/UST/02062003/KAW

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Columbia, SC 29201-1708

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FEB 10 2003

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State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice (copy)

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FEB 10 2003

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Colleton County

Dear Mr. Bell:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report submitted by Consultech Environmental, Inc. Consultech is currently conducting corrective action activities in response to groundwater contamination at Bay Creek Villas. Enclosed is a copy of the monitoring report received December 10, 2002 and the system installation report received February 4, 2003. This information is being sent to you in order to keep you informed of the environmental conditions in the area. The next quarterly sampling will be conducted in approximately three months. The UST Program will forward a copy of that report to you after review if you wish to continue receiving such updates. You will be informed when corrective action activities are complete if you choose not to receive quarterly updates. If you do not wish to continue receiving quarterly updates, please contact me at (800) 826-5435 (within South Carolina only) or (803) 896-6676, or by e-mail at wilsonka@dhec.sc.gov, and I will remove your name from the mailing list. If you wish to continue to receive quarterly updates, you do not need to do anything.

If you have any questions or comments regarding the corrective action, please contact me by e-mail or at the telephone numbers listed above.

Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice (copy)

cc: Technical file (without enclosure)

SCDHEC/UST/02062003/KAW

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
PHONE (803) 896-6240 FAX (803) 896-6245

FEB 10 2003

CAPT RON OWENS
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Initial Groundwater Monitoring Report received December 10, 2002
System Installation Report received February 4, 2003
Colleton County

Dear Captain Owens:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report submitted by Consultech Environmental, Inc. on your behalf. Consultech is currently conducting corrective action activities in response to groundwater contamination at Bay Creek Villas. Enclosed is a copy of the referenced monitoring report. This information is being sent to you in order to keep you informed of the environmental conditions at the referenced facility. The next quarterly sampling will be conducted in approximately three months; the UST Program will forward a copy of that report to you after review.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions or need additional information, please contact me at (803) 896-6676 or (800) 826-5435 (within South Carolina only).

Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Corrective Action Plan
Underground Injection Control Permit Application
Site Health and Safety Plan

cc: Technical File (w/out enc)

SCDHEC/UST/12042002/KAW

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PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
PHONE (803) 896-6240 FAX (803) 896-6245

FEB 06 2003

MR RICK GOODSPEED
CONSULTECH ENVIRONMENTAL INC
1800 MACLEOD DR STE F
LAWRENCEVILLE GA 30043

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
CA #16474, PO # 437565, Contract #SB-20713-10/08/02
Corrective Action Plan received October 30, 2002
Underground Injection Control Permit to Construct received January 28, 2003
Colleton County

Dear Mr. Goodspeed:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced documents. Further, as required by Section 280.67 of the South Carolina Underground Storage Tank Regulations R.61-92, the UST Program has provided a public notice period including notice of the pending corrective actions to the surrounding landowners via certified correspondence. No objections to the proposed actions were expressed; therefore, corrective action activities may proceed at this time. A copy of the Underground Injection Control Permit to Construct is enclosed.

As stated in Specifications for Corrective Action, Item 2 of the Request for Bids, an initial monitoring report documenting CoC concentrations in all wells and potentiometric conditions prior to start up must be submitted to the Bureau within 45 days of award of bid contract. **Sampling for this initial monitoring event must occur prior to system startup.**

The Bureau grants preapproval for transportation of virgin petroleum contaminated soil and ground water which may be generated during site construction, drilling, and well development / purging from the referenced site to a permitted treatment facility. If the contaminated soil or ground water is not immediately transported to the permitted treatment facility, it must be properly stored in labeled containers or covered with plastic as appropriate. The contaminated soil and/or ground water must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included in the report.

As stipulated in contract SB-20713-10/08/02, cost agreement #16474 has been approved in the amount of $80,000.00. The first pay-for-performance invoice in the amount of $32,000.00 (40%) may be submitted once the Underground Injection Control Permit to Operate has been issued and the treatment system has been placed into operation.

On all correspondence regarding this site, please reference UST Permit #18662, CA #16474, and Contract # SB-20713-10/08/02. If you have any questions, please contact me at (803) 896-6676 or (800) 826-5435 (within South Carolina only).

Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Underground Injection Control Permit to Construct

cc: Technical File (w/out enc)
Capt Ron Owens, Bay Creek Villas, 3701 Dock Site Rd, Edisto Beach, SC 29438 (w/enc)

SCDHEC/UST/12042002/KAW

18662

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
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L. Michael Blackmon

Lawrence R. Chewning, Jr., DMD

December 13, 2002

RECEIVED
JAN 07 2003
UNDERGROUND STORAGE TANK PROGRAM

Captain Ron Owens
Bay Creek Villas
PO Box 881
Edisto Beach, SC 29438

Re: Underground Injection Control Permit #683
Bay Creek Villas
Colleton County

Dear Captain Owens:

Enclosed is a Permit to Construct for six (6) Class VA-I injection wells at the Bay Creek Villas, Colleton County as requested in the permit application received December 3, 2002.

Affected parties may appeal this permit decision in accordance with State Regulation R.61-72. To contest a case, a request for a hearing must be made to the Clerk of the DHEC Board within 15 days of the date of this letter. All requests must include the following information:

1) name of the party requesting the hearing,
2) issue(s) for which the hearing is requested,
3) caption or other information sufficient to identify the decision, order, action or inaction which is the subject of the hearing,
4) relief requested.

Note further that Administrative Law Judge (ALJ) Division rules require that persons requesting a contested case hearing must file a copy of the request and pay a filing fee in the amount of $100 dollars (US) with the ALJ Division at the following address:

Clerk, ALJ Division
1205 Pendleton Street, Suite 224
P.O. Box 11667
Columbia, SC 29211

An inspection of the UIC System must be conducted prior to issuance of Approval to Operate. If you have any question, please call Todd Adams at (803) 898-3549.

Sincerely,

Rob Devlin, Manager
GroundWater Management Section
Bureau of Water

cc: Kimberly Wilson, BLWM-USTP
Jim Wilson, Consultech

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
C. Earl Hunter

BOARD:
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Lawrence R. Chewning, Jr., D.D.S.

WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Construction Permit
for

Class II, III, and V.A. Injection Well(s)

Permit #683

Date Issued: December 13, 2002
Date Expired: December 13, 2003

For (Operator): Consultech

In accordance with provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, permission is granted for construction of six (6) Class V.A.-I injection wells with a true diameter of 2 inches, and a total depth of approximately 20 feet located at the Bay Creek Villas, Colleton County, SC with the following provisions:

1) The operator shall submit completed SCDHEC well record forms to the Departments Water Monitoring, Assessment & Protection Division after completion of the injection wells.

2) Upon completion of construction, injection activities shall not commence prior to receiving approval from the Department to operate the injection wells.

3) When the injection wells are no longer in use, or upon request by the Department, within sixty (60) days all injection wells must be permanently abandoned in accordance with the South Carolina Well Standards and Regulations (R.61-71).

Rob Devlin, Manager
GroundWater Management Section
Bureau of Water

December 13, 2002
Date

DHEC 2104 (6/88)

STATEMENT OF BASIS - UIC DRAFT PERMIT #683

In accordance with the South Carolina Underground Injection Control Regulations, Section R61-87.12,J., this Statement of Basis has been prepared for the Bay Creek Villas Underground Injection Control permit application received December 3, 2002.

Ownership of the proposed injection wells is Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC 29438. The permit (UIC #683) is for the construction of six (6) injection wells for a corrective action system at the Bay Creek Villas. The intent of the injection wells is to remediate volatile organic compounds from the ground water by injection into the subsurface of ambient air as described in the Corrective Action Plan. The draft permit for the underground injection proposal has been prepared based on staff review and the application of the Pollution Control Act of South Carolina and the Underground Injection Control Regulations of South Carolina.

Conditions of the permit issuance include the submittal of well records for all injection wells installed and the inspection of well construction by the Department prior to injection.

RECEIVED

JAN 03 2003

UNDERGROUND STORAGE
TANK PROGRAM

Kimberly A. Wilson, P.G.,Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662

Dear Ms. Wilson:

Just to confirm our conversation last week, Bay Creek Villa Association has three concerns and from our conversation their styatus is as follow:

1. The contamination in the water lines going to unites 116, 117, 216, 217, 316, 317 was recently corrected. The cause was a gasket in the saddle connection to the water main. This gasket deteriorated with its exposure to the petroleum in the soil.

   Our concern is all the connections to the other units probably have the same gaskets and this could be an ongoing problem requiring multiple dig up and repair of the parking lot.

   DHEC's position is they can't repair something until it breaks. With the long term potential, you may want to reconsider your position.

2. Your contractor for drilling the holes in the parking lot to remove the contamination material is to start in January 03.

   We can not overemphasize the need to start in January since by May 03 there will not be enough access to the parking lot for them to complete their work.

3. We request DHEC consider repaving the parking lot once all the repairs are made. As it stands now our parking lot is a patchwok of repairs and will be getting worse. All of this is a direct result of contaminated soil.

   DHEC's position is they only repair the specific area.

   Even the specific areas repaired so far are a very bad patch and we would request your looking at the overall parking lot and reconsider.

Thank you for your time and consideration. If you have any questions, please write or give me a call.

Sincerely,

1/2/03

Peter A. Stipp
Bay Crteek Villas Associaton--President

Peter A, Stipp
210 King George Road
Greenville, SC 29615
864-297-0692
Email: PeterStipp@aol.com

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
PHONE (803) 896-6240 FAX (803) 896-6245

DEC 0 6 2002

CAPT RON OWEN
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Corrective Action Plan received October 30, 2002
Colleton County

Dear Captain Owen:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced corrective action plan (CAP) submitted by Consultech Environmental, Inc. on your behalf. A copy of the CAP and all attachments are enclosed for your files.

If you have any questions concerning the referenced UST site, please contact me at (803) 896-6676 or (800) 826-5435 (within South Carolina only).

Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Corrective Action Plan
Underground Injection Control Permit Application
Site Health and Safety Plan

cc: Technical File (w/out enc)

SCDHEC/UST/12042002/KAW

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2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

DEC 0 2 2002

EDISTO MARINA MANAGEMENT CORP
3702 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Your Property at Tax Map #354-03, Parcel #56
Colleton County

Dear Sir or Madam:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facility. To prevent the release from becoming an unacceptable risk, Consultech Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using active air sparging combined with augmented bioremediation followed by natural attenuation. A copy of the proposed corrective action plan is available for your review at the SCDHEC Freedom of Information Office, 2600 Bull Street, Columbia, South Carolina. Please call the Freedom of Information Office at (803) 898-3882 for an appointment if you would like to review this corrective action plan.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. You may observe limited drilling, trenching, and construction activities by Consultech Environmental, Inc. at the referenced property.

If you have any questions or comments regarding the proposed corrective action, please send written comments to the above address or call me at (803) 896-6676 or (800) 826-5435 (within South Carolina only). All comments should be submitted with fourteen (14) days of the date of this correspondence.

Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice (copy)

cc: Technical file (without enclosure)

SCDHEC/UST/11252002/KAW

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

DEC 0 2 2002

WELDON BELL
3706 DOCK SITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Your Property at Tax Map #354-03, Parcel # 58
Colleton County

Dear Mr. Bell:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facility. To prevent the release from becoming an unacceptable risk, Consultech Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using active air sparging combined with augmented bioremediation followed by natural attenuation. A copy of the proposed corrective action plan is available for your review at the SCDHEC Freedom of Information Office, 2600 Bull Street, Columbia, South Carolina. Please call the Freedom of Information Office at (803) 898-3882 for an appointment if you would like to review this corrective action plan.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. You may observe limited drilling, trenching, and construction activities by Consultech Environmental, Inc. at the referenced property.

If you have any questions or comments regarding the proposed corrective action, please send written comments to the above address or call me at (803) 896-6676 or (800) 826-5435 (within South Carolina only). All comments should be submitted with fourteen (14) days of the date of this correspondence.

Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice (copy)

cc: Technical file (without enclosure)

SCDHEC/UST/11252002/KAW

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

DEC 0 2 2002

MOSS FAMILY TRUST
3535 HERON COVE
EDISTO ISLAND SC 29438

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Your Property at Tax Map #354-03, Parcel # 259
Colleton County

Dear Sir or Madam:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facility. To prevent the release from becoming an unacceptable risk, Consultech Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using active air sparging combined with augmented bioremediation followed by natural attenuation. A copy of the proposed corrective action plan is available for your review at the SCDHEC Freedom of Information Office, 2600 Bull Street, Columbia, South Carolina. Please call the Freedom of Information Office at (803) 898-3882 for an appointment if you would like to review this corrective action plan.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. You may observe limited drilling, trenching, and construction activities by Consultech Environmental, Inc. at the referenced property.

If you have any questions or comments regarding the proposed corrective action, please send written comments to the above address or call me at (803) 896-6676 or (800) 826-5435 (within South Carolina only). All comments should be submitted with fourteen (14) days of the date of this correspondence.

Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice (copy)

cc: Technical file (without enclosure)

SCDHEC/UST/11252002/KAW

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2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (803) 896-6240 Fax (803) 896-6245

DEC 0 2 2002

FAIRFIELD COMMUNITIES INC
PO BOX 3375
LITTLE ROCK AR 72203

Re: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach, SC
UST Permit #18662; Release Reported January 28, 2000
Your Property at Tax Map #354-03, Parcel # 260
Colleton County

Dear Sir or Madam:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facility. To prevent the release from becoming an unacceptable risk, Consultech Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using active air sparging combined with augmented bioremediation followed by natural attenuation. A copy of the proposed corrective action plan is available for your review at the SCDHEC Freedom of Information Office, 2600 Bull Street, Columbia, South Carolina. Please call the Freedom of Information Office at (803) 898-3882 for an appointment if you would like to review this corrective action plan.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. You may observe limited drilling, trenching, and construction activities by Consultech Environmental, Inc. at the referenced property.

If you have any questions or comments regarding the proposed corrective action, please send written comments to the above address or call me at (803) 896-6676 or (800) 826-5435 (within South Carolina only). All comments should be submitted with fourteen (14) days of the date of this correspondence.

Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice (copy)

cc: Technical file (without enclosure)

SCDHEC/UST/11252002/KAW

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street
Columbia, SC 29201
Telephone (803) 896-6240

MEMORANDUM

DATE: November 25, 2002

TO: Jody Hamm
Freedom of Information Office

FROM: Kimberly A. Wilson
State Lead and Field Services Section
Assessment and Corrective Action Division

SUBJECT: Public Notice #18662-01
Bay Creek Villas, 3701 Dock Site Road, Edisto Beach
UST Permit #18662
Colleton County

Per section 280.67 of the South Carolina Underground Storage Tank Control Regulations R. 61-91, the South Carolina Department of Health and Environmental Control (SCDHEC) is required to provide public notice of proposed corrective actions at underground storage tank facilities.

The Assessment and Corrective Action Division requests your assistance in making the technical file for the referenced facility available for review by any concerned citizens and/or environmental consultants.

The notice has been postdated to November 26, 2002 and will be posted for 15 days. A copy is enclosed for your information. Your assistance is greatly appreciated.

Questions may be referred to my attention at (803) 896-6676.

enc: Public Notice

cc: Technical File

SCDHEC/UST/11252002/KAW

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

NOTICE

State of South Carolina
Department of Health and Environmental Control
Columbia, South Carolina

Public Notice #: 18662-01 Date: November 26, 2002

NOTICE OF PROPOSED CORRECTIVE ACTION

Section 280.67 of the S.C. Underground Storage Tank Control Regulations (R.61-92) requires that any Corrective Action Plan prepared to meet the requirements of 280.66 must be placed on notice for public comment. The following applicant has submitted a Corrective Action Plan for the rehabilitation of ground water contaminated by petroleum constituents released from underground storage tanks (USTs).

Applicant: **Bay Creek Villas, 3701 Dock Site Road, Edisto Island, South Carolina 29438.** The Bay Creek Villas does not currently have any active USTs used for storage of petroleum products; however, one UST has been abandoned properly following SC UST Control Regulations. The facility is located at 3701 Dock Site Road, Edisto Island in Colleton County, South Carolina.

Corrective action will consist of air sparging and augmented bioremediation. These corrective action activities will be followed by Intrinsic Remediation/Natural Attenuation for the rehabilitation of ground water contaminated by petroleum constituents released from underground storage tanks. Air sparging is a technology in which air is injected into the aquifer below the water surface for the purpose of removing contaminants by a combination of volatilization and aerobic degradation. Bioremediation will be augmented through the addition of nutrients during air sparging that will enhance the existing mircroflora and mircrofauna to digest the petroleum product not easily affected by air sparging methods.

A copy of the Corrective Action Plan is available for review at the Department's Freedom of Information Office, 2600 Bull Street in Columbia, SC. Please call (803) 898-3882 to schedule an appointment.

Persons wishing to comment upon or object to Corrective Action approval are invited to submit same in writing within fifteen (15) days of the date of this notice to South Carolina Department of Health and Environmental Control, Underground Storage Tank Program, 2600 Bull Street, Columbia, S.C. 29201 or call Kimberly A. Wilson at (803) 896-6676. The public notice # should be placed at the top of the first page of comments. Where there is a significant degree of public interest, the Department will hold a public hearing.

Please bring the foregoing to the attention of persons who you know will be interested in this matter.

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street
Columbia, SC 29201
Telephone (803) 896-6240
Fax (803) 896-6245

MEMORANDUM

DATE: November 25, 2002

TO: Todd Adams
Water Monitoring, Assessment & Protection Division
Bureau of Water

FROM: Kimberly A. Wilson KAW.
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

SUBJECT: Bay Creek Villas, 3701 Dock Site Road, Edisto Beach
UST Permit #18662
Corrective Action Plan received October 30, 2002
UIC Permit Application received October 30, 2002
Colleton County

Attached for your review and approval is an Underground Injection Control Permit Application for the above referenced site submitted by Consultech Environmental, Inc. Initial review by this Department indicates the Corrective Action Plan is approvable. Please send the completed Permit to Install to my attention once your review and approval is completed. I will forward it to the contractor when all other permits have been received and technical and financial approval from this Bureau has been issued, as required by law.

Questions may be referred to my attention at (803) 896-6676.

Enc: UIC Permit Application
Corrective Action Plan

Cc: Technical File

DHEC/UST/11252002/KAW

Tech F

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 896-6245

NOV 0 5 2002

CAPTAIN RON OWEN
BAY CREEK VILLAS
PO BOX 881
EDISTO ISLAND SC 29438

Re: Bay Creek Villas, 3701 Docksite Rd., Edisto Beach, SC
UST Permit # 18662; Cost agreement #16474
SB-20713-10/08/02; PO #437565
Colleton County

Dear Captain Owen:

As you are aware, corrective action is necessary at the referenced facility to reduce levels of petroleum chemicals to acceptable levels. Per your letter received April 2002, you decided to allow the SCDHEC to procure the services of an environmental contractor on your behalf. On October 17, 2002, the Department awarded the contract to Consultech Environmental, Inc. The accepted bid is in the amount of $80,000.00, and will be paid by the SUPERB fund. Per the requirements of the contract, Consultech is required to submit a Corrective Action Plan on or before November 17, 2002. You will receive a copy of the Corrective Action Plan and be given an opportunity to comment on the proposed remediation.

If you have any questions or need additional information, please contact me at (803) 896-6584 or (800) 826-5435 (within SC only).

Sincerely,

Read S Miner

Read S. Miner, P.G., Hydrogeologist
State Lead & Field Services Section
Assessment & Corrective Action Division

cc: Technical File
Richard Goodspeed, Consultech Environmental, 1800 McLeod Dr, Ste F, Lawrenceville, GA 30043-1505

SCDHEC/UST/102402

Tech F

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 896-6245

OCT 30 2002

CAPTAIN RON OWEN
BAY CREEK VILLAS
PO BOX 881
EDISTO ISLAND SC 29438

Re: Bay Creek Villas, 3701 Docksite Rd., Edisto Beach, SC
UST Permit # 18662; Cost agreement #17462
Price Quotations received October 21, 2002
Colleton County

Dear Mr. Owen:

The Department has reviewed the referenced price quotations for replacement of the plastic water supply lines to the six impacted units with copper lines. During our telephone conversation, you have selected the most competitive bidder "Main's Market" for the needed plumbing.

Cost Agreement (CA) # 17462 has been approved in the amount shown on the enclosed cost agreement spreadsheet and will be kept on file so that compensation can begin. Future invoices and/or other criteria included therein must comply with current SUPERB criteria per Section 44-2-20(2). Please reference Cost Agreement #17462 on all pertinent invoices and correspondence. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained. If for any reason there is a change in this cost agreement, any associated changes to this cost agreement must be pre-approved by this Department in order for Bay Creek Villas or Main's Market to seek future cost compensation.

If you prefer that SCDHEC pay the plumber directly, please provide them with the enclosed W-9. This form should be completed and returned to my attention by facsimile at 803-896-6245 as soon as possible.

The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay in accordance with pre-approved rate schedule. A brief report describing the work completed should be submitted with the invoice within 60 days from the date of this correspondence.

Please reference UST Permit #18662 on all correspondence. If you have any questions, please call me at (803) 896-6584.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

Enc: Invoice form
Approved Cost agreement #17462
W-9

cc: Technical File

FAX NO. 1-803-896-6245

RECEIVED
OCT 21, 2002
Underground Storage
Tank Program

To:
DHEC

Att: Mr. Read Miner, P.G., Hydrogeologist

UST Permit No. 18662

Cost Agreement No. 17053

Ref: Bay Creek Villas
3701 Docksite Road
Edisto Beach, SC 29438

Three quotes for replacement of water lines.

From Captain Ron Owen
P. O. Box 881
Edisto Island, SC 29438
1-843-869-4152

Fax 843-869-0510 Chamber of Commerce
Attn: Melinda Hester

Back Hoe Work	Gal.		
Grading	Gal.		
Building Pad	Flats		
Fill Dirt /Cu. yds. _____			
Top Soil /Cu. yds. _____	[redacted]		
Landscape Fabric	1 Gal.	TOTAL	
Other	3 Gal.	[redacted]	
[redacted]	5 Gal.		
Sod /No# of Pallets _____			
[redacted]	[redacted]		
Style	Gal.		
Ft. _____ Gates _____	B & B		
[redacted]			
Sprinkler System	[redacted]		
Soaker System	Shell Sand /Cu. yds _____		
[redacted]	Rock /Tons _____		
Berms	Concrete /Cu. yds _____	SUBTOTAL	
Beds	Stepping Stones # _____	TAX	
Retainer Walls	Framing	LANDSCAPE SERVICES TOTAL	
Framing	Other	Thank You! TOTAL	3000.00
Other		DOWN PAYMENT	
[redacted]	Mowing	Blowing	BALANCE DUE
General Clean-up	Edging	Mulching	Client Approved:
Storm Clean-up	Trimming	Other	

Signature

JAMES F. PEDERSEN CO., INC.
Public Utilities and Plumbing

P.O. Box 310 5568 Highway 162
Hollywood, SC 29449

Phone: (843) 889-8210
FAX: (843) 889-2447

October 8, 2002

Ron Owen
Bay Creek Villas

QUOTE

Labor and materials to change out 3" water main to existing meter with copper. This price includes asphalt patching.

Total $3,980.00

SIGNED: Erica Schaffer
Erica C. Schaffer for Jim Pedersen

56453

STATEMENT

DATE 10-6-02

TERMS

TO Bay Creek Villas

ADDRESS Edisto Beach, S.C.

ATTN. Ron Owens

IN ACCOUNT WITH 869-2492

GUY B. GLEN
8582 PETERS POINT RD.
EDISTO ISLAND, SC 29438

		Bid to replace 6 plastic services From main water line to water meters with copper, replace meter + corp. stops, Replace asphalt				
		Total		$	3100.	00

Adams DC5812

Main's Market

"We know what grows on Edisto"

1084 Highway 174 • P.O. Box 793 • Edisto Island, SC 29438
FIN: 57-0938709
(843) 869-1337

LANDSCAPING
Proposal / ~~Invoice~~ DATE 10-15-02

Edisto Location: Bay Creek Villas
Edisto Beach, SC

Name Roe Owen

Billing Address PO Box 881
Edisto Island, SC 29438

Daytime Phone ( )
Home Phone ( )
Fax ( )
Phone Edisto Island ( )

Description of Work: Remove plastic water supply lines in six (6) units & replace with copper. Replace asphalt in parking lot over sand.

Terms: 50% Due upon initiation; Balance at completion. * Plants / Trees are not guaranteed unless stated in writing on this agreement.

PREPARATION	PLANTS	LANDSCAPE SERVICES
Clearing	1 Gal.	
Debris Removal	3 Gal.	
Tree Removal	5 Gal.	
Back Hoe Work	Gal.	
Grading	Gal.	
Building Pad	Flats	
Fill Dirt /Cu. yds.		
Top Soil /Cu. yds.	SHRUBS	
Landscape Fabric	1 Gal.	TOTAL
Other	3 Gal.	Qty. / Material / Plants / Unit / Amount
LAWN INSTALLATION	5 Gal.	
Sod /No# of Pallets		
FENCE INSTALLATION	TREES	
Style	Gal.	
Ft. Gates	B & B	
IRRIGATION		
Sprinkler System	DRIVEWAY/WALK	
Soaker System	Shell Sand /Cu. yds	
PLANTING AREAS	Rock /Tons	
Berms	Concrete /Cu. yds	SUBTOTAL
Beds	Stepping Stones #	TAX
Retainer Walls	Framing	LANDSCAPE SERVICES TOTAL
Framing	Other	TOTAL 3000.00
Other		DOWN PAYMENT
MAINTENANCE	Mowing / Blowing	BALANCE DUE
General Clean-up	Edging / Mulching	Client Approved:
Storm Clean-up	Trimming / Other	

Thank You

Signature

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street
Columbia, SC 29201
Telephone (803) 896-6240

MEMORANDUM

Date: October 17, 2002

To: E. Madison Winslow
Bureau of Business Management

From: Laura Pace, CGFO, CPM, Manager lp
Financial Section
Underground Storage Tank Program

Subject: Bid Award, SB- 20713 – 10/08/02-EMW
Bay Creek Villas, UST Permit #[redacted], Requisition 20713
Joker Joe's Truck Stop, UST Permit #10658, Requisition 20713

This Program has reviewed the submittal received October 8, 2002 for the referenced bid. The low bid for each site was submitted by Consultech Environment. As the proposed corrective action methodology can be permitted in South Carolina and the estimated time frame is protective of human health, this Bureau recommends immediate award of the contracts to Consultech Environmental.

The purchase order for Bay Creek Villas ($40,000.00) should be generated for one half of the accepted bid award amount, $80,000.00. Please note, the full amount of the bid award ($80,000.00) should be noted in the body of the generated purchase order. The purchase order should indicate it is for Bay Creek Villas. Please provide Read Miner a copy of the purchase order.

For Joker Joe's Truck Stop, the underground storage tank owner is responsible for payment of the balance of their SUPERB deductible ($15,434.15). The purchase order for Joker Joe's Truck Stop ($38,065.85) should be generated for one half of the accepted bid award amount, $107,000.00 minus the balance of the deductible ($15,434.15). Please note, the full amount of the bid award minus the deductible ($91,565.85) should be noted in the body of the generated purchase order. The purchase order should indicate it is for Joker Joe's Truck Stop. Please provide Read Miner a copy of the purchase order.

cc: Christopher S. Doll, P.G., Manager, State Lead and Field Services Section
[redacted]
Pat Holland, Financial Section

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 896-6245

SEP 19 2002

RODNEY BEARD
625 S BRICK RD
COLUMBIA SC 29229

Re: Bay Creek Villas, 3701 Docksite Rd., Edisto Beach, SC
UST Permit # 18662
Colleton County

Dear Mr. Beard:

Thank you for your telephone call on September 18, 2002. As I explained, minimal concentrations of petroleum chemicals have been detected in certain condos at Bay Creek Villas. The data suggests that the source was an underground storage tank that was formerly located in the Bay Creek Villas Parking Lot. A copy of the Tier II Assessment Report is enclosed.

The Department is working with Mr. Thomas Kontinos with Bay Creek Villas to correct the problem. Mr. Kontinos is currently securing bids from plumbers in the local area to replace the water main. Mr. Kontinos is also providing bottled water to the appropriate condos. Concurrently, the Department is securing bids for an environmental contractor to clean-up the impacted soil and ground water beneath the Bay Creek Villas Parking lot. Award of the clean-up contract should take place on or before October 15, 2002.

The cost for the bottled water, replacement of the water main, and the soil and groundwater clean-up is being paid by the State Underground Petroleum Environmental Response Bank (SUPERB) Account.

Please reference UST Permit #18662 on all correspondence. If you have any questions, please call me at (803) 896-6584.

Sincerely,

Read S. Miner (not on original Read forgot to sign)

Read S. Miner, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

Enc: Tier II Assessment Report

cc: Thomas Kontinos, Bay Creek Villas, 3701 Docksite Rd, Edisto Beach SC 29438
Technical File

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, SC 29201
Telephone (803) 896-6240

MEMORANDUM

DATE: August 23, 2002

TO: E. Madison Winslow
Bureau of Business Management

FROM: Laura Jean Pace, CGFO, CPM, Manager LP
Financial Section

SUBJECT: Bid Request

Attached is a hard copy of the bid specifications for corrective action at UST Permit # 18662 and 10658. This bid package should be sent out in SCBO. The information is also on the enclosed disk under file name [redacted] **These corrective actions are funded by the SUPERB Fund.**

Purchase Requisition #20713 has been created on the AIMS System.

Please send a copy of the final bid package to Pat Holland so that it can be placed in the technical file in the Freedom of Information Office as outlined in the bid specifications. If you have any questions, contact Read Miner at 896-6584.

cc: Read Miner, State Lead and Field Services Section
Pat Holland, Financial Section
[redacted]

DHEC/UST/081602

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 896-6245

THOMAS KONTINOS
BAY CREEK VILLAS
3701 DOCKSITE RD
EDISTO BEACH SC 29438

AUG 15 2002

Re: Bay Creek Villas, 3701 Docksite Rd., Edisto Beach, SC
UST Permit # 18662; Cost agreement #17053
Colleton County

Dear Mr. Kontinos:

In response to your telephone call, the Department collected seven water samples from several apartments at Bay Creek Villas. The results are enclosed. A cost agreement has been established for payment of the cost of bottled water for the impacted tenants. As agreed, you will secure the water for the impacted tenants and seek reimbursement. An invoice form is enclosed. Please return the signed invoice form with copies of the paid receipts for the bottled water. Payment will be based on the actual cost of the bottled water.

As discussed, replacement of the water main is deemed appropriate. You have agreed to secure at least three bids for replacement of the water main.

Please reference UST Permit #18662 on all correspondence. If you have any questions, please call me at (803) 896-6584.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

Enc: Invoice form
Approved Cost agreement #17053
Monitoring Report

cc: Technical File

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 896-6245

APR 15 2002

~~**ROBERT FOWLKES**~~ THOMAS C KONTINOS
BAY CREEK VILLAS
3701 DOCKSITE RD
EDISTO BEACH SC 29438

PO BOX 400
Edisto, SC 29438

Re: Bay Creek Villas, 3701 Docksite Rd., Edisto Beach, SC
UST Permit # 18662
Tier II Assessment Report received February 15, 2002
Colleton County

Dear Mr. Fowlkes:

The Underground Storage Tank Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report. As you are aware, your $25,000 deductible has been met and all future costs will be paid by the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The next work scope includes corrective action. Two options exist.

Option 1: The Department will prepare a bid specification for corrective action and mail it you so that you can send it to South Carolina certified site rehabilitation contractor(s) of your choice. The Department will also publish the bid specification in the South Carolina Business Opportunities Publication. Once all sealed bids have been received, the Department will provide you with a summary of all bids and you can select the corrective action contractor. The Department will not pay any costs that exceed the most competitive responsible bid. Further, you will be responsible for ensuring that your selected contractor meets the terms of the bid specification.

Option 2: The Department will prepare a bid specification for corrective action and publish the bid specification in the South Carolina Business Opportunities Publication. Once all sealed bids have been received, the Department will award the corrective action to the most competitive responsible bidder. You will be provided notice of the award. The Department will establish a contract with the selected firm and you will be provided copies of all reports and correspondence documenting the progress of corrective action.

RECEIVED
APR 26 2002
UNDERGROUND STORAGE
TANK PROGRAM

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 896-6245

APR 15 2002

ROBERT FOWLKES
BAY CREEK VILLAS
3701 DOCKSITE RD
EDISTO BEACH SC 29438

Re: Bay Creek Villas, 3701 Docksite Rd., Edisto Beach, SC
UST Permit # 18662
Tier II Assessment Report received February 15, 2002
Colleton County

Dear Mr. Fowlkes:

The Underground Storage Tank Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report. As you are aware, your $25,000 deductible has been met and all future costs will be paid by the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The next work scope includes corrective action. Two options exist.

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D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 896-6245

SHERRI HOWARD
PACE ANALYTICAL SERVICES
9800 KINCEY AVE STE 100
HUNTERSVILLE NC 28078

AUG 0 8 2002

Re: Laboratory Analyses
Bid # SB-19780-6/11/02-EMW, PO # 416276

Dear Ms. Howard:

Under the terms and conditions of the referenced bid package, analytical sampling has been approved for the referenced facility. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order #416276 on the appropriate invoice submitted for payment against the facility. SCDHEC personnel will perform the sampling on August 8, 2002. 24-Hour Rush analysis is required.

UST Permit #	County	Analyses-Groundwater	CA #	Bottles (Y/N)	Date Needed
18662	Colleton	5-BTEX, Naph, MTBE (8260) 24-HOUR RUSH	17038:P	N	

If you have any questions or need further assistance, please contact me at (803) 896-6584 or (800) 826-5435 (within SC only).

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
State Lead & Field Services Section
Assessment & Corrective Action Division

Enc: Approved Cost Agreement

cc: Debra Thoma, State Lead & Field Services
Technical File
Thomas Kontinos, Bay Creek Villas, 3701 Docksite Rd, Edisto Beach SC 29438

Ingenuity At Work

NESCO

NESCO, Inc.
521 Clemson Road
Columbia, South Carolina 29229
Telephone 803-699-1976

Telefax 803-699-9863
Toll Free 1-800-379-3688

www.nesco-usa.com

February 13, 2002

Mr. Read Miner
Bureau of UST Management
SCDHEC
2600 Bull Street
Columbia, SC 29201

FEB 1 5 2002

Unde... Tank Program

Re: **Tier II Assessment Report**
Bay Creek Villas
3701 Docksite Road
Edisto Beach, South Carolina
Colleton County
UST Permit #18662

Dear Mr. Miner,

Please find enclosed a copy of the referenced report. If you have any further questions or comments, please feel free to contact me by phone at (803) 699-1976 or by email at briank2@nesco-usa.com.

Sincerely,
NESCO, Inc.

Brian J. Kvam

Brian J. Kvam
Senior Project Manager

Enc: Tier II Assessment Report – February 13, 2002

RECEIVED

DEC 31 2001
Underground Storage
Tank Program

NESCO

For Practical Solutions

FAX TRANSMITTAL FORM

521 Clemson Road
Columbia, South Carolina
USA 29229
E-mail: info@NESCOcolumbia.com
Tel: (803) 699-1976
Fax: (803) 699-9863

TO:	SCDHEC	**Page 1 of 2**	**(Including this page)**
ATTENTION:	Read Miner	**DATE:**	12-21-01
FAX NUMBER:	898-4330	**PROJECT NUMBER:**	21-1151c
FROM:	Brian Kvam ext. 316	**Hard copy to be mailed:**	Yes [ ] No [X]
SUBJECT:	Bay Creek Villas (18662)		

ATTENTION: The information contained in this fax is privileged and/or confidential, intended only for the individual/entity named above. Please forward it to the recipient immediately. If there are any difficulties with this facsimile transmission or you have received this fax in error, please telephone (803) 699-1976 or fax (803) 699-9863.

Read,

Attached is a site sketch with locations of monitoring wells and field screening points.

BORING	DEPTH	FID	ODOR
SB-1	3'	52	SLIGHT
SB-2	3'	276	STRONG
SB-3	3'	24	SLIGHT
SB-4	3'	35	MODERATE
FS-1	5'	66	MODERATE
	10'	18	SLIGHT
FS-2	5'	370	STRONG
FS-3	5'	>1000	STRONG
MW-9	5'	424	STRONG
	10'	678	STRONG
MW-10	5'	0	NONE
	10'	0	NONE
MW-11	5'	0	NONE
	10'	0	NONE
PW-1	5'	784	STRONG
	10'	>1000	STRONG
	15'	246	MODERATE
	20'	20	SLIGHT
	25'	0	NONE

Sincerely,
NESCO, Inc.

Brian J. Kvam

Brian J. Kvam
Senior Project Manager

18662

RECEIVED

AUG 0 9 2001

Underground Storage Tank Program

RM

BAY CREEK VILLAS
3701 DOCKSITE ROAD, EDISTO BEACH, SC 29438
843-869-1848
843-869-3508 (FAX)

August 3, 2001

SCDHEC
Connie Anderson
UST Program
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201-1708

Dear Ms. Anderson:

Please be advised that our insurance liability policy on Bay Creek Villas does not cover any petroleum release and/or contamination of property. If you have any questions please call our office.

Sincerely,

Trent Canady

Trent Canady
Member of the Broad of Directors
Bay Creek Villas

Sworn to me at Colleton County
on Aug 6, 2001
Walter Walker
notary - Exp - 2-20-02

D·H E C
'ROMOTE PROTECT PROSPER
:600 Bull Street
:olumbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Phone (800) 826-5435 Fax (803) 898-4330

Bay Creek Villas
Attn: Robert Fowlkes
3701 Docksite Road
Edisto Beach, South Carolina 29438

AUG 08 2001

Re: Bay Creek Villas
UST Permit # 18662, CP # 14375
Colleton County

Dear Mr. Fowlkes:

Assessment activities may begin immediately upon receipt of this correspondence. Please submit a site map depicting the field screening results and proposed monitoring well locations for review prior to installation of any permanent monitoring wells.

Cost Proposal (CP) # 14375 has been approved in the amount shown on the enclosed cost proposal spreadsheet and will be kept on file to track costs to be applied toward the applicable $25,000.00 deductible. If the total cost exceeds the $25,000.00 deductible, the difference can be paid from the SUPERB Account.

The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with the SUPERB Account Allowable costs. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable. The SCDHEC reserves the right to audit project records at any time during the project or after completion of the work. The Tier II Assessment Report (two copies) and invoice should be submitted within 90 days from the date of this correspondence.

The Department grants pre-approval for transportation of drums of virgin petroleum contaminated soil and/or drums of groundwater from the referenced site to a permitted treatment facility. The contaminated soil and/or groundwater must be properly stored in labeled 55 gallon drums or equivalent containers. The contaminated soil and/or groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included in the report.

SCDHEC/UST/080301

D·H E C
'ROMOTE PROTECT PROSPER
:600 Bull Street
:olumbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: 08/03/01

Approval No.:15350

Approval is hereby granted to: NESCO
UST Permit # 18662
County: Colleton

This approval is for the construction of up to 65 feet of temporary wells, five permanent water table wells, and one deep permanent monitoring well in accordance with the construction plans and technical specifications outlined in the SC Well Standards and Regulations. The wells are to be constructed within the surficial aquifer for the intended purpose of monitoring ground-water quality and/or water level(s) at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built) construction details for each well be submitted to my attention as part of the Tier II Assessment Report.

2. Each well shall be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate shall provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.

3. Temporary wells must be properly abandon within 30 days from the date of installation.

4. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.

5. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Read Miner at (803) 898-4349.

6. Please provide ground-water quality analytical data (chemical analysis and/or water level(s)) associated measurements (i.e., in-situ field measurements) to my attention with the Assessment Report.

7. Monitoring wells shall be installed by a permanently licensed well driller certified by the State of South Carolina.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71.

Approved by: Read S. Miner

Read S. Miner, P.G., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program

cc: Low Country District EQC
Technical File
SCDHEC/UST/080301

Ingenuity At Work

NESCO

NESCO, Inc.
521 Clemson Road
Columbia, South Carolina 29229
Telephone 803-699-1976

Telefax 803-699-9863
Toll Free 1-800-379-3688

www.nesco-usa.com

June 13, 2001

Mrs. Connie Anderson
SCDHEC
UST Program
2600 Bull St.
Columbia, SC 29201

RECEIVED
JUN 15 2001
Underground Storage Tank Program

Re: Edisto Marina/Bay Creek Villas
Site ID #18662
Colleton County
21-989

Dear Mrs. Anderson:

Please find enclosed the letter you requested from Robert Fowlkes of Bay Creek Villas, which states the tank was used to fill cars with fuel. Also attached is a copy of a photograph of the marina dated circa mid to late-seventies, which depicts a vehicle next to a dispenser island. Per a conversation with Robert Fowlkes, the marina was used in a similar manner until approximately 1980 to 1982, when the condos were built. Per our conversation this information should be sufficient enough to allow this site to be eligible for state funding. Please contact me at (803) 699-1976, if you have any further questions.

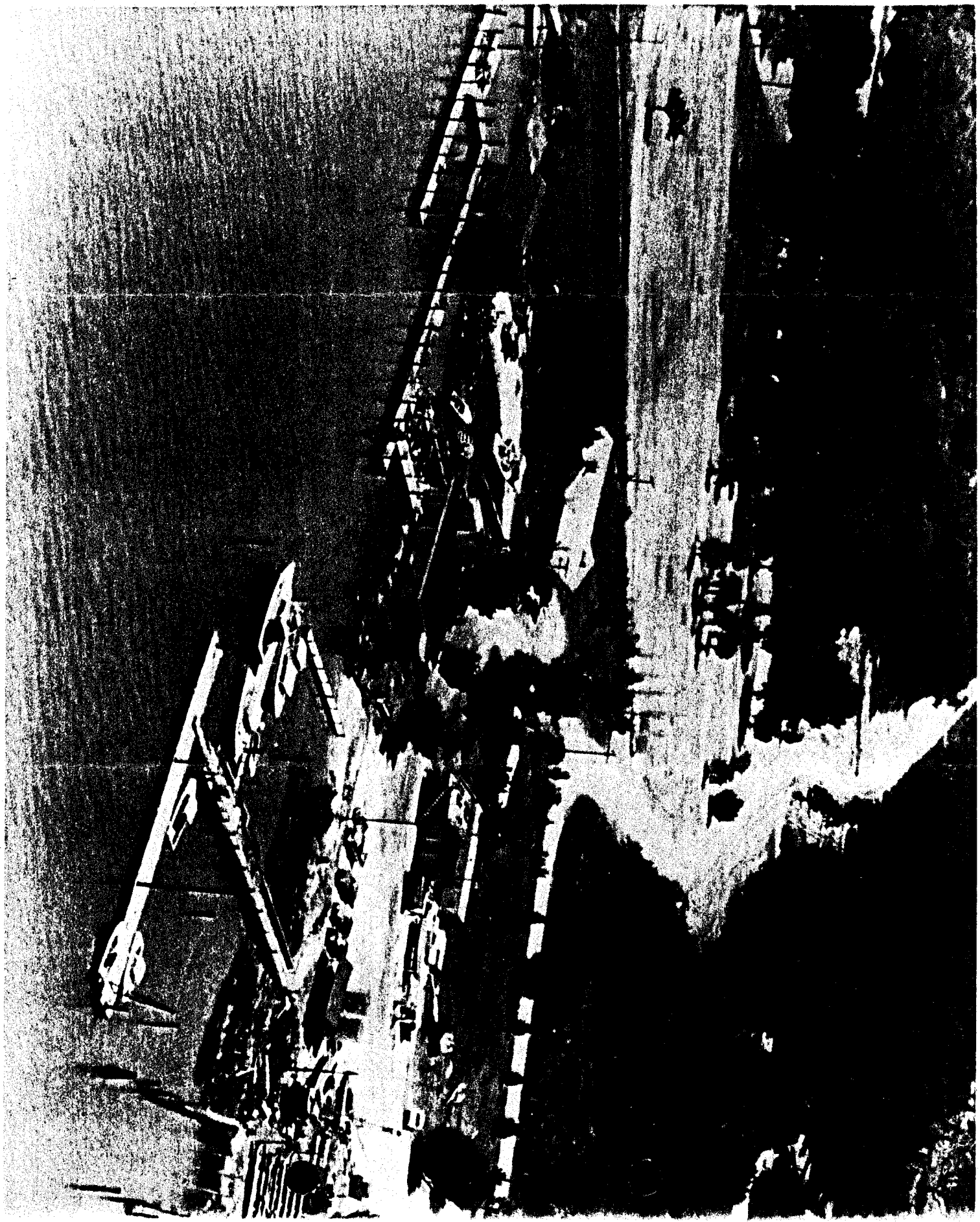
Sincerely,
NESCO, Inc.

Noal Hudson
Project Manager

RNU
6-18-01

Cc: Robert Folks, Bay Creek Villas

BayCreek Villas
Edisto Marina



Ingenuity At Work

NESCO

NESCO, Inc.
521 Clemson Road
Columbia, South Carolina 29229
Telephone 803-699-1976

Telefax 803-699-9863
Toll Free 1-800-379-3688

www.nesco-usa.com

January 4, 2001

Mr. John Wright, Hydrogeologist
SCDHEC
Groundwater Quality Section
Bureau of Water
2600 Bull St.
Columbia, SC 29201

RECEIVED
JAN 11 2001
Water Monitoring, Assessment & Protection Division

Re:

Edisto Marina/Bay Creek Villas
Site ID #01515
Colleton County
21-989/ 21-1056

Dear Mr. Wright:

During an assessment conducted by NESCO, Inc. (NESCO) on October 10, 2000, an unknown tank was encountered on the referenced property (see Figure 1 for a site map). On December 13, 2000, NESCO uncovered and properly abandoned a 1,000-gallon diesel fuel tank in place (please see Closure Report dated 12/13/00 for details).

The closure report shows significant soil and groundwater petroleum contamination in the immediate area around the tank. On behalf of the owner, NESCO would like to request that this site be transferred to the Division of USTs for the purpose of registering in the state SUPERB Fund Program.

A further concern is the issue of the drinking water contamination in apartments 116 and 217 of the Bay Creek Villas. This program transfer should be done as quickly as possible, so this issue can be dealt with immediately. The petroleum plume intersects the junction points between the main water line, the water meter box and the piping to the apartment building. The piping from the meter to the building is constructed of a "black poly-pipe", and is believed to be the point at which the contamination is entering the system. It is recommended that emergency funding be made available to upgrade the piping and remediate the source.

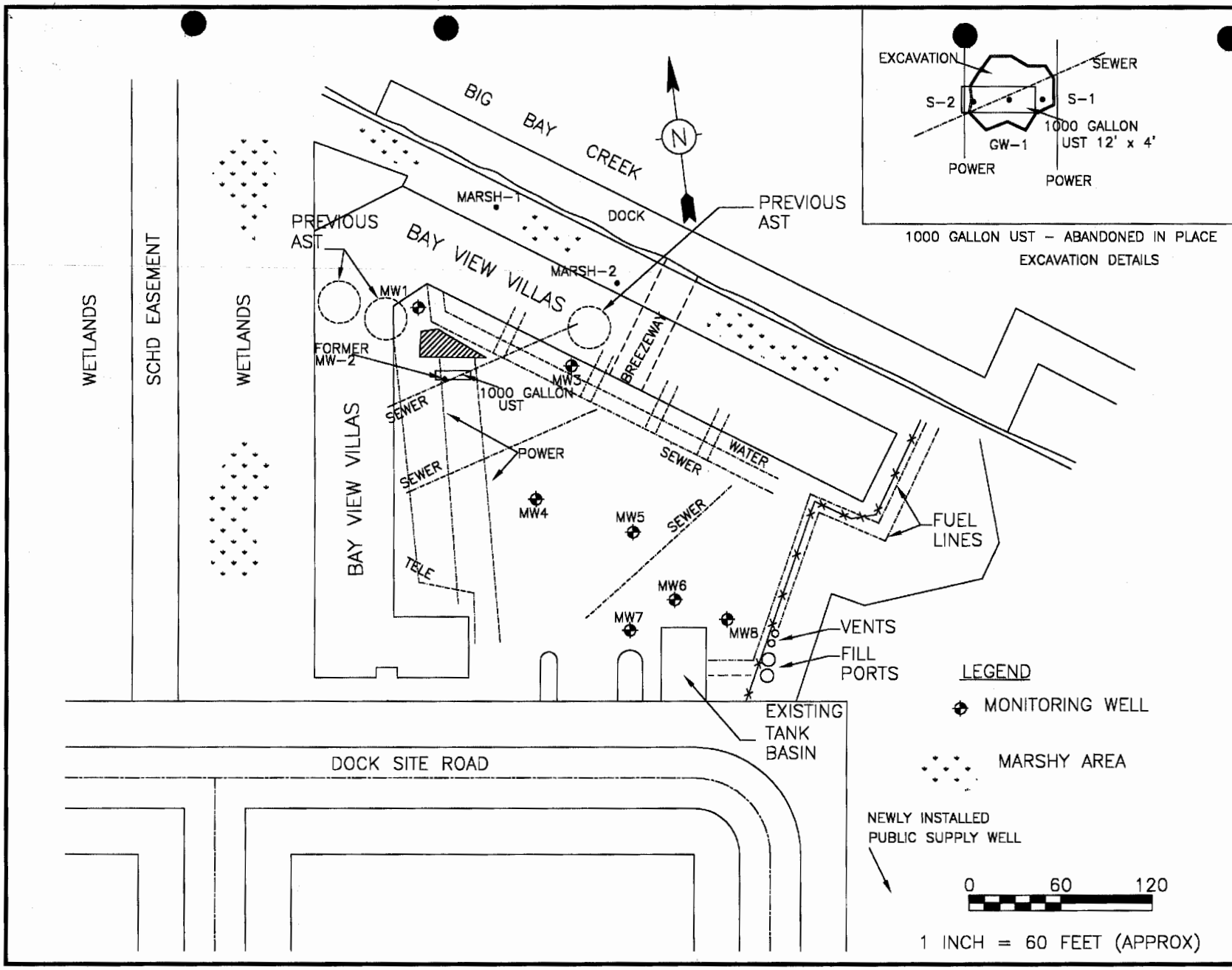
Sincerely,

NESCO, Inc.

Noal Hudson
Project Manager

Blake Burgess, P.G.
Senior Geologist

Cc: Robert Fowlkes, Bay Creek Villas



1000 GALLON UST – ABANDONED IN PLACE
EXCAVATION DETAILS

NESCO
Ingenuity At Work
NESCO, Inc.
521 CLEMSON ROAD
COLUMBIA, SOUTH CAROLINA 29229, USA
PHONE: 803.699.1978
FAX: 803.699.9863

FIGURE 1

BAY VIEW VILLAS
COLLETON COUNTY
SC

SITE MAP

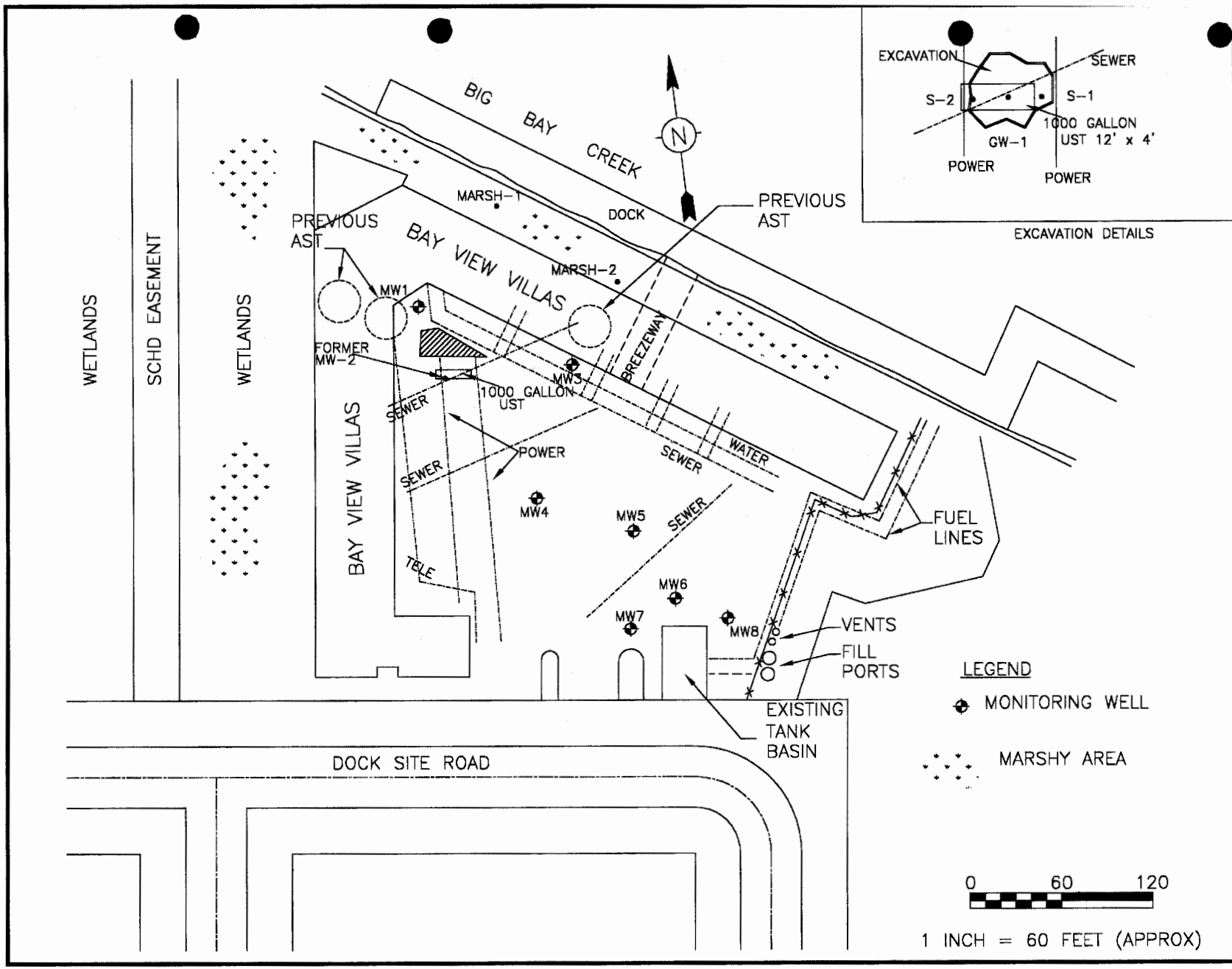
SITE ID # 01515
(01442)

PROJ. MGR.:	NRH
DES. BY:	NRH
DRAWN:	NRH
APPR:	BB
SCALE:	GRAPHIC
DATE:	2/01

REFERENCES

NOTES

REPORT: 21-1151c
FILE: FOLDER 21-1151c



NESCO
Ingenuity At Work
NESCO, Inc.
521 CLEMSON ROAD
COLUMBIA, SOUTH CAROLINA 29229, USA
PHONE: 803.699.1976
FAX: 803.699.9563

FIGURE 1

BAY VIEW VILLAS
COLLETON COUNTY
SC

TANK CLOSURE

PROJ. MGR.:	NRH
DES. BY:	NRH
DRAWN:	NRH
APPR:	BB
SCALE:	GRAPHIC
DATE:	12/19/00

REFERENCES

NOTES

REPORT: 21-989
FILE: FOLDER 21-1056

Tech file

RECEIVED

APR 2 4 2001

Underground Storage Tank Program

BAY CREEK VILLAS
AT · EDISTO · MARINA

April 23, 2001

SC-DHEC UST Program
Attn: Connie Anderson
2600 Bull Street
Columbia, SC 29201

Re: Underground Storage Tank (UST)
Bay Creek Villas
File# 18662

Dear Ms. Anderson,

This letter is in responce to your letter dated March 14, 2001.

The tank in question was to the best of our knowledge, left by the old marina that occupied the site of what is now Bay Creek Villas.

As the owner of that marina is no longer alive, we have been told by past customer's of that marina that the tank was located below dispencers that filled cars and boats with fuel.

If you have any other questions please feel free to contact me at anytime.

Sincerley,

Robert Fowlkes

Robert Fowlkes
Bay Creek Villas
Manager

3701 DOCKSITE ROAD
EDISTO BEACH, SOUTH CAROLINA 29438
(803) 869-1848

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Phone (800) 826-5435 Fax (803) 898-4330

MAR 22 2001

Bay Creek Villas
Attn: Robert Fowlkes
3701 Docksite Road
Edisto Beach, South Carolina 29438

Re: Bay Creek Villas
UST Permit # 18662, CP # 13556:P
Plan and Estimate received February 15, 2001
Colleton County

Dear Mr. Fowlkes:

The Department has reviewed the referenced plan and estimate for replacement of the impacted water supply lines. Upon receipt, verbal authorization was granted for the work to proceed. The cost proposal (CP) #13556:P will be kept on file to track costs to be applied against the $25,000.00 deductible should the release be qualified for State Underground Petroleum Environmental Response Bank (SUPERB) funds. **A report documenting the completion of the water line replacement should be submitted within thirty days from the date of this correspondence.**

The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable. The SCDHEC reserves the right to audit project records at any time during the project or after completion of the work.

A copy of the approved assessment cost proposal is enclosed for your information. Future invoices and/or other criteria included therein must comply with current SUPERB criteria per Section 44-2-20(2). Please reference **Cost Proposal Number 13556:P** on all pertinent invoices and correspondence. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained. If for any reason there is a change in this cost proposal, any associated changes to this cost proposal must be pre-approved by this Department in order for the cost to applied toward the $25,000.00 deductible.

SCDHEC/UST/031901

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Phone (800) 826-5435 Fax (803) 898-4330

MAR 22 2001

Bay Creek Villas
Attn: Robert Fowlkes
3701 Docksite Road
Edisto Beach, South Carolina 29438

Re: Bay Creek Villas
UST Permit # 18662, CP # 13557:P
Assessment Component Cost Proposal received February 9, 2001
Colleton County

Dear Mr. Fowlkes:

The Department has received the referenced cost proposal for the assessment completed in response to the detection of petroleum in your water lines. It was agreed that the cost of this assessment is appropriate to be used as partial fullfillment of the State Underground Petroleum Environmental Response Bank (SUPERB) $25,000 deductible. Cost proposal (CP) #13557:P has been established to track costs to be applied against the $25,000.00 deductible should the release be qualified for SUPERB funds.

The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable. The SCDHEC reserves the right to audit project records at any time during the project or after completion of the work.

A copy of the approved assessment cost proposal is enclosed for your information. Future invoices and/or other criteria included therein must comply with current SUPERB criteria per Section 44-2-20(2). Please reference **Cost Proposal Number 13557:P** on all pertinent invoices and correspondence. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained. If for any reason there is a change in this cost proposal, any associated changes to this cost proposal must be pre-approved by this Department in order for the cost to applied toward the $25,000.00 deductible.

SCDHEC/UST/031901

Ingenuity At Work

NESCO

RECEIVED

FEB 2 6 2001

Bureau of Underground
Storage Tank Management

NESCO, Inc.
521 Clemson Road
Columbia, South Carolina 29229
Telephone 803-699-1976

Telefax 803-699-9863
Toll Free 1-800-379-3688

www.nesco-usa.com

February 26, 2001

Read Miner
Division of UST Management
SCDHEC
2600 Bull St.
Columbia, SC 29201

Re: Assessment Component Cost Proposal
Bay Creek Villas
3701 Docksite Road
Edisto Beach, SC 29438
SCDHEC Site ID #18662

Dear Mr. Miner:

Please find enclosed the Assessment Component Cost Proposal for the above referenced site. If you have any questions or concerns regarding this plan, please call me at (803) 699-1976.

Sincerely,
NESCO, Inc.

Noal Hudson
Project Manager

Enclosure: Assessment Component Cost Proposal

TIER II PLAN

SOUTH CAROLINA

Department of Health and Environmental Control

Bureau of Underground Storage Tank Management

Site ID # 18662 County Colleton Facility Name Bay Creek Villas

Facility Address 3701 Docksite Road

Responsible party Bay Creek Horizontal Properties Address see below

No. USTs 1 removed? 12/13/00 (date) replaced? (date)

Current use of facility/property Condominiums

Current property owner name Bay Creek Horizontal Properties Regime

Current property owner address 3701 Docksite Road, Edisto Beach, SC 29438

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.

Field screening will be accomplished using an OVA/PID and direct push to construct soil borings. Screening in the field for the purpose of locating wells will be accomplished by comparison of PID vapor readings.

Permanent Monitoring wells (Estimate number and total completed depth)

# of shallow wells 5 total depth 65

# of deep wells 1 total depth 40 (If necessary)

Comments, if warranted Seven wells already exist, however the plume is not defined.

Analyses

List the analytical parameters (e.g., BTEX, MTBE) and estimated number.

BTEX, Napth	18	NITRATE	14
EDB	14	SULFATE	14
PAH's	18	IRON	14
LEAD	14	MTBE	14
METHANE	14	ORGANIC LEAD	14
TRIMETHYLBENZENE	14		

Implementation Schedule

Start up date Mar-01 Completion date Jun-01

Report submittal date Jul-01

TIER II ASSESSMENT PLAN

SOUTH CAROLINA
Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Site ID # 18662 Facility Name Bay Creek Villas

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
- Identification of located 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)
- 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

The wells at the site do not demonstrate enough specific capacity for a pumping test. We plan to test one deep and two shallow wells. Testing on the shallow wells will include one lower gradient and one upper gradient well near the source area.

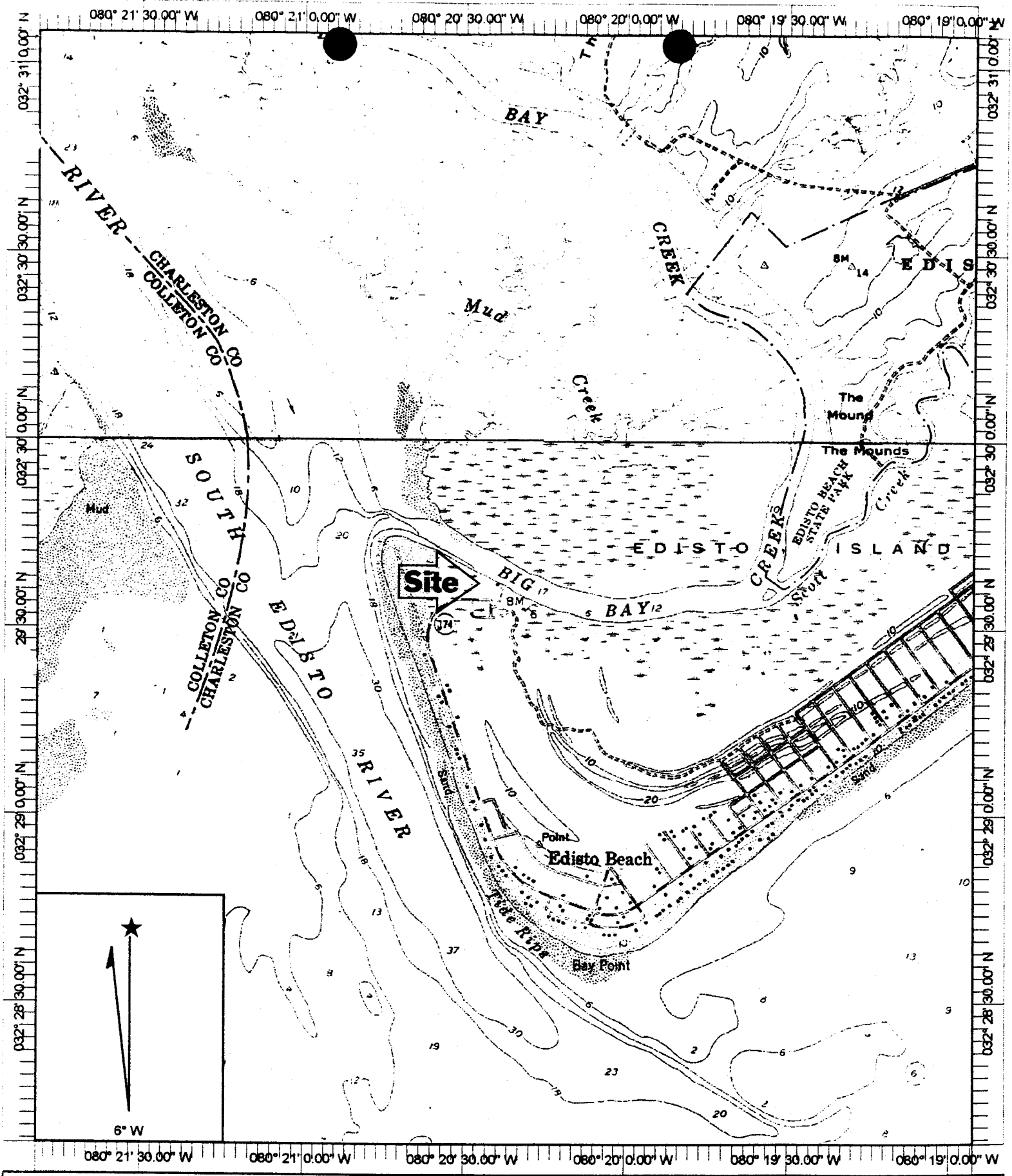
Small Volume Disposal Type and Method

Soil 55 gallon drums will containerize all contaminated soils until its disposal at a proper facility

Purge Water 55 gallon drum will be used to store purge water until its disposal at an approved facility

Additional Comments

One additional water sample was added for the water supply well located approximately 800 feet to the south southeast.



Name: EDISTO BEACH
Date: 10/13/2000
Scale: 1 inch equals 2000 feet

Location: 032° 29' 36.2" N 080° 20' 22.5" W
Caption: FIGURE 1
SITE LOCATION MAP
BAY VIEW VILLAS

Copyright (C) 1997, Maptech, Inc.

Dear Mr. Wright: Thanks for speaking with me. As we discussed, NESCO has provided a proposal to Bay Creek Villas concerning the additional assessment work requested by SCDHEC. We should be able to provide you with a schedule next week. I understand that Bay Creek was required to turn in a plan by mid-August. If an extension is necessary please consider this a request. As I said, we should have a schedule for you in the near future. Thanks again for your time and attention. Please call if you have any questions. Thad Munnerlyn

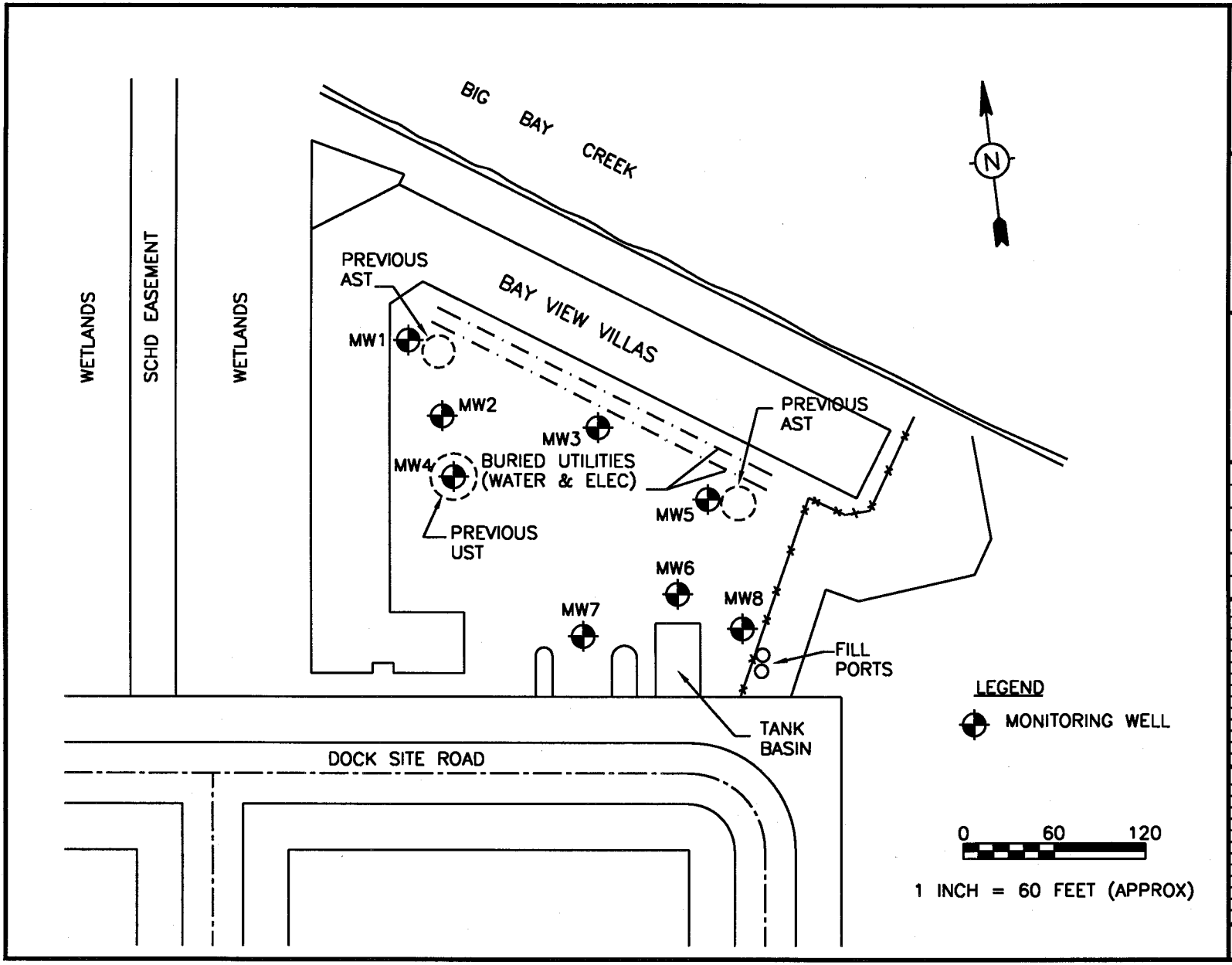
From: "Thad Munnerlyn" <ThadM@Nesco-USA.com>
To: <WRIGHTJW@columb32.dhec.state.sc.us>
Date: 8/18/00 9:00am
Subject: Edisto Marinas/Bay Creek Villas Site ID #01515

Dear Mr. Wright:

Thanks for speaking with me. As we discussed, NESCO has provided a proposal to Bay Creek Villas concerning the additional assessment work requested by SCDHEC. We should be able to provide you with a schedule next week. I understand that Bay Creek was required to turn in a plan by mid-August. If an extension is necessary please consider this a request. As I said, we should have a schedule for you in the near future.

Thanks again for your time and attention. Please call if you have any questions.

Thad Munnerlyn



NESCO
Ingenuity At Work

NESCO, Inc.
521 CLEMSON ROAD
COLUMBIA, SOUTH CAROLINA 29229, USA
PHONE: 803.699.1976
FAX: 803.699.0063

FIGURE 1

BAY VIEW VILLAS
COLLETON COUNTY
SC

ASSESMENT

PROJ. MGR.:	BB
DES. BY:	JRF
DRAWN:	JRF
APPR:	BB
SCALE:	GRAPHIC
DATE:	10/02/00

REFERENCES

NOTES

REPORT:
FILE:

Ingenuity At Work

NESCO

NESCO, Inc.
521 Clemson Road
Columbia, South Carolina 29229
Telephone 803-699-1976

Telefax 803-699-9863
Toll Free 1-800-379-3688

www.nesco-usa.com

If possible, NESCO, Inc. would like to mobilize to the site on Monday, October 9 to install temporary wells. I appreciate your assistance with this project and will await your response.

Sincerely,

NESCO, Inc.

Blake Burgess, P.G.
Senior Geologist

Cc: Robert Folks, Bay Creek Villas

NESCO

NESCO, Inc.
521 Clemson Road
Columbia, South Carolina 29229
Telephone 803-699-1976

Telefax 803-699-9863
Toll Free 1-800-379-3688

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Proposed Work Plan

The two objectives of further assessment should be to identify the source of the contamination and to further delineate the contaminant plume. The identification of the source will determine the responsible party for potential remediation of the site

Based on the data collected to date, I would recommend the following plan of action.

There appears to be at least 4 potential sources of contamination on the Bay Creek property. These are the underground storage tanks currently in operation, 2 previously removed above ground storage tanks, and 1 previously removed underground storage tank. Therefore, the initial objective will be to determine which of these potential sources (or combination) is responsible for the onsite contamination.

NESCO, Inc. proposes a phased approach as follows:

1) A NESCO well driller (SC Certified) will install 8 temporary 2" monitoring wells to an approximate depth of 13 feet in strategic locations in the areas of investigation. Field screening by OVA will be performed during drilling. The approximate well locations are shown on the enclosed site map. The temporary wells will be screened across the surficial aquifer and will be constructed with schedule 40 PVC with 10 feet of 0.01-slotted screen. A sand pack will be installed around the screen and the annular space will be packed with bentonite from the top of the sand pack to the surface. The wells will be flush mounted and protected with a cap and temporary well cover. These wells will be designed so that they can later be completed as permanent monitoring wells or permanently closed out. NESCO requests a variance from the "South Carolina Well Standards and Regulations" R. 61-71 for this temporary design. The temporary wells will allow a NESCO field geologist to accurately sample groundwater for both dissolved and free phase fuel products. Samples will be submitted to a South Carolina certified laboratory for analysis for fuel compounds. It can later be decided which wells to complete as permanent wells. Up to 4 soil samples may be collected to help determine the location of a source.

2) NESCO will review analytical data and all field data. If free product is detected, then NESCO may recommend this product be evaluated by age dating techniques to determine an approximate age of release. The age of release could help determine the source of the contamination and the responsible party.

3) We will prepare a final report based on all data collected to date. The report will outline the conclusions and recommendations for additional work, if required. The conclusions will include a recommendation to either close out temporary monitoring wells or complete them as permanent monitoring wells.

NESCO, Inc.

For Practical Solutions

RECEIVED
OCT 4 2000
Water Monitoring, Assessment & Protection Division
RECEIVED
OCT 0 4 2000
Bureau of Underground Storage Tank Management

October 2, 2000

Mr. John Wright, Hydrogeologist
SCDHEC
Groundwater Quality Section
Bureau of Water
2600 Bull St.
Columbia, SC 29201

Re: Edisto Marina/Bay Creek Villas
Site ID #01515
Colleton County

Dear Mr. Wright:

Please find enclosed a project summary and a proposed work plan for the further assessment of the referenced property. A more detailed historical summary will be provided in the assessment report.

Historical Summary

1. Residents of condominiums at the Bay Creek Villas detected an unusual odor in the drinking water. The water is supplied by the local public water authority and is directed to the Bay creek Villas through a series of PVC conduit.
2. A local South Carolina Department of Health and Environmental Control inspector sampled and analyzed tap water from a condominium where a complaint was initiated. Laboratory analysis detected small concentrations of compounds frequently associated with petroleum-based fuel (toluene, ethylbenzene, and xylene). Detected concentrations were far below EPA and SC drinking water standards and as such are not considered a health threat at the present time. However, these compounds do not occur naturally and are an indication of a contamination problem. There are documented case studies at other sites of fuel compounds migrating through PVC piping. Therefore, SCDHEC believes that this may be happening at the Bay Creek site.
3. Edisto Marina Management Corporation retained Cypress Bay Geological to perform a site assessment to determine the source of the potential contamination.
4. Cypress Bay collected a series of groundwater samples using direct push Geoprobe technology. A field gas chromatograph was used to analyze samples in the field.
5. The majority of samples were collected in the area in the southeast corner of the condominium complex where an above ground tank was known to exist and toward the center of the parking lot. The center of the parking lot is the location of an old UST that was believed to have been closed out between 1983 and 1985.
6. Anomalously high concentrations of gasoline components were detected near the location of the former AST and near the old UST. Geoprobe samples collected adjacent to the existing underground storage tank basin did not show the presence of gasoline constituents. However, this data is suspect because the samples were apparently collected at a depth 8 feet below the water table. The sampled depth could have been beneath dissolved or free phase fuel.

521 Clemson Rd. • Columbia, SC 29229-4307 • 803-699-1976 • Fax 803-699-9863

D H E C
PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
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Howard L. Brilliant, MD

Brian K. Smith

Rodney L. Grandy

Larry R. Chewning, Jr., DMD

October 6, 2000

Bay Creek Villas
Attention: Mr. Robert Folk
3701 Dockside Road
Edisto Beach, SC 29438

RE: Bay Creek Villas, Site ID #01515
Assessment Plan received October 4, 2000
Colleton County

Dear Mr. Folk:

The Groundwater Quality Section of the Bureau of Water has reviewed and approved the referenced assessment plan submitted by NESCO, Inc. The following comments are offered:

- Additional hand auger borings/temporary monitoring wells in the area between the Bay Veiw Villas and the Big Bay Creek should be installed to determine if free phase product is in this area which could discharge to the creek;

- The tap water in the condominiums in which hydrocarbons were detected should be sampled to determine if there is a potential for human health risk.

Assessment activities at the site should begin upon receipt of this letter. The results of the evaluation should be submitted to my attention by November 28, 2000.

Monitoring well approval for up to eleven temporary monitoring wells has been issued. The original has been sent to NESCO, Inc. and a copy is enclosed for your records. Please note that all applicable South Carolina certification requirements regarding temporary monitoring well installation and report preparation must be met.

On all correspondence regarding this site, please reference Site ID #01515. If you have questions concerning this correspondence, or would like to submit additional information, contact John Wright, project manager, at (803) 898-4264.

Sincerely,

John Wright

John Wright, Hydrogeologist
Groundwater Quality Section
Water Monitoring, Assessment, and Protection Division
Bureau of Water

enc: Copy of Monitoring Well Approval

cc: Blake Burgess, NESCO, Inc., 521 Clemson Road, Columbia, SC 29229-4307 (with Original Monitoring Well Approval)
Low Country District EQC (with copy of Monitoring Well Approval)

DHEC/BOW/jww/001006
01515.go

USE BALL POINT PEN ONLY, PRESS HARD

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Pointe Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Page ___ of ___

CHAIN OF CUSTODY #

Client Name

Reporting Address

Attention

Telephone No. P.O. No.

NPDES #

County

Receiving Stream

Outfall No.

CHAIN OF CUSTODY RECORD

SAMPLE ANALYSIS REQUIRED

Sample ID (Location)	Yr. 00 DATE	TIME	WELL	SOLID	COMP	GRAB	# of containers	pH, Conductivity	BOD	Nutrients - Specify	METALS - Specify	TOC/TOX - Specify	BTEX	VOC - Specify Method required	Pesticides/PCBs - Specify	Herbicides	Total Phenol	Oil & Grease	BNAs	Solids - Specify	Cyanide	Coliform - Specify type	Toxicity - Specify	←PRESERVATION (CODE)	LAB USE ONLY SESI LAB I.D.
By View Villas	Start / Finish																								
Apt. 116	Start / Finish					X							X												
Apt 217	Start / Finish					X							X												
Marsh 2	Start / Finish					X							X												
Soil MW-2	Start / Finish			X									X											No MTBE 500	
Soil MW-3	Start / Finish			X									X											No MTBE 500	
Soil MW-4	Start / Finish			X									X											No MTBE 500	
Soil Marsh 1	Start / Finish	5:05 / 5:15		X									X											No MTBE 500	

SAMPLER	Date/Time	Received by (Sig.)	Date/Time	Hazards Associated with Sample	Custody Seal Intact (Circle) YES NO NONE
Print Name: Noel Hogan Signature:	10/11/00 5:00	Square Area	10/11/00 8:45		Receipt TRC ___ mg/l Receipt pH ___ su Receipt Temp. 1.0 °C
Relinquished by (Sig.) Square Area	Date/Time 10/12/00 1500	Received by (Sig.)	Date/Time 10/12/00 1500		Received on Ice (Circle) YES NO ICE PACK
Relinquished by (Sig.)	Date/Time 10/12 1600	Lab Receipt by (Sig.) PHL Carolina	Date/Time 10/12/00 1600		

AMERICAN SYSTEMS, COLUMBIA, S.C.

White Copy: Sampler Yellow Copy: Shealy Pink Copy: Report

Description	:	**soil MW-2**	Date Sampled	:	10/11/2000 1620
Lot Number	:	BJ13013-012	Matrix	:	Solid
Client	:	**NESCO**			
Date Received	:	10/12/2000			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	**78.8**			%		10/16/2000 1335	ADH
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		6.6	ug/kg		10/20/2000 0221	RED
Ethylbenzene	5035	8260B	ND		6.6	ug/kg		10/20/2000 0221	RED
Naphthalene	5035	8260B	ND		6.6	ug/kg		10/20/2000 0221	RED
Toluene	5035	8260B	ND		6.6	ug/kg		10/20/2000 0221	RED
Xylenes (total)	5035	8260B	ND		6.6	ug/kg		10/20/2000 0221	RED
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	88.0		70.0-130	%		10/20/2000 0221	RED
Toluene-d8	5035	8260B	120		70.0-130	%		10/20/2000 0221	RED
Bromofluorobenzene	5035	8260B	101		70.0-130	%		10/20/2000 0221	RED

Footnote(s): Internal Surrogates outside of acceptance criteria due to matrix interference. Samples not collected per 5035/8260B protocol.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : **soil MW-3**
Lot Number : BJ13013-013
Client : **NESCO**
Date Received : 10/12/2000

Date Sampled : 10/11/2000 1516
Matrix : Solid

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	83.3			%		10/16/2000 1335	ADH
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		5.3	ug/kg		10/20/2000 0254	RED
Ethylbenzene	5035	8260B	ND		5.3	ug/kg		10/20/2000 0254	RED
Naphthalene	5035	8260B	ND		5.3	ug/kg		10/20/2000 0254	RED
Toluene	5035	8260B	ND		5.3	ug/kg		10/20/2000 0254	RED
Xylenes (total)	5035	8260B	10		5.3	ug/kg		10/20/2000 0254	RED
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	82.5		70.0-130	%		10/20/2000 0254	RED
Toluene-d8	5035	8260B	113		70.0-130	%		10/20/2000 0254	RED
Bromofluorobenzene	5035	8260B	105		70.0-130	%		10/20/2000 0254	RED

Footnote(s) : Internal standards outside the acceptance criteria due to matrix interference. Samples not collected per 5035/8260B protocol.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : **soil MW-4**
Lot Number : BJ13013-014
Client : **NESCO**
Date Received : 10/12/2000

Date Sampled : 10/11/2000 1241
Matrix : Solid

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	**76.7**			%		10/16/2000 1335	ADH
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		390	ug/kg		10/20/2000 0401	RED
Ethylbenzene	5035	8260B	**5700**		390	ug/kg		10/20/2000 0401	RED
Naphthalene	5035	8260B	**6600**		390	ug/kg		10/20/2000 0401	RED
Toluene	5035	8260B	**4600**		390	ug/kg		10/20/2000 0401	RED
Xylenes (total)	5035	8260B	**6600**		790	ug/kg		10/20/2000 0916	RED
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	69.2	@	70.0-130	%		10/20/2000 0401	RED
Toluene-d8	5035	8260B	75.4		70.0-130	%		10/20/2000 0401	RED
Bromofluorobenzene	5035	8260B	94.3		70.0-130	%		10/20/2000 0401	RED

Footnote(s) : @ = Surrogate recovery outside of acceptance criteria due to matrix interference. Samples not collected per 5035/8260B protocol.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : **soil Marsh 1**
Lot Number : BJ13013-015
Client : **NESCO**
Date Received : 10/12/2000

Date Sampled : 10/11/2000 1715
Matrix : Solid

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	47.2			%		10/16/2000 1335	ADH
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		13	ug/kg		10/18/2000 1635	RED
Ethylbenzene	5035	8260B	ND		13	ug/kg		10/18/2000 1635	RED
Naphthalene	5035	8260B	ND		13	ug/kg		10/18/2000 1635	RED
Toluene	5035	8260B	ND		13	ug/kg		10/18/2000 1635	RED
Xylenes (total)	5035	8260B	39		13	ug/kg		10/18/2000 1635	RED
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	87.4		70.0-130	%		10/18/2000 1635	RED
Toluene-d8	5035	8260B	105		70.0-130	%		10/18/2000 1635	RED
Bromofluorobenzene	5035	8260B	106		70.0-130	%		10/18/2000 1635	RED

Footnote(s) : Samples not collected per 5035/8260B protocol.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

USE BALL POINT PEN ONLY, PRESS HARD

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Pointe Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Page 1 of 2

CHAIN OF CUSTODY RECORD

SAMPLE ANALYSIS REQUIRED

CHAIN OF CUSTODY #

Client Name: NESCO

Reporting Address: 521 Clemson Rd
Columbia, SC 29229

Attention: Neal Hudson

Telephone No. _____ P.O. No. _____

NPDES # _____

County _____

Receiving Stream _____

Outfall No. _____

←PRESERVATION (CODE)
CODE: A = None
B = HNO3
C = H2SO4
D = NaOH
E = ICE
F = _____

LAB USE ONLY
Program Area (Circle)
DW CWA/NPDES
RCRA SP/SOL
SP/LIQ Other: _____

Sample ID (Location)	Yr. DATE	TIME	WELL	SOLID	COMP	GRAB	# of containers	pH, Conductivity	BOD	Nutrients - Specify	METALS - Specify	TOC/TOX - Specify	BTEX + MTBE + Naph	VOC - Specify Method required	Pesticides/PCBs - Specify	Herbicides	Total Phenol	Oil & Grease	BNAs	Solids - Specify	Cyanide	Coliform - Specify type	Toxicity - Specify	REMARKS	SESI LAB I.D.
Bay View Villas Edisto, SC MW-1	Start 10/11	2:25				X	2						X												BS13013-001
	Finish 10/11	3:00																							
MW-2	Start 10/11	4:10				X	2						X												002
	Finish 10/11	4:50																							
MW-3	Start 10/11	2:05				X	2						X												003
	Finish 10/11	3:50																							
MW-4	Start 10/11	12:20				X	2						X												004
	Finish 10/11	1:05																							
MW-5	Start 10/11	1:45				X	2						X												005
	Finish 10/11	2:13																							
MW-6	Start 10/11	11:15				X	2						X												006
	Finish 10/11	12:05																							
MW-7	Start 10/11	10:30				X	2						X												007
	Finish 10/11	11:05																							
MW-8	Start 10/11	11:50				X	2						X												008
	Finish 10/11	12:40																							

SAMPLER	Date/Time	Received by (Sig.)	Date/Time
Print Name: Neal Hudson Signature: [signature]	10/11/00 8:30P	Secure Area	10/11/00 8:45
Relinquished by (Sig.): Secure Area	Date/Time 10/12/ 1530	Received by (Sig.): [signature]	Date/Time 10/12/00 1530
Relinquished by (Sig.): [signature]	Date/Time 10/12 1600	Lab Receipt by (Sig.): [signature]	Date/Time 10/12/00 1600

Hazards Associated with Sample

Custody Seal Intact (Circle)
YES NO NONE

Receipt TRC _____ mg/l

Receipt pH _____ su

Receipt Temp. 6.0 °C

Received on Ice (Circle)
YES NO ICE PACK

AMERICAN SYSTEMS, COLUMBIA, S.C.

White Copy: Sampler Yellow Copy: Shealy Pink Copy: Report

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S.C. 29201

Commissioner
Robert S. Jackson, M.D.

Board
Moses H. Clarkson, Jr., Chairman
Gerald A. Kaynard, Vice-Chairman
Oren L. Brady, Jr., Secretary
Barbara P. Nuessle
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William H. Hester, M.D.
Euta M. Colvin, M.D.

MEMORANDUM

TO: District Directors

FROM: William C. Rowell, Manager WCR
Engineering Surveillance & Technical Assistance Section
Water Supply Division

DATE: May 29, 1985

IN RE: Permeation of Plastic Pipes by Organic Compounds

I have attached an excerpt from the AWWA Research Foundation's Newsletter which I feel you will find interesting. We have seen many instances of similar problems in South Carolina and we can anticipate more due to the increased usage of plastic pipe materials. Please circulate this information in your office. If you have any questions or if we may be of assistance, please contact me at 758-5544.

/kk

Powell

ORGANIC CONTAMINANTS

Permeation of Plastic Pipes by Organic Compounds

Since the late 1970's, numerous incidents have been reported of drinking water contamination from permeation of plastic service lines by organic chemicals, especially gasoline. Some of these incidents began with customer complaints of odor in the drinking water; subsequent laboratory analysis confirmed the presence of organic contaminants.

In the last two to three years two incidents of suspected permeation occurred in the American Water Works Service Company system. These incidents prompted the company to investigate the extent of permeation of five pipe materials by three organic chemicals in laboratory tests conducted during 1983 and 1984.

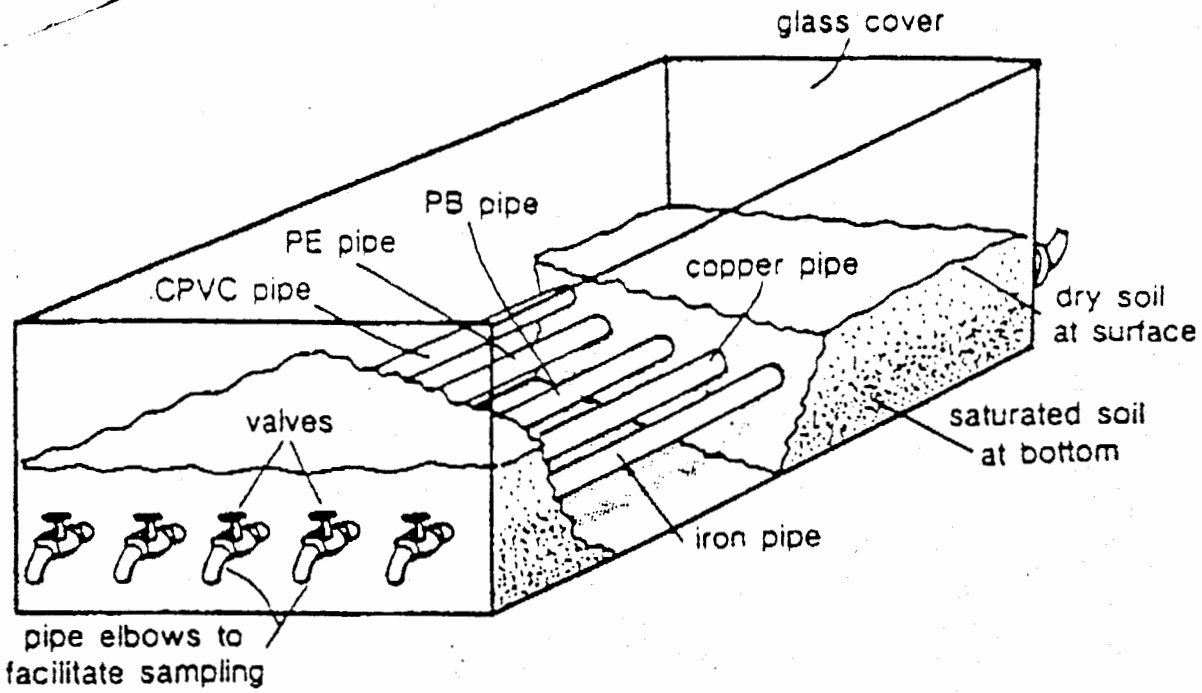
Pipe materials. Iron, copper, polyethylene (PE), polybutylene (PB), and chlorinated poly(vinyl chloride) (CPVC) service line materials were tested. CPVC, PE, and PB materials were also used for controls.

Organic chemicals. The compounds tested were: trichloroethylene (TCE), a widely used industrial solvent; chlordane, a pesticide used commercially for termite control; and gasoline.

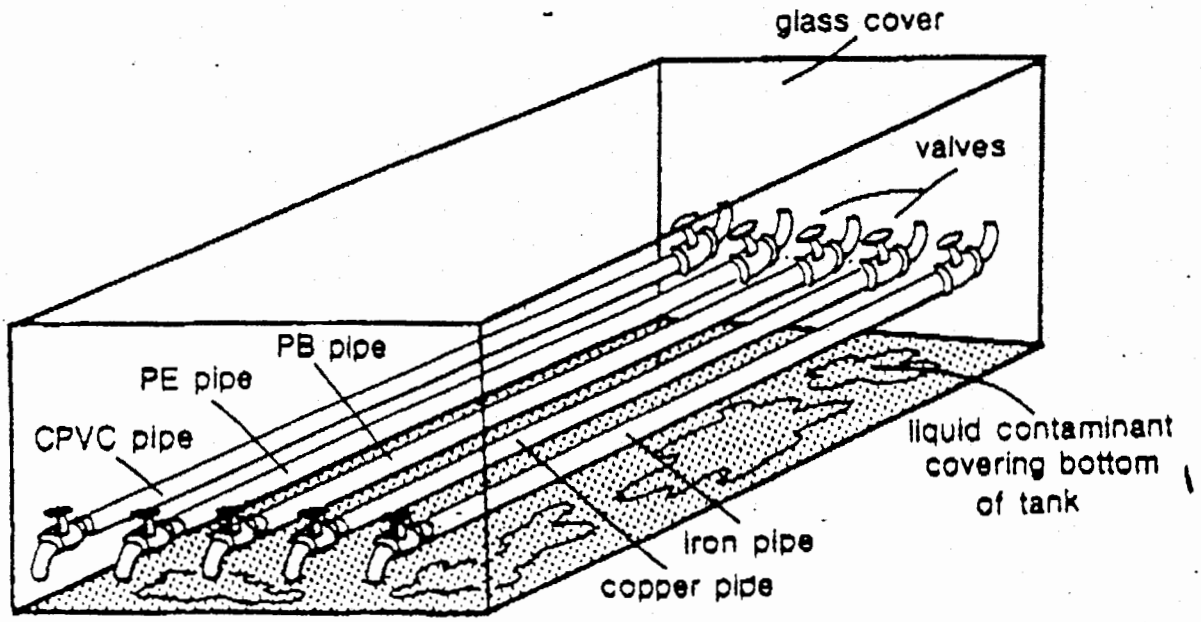
Pipe exposure. The study was carried out by using two concurrent pipe exposures, one exposing separate pipes to a vapor environment and a second exposing separate pipes to a soil containing the organic chemicals (see Figure 1).

Experimental method. The investigation consisted of three phases, one for each organic chemical, for a minimum exposure of 10 weeks. For each phase and exposure, a specified amount of the test chemical was added to the exposure tank, and the pipes were flushed and filled with tap water. Four times during the exposure period, water samples were collected from the pipes and analyzed. The time interval of exposure varied slightly between phases:

	Exposure Day of Sample Collection			
	Sample 1	Sample 2	Sample 3	Sample 4
Phase 1 (TCE)	Day 1	Day 8	Day 39	Day 99
Phase 2 (Chlordane)	Day 1	Day 8	Day 40	Day 70
Phase 3 (Gasoline)	Day 1	Day 22	Day 44	Day 99



Soil Exposure Tank



Vapor Exposure Tank

FIGURE 1

Glass Pipe Exposure Tanks

Iron and copper pipes were flushed with hot tap water after each phase; plastic pipes were replaced with new ones.

Analytical methods. The U.S. Environmental Protection Agency's Method 502.1, "The Determination of Halogenated Chemicals in Water by Purge and Trap Method," was used for TCE determinations.

Chlordane analysis followed Method 509-A in Standard Methods.

The major aromatic components in gasoline (xylene, ethylbenzene, benzene, and toluene) were analyzed by using USEPA Method 503.1, "The Analysis of Aromatic Chemicals in Water by the Purge and Trap Method."

For all analyses, the detection limit was 1 µg/L.

Results. "Iron and copper pipes were not permeated by any of the organic contaminants (TCE, chlordane, and gasoline) in either the soil or the vapor environments.

"PE pipe was permeated by TCE within 1 week in both the soil and vapor exposures. Gasoline permeation occurred within 1 day in the vapor and 3 weeks in the soil exposure. The chlordane did not permeate the PE pipe.

"PB pipe was permeated by TCE and gasoline within 1 day and not by chlordane within 10 weeks. Results were the same in both the soil and vapor environments.

"CPVC pipe was permeated by TCE within 1 day in the soil environment and not until 14 weeks in the vapor environment. Gasoline permeation occurred within 6 weeks in the soil environment and not at all in the 14-week vapor exposure. The chlordane did not permeate the CPVC pipe."

Complete details of the laboratory investigation are presented in the report entitled "Investigation of Plastic Pipe Permeation by Organic Chemicals" (American Water Works Service Company, Inc., System Water Quality. November 1984). Copies of this report are NOT available from the AWWA Research Foundation.

For information about the laboratory study, contact:

Ray Lee, P.E.
Assistant Director
Research and Technology
System Water Quality
American Water Works Service Company, Inc.
40018 Greentree Executive Campus
Marlton, NJ 08053
Telephone: 609-546-8646

946 -

has been changed to a non-published

PROJECT TRANSFER CHECKLIST

Site Name/Full ID # Edisto Marina Mgt Corp / R-15-NO-01442

Release # 1 For UST # 1-2 Release Report Date 1-28-00

Free Product Reported? Yes / No **Impacted Water Supply Well Reported? Yes / No**

Receptor(s) within 1000 feet of UST system? (Well / Surface Water Body / Wetland / Other) **

Worst Case Analysis / Sample #	Soil (mg/kg) / # 3 *	Water (ug/l) / # 1 **
Benzene	0.0236	<1
Toluene	0.0297	1
Ethylbenzene	0.11	5.8
Xylenes	0.1607	14.7
Naphthalene	0.25	<5
Benzo(a)anthracene		
Benzo(b)flouranthene		
Benzo(k)flouranthene		
Chrysene		
Dibenz(a,h)anthracene		
MTBE (water only)		<1
Other		

REGULATORY INFORMATION

1. All USTs Registered? Yes / No / NA
2. Regulatory PM _____
3. All Applicable Annual Fees Paid? Yes / No / NA
4. Financial responsibility Certification Received? Yes / No / NA Type self
5. Site In Substantial Compliance? Yes / No / NA
6. Insurance Statement Received? Yes / No / NA Dated _____
7. UST Status (account for all USTs in database)

_____ USTs Permanently Closed Date Closed _____

_____ USTs CIU & Passed TT Date Tested _____

_____ USTs TOU & Emptied Date Emptied _____

** water samples were taken from tap

* soil sample from parking lot

SPECIALIZED ASSAY[illegible]C.

2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

SCDHEC 2200

2600 BULL STREET
COLUMBIA, SC 29201

Project: 01442
Project Name:
Sampler: ROBIN MACK

Lab Number: 00-A13040
Sample ID: #1(RM.116)
Sample Type: Water
Site ID:

Date Collected: 1/31/00
Time Collected: 12:00
Date Received: 2/ 2/00
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	ug/l	1.0	1.0	1	2/ 5/00	22:04	F.Gundi	8021B	5999
Toluene	1.0	ug/l	1.0	1.0	1	2/ 5/00	22:04	F.Gundi	8021B	5999
Ethylbenzene	5.8	ug/l	1.0	1.0	1	2/ 5/00	22:04	F.Gundi	8021B	5999
Xylenes, total	14.7	ug/l	1.0	1.0	1	2/ 5/00	22:04	F.Gundi	8021B	5999
Methyl-t-butylether	ND	ug/l	1.0	1.0	1	2/ 5/00	22:04	F.Gundi	8021B	5999
Naphthalene	ND	ug/l	5.0	5.0	1	2/ 5/00	22:04	F.Gundi	8021B	5999

ND = Not detected at the report limit.

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	102.	50. - 150.

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: [signature] Report Date: 2/ 7/00

Theodore J. Duello, Ph.D., Technical Serv.
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Gail A Lage, Technical Serv.
Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly S. Ruppel, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 84009

End of Sample Report.

COPY 1

SPECIALIZED ASSAYS, INC.

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P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

SCDHEC 2200

2600 BULL STREET
COLUMBIA, SC 29201

Project: 01442
Project Name:
Sampler: ROBIN MACK

Lab Number: 00-A13041
Sample ID: #2(RM.217)
Sample Type: Water
Site ID:

Date Collected: 1/31/00
Time Collected: 12:10
Date Received: 2/ 2/00
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	ug/l	1.0	1.0	1	2/ 7/00	15:24	F.Gundi	8021B	7291
Toluene	ND	ug/l	1.0	1.0	1	2/ 7/00	15:24	F.Gundi	8021B	7291
Ethylbenzene	1.1	ug/l	1.0	1.0	1	2/ 7/00	15:24	F.Gundi	8021B	7291
Xylenes, total	ND	ug/l	1.0	1.0	1	2/ 7/00	15:24	F.Gundi	8021B	7291
Methyl-t-butylether	ND	ug/l	1.0	1.0	1	2/ 7/00	15:24	F.Gundi	8021B	7291
Naphthalene	ND	ug/l	5.0	5.0	1	2/ 7/00	15:24	F.Gundi	8021B	7291

ND = Not detected at the report limit.

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	101.	50. - 150.

These results relate only to the items tested.
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Report Approved By: Michael D. Dunn Report Date: 2/ 7/00

Theodore J. Duello, Ph.D., Technical Serv.
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Gail A Lage, Technical Serv.
Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly S. Ruppel, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 84009

End of Sample Report.

COPY 1

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Phone 1-615-726-0177

ANALYTICAL REPORT

SCDHEC 2200

2600 BULL STREET
COLUMBIA, SC 29201

Project: 01442
Project Name:
Sampler: ROBIN MACK

Lab Number: 00-A13042
Sample ID: #3(PARKING LOT)
Sample Type: Soil
Site ID:

Date Collected: 1/31/00
Time Collected: 12:20
Date Received: 2/ 2/00
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	0.0236	mg/kg	0.0010	0.0010	1	2/ 6/00	20:34	Ciesielski	8021B	5021
Toluene	0.0297	mg/kg	0.0010	0.0010	1	2/ 6/00	20:34	Ciesielski	8021B	5021
Ethylbenzene	0.1100	mg/kg	0.0010	0.0010	1	2/ 6/00	20:34	Ciesielski	8021B	5021
Xylenes, total	0.1607	mg/kg	0.0011	0.0010	1	2/ 6/00	20:34	Ciesielski	8021B	5021
MTBE	0.0084	mg/kg	0.0028	0.0028	1	2/ 6/00	20:34	Ciesielski	8021B	5021
Naphthalene	0.2509	mg/kg	0.0010	0.0010	1	2/ 6/00	20:34	Ciesielski	8021B	5021

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
BTX Prep	9.0 g	5.0 ml	1/31/00	Ciesielski	5035

Surrogate	% Recovery	Target Range
surr-a,a,a-Trifluorotoluene	102.	50. - 150.

Sample report continued . . .

SPECIALIZED ASSAYS, INC.

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Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 00-A13042
Sample ID: #3(PARKING LOT)

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: _____ Report Date: 2/ 7/00

Theodore J. Duello, Ph.D., Technical Serv.
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Gail A Lage, Technical Serv.
Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly S. Ruppel, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 84009

End of Sample Report.

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PROJECT QUALITY CONTROL DATA

Matrix Spike Recovery

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch
Benzene	mg/kg	< 0.0010	0.0495	0.0500	99	70. - 129.	5021
Toluene	mg/kg	< 0.0010	0.0521	0.0500	104	51. - 144.	5021
Ethylbenzene	mg/kg	< 0.0010	0.0498	0.0500	100	48. - 150.	5021
Xylenes, total	mg/kg	< 0.0010	0.1460	0.1500	97	60. - 140.	5021
MTBE	mg/kg	< 0.0050	0.0524	0.0500	105	73. - 119.	5021
Naphthalene	mg/kg	< 0.0050	0.0475	0.0500	95	10. - 218.	5021
Benzene	mg/l	< 0.0010	0.0212	0.0200	106	75. - 125.	5999
Benzene	mg/l	< 0.0010	0.0194	0.0200	97	75. - 125.	7291
Toluene	mg/l	< 0.0010	0.0214	0.0200	107	53. - 147.	5999
Toluene	mg/l	< 0.0010	0.0182	0.0200	91	53. - 147.	7291
Ethylbenzene	mg/l	< 0.0010	0.0216	0.0200	108	51. - 151.	5999
Ethylbenzene	mg/l	< 0.0010	0.0197	0.0200	98	51. - 151.	7291
Xylenes, total	mg/l	< 0.0010	0.0426	0.0400	106	78. - 123.	5999
Xylenes, total	mg/l	< 0.0010	0.0618	0.0600	103	78. - 123.	7291
Methyl-t-butylether	mg/l	< 0.0010	0.0175	0.0200	88	38. - 154.	5999
Methyl-t-butylether	mg/l	< 0.0010	0.0203	0.0200	102	38. - 154.	7291
Naphthalene	mg/l	< 0.005	0.022	0.020	110	10. - 201.	5999
Naphthalene	mg/l	< 0.005	0.022	0.020	110	10. - 201.	7291

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
Benzene	mg/kg	0.0495	0.0498	0.60	22.	5021
Toluene	mg/kg	0.0521	0.0516	0.96	23.	5021
Ethylbenzene	mg/kg	0.0498	0.0493	1.01	31.	5021
Xylenes, total	mg/kg	0.1460	0.1429	2.15	28.	5021
MTBE	mg/kg	0.0524	0.0533	1.70	16.	5021
Naphthalene	mg/kg	0.0475	0.0517	8.47	106.	5021
Benzene	mg/l	0.0212	0.0212	0.00	13.	5999
Benzene	mg/l	0.0194	0.0184	5.29	13.	7291
Toluene	mg/l	0.0214	0.0213	0.47	18.	5999
Toluene	mg/l	0.0182	0.0173	5.07	18.	7291
Ethylbenzene	mg/l	0.0216	0.0216	0.00	18.	5999
Ethylbenzene	mg/l	0.0197	0.0187	5.21	18.	7291
Xylenes, total	mg/l	0.0426	0.0421	1.18	20.	5999
Xylenes, total	mg/l	0.0618	0.0590	4.64	20.	7291
Methyl-t-butylether	mg/l	0.0175	0.0198	12.33	43.	5999
Methyl-t-butylether	mg/l	0.0203	0.0183	10.36	43.	7291
Naphthalene	mg/l	0.022	0.021	4.65	106.	5999
Naphthalene	mg/l	0.022	0.018	20.00	106.	7291

Project QC continued . . .

SPECIALIZED ASSAY INC.

2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

RECEIVED

FEB 0 8 2000

Bureau of Underground
Storage Tank Management

PROJECT QUALITY CONTROL DATA

Laboratory Control Data

Analyte	Units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Benzene	mg/kg	0.0500	0.0487	97	70 - 130	5021
Toluene	mg/kg	0.0500	0.0509	102	70 - 130	5021
Ethylbenzene	mg/kg	0.0500	0.0482	96	70 - 130	5021
Xylenes, total	mg/kg	0.1500	0.1403	94	70 - 130	5021
MTBE	mg/kg	0.0500	0.0514	103	70 - 130	5021
Naphthalene	mg/kg	0.0500	0.0520	104	60 - 140	5021
Benzene	mg/l	0.0200	0.0216	108	70 - 130	5999
Benzene	mg/l	0.0200	0.0191	96	70 - 130	7291
Toluene	mg/l	0.0200	0.0217	108	70 - 130	5999
Toluene	mg/l	0.0200	0.0179	90	70 - 130	7291
Ethylbenzene	mg/l	0.0200	0.0220	110	70 - 130	5999
Ethylbenzene	mg/l	0.0200	0.0194	97	70 - 130	7291
Xylenes, total	mg/l	0.0400	0.0430	108	70 - 130	5999
Xylenes, total	mg/l	0.0600	0.0609	102	70 - 130	7291
Methyl-t-butylether	mg/l	0.0200	0.0183	92	70 - 130	5999
Methyl-t-butylether	mg/l	0.0200	0.0190	95	70 - 130	7291
Naphthalene	mg/l	0.020	0.022	110	60 - 140	5999
Naphthalene	mg/l	0.020	0.018	90	60 - 140	7291

Blank Data

Analyte	Blank Value	Units	Q.C. Batch
Benzene	< 0.0010	mg/kg	5021
Toluene	< 0.0010	mg/kg	5021
Ethylbenzene	< 0.0010	mg/kg	5021
Xylenes, total	< 0.0010	mg/kg	5021
MTBE	< 0.0050	mg/kg	5021
Naphthalene	< 0.0050	mg/kg	5021
Benzene	< 0.0010	mg/l	5999
Benzene	< 0.0010	mg/l	7291
Toluene	< 0.0010	mg/l	5999
Toluene	< 0.0010	mg/l	7291
Ethylbenzene	< 0.0010	mg/l	5999
Ethylbenzene	< 0.0010	mg/l	7291
Xylenes, total	< 0.0010	mg/l	5999
Xylenes, total	< 0.0010	mg/l	7291
Methyl-t-butylether	< 0.0010	mg/l	5999
Methyl-t-butylether	< 0.0010	mg/l	7291
Naphthalene	< 0.005	mg/l	5999
Naphthalene	< 0.005	mg/l	7291

End of Report for Project 178292

COOLER RECEIPT FORM

Client: DHEC

Cooler Received On: 2/2/00 And Opened On: 9:00 By: MARK Rider

M. Rider
(Signature)

1. Temperature of Cooler when opened 4 Degrees C
2. Were custody seals on outside of cooler and intact? Y N
   a. If yes, what kind and where: _
   b. Were the signature and date correct? Y N
3. Were custody papers inside cooler? Y N
4. Were custody papers properly filled out (ink,signed,etc)? Y N
5. Did you sign the custody papers in the appropriate place? Y N
6. What kind of packing material? BUBBLEWRAP PEANUTS OTHER
7. Was sufficient ice used (if appropriate)? Y N
8. Did all bottles arrive in good condition(unbroken)? Y N
9. Were all bottle labels complete (#,date, signed, pres., etc)? Y N
10. Did all bottle labels and tags agree with custody papers? Y N
11. Were correct bottles used for the analysis requested? Y N
12. If present, were VOA vials checked for absence of air bubbles and noted if found? Y N
13. Was sufficient amount of sample sent in each bottle? Y N
14. Were correct preservatives used? Y N

IF CORRECTIVE ACTION NEEDED THEN SEE ATTACHED FOR RESOLUTION

TESTAMERICA INC.

Chain of Custody Record

☐ Asheville, NC (A) (828) 254-5169	☐ Bartlett, IL (C) (630) 289-3100	☐ Cedar Falls, IA (E) (319) 277-2401	☐ Charlotte, NC (G) (704) 392-1164	☐ Dayton, OH (I) (937) 294-6856	☐ Lumberton, NC (K) (910) 738-6190	☐ Nashville, TN (M) (615) 726-0177	☐ Pontiac, MI (O) (248) 332-1940	☐ Rockford. Il (Q) (815) 874-2171
☐ Atlanta, GA (B) (770) 368-0636	☐ Brighton, CO (D) (303) 659-0497	☐ Charleston, SC (F) (843) 849-6550	☐ Columbia, SC (H) (803) 796-8989	☐ Davenport. IA (J) (319) 323-7944	☐ Indianapolis, IN (L) (317) 842-4261	☐ Macon, GA (N) (912) 757-0811	☐ Orlando, FL (P) (407) 851-2560	☐ Watertown, WI (R) (920) 261-1660

Client: SC DHEC	Project No.: 01442
Report Address: 2600 Bull St.	Invoice Address: 2600 Bull St.
Columbia, SC 29201	Columbia, SC 29201
Attn: Debra Thoma	Attn: Debra Thoma
Phone No.: 803-898-4350	Sampled By: Robin Mack
Fax No.: 803-898-4330	P.O. No: 179220
	Quote No.
	State Samples Collected SC

TURNAROUND TIME

☒ Standard

☐ Rush (surcharges may apply)

Date Needed: 2-8

REQUESTED PARAMETERS

8021/8260 BTEX, MTBE, NAPH

178292

RECEIVED
FEB 08 2000
Bureau of Underground Storage Tank Management

Is this work being conducted for regulatory compliance monitoring? Yes___ No ✓

Is this work being conducted for regulatory enforcement action? Yes___ No ✓

Which regulations apply:
RCRA___ NPDES Wastewater___
UST ✓ Drinking Water___
Other___ None___

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use										# and type of containers: HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
#1 (Rm. 116)	1-31	12:00pm	G	DW		X				13	04	0									~~Bill 8320~~
#2 (Rm. 217)	1-31	12:10pm	G	DW		X				13	04	1									2200
#3 (Parking Lot)	1-31	12:20	G	S		X				13	04	2									

QC Deliverables: ☐ None ☐ Level 2 - Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

Init Lab Temp: 3.1°

Rec Lab Temp: 4

COMMENTS: 816239391319

Relinquished By: Robin J. Mack	Date 1-31-00 4:35 pm Time	Received By: [signature]	Date 1-31-00 4:35 pm Time
Relinquished By: [signature]	Date 2/1/00 8:25 Time	Received By: C Whitaker	Date 2/1/00 8:25 Time
Relinquished By: Michelle Riddle	Date 2/1/00 1630 Time	Received By:	Date Time
Relinquished By:	Date Time	Received By: M. Rider	Date 2/2/00 9:00 Time

LAB USE ONLY:

Custody Seal: ☐ Yes ☐ No ☐ N/A

Bottles Supplied by TA: ☐ Yes ☐ No

BAY CREEK VILLAS
AT·EDISTO·MARINA

RECEIVED
JUL 13 2000
Water Monitoring, Assessment & Protection Division

July 11, 2000

DHEC
John Wright
Bureau of Water

RE: Bay Creek Villas, Site ID #01515

Dear Mr. Wright,

This letter follows your correspondence dated June 28, 2000. The Bay Creek Villa Board of Directors has asked me to request from DHEC any and all information regarding the site prior to construction of the current building.

Please find enclosed letter from Micheal Schraibman that your agency inspected and signed off on the site prior to construction. I was also told by a third party which was involved in the developement of the property, that the developer would not close on the property until DHEC and OCRM inspected the site for contamination and signed off that there was no contamination.

The Bay Creek Villa Board of Directors would like to get this matter cleared up as soon as possible, but it is pretty obvious that the current homeowners association has not discharged anything into the ground and needs more information before spending any of the association funds on this problem.

Thank you for any assistance you can provide in this matter and I look forward to hearing from you soon.

Yours Truly,

Robert Fowlkes
Bay Creek Villas

cc: EMMC: Michael Schraibman
John Albrecht

3701 DOCKSITE ROAD
EDISTO BEACH, SOUTH CAROLINA 29438
(803) 869-1848

EMMC
2711 Middleburg Drive #101
Columbia, SC 29204

Mr. John Wright
Bureau of Water
2600 Bull Street
Columbia, SC 29201-1708

June 1, 2000

RE: Edisto Marina / Bay Creek Villas, Site ID#01515

Dear John,

I am in receipt of you letter dated May 23, 2000 and I appreciate your follow up to our meeting. Since that time we have been advised by Albrecht Environmental that the test they did during the Rapid Assessment Plan concluded the present underground tanks owned by Edisto Marina are not the cause of contamination (see attached letter). With this information, and Charles Williams' DHEC letter dated May 9, 2000 (stating the SCDHEC has determined that the COC found on Bay Creek Villas property are not the result of a release from the UST's owned by Edisto Marine Management Corporation), we are not willing to do any further testing on the site. It has been recommended that this site be considered as an "Orphan Site" due to the fact of the original landowner, who had below and above ground storage tanks, is no longer alive.

Another thing that we discussed was that, prior to the construction of Bay Creek Villas, DHEC inspected and signed off on the site.

I would recommend you meet with John Albrecht of Albrecht Environmental to discuss what his professional recommendations are on the site.

Sincerely,

Michael Schraibman

MS/sm

CC: EMMC
Robert Folks
John Albrecht
Charles Williams

D H E C

PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
Douglas E. Bryant

BOARD:
Bradford W. Wyche
Chairman

William M. Hull, Jr., MD
Vice Chairman

Mark B. Kent
Secretary

Howard L. Brilliant, MD

Brian K. Smith

Rodney L. Grandy

Larry R. Chewning, Jr., DMD

July 18, 2000

Bay Creek Villas
Attention: Mr. Robert Folk
3701 Dockside Road
Edisto Beach, SC 29438

RE: Bay Creek Villas, Site ID #01515
Bay creek Villas Correspondence received July 13, 2000
SCDHEC Correspondence dated June 28, 2000
Colleton County

Dear Mr. Folk:

Your concerns in the referenced correspondence are noted. However, as discussed in the referenced correspondence a violation of the South Carolina Pollution Control Act (SCPCA) has occurred in that there has been an unauthorized release of petroleum to the environment. Further, data indicates that a violation of the South Carolina Water Classification and Standards has occurred in that Class GB Groundwater Standards have been exceeded. Therefore, in accordance with the SCPCA a proposal for work to stabilize the situation and or conduct assessment activities is required.

Please respond to the undersigned by August 14, 2000, with a proposal for work to stabilize the situation and or a proposal to conduct assessment activities. Please note that the Bureau of Water is proceeding with the implementation of the process whereby all new releases to the environment will be addressed either by a voluntary consent agreement or consent order, depending upon the situation.

An initial meeting to review the situation, to introduce the people involved, and to conduct any preliminary technical discussions is preferred. Should you wish to schedule a meeting prior to submitting the requested proposal or if you have any questions, please contact me at (803) 898-4264. On all correspondence regarding this site, please reference site ID #01515.

Sincerely,

John Wright

John Wright, Hydrogeologist
Groundwater Quality Section
Water Monitoring, Assessment and Protection Division
Bureau of Water

cc: Low Country District EQC
Robin Foy, Enforcement

SCDHEC/BOW/jww/000718
015152.newr

D H E C

PROMOTE PROTECT PROSPER

June 28, 2000

2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
Douglas E. Bryant

BOARD:
Bradford W. Wyche
Chairman

William M. Hull, Jr., MD
Vice Chairman

Mark B. Kent
Secretary

Howard L. Brilliant, MD

Brian K. Smith

Rodney L. Grandy

Larry R. Chewning, Jr., DMD

Bay Creek Villas
Attention: Mr. Robert Folk
3701 Dockside Road
Edisto Beach, SC 29438

RE: Bay Creek Villas, Site ID #01515
Underground Storage Tank (UST) Project Transfer received April 25, 2000
Colleton County

Dear Mr. Folk:

The purpose of this letter is to verify a release of petroleum at the referenced facility. This release was reported to the Underground Storage Tank Management Division on January 28, 2000 and transferred to this Department on April 25, 2000. To date, initial activities by Edisto Marina Management has been the installation and sampling of 16 geoprobe locations. This investigation concluded that the petroleum release did not originate from the existing underground storage tanks owned by Edisto Marina. However based on this information, a violation of the South Carolina Pollution Control Act has occurred in that there has been an unauthorized release of petroleum to the environment. Further, the data indicates that a violation of the South Carolina Water Classification and Standards has occurred in that Class GB Groundwater Standards have been exceeded.

Please respond to the undersigned by July 14, 2000, with either a proposal for work to stabilize the situation or to conduct assessment activities, and/or any additional information about the release that may be applicable. I have enclosed the "General Components of Groundwater Assessments and Corrective Actions" guidance document which describes the general progression of a project.

Please note that the Bureau of Water has implemented a process whereby all new releases to the environment will be addressed either by a voluntary consent agreement or consent order, depending upon the situation.

An initial meeting to review the situation, to introduce the people involved, and to conduct any preliminary technical discussions is preferred. Should you wish to schedule a meeting prior to submitting the requested proposal or if you have any questions, please contact me at (803) 898-4264. On all correspondence regarding this site, please reference site ID #01515.

Sincerely,

John Wright

John Wright, Hydrogeologist
Groundwater Quality Section
Water Monitoring, Assessment and Protection Division
Bureau of Water

cc: Low Country District EQC

SCDHEC/BOW/jww/000627
01515.newr

From: Pat M. Holland
To: milasnkd
Date: 6/20/00 2:43pm
Subject: Address change

Michael Schribman called this morning and asked that we change the address of Facility #01442 - Edisto Marina Management Co. to:

2711 Middleburg Drive
Suite 101
Columbia, South Carolina 29204

If you need further info, please call him at 252-4901, X22

Thanks

CC: madabhs

EMMC
2711 Middleburg Drive #101
Columbia, SC 29204

RECEIVED
JUN 7 2000
Water Monitoring, Assessment & Protection Division

Mr. John Wright
Bureau of Water
2600 Bull Street
Columbia, SC 29201-1708

June 1, 2000

RE: Edisto Marina / Bay Creek Villas, Site ID#01515

Dear John,

I am in receipt of you letter dated May 23, 2000 and I appreciate your follow up to our meeting. Since that time we have been advised by Albrecht Environmental that the test they did during the Rapid Assessment Plan concluded the present underground tanks owned by Edisto Marina are not the cause of contamination (see attached letter). With this information, and Charles Williams' DHEC letter dated May 9, 2000 (stating the SCDHEC has determined that the COC found on Bay Creek Villas property are not the result of a release from the UST's owned by Edisto Marine Management Corporation), we are not willing to do any further testing on the site. It has been recommended that this site be considered as an "Orphan Site" due to the fact of the original landowner, who had below and above ground storage tanks, is no longer alive.

Another thing that we discussed was that, prior to the construction of Bay Creek Villas, DHEC inspected and signed off on the site.

I would recommend you meet with John Albrecht of Albrecht Environmental to discuss what his professional recommendations are on the site.

Sincerely,

Michael Schraibman

MS/sm

CC: EMMC
Robert Folks
John Albrecht
Charles Williams

H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

MAY 09 2000

Edisto Marine Management Corporation
Attn.: Mr. Michael Schraibman
2711 Middleburg Drive, Suite 101
Columbia, SC 29204

Re: Edisto Marina Management Corporation
UST Permit #01442, Release # 1
Use of SUPERB Funds
Colleton County

Dear Mr. Schraibman:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has determined that the Chemicals of Concern (COC) found on the Bay Creek Villa Apartment's property are not the result of a release from the USTs owned by the Edisto Marina Management Corporation. The field screening results from assessment work completed did not confirm any COC around the USTs. The COC discovered are in the approximate area of the former Aboveground Storage Tanks. Therefore, this project has been transferred to the Bureau of Water. As the reported release from the USTs has not be confirmed, there cannot be any payments made from the State Petroleum Environmental Response Bank (SUPERB) Account.

According to your conversation with the Bureau of Water you wish to proceed with the Tier II Plan submitted to the Bureau of UST Management. The Bureau of UST Management has approved the assessment plan and a cost agreement number has been established. Should evidence from the assessment show that the USTs are responsible for the COC at the Bay Creek Villas the costs associated with the assessment work may count toward the $25,000 deductible and SUPERB Funds may be used for reimbursement of pre-approved costs over the deductible.

On all correspondence regarding this site, please reference **UST Permit #01442.** If you have any questions concerning this correspondence, please contact me at 803-898-4339 or 1 (800) 826-5435 (within South Carolina).

Sincerely,

Charles J. Williams, III, Hydrologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

cc: Bay Creek Villas, Mr. Robert Folks, 3701 Docksite Road, Edisto Beach, SC 29438
Albrecht Env., 1111-C Bowman Rd., Mt. Pleasant, SC 29464
John Wright, Bureau of Water
Technical File

SCDHEC/ACA/SLFSS/01442ast/cjw/05.03.2000

ALBRECHT ENVIRONMENTAL

ASSESSMENT • REMEDIATION • COMPLIANCE • LAKE MANAGEMENT

June 1, 2000

Mr. Michael Schraibman
EMMC
2711 Middleburg Drive Suite 101
Columbia, SC 29204

Re: Edisto Marina Site
Assessment Activities

Dear Mr. Schraibman,

We are aware of DHEC issuing a letter to you requesting more testing at the site referenced above. As you know, a meeting between our John Albrecht and Mr. Tom Knight, Chuck Williams, and Chris Doll on Thursday, May 25, 2000 presented our data, and the position that the contamination at Bay Creek Villas was not from your site.

We had a productive meeting and DHEC mentioned numerous items that left the issue of the source of the release in speculation. These include:

1. past fuel storage in aboveground storage tanks near the bulkhead
2. the potential for Edisto Marina to have another former UST basin (see attached sketch)
3. our assessment technique with regards to depth of assessment.

With regards to item # 3 above, we have completed numerous Rapid Assessments in the Coastal Plain, and have effectively located contaminant plumes identical to this one. We had two licensed well drillers and a registered Professional Geologist on site during the assessment work. Our assessment protocol was effective, and would have identified a release around your tanks if one was present.

Item 2 above would be clarified if you could verify whether the "fuel tanks" shown on the attached were ever installed. Barring a release from the existing piping network, this should eliminate Edisto Marina entirely as a potential source. We believe this would eliminate you from any liability at the site and would make a recommendation for the site becoming a Federal Orphan Fund Site viable.

Thank you for the opportunity to work with you. If you have any questions, please do not hesitate to call the office.

Sincerely,

ALBRECHT Environmental, Inc.

Mark L. Keller, GIT
Director, Assessment/Remediation

John H. Albrecht, PE
President

\\Server\contact\LETTERS\2000 LETTERS\MAY 2000\May 30.doc printed 6/1/00

ALBRECHT Environmental, Inc. • Post Office Box 189 • Mount Pleasant, South Carolina 29465
Phone: (843) 856-8450 • Fax: (843) 856-8453 • Email: albrecht@albrechtenvironmental.com • www.albrechtenvironmental.com

D H E C

PROMOTE PROTECT PROSPER

May 23, 2000

2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
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Secretary

Howard L. Brilliant, MD

Brian K. Smith

Rodney L. Grandy

Larry R. Chewning, Jr., DMD

Edisto Marina Management Corporation
Attention: Mr. Michael Schraibman
2711 Middleburg Drive
Columbia, SC 29204

RE: Edisto Marina/Bay Creek Villas, Site ID #01515
Underground Storage Tank (UST) Project Transfer received April 25, 2000
Colleton County

Dear Mr. Schraibman:

The purpose of this letter is to verify a release of petroleum at the referenced facility. This release was reported to the Underground Storage Tank Management Division on January 28, 2000 and transferred to this Department on April 25, 2000. To date, initial activities by Edisto Marina Management has been the installation and sampling of 16 geoprobe locations. Based on this information, a violation of the South Carolina Pollution Control Act has occurred in that there has been an unauthorized release of petroleum to the environment. However, the actual source of the identified petroleum release has not been determined at this time.

During the site visit conducted on April 26, 2000, you stated that you would be willing to conduct further assessment to determine the location of the source of the release. As long as it is determined that the release is associated with your USTs, the costs incurred could apply to your SUPERB deductible. Chuck Williams with the Bureau Underground Storage Tank Management has confirmed in SCDHEC correspondence dated May, 16, 2000, that the additional costs could be applied to your deductible should the above be confirmed.

Please respond to the undersigned by July 19, 2000 with either a proposal for work to conduct assessment activities , any additional information about the release that may be applicable, or your intentions not to conduct the assesssment discussed below . The assessment should include the following:

- Four permanent monitoring wells. These monitoring wells should be installed as follows:

  1. One between the villas and the bay;
  2. One at close proximity to the worst case geoprobe location;
  3. One slightly down gradient of the existing underground storage tanks;
  4. One in line with GP-16, GP-15, and GP-14 at the property line;

- Sample all four proposed monitoring wells for BTEX, MTBE, and Naphthalene;

- Measure water table elevations at both low and high tide;

- Sample the two apartments that indicated an impact.

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

APR 26 2000

Edisto Marine Management Corporation
Attn.: Mr. Michael Schraibman
2711 Middleburg Drive, Suite 101
Columbia, SC 29204

Re: Edisto Marina Management Corporation
UST Permit #01442, Release # 1
Field Screening results from Albrecht Environmental received April 3, 2000
Site Visit by Mr. Sriram Madabushi and Mr. Charles J. Williams on April 18, 2000
Colleton County

Dear Mr. Schraibman:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the assessment work completed to date. After review of the initial groundwater screening results and the site visit on April 18, 2000 it has been determined that the Chemicals of Concern (COC) found on the Bay Creek Villa Apartment's property are not the result of a release from the USTs owned by the Edisto Marina Management Corporation. The COC discovered are in the approximate area of the former Aboveground Storage Tanks. Based on this evidence this project has been forwarded to the Bureau of Water.

As the reported release from the USTs cannot be confirmed, there cannot be any payments made from the State Petroleum Environmental Response Bank Account.

On all correspondence regarding this site, please reference **UST Permit #01442.** If you have any questions concerning this correspondence, please contact me at 803-898-4339 or 1 (800) 826-5435 (within South Carolina).

Sincerely,

Charles J. Williams, III, Hydrologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

cc: Albrecht Env., 1111-C Bowman Rd., Mt. Pleasant, SC 29464
Technical File

SCDHEC/ACA/SLFSS/01442ast/cjw/04.20.2000

EQC PROJECTS DISCOVERY FORM

Please attach a copy of a map (county or quad.) showing the site location

BAY CREEK VILLA APARTMENTS
SITE NAME

3701 DOCKSITE ROAD
LOCATION ADDRESS

EDISTO BEACH
LOCATION CITY

29438-
ZIP CODE

COLLETON
LOCATION COUNTY

SIZE OF SITE: _____ (acres)

___° ___' ___.___" N
LATITUDE

___° ___' ___.___" W
LONGITUDE

YEARS OF OPERATION: _____

SITE DESCRIPTION: AN APARTMENT COMPLEX

Circle permits issued: RCRA TSD; RCRA Gen.; NPDES; ND; WW Const.; UIC; Air; NESHAPS; Other: _____

EPA IDENTIFICATION NUMBER: _____ Is the facility currently operating? Yes No

OTHER/ALTERNATE NAMES FOR THE FACILITY/SITE: _____

PROBLEM BELIEVED PRESENT; EST. QUANITIES OF WASTE AND/OR CONTAMINANTS PRESENT:
A RELEASE FROM FOMER ABOVE GROUND TANKS ON THE SITE.

SITE OWNER: ROBERT FOLKS - MANAGER

ADDRESS: SAME AS SITE

CITY: _____ STATE: _____ ZIP CODE: _____

MOST RECENT SITE OPERATOR: _____

TELEPHONE NUMBER: (843) 869-1848 DISTRICT NAME: LOWCOUNTRY

___/___/___
DATE REPORTED

REPORTED BY: _____

Reasons for adding this site to the EQC PROJECTS LIST (Brief description of potential hazard or concern):

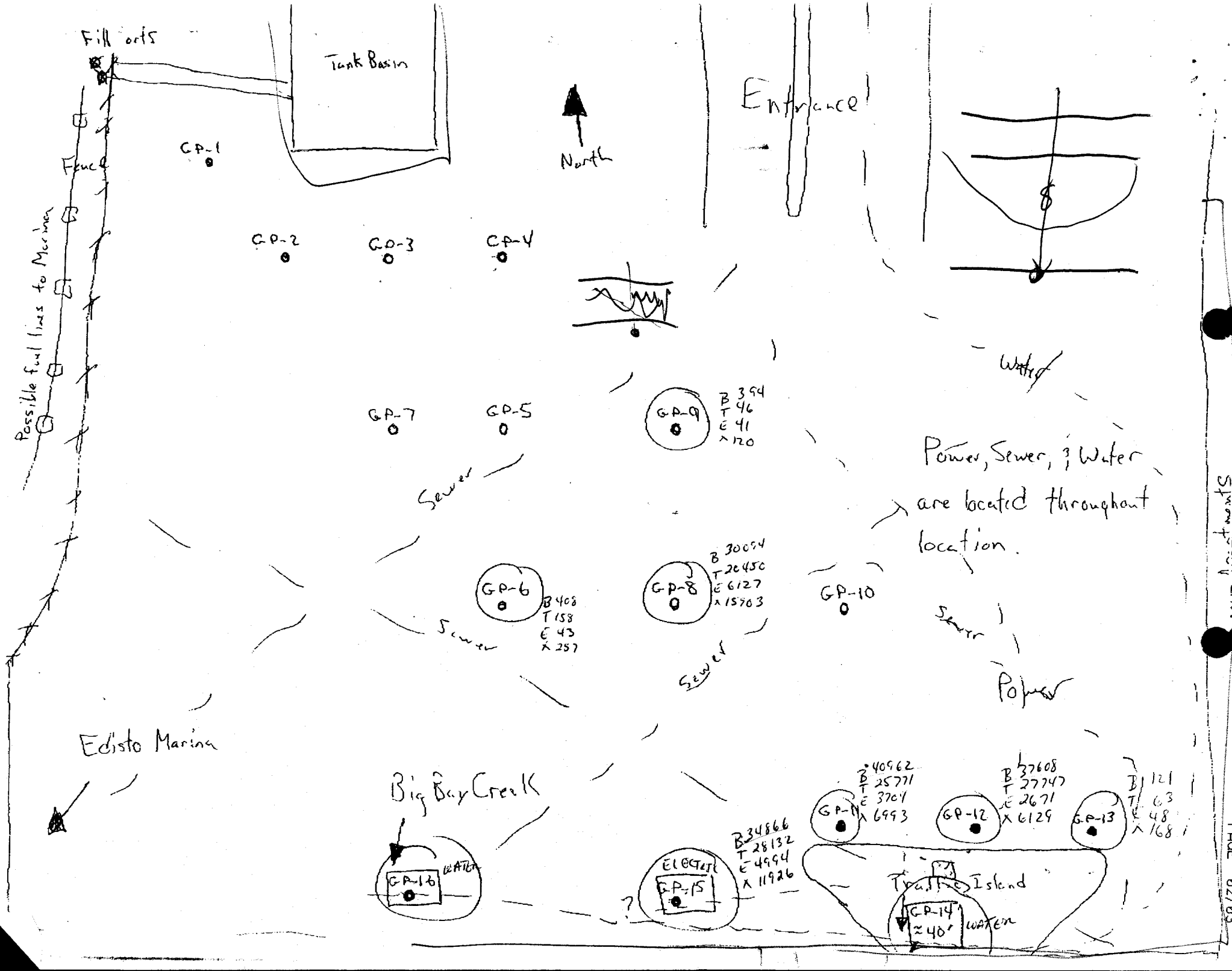
THE PROBLEM IS FROM FORMER ABOVE GROUND TANKS

RECEIVED

APR 25 2000

Rev. 2/17/98

Water Monitoring, Assessment & Protection Division



17:02 8438568 ALBRECHT ENV. PAGE 02/03

ALBRECHT ENVIRONMENTAL

ASSESSMENT · REMEDIATION · COMPLIANCE · LAKE MANAGEMENT

P.O. Box 189
Mt. Pleasant, SC 29465
Phone: (843) 856-8450
Fax: (843) 856-8453

From:

- ☐ John H. Albrecht, PE
- ☐ Jimmy D. Honeycutt, PE
- ☐ Jim Concannon
- ☐ T. Scott Towns
- ☒ Mark L. Keller
- ☐ Brett Elrod
- ☐ Carol Hummel
- ☐ Helen Albrecht
- ☐ Jeff Gregg

No. of Pages Including Cover: 3

ALBRECHT Project #: 99-1371

Date: 5/3/00

Attn: John Wright

Company: SCDHEC

Phone No.

Fax No. (803) 898-3795

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- Petroleum Storage Tanks
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Inspection & Abatement
- Licensed Asbestos Inspectors
- Management Planning
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Aquatic & Right-of-Way Vegetation Management
- Aquatic Weed Control
- Right-of-Way Applications
- Pond Maintenance
- Aeration & Fountain Installation

Your Solution to Turnkey Environmental Services

COMMENTS:

John,

Here are some old maps from 1985. I got them from an FOI at the Charleston SCDHEC office. Note the UST basin area is not the same. Also, Note the AST Location. The one shown is a good bit away from the contamination area. This would be the large single AST in the old areal photo. That AST would not line up with where we got our contamination during the probing event. What do you think?

Thanks,

Mark L. Keller

RECEIVED
MAY 3 2000
Water Monitoring, Assessment & Protection Division

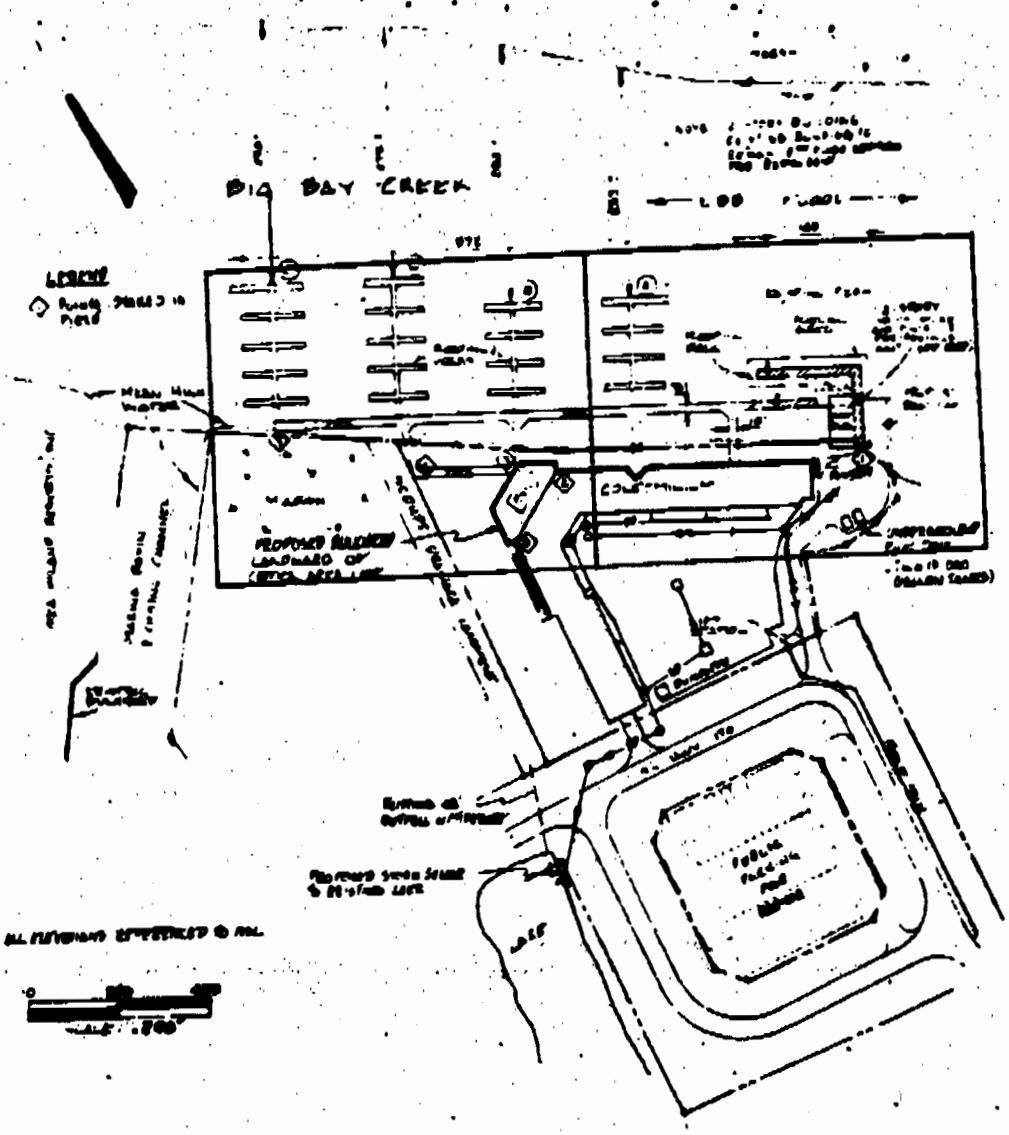
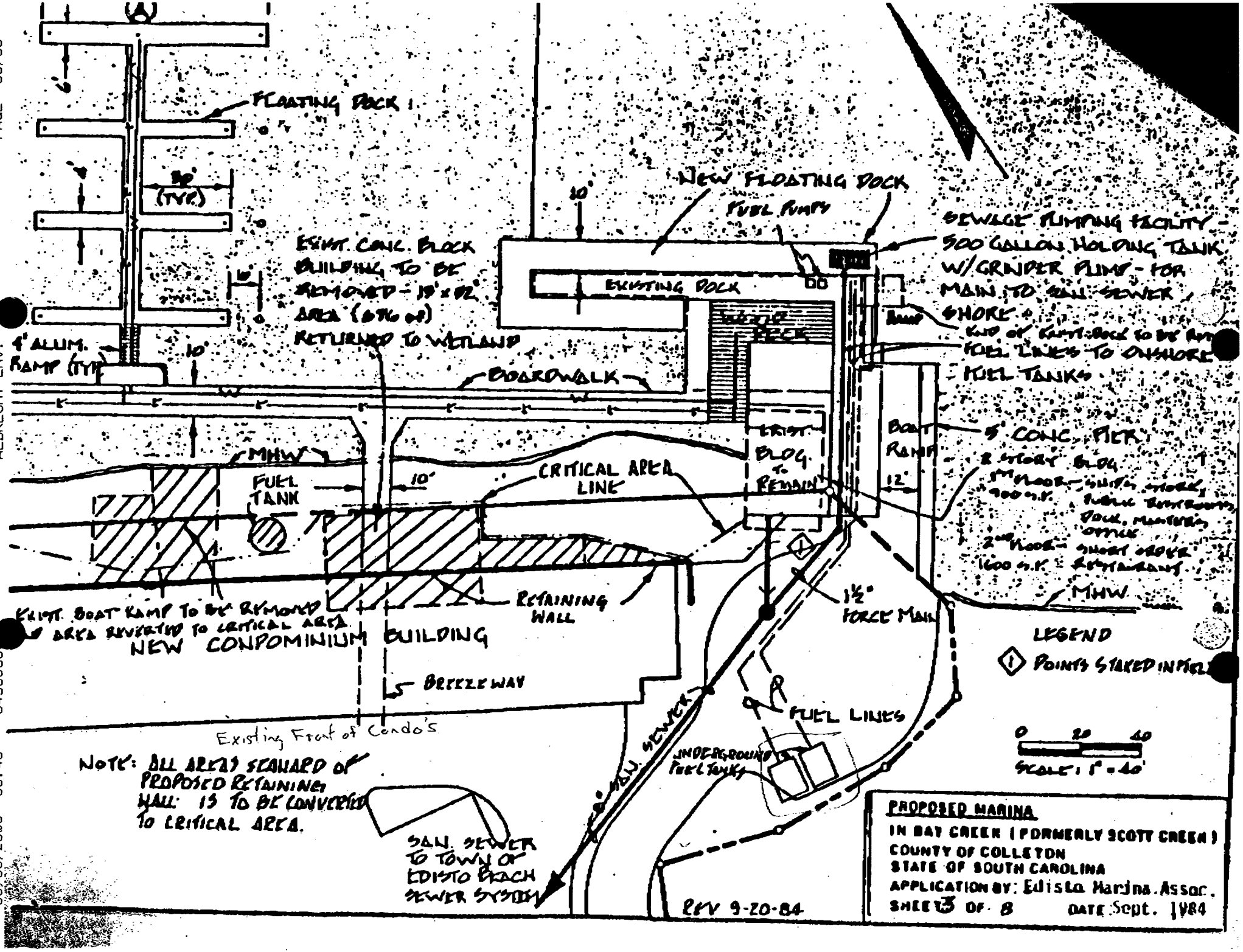


Figure 1
PROJECT PLANS

EDISTO · MARINA

SOURCE: LOTT PARRISH AND ASSOCIATES, 1984.


FLOATING DOCK
30' (TYP.)
4' ALUM. RAMP (TYP.)
10'
EXIST. CONC. BLOCK BUILDING TO BE REMOVED - 19' x 32' AREA (576 SF) RETURNED TO WETLAND
BOARDWALK
NEW FLOATING DOCK
FUEL PUMPS
EXISTING DOCK
SEWAGE PUMPING FACILITY - 500 GALLON HOLDING TANK W/GRINDER PUMP - FOR MAIN TO SAN. SEWER SHORE
FUEL LINES TO ONSHORE FUEL TANKS
EXIST. BLDG. TO REMAIN
BOAT RAMP
5' CONC. PIER
2 STORY BLDG.
1ST FLOOR - SHIPS STORE, PUBLIC RESTROOMS, DOCK, MASTERS OFFICE
2ND FLOOR - SHORT ORDER RESTAURANT
1600 S.F.
MHW
FUEL TANK
CRITICAL AREA LINE
12'
RETAINING WALL
1½" FORCE MAIN
EXIST. BOAT RAMP TO BE REMOVED AREA REVERTED TO CRITICAL AREA
NEW CONDOMINIUM BUILDING
BREEZEWAY
Existing Front of Condo's
FUEL LINES
UNDERGROUND FUEL TANKS
SAN. SEWER
SAN. SEWER TO TOWN OF EDISTO BEACH SEWER SYSTEM
NOTE: ALL AREAS SEAWARD OF PROPOSED RETAINING WALL IS TO BE CONVERTED TO CRITICAL AREA.
LEGEND
1 POINTS STAKED IN FIELD
0 20 40
SCALE: 1" = 40'
REV 9-20-84
PROPOSED MARINA
IN BAY CREEK (FORMERLY SCOTT CREEK)
COUNTY OF COLLETON
STATE OF SOUTH CAROLINA
APPLICATION BY: Edisto Marina Assoc.
SHEET 3 OF 8
DATE Sept. 1984

EMMC
2711 Middleburg Drive #101
Columbia, SC 29204

RECEIVED
JUN 0 6 2000
Bureau of Underground
Storage Tank Management

Mr. John Wright
Bureau of Water
2600 Bull Street
Columbia, SC 29201-1708

June 1, 2000

RE: Edisto Marina / Bay Creek Villas, Site ID#01515 01442

Dear John,

I am in receipt of you letter dated May 23, 2000 and I appreciate your follow up to our meeting. Since that time we have been advised by Albrecht Environmental that the test they did during the Rapid Assessment Plan concluded the present underground tanks owned by Edisto Marina are not the cause of contamination (see attached letter). With this information, and Charles Williams' DHEC letter dated May 9, 2000 (stating the SCDHEC has determined that the COC found on Bay Creek Villas property are not the result of a release from the UST's owned by Edisto Marine Management Corporation), we are not willing to do any further testing on the site. It has been recommended that this site be considered as an "Orphan Site" due to the fact of the original landowner, who had below and above ground storage tanks, is no longer alive.

Another thing that we discussed was that, prior to the construction of Bay Creek Villas, DHEC inspected and signed off on the site.

I would recommend you meet with John Albrecht of Albrecht Environmental to discuss what his professional recommendations are on the site.

Sincerely,

MS

Michael Schraibman

MS/sm

CC: EMMC
Robert Folks
John Albrecht
Charles Williams

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

MAY 09 2000

Edisto Marine Management Corporation
Attn.: Mr. Michael Schraibman
2711 Middleburg Drive, Suite 101
Columbia, SC 29204

Re: Edisto Marina Management Corporation
UST Permit #01442, Release # 1
Use of SUPERB Funds
Colleton County

Dear Mr. Schraibman:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has determined that the Chemicals of Concern (COC) found on the Bay Creek Villa Apartment's property are not the result of a release from the USTs owned by the Edisto Marina Management Corporation. The field screening results from assessment work completed did not confirm any COC around the USTs. The COC discovered are in the approximate area of the former Aboveground Storage Tanks. Therefore, this project has been transferred to the Bureau of Water. As the reported release from the USTs has not be confirmed, there cannot be any payments made from the State Petroleum Environmental Response Bank (SUPERB) Account.

According to your conversation with the Bureau of Water you wish to proceed with the Tier II Plan submitted to the Bureau of UST Management. The Bureau of UST Management has approved the assessment plan and a cost agreement number has been established. Should evidence from the assessment show that the USTs are responsible for the COC at the Bay Creek Villas the costs associated with the assessment work may count toward the $25,000 deductible and SUPERB Funds may be used for reimbursement of pre-approved costs over the deductible.

On all correspondence regarding this site, please reference **UST Permit #01442.** If you have any questions concerning this correspondence, please contact me at 803-898-4339 or 1 (800) 826-5435 (within South Carolina).

Sincerely,

Charles J. Williams, III, Hydrologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

cc: Bay Creek Villas, Mr. Robert Folks, 3701 Docksite Road, Edisto Beach, SC 29438
Albrecht Env., 1111-C Bowman Rd., Mt. Pleasant, SC 29464
John Wright, Bureau of Water
Technical File

SCDHEC/ACA/SLFSS/01442ast/cjw/05.03.2000

ALBRECHT ENVIRONMENTAL

ASSESSMENT • REMEDIATION • COMPLIANCE • LAKE MANAGEMENT

June 1, 2000

Mr. Michael Schraibman
EMMC
2711 Middleburg Drive Suite 101
Columbia, SC 29204

Re: Edisto Marina Site
Assessment Activities

Dear Mr. Schraibman,

We are aware of DHEC issuing a letter to you requesting more testing at the site referenced above. As you know, a meeting between our John Albrecht and Mr. Tom Knight, Chuck Williams, and Chris Doll on Thursday, May 25, 2000 presented our data, and the position that the contamination at Bay Creek Villas was not from your site.

We had a productive meeting and DHEC mentioned numerous items that left the issue of the source of the release in speculation. These include:

1. past fuel storage in aboveground storage tanks near the bulkhead
2. the potential for Edisto Marina to have another former UST basin (see attached sketch)
3. our assessment technique with regards to depth of assessment.

With regards to item # 3 above, we have completed numerous Rapid Assessments in the Coastal Plain, and have effectively located contaminant plumes identical to this one. We had two licensed well drillers and a registered Professional Geologist on site during the assessment work. Our assessment protocol was effective, and would have identified a release around your tanks if one was present.

Item 2 above would be clarified if you could verify whether the "fuel tanks" shown on the attached were ever installed. Barring a release from the existing piping network, this should eliminate Edisto Marina entirely as a potential source. We believe this would eliminate you from any liability at the site and would make a recommendation for the site becoming a Federal Orphan Fund Site viable.

Thank you for the opportunity to work with you. If you have any questions, please do not hesitate to call the office.

Sincerely,

ALBRECHT Environmental, Inc.

Mark L. Keller, GIT
Director/ Assessment/Remediation

John H. Albrecht, PE
President

\\Server\contacts\LETTERS\2000 LETTERS\MAY 2000\May 30.doc printed 6/1/00

ALBRECHT Environmental, Inc. • Post Office Box 189 • Mount Pleasant, South Carolina 29465
Phone: (843) 856-8450 • Fax: (843) 856-8453 • Email: albrecht@albrechtenvironmental.com • www.albrechtenvironmental.com

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2600 Bull Street
Columbia, SC 29201-1708

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May 23, 2000

Edisto Marina Management Corporation
Attention: Mr. Michael Schraibman
2711 Middleburg Drive
Columbia, SC 29204

RE: Edisto Marina/Bay Creek Villas, Site ID #01515 UST # 01442
Underground Storage Tank (UST) Project Transfer received April 25, 2000
Colleton County

Dear Mr. Schraibman:

The purpose of this letter is to verify a release of petroleum at the referenced facility. This release was reported to the Underground Storage Tank Management Division on January 28, 2000 and transferred to this Department on April 25, 2000. To date, initial activities by Edisto Marina Management has been the installation and sampling of 16 geoprobe locations. Based on this information, a violation of the South Carolina Pollution Control Act has occurred in that there has been an unauthorized release of petroleum to the environment. However, the actual source of the identified petroleum release has not been determined at this time.

During the site visit conducted on April 26, 2000, you stated that you would be willing to conduct further assessment to determine the location of the source of the release. As long as it is determined that the release is associated with your USTs, the costs incurred could apply to your SUPERB deductible. Chuck Williams with the Bureau Underground Storage Tank Management has confirmed in SCDHEC correspondence dated May, 16, 2000, that the additional costs could be applied to your deductible should the above be confirmed.

Please respond to the undersigned by July 19, 2000 with either a proposal for work to conduct assessment activities , any additional information about the release that may be applicable, or your intentions not to conduct the assesssment discussed below . The assessment should include the following:

- Four permanent monitoring wells. These monitoring wells should be installed as follows:

  1. One between the villas and the bay;
  2. One at close proximity to the worst case geoprobe location;
  3. One slightly down gradient of the existing underground storage tanks;
  4. One in line with GP-16, GP-15, and GP-14 at the property line;

- Sample all four proposed monitoring wells for BTEX, MTBE, and Naphthalene;

- Measure water table elevations at both low and high tide;

- Sample the two apartments that indicated an impact.

South Carolina
DHEC
Department of Health and Environmental Control

Communication Slip

Date: 5-9-00

To: John Wright, Bureau of Water

- ☐ Approval
- ☐ Necessary Action
- ☐ Prepare Reply
- ☐ Comment
- ☐ As Requested
- ☐ Note and Return
- ☐ Note and File
- ☐ Other

Remarks:

From: UST

DHEC 3001 (11/93)

BUREAU OF STORAGE TANK MANAGEMENT

898-4350 Fax (803) 898-4330

MAY 09 2000

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On all correspondence regarding this site, please reference **UST Permit #01442.** If you have any questions concerning this correspondence, please contact me at 803-898-4339 or 1 (800) 826-5435 (within South Carolina).

Sincerely,

Charles J. Williams, III, Hydrologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

RECEIVED
MAY 11 2000
Water Monitoring, Assessment & Protection Division

cc: Bay Creek Villas, Mr. Robert Folks, 3701 Docksite Road, Edisto Beach, SC 29438
Albrecht Env., 1111-C Bowman Rd., Mt. Pleasant, SC 29464
John Wright, Bureau of Water
Technical File

SCDHEC/ACA/SLFSS/01442ast/cjw/05.03.2000

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P.O. Box 189
Mt. Pleasant, SC 29465
Phone: (843) 856-8450
Fax: (843) 856-8453

From:

- ☐ John H. Albrecht, PE
- ☐ Jimmy D. Honeycutt, PE
- ☐ Jim Concannon
- ☐ T. Scott Towns
- ☒ Mark L. Keller
- ☐ Brett Elrod
- ☐ Carol Hummel
- ☐ Helen Albrecht
- ☐ Jeff Gregg

No. of Pages Including Cover: 6

ALBRECHT Project #: 99-1371

Date: 4/28

Attn: Tom Knight

Company: SCDHEC

Phone No.:

Fax No. (803) 898-3795

COMMENTS:

Tom,
Here is what I currently have.
Call me if you have any questions.

Thanks

Mark Keller

Our Services

Assessment & Remediation
- Phase I ESA's
- Petroleum Storage Tanks
- Compliance & Permitting

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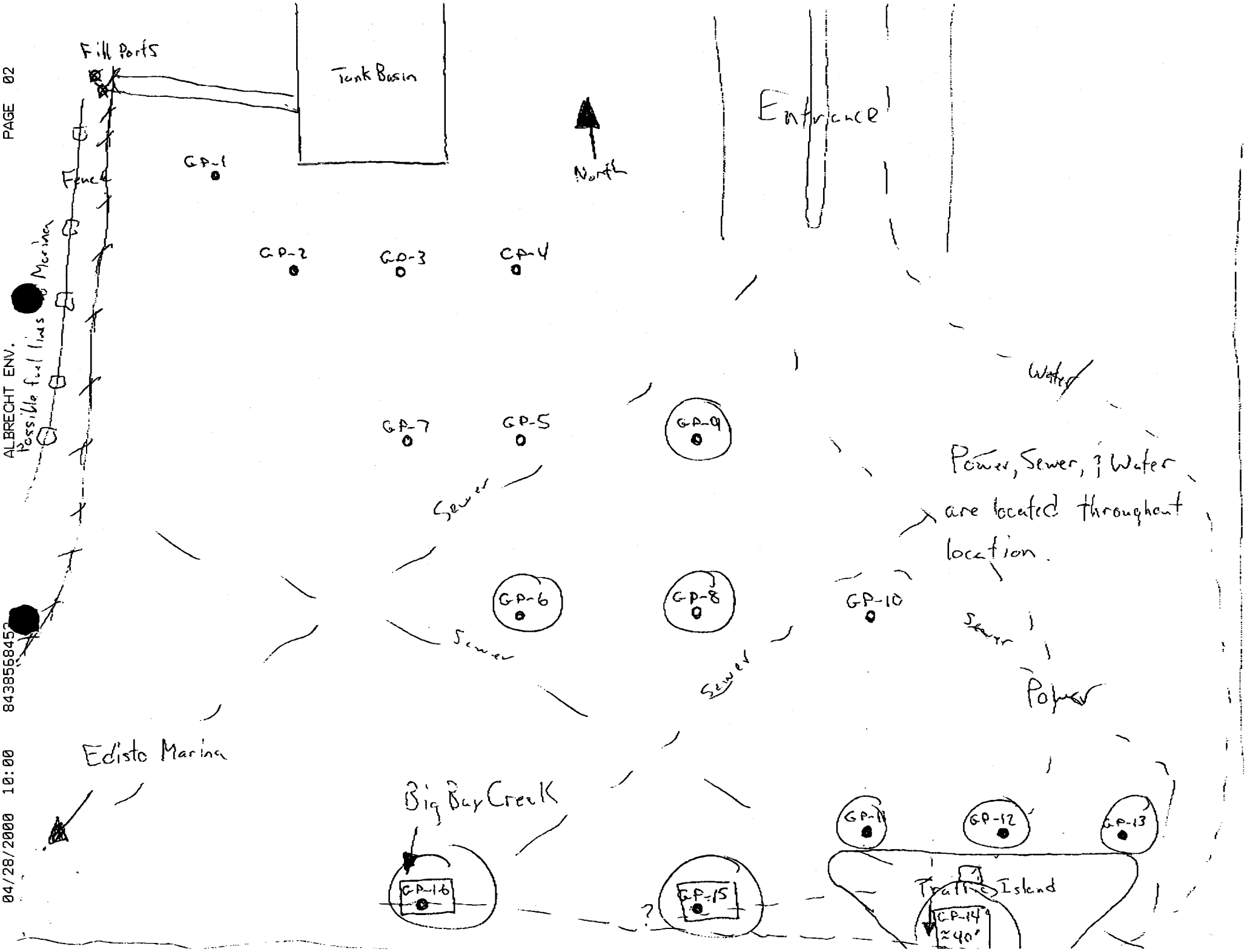

Fill Ports
Tank Basin
Entrance
North
Fence
Marina
Possible fuel lines
GP-1
GP-2
GP-3
GP-4
GP-5
GP-6
GP-7
GP-8
GP-9
GP-10
GP-11
GP-12
GP-13
GP-14
≈40'
GP-15
GP-16
Water
Power, Sewer, & Water are located throughout location.
Sewer
Power
Edisto Marina
Big Bay Creek
Traffic Island
?

TABLE 1
FIELD GC GROUND WATER SCREENING RESULTS
EDISTO BEACH MARINA SITE
EDISTO BEACH, SOUTH CAROLINA
MARCH 22, 2000

Sample ID	Total Depth (ft.)	Matrix	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	Total BTEX (µg/l)	Comments
GP-1	12.0	GW	–	–	–	–	–	
GP-2	12.0	GW	–	–	–	–	–	
GP-3	12.0	GW	–	–	–	–	–	
GP-4	12.0	GW	–	–	–	–	–	
GP-5	12.0	GW	–	–	–	–	–	
GP-6	12.0	GW	408	158	43	257	865	
GP-7	12.0	GW	–	–	–	–	–	
GP-8	12.0	GW	30094	20450	6127	15903	72574	
GP-9	12.0	GW	394	46	41	120	602	
GP-10	12.0	GW	–	–	–	–	–	
GP-11	12.0	GW	40962	25771	3704	6993	77429	
GP-12	12.0	GW	37608	27747	2671	6129	74155	
GP-13	12.0	GW	121	63	48	168	400	
GP-14	12.0	GW	NS	NS	NS	NS	NS	Hit H2O Line
GP-15	12.0	GW	34866	28132	4994	11926	79918	Hit Electrical Conduit
GP-16	12.0	GW	NS	NS	NS	NS	NS	Hit 4" H2O Main

CYPRESS BAY℠ GEOLOGICAL

262 Geology Lane
Phone: 843-538-4017
Walterboro, South Carolina 29488
Fax: 843-538-2370

March 22, 2000

4,000
25¢ 4ft?

Albrecht Environmental, Inc.
PO Box 189
Mt. Pleasant, South Carolina 29465

ATTN: ***Mr. Mark Keller, Project Manager***

RE: ***Edisto Beach Marina Site***
Edisto Beach, South Carolina
Colleton County

Dear Mr. Keller:

CYPRESS BAY℠ GEOLOGICAL is pleased to present the following report which describes subsurface site work and field laboratory analysis performed at the client site referenced above. This work was performed March 22, 2000. The following report details site activities and describes the instrumentation and procedures used to conduct the work.

INTRODUCTION

CYPRESS BAY℠ GEOLOGICAL was retained by ***Albrecht Environmental, Inc.*** to perform Geoprobe® ground water sampling at the ***Edisto Beach Marina*** Site located in Ediston Beach, South Carolina. Sixteen Geoprobe® ground water sampling points were installed for a total sampling footage of **192 feet.** Ground water samples were screened in the field with a portable SRI Model 9300 GC for the presence of benzene, toulene, ethylbenzene and xylenes (BTEX) at the discretion of the field geologist.

SRI 9300B GAS CHROMATOGRAPH INSTRUMENTATION

Our SRI 9300B field GC (Serial Number N680) is housed in a Pace 14' x 7' mobile laboratory trailer for portability to remote field sites. The SRI 9300B is a small, portable GC capable of generating certified lab quality results in variable field environments. It features a single on-column injector for .53mm capillary columns, pressure regulator, thermostated digital carrier gas flow controller, 400°C temperature programmable column oven, EPA Style Purge and Trap capability and a digital pressure readout. The GC is equipped with 3 separate detectors (PID, FID and DELCD) allowing a wide range of analyses to be performed. Ultra High Purity Helium is used as a carrier gas with the PID when analyzing for BTEX. The PID consists of a special UV lamp mounted on a low volume flow-through cell. The 10.2 eV UV lamp emits 121 nanometer light which is sufficient to ionize most aromatic molecules such as benzene, toluene, ethylbenzene and xylenes.

GC GROUND WATER FIELD SCREENING PROCEDURES

A 20mL groundwater sample is collected in a 40mL VOA by the field geologist or technician. The sample is immediately delivered to the field laboratory technician. The laboratory technician places the sample in a controlled temperature environment to allow the head space in the VOA to reach an equilibrium state. Once the sample is stabilized, 100 µL of the head space vapors are withdrawn from the VOA with a syringe through the bottles' septa. The sample is then injected into the GC through the on-column injector port. A controlled temperature ramping program keeps the column temperature stable at 80 degrees Celsius. The sample is carried through the heated column with Ultra High Purity helium to the PID, where it is photoionized. The Peak Simple software, included with the Model 9300B Gas Chromatograph, records the retention time and calculates the area under each target peak in electron volts. Peak Simple will then compare the relative retention time of a given peak on the Chromatograph to a calibrated target compound.

If the retention time of a peak matches the retention time of calibrated target compound, Peak Simple will compare the area under the integrated peak to that of the associated calibrated target compound. With this comparison, a value will be assigned to the target compound and results are recorded in parts per billion (ppb). All samples were analyzed for BTEX at the discretion of the field geologist.

CALIBRATION PROCEDURES/QA/QC

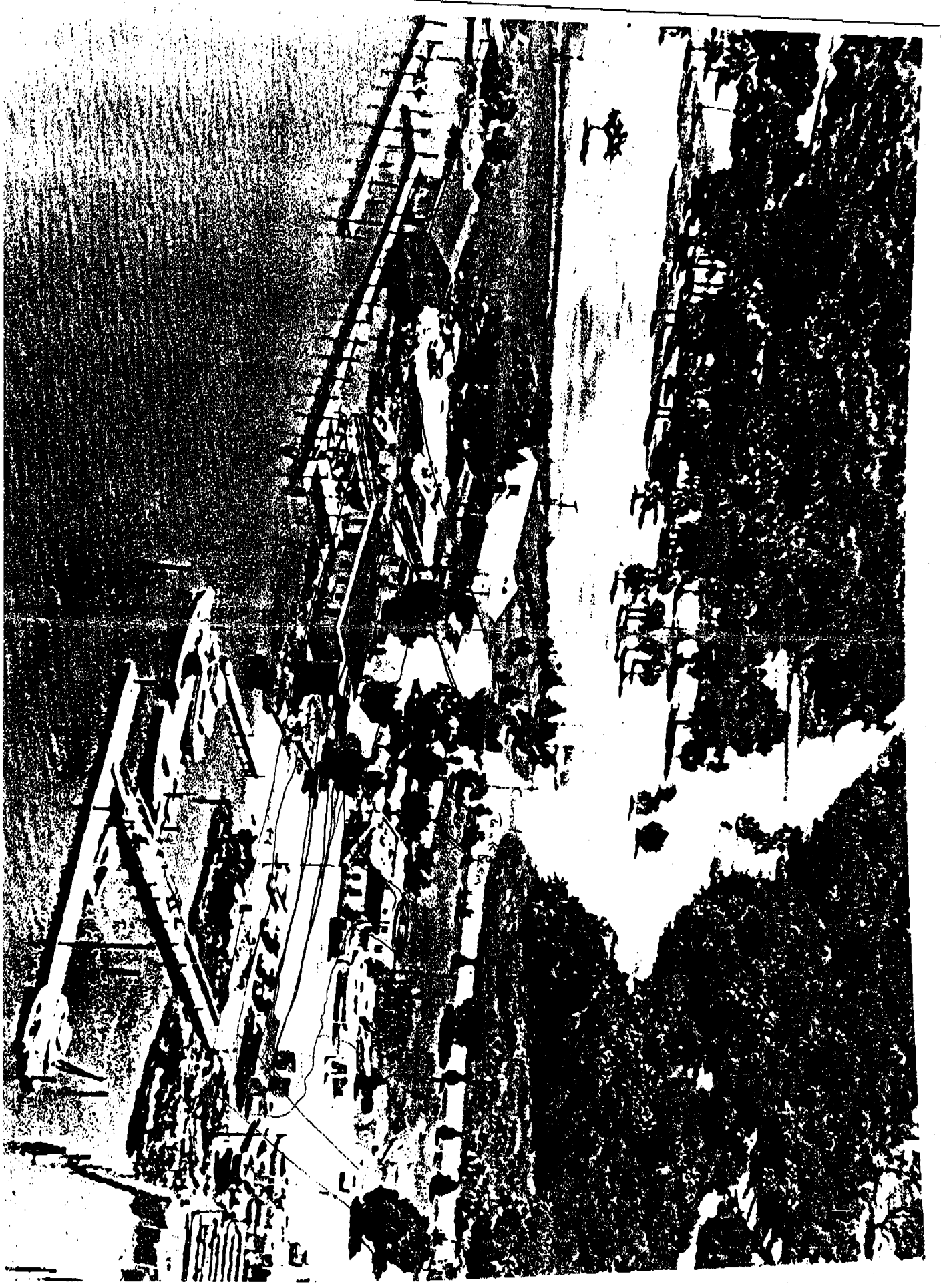
Calibration Standards are typically prepared in the field although pre-formulated standards may be used. The procedure for preparing standards in the field consist of mixing a measured quantity (depending on the molecular weight of the compound) of the neat (pure) compound of interest with a measured volume of methanol and allowing it to dissolve. From the methanol solution, further dilutions are accomplished by injecting known volumes of the methanol solution into varying volumes of organic free water. Typically, standards are created spanning the concentration range expected to be encountered. Once standards are created, they are injected into the GC. At the completion of a GC run, a retention time and concentration is assigned to each peak. From this information, the Peak Simple software is able to create calibration curves for each target compound.

The GC is inspected upon arrival at a site for general integrity and cleanliness. Machine blanks, syringe blanks, spike samples and duplicates are run routinely to insure data precision and accuracy. Ambient temperature and humidity do not effect the operation of the GC since the GC system is closed and climate controlled.

CYPRESS BAY℠ GEOLOGICAL sincerely appreciates the opportunity to provide field services to ***Albrecht Environmental, Inc.*** If you have any questions please contact Jim Peurifoy at 843-538-4017 (office) or 843-908-5050 (mobile).

Sincerely,
CYPRESS BAY℠ GEOLOGICAL

Jim A. Peurifoy, P.G.
President



Memo to the file:

Following is prepared after a site visit to the Edisto Marina Management facility, UST Permit #01442 by Sriram Madabhushi and Chuck Williams on April 18, 2000

Arrived at the site at 11:15 and met with Mark Keller of Albrecht Associates at the site. The locations of the geoprobes where water and electrical lines were hit were shown. Mr. Aven Leckie of the Town of Edisto Beach and Manager of the Bay Creek Villa Apartments, Mr. Robert Folks also joined us at the site.

During conversation, Mr. Folks indicated that when the tide is low and when it rains, sheen has been seen seeping into the bay. After walking around the building on to the dock, there did not appear any signs of environmental damage.

Mr. Leckie also mentioned that there were Aboveground Tanks located in the area where the building stands now, which coincides with the location of highest field-screening results. He also mentioned that there is a picture depicting the ASTs in the Marina office. A copy of the picture was obtained. It appears that two ASTs were located at the present southeastern corner of the Apartment building. The field screening indicates an area of clean (BDL) soil and water between the current UST and the location of old ASTs.

From the available information, it is probable that the ASTs are the source of contamination at the Apartment complex.

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APR 25 2000

Water Monitoring, Assessment & Protection Division

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South Carolina Department of Health
and Environmental Control

BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT
2600 Bull Street
Columbia, SC 29201
Telephone (803) 898-4350
Fax (803) 898-[illegible]

RECEIVED
APR 25 2000
Water Monitoring, Assessment & Protection Division

MEMORANDUM

DATE: April 19, 2000

TO: UST Permit #01442, Edisto Marina Management Site, Technical File

FROM: Sriram Madabushi, Owner/ Operator Lead Section
Chuck Williams, State Lead and Field Services Section

SUBJECT: Site Visit on April 18, 2000

- Mr. Sriram Madabushi and Mr. Chuck Williams arrived at the site at 11:15 a.m.. Also at the site were Mr. Mark Keller, Albrecht Environmental, Mr. Aven Leckie, Town of Edisto Island, and Mr. Robert Folks, Manager of Bay Creek Villas. The purpose of the site meeting was to discuss field screening results, water and power lines that were hit during assessment activities, and future work that would need to be completed.
- Mr. Keller explained and showed where he had hit a four inch main water line and a two inch water line servicing one of the apartments, and an electrical line. The utility locators had been used to find all utilities but had missed most of the utilities that were near the apartments.
- Mr. Folks stated that he had noticed problems during a low tide event and after a rain event. The first was that a sheen was apparently coming from the shore and extending approximately 10 feet out into the bay. The second was that some of the tenants complained about odors in the water coming into the apartments. After looking at the bay area, there did not seem to be any obvious stress to the environmental setting.
- Mr. Leckie then explained some of the site's history, where aboveground tanks were and where one underground storage tank was buried. According to Mr. Leckie, there was one small underground tank behind the old store (approximately 500 gallons) that he said either held kerosene or heating oil. We then discussed the new Underground Storage Tanks (UST) and approximate locations of the lines compared to field screening results collected by Albrecht Environmental in April 2000 and the soil sample obtained from Ms. Robin Mack, UST Inspector, on January 31, 2000.
- Mr. Keller was told to send a plan to Mr. Madabushi for his approval. The plan is to address additional field screening for the bay area and along the lines of the existing USTs by using a hand auger. He was also directed to acquire enough booms to be placed near the dock to control the leaching of petroleum product into the bay. A directive was also issued to collect water samples of the apartments that have experienced an odor in the drinking water (there are to be two samples taken from the apartments, one when the plan is approved and one after a rain event when the tenants seem to notice the odors).
- Based on the clean field screening results from the area around the existing UST, the contaminated soil sample and contaminated field screening results from the area of the former aboveground tanks, as evidence from a photograph of the site when aboveground tanks were present, it is believed that the aboveground tanks are the source of the contamination at the site.

Enc.: Geoprobe Results
Photograph

0442

From: James White
To: DHEC4001.COLUMB26(WISNEWBJ)
Date: 3/21/00 9:18am
Subject: Edisto Marina / Bay Creek Villas -Reply -Reply -Reply

I talked to a couple of people in the office and they suggested that the best source of information would be Aven Leckie (Town of Edisto) @ 843-869-2505. He would have a local perspective that we might not have. He informed me about the incident during the fishing tournament.

That specific incident was related to a fuel line along the backside of the dock which is utilized in conjunction with a tank truck. This enables fuel to be transfered further out to the boats that are in their slips. As I recall, a leak was detected over the water, and was subsequently repaired--however, a sheen was evident in the creek. I'm not sure if that could move upgradient to contaminate a water-line. Hydraulically, it seems improbable.

I'm not sure about the question concerning water in fuel tanks.

If you need any more info. or clarifications feel free to give me a call.

Thanks

CC: berryre

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APR 3 2000

Bureau of Underground Storage Tank Management

ALBRECHT ENVIRONMENTAL

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P.O. Box 189
Mt. Pleasant, SC 29465
Phone: (843) 856-8450
Fax: (843) 856-8453

From:

- ☐ John H. Albrecht, PE
- ☐ Jimmy D. Honeycutt, PE
- ☐ Jim Concannon
- ☐ T. Scott Towns
- ☒ Mark L. Keller
- ☐ Brett Elrod
- ☐ Carol Hummel
- ☐ Helen Albrecht
- ☐ Jeff Gregg

No. of Pages Including Cover: 3

ALBRECHT Project #

To:

Attn: Chuck Williams

Company: SCDHEC

Phone No.

Fax No. (803) 898-4330

COMMENTS:

Chuck, here is a rough map of the Edisto Marina. The points are to scale. 1/2"=10'. There are utilities everywhere and none of the sewer & water locations are known (except where we have hit them). The circled numbers indicate hits or we smelled it but couldn't get a sample. The squares are locations where we cut either power or water. Utilities were called in but the power line at G-P-15 was failed to be identified. As you can see, probing on the site is rather dangerous. Our client has expressed a willingness to pay his 25K and be done with this. I don't think that delineation is possible here. To the east of the map is a marsh/wetland area, immediately to the south is Big Bay Creek, and to the east is a tributary/marsh land. What do you want us to do? Thanks for the help.

Mk

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- Petroleum Storage Tanks
- Compliance & Permitting

Inspection & Abatement
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- Management Planning
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- Aquatic Weed Control
- Right-of-Way Applications
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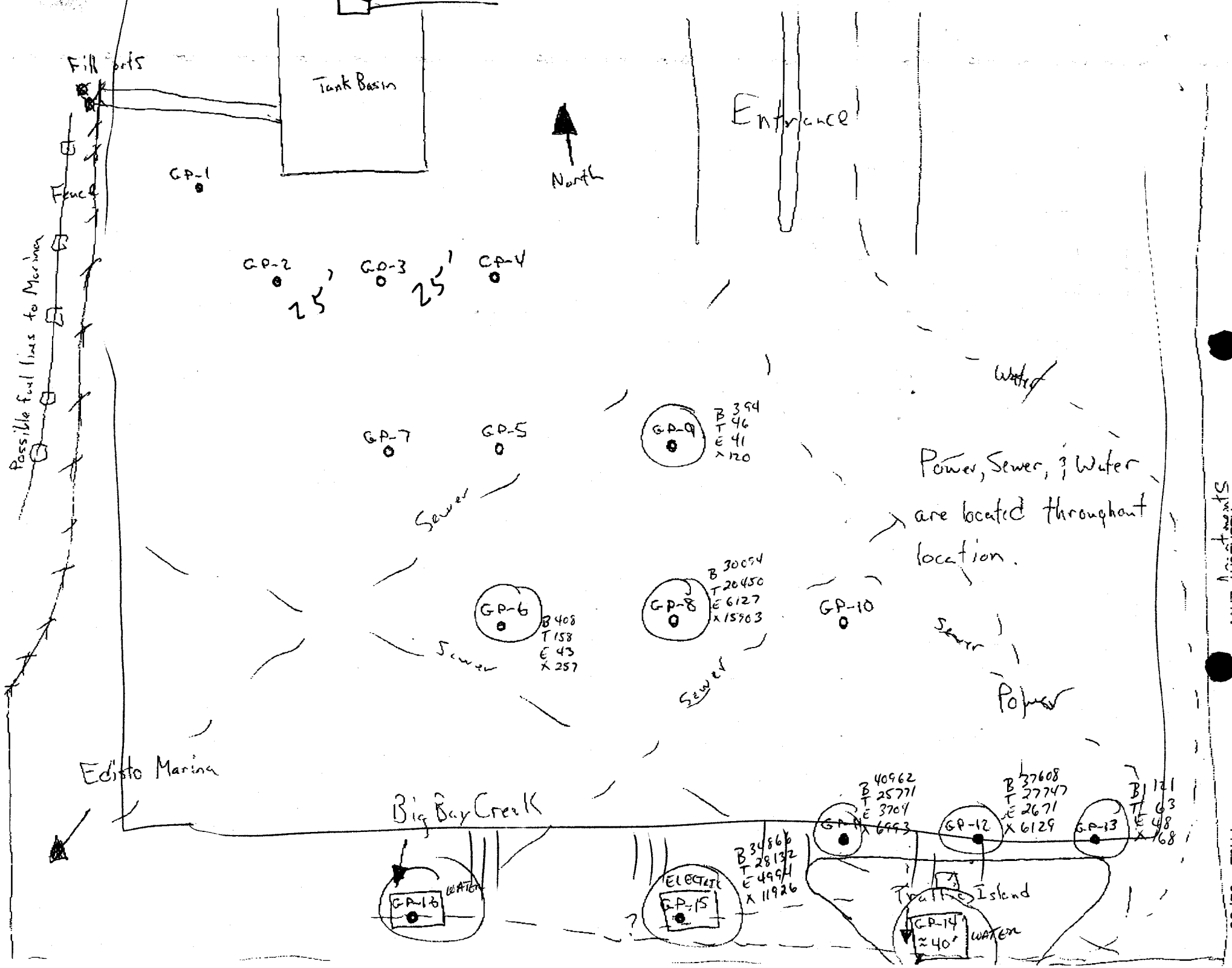
Fill ports
Tank Basin
Entrance
North
Fence
Possible fuel lines to Marina
GP-1
GP-2
GP-3
GP-4
25'
25'
GP-7
GP-5
GP-9
B 394
T 46
E 41
X 120
Water
Power, Sewer, & Water are located throughout location.
Sewer
GP-6
B 408
T 158
E 43
X 257
GP-8
B 30054
T 20450
E 6127
X 15903
GP-10
Sewer
Sewer
Sewer
Power
Edisto Marina
Big Bay Creek
GP-16
WATER
GP-15
ELECTRIC
B 34866
T 28132
E 4994
X 11926
GP-11
B 40962
T 25771
E 3704
X 6993
GP-12
B 37608
T 27747
E 2671
X 6129
GP-13
B 121
T 63
E 48
X 168
Trailer Island
GP-14
≈40'
WATER

TABLE 1
FIELD GC GROUND WATER SCREENING RESULTS
EDISTO BEACH MARINA SITE
EDISTO BEACH, SOUTH CAROLINA
MARCH 22, 2000

Sample ID	Total Depth (ft.)	Matrix	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Xylenes (µg/l)	Total BTEX (µg/l)	Comments
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GP-2	12.0	GW	–	–	–	–	–	
GP-3	12.0	GW	–	–	–	–	–	
GP-4	12.0	GW	–	–	–	–	–	
GP-5	12.0	GW	–	–	–	–	–	
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GP-7	12.0	GW	–	–	–	–	–	
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GP-10	12.0	GW	–	–	–	–	–	
GP-11	12.0	GW	40962	25771	3704	6993	77429	
GP-12	12.0	GW	37608	27747	2671	6129	74155	
GP-13	12.0	GW	121	63	48	168	400	
GP-14	12.0	GW	NS	NS	NS	NS	NS	Hit H2O Line
GP-15	12.0	GW	34866	28132	4994	11926	79918	Hit Electrical Conduit
GP-16	12.0	GW	NS	NS	NS	NS	NS	Hit 4" H2O Main

Walterboro, SC

5

57

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

MAR 23 2000

Bay Creek Villas
Board of Directors
3701 Docksite Road
Edisto Beach, SC 29438

Re: Edisto Marina Management Corporation
UST Permit #01442; Release #1
Request for Letter of Concern
Telephone Conversation with Mr. Robert Folks on March 13, 2000
Colleton County

Dear Board Members:

In response to your questions, the status of the release at the referenced site and an explanation of the applicable regulations are provided. We received a report in January 2000, documenting petroleum products in the subsurface in the vicinity of the existing underground storage tanks. The two underground storage tanks (UST) that are owned by Edisto Marina Management Corporation are still in operation. To determine the severity of the contamination associated with the former USTs, a Tier II Assessment is required. Upon completion and review of the aforementioned scope of work, this Bureau will determine if any additional site rehabilitation activities will be necessary.

The Bureau took water samples from the taps in apartments 116 and 217 on January 31, 2000. The analytical results indicated that the levels for chemicals of concern were below the South Carolina Drinking Water Standards. However, the results did indicate that the chemicals of concern were present. Currently the Edisto Marina Management Corporation is responsible for the Tier II Assessment and the replacement of the cities and the apartment's water lines.

Statutory Information

According to the State Underground Petroleum Environmental Response Bank (SUPERB) Act, the "owner" means: (a) in the case of an underground storage tank (UST) system in use on November 8, 1984, or brought into use after that date, any person who owns an UST system used for storage, use, or dispensing of regulated substances: (b) in the case of any UST system in use before November 8, 1984, but no longer in use on that date, any person who owned such a UST immediately before the discontinuation of its use; or (c) any person who has assumed legal ownership of the UST through the provisions of a contract of sale or other legally binding transfer of ownership.

In 1997, the General Assembly amended Section 80 (B) of the SUPERB Act to clarify that persons who hold "indicia of ownership" primarily to protect a security interest in property impacted by a release from a UST are exempt from the requirements to conduct site rehabilitation activities other than necessary abatement actions to eliminate any imminent threat to human health or the environment. The "indicia of ownership" exemption includes those persons who acquire title to property through foreclosure or other means necessary to protect their security interest, provided that person does not participate in the management of the UST and is not otherwise engaged in petroleum production, marketing, or refining. This applies equally to subsequent lenders who acquire the USTs and property through foreclosure in the future.

SCDHEC/ACA/SLFSS/01442loc/cjw/03.22.2000

Qualification for SUPERB monies

The release is able to participate in the State Underground Petroleum Environmental Response Bank (SUPERB) Account which provides up to a total of $1,000,000 for site rehabilitation with a $25,000.00 deductible.

Please reference UST Permit #01442 on all correspondence. If you have any further questions, feel free to call Chuck Williams at (803) 898-4339 or 1-800-826-5435 (within S.C. only).

Sincerely,

Charles J. Williams, III, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

cc: Read File
[redacted]

SCDHEC/ACA/SLFSS/01442loc/cjw/03.22.2000

01442

From: James White
To: DHEC4001.COLUMB26(WISNEWBJ)
Date: 3/21/00 9:18am
Subject: Edisto Marina / Bay Creek Villas -Reply -Reply -Reply

I talked to a couple of people in the office and they suggested that the best source of information would be Aven Leckie (Town of Edisto) @ 843-869-2505. He would have a local perspective that we might not have. He informed me about the incident during the fishing tournament.

That specific incident was related to a fuel line along the backside of the dock which is utilized in conjunction with a tank truck. This enables fuel to be transfered further out to the boats that are in their slips. As I recall, a leak was detected over the water, and was subsequently repaired--however, a sheen was evident in the creek. I'm not sure if that could move upgradient to contaminate a water-line. Hydraulically, it seems improbable.

I'm not sure about the question concerning water in fuel tanks.

If you need any more info. or clarifications feel free to give me a call.

Thanks

CC: berryre

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

MAR 07 2000

Edisto Marine Management Corporation
Attn.: Mr. Michael Schraibman
2711 Middleburg Drive, Suite 101
Columbia, SC 29204

Re: Edisto Marina Management Corporation
UST Permit #01442, Cost Proposal #10583, Release # 1
Rapid Assessment Plan received February 29, 2000
Colleton County

Dear Mr. Schraibman:

The Bureau of Underground Storage Tank Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the Rapid Assessment Plan. Rehabilitation activities at the site should be resumed immediately upon receipt of this letter.

According to our records, the release was reported to the SCDHEC subsequent to the early detection incentive program. Therefore, in accordance with Section 44-2-40(D) of the Act, you are responsible for the first $25,000 for site rehabilitation. To insure that any expenditures you make apply to this $25,000 deductible, it is prudent for this agency to pre-approve such costs along with your technical plan of action. By law, the SUPERB account cannot compensate any costs that are not pre-approved. Eligible costs exceeding the $25,000 deductible can be compensated from the SUPERB Account.

The Cost Agreement is approved up to the amount of the enclosed cost agreement form. This includes the adjustment of the following rates and/or site rehabilitation activities proposed in the cost proposal to ensure compliance with current SUPERB program criteria per Section 44-2-20(2):

- Item 4: Equipment mob/demob has been decreased from three to two.
- Item 9: Monitoring well installation has been approved for 155 feet.

The Bureau grants pre-approval for transportation of virgin petroleum contaminated soil, ten drums, and wastewater, two drums, from the referenced site to a permitted treatment facility. The contaminated soil or groundwater must be properly stored in labeled containers or covered with plastic as appropriate. The contaminated soil and/or ground water must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. If the levels of petroleum contamination based on laboratory analysis are below risk-based screening levels, please contact the project manager for approval to dispose of soil and/or ground water on site. The SUPERB Account will not compensate for transportation or treatment of clean soil and/or ground water.

All applicable S.C. certification requirements apply to the laboratory services, well installation and report preparation. All rehabilitation activities associated with a UST release must be performed by a SCDHEC certified Class I site rehabilitation contractor as required by R.61-98. An Assessment Report, as outlined in the Rapid Assessment document and associated invoice (form enclosed) should be submitted **within 90 days of the date of this correspondence.** If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available. Please note that payment from the SUPERB account will be made upon review of the report and confirmation that all work performed was technically justified.

On all correspondence regarding this site, please reference **UST Permit #01442 and CP #10583.** If you have any questions concerning this correspondence, please contact me at 803-898-4339 or 1 (800) 826-5435 (within South Carolina).

Sincerely,

Charles J. Williams, III, Hydrologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

enc: Approved Assessment Component Cost Proposal w/ Assessment Component Invoice Form
Monitoring Well Approval

cc: Financial Section (w/ AACCP and ACIF)
Technical File (w/Copy of Monitoring Well Approval)
Albrecht Env., 1111-C Bowman Rd., Mt. Pleasant, SC 29464 (w/Org. MWA and copy of enc.)

OC:aaprojects/forms/ assessment component invoice

ASSESSMENT COMPONENT COST AGREEMENT

SOUTH CAROLINA
Department of Health and Environmental Control
Bureau of Underground Storage Tank Management
State Underground Petroleum Environmental Response Bank Account

UST Facility Name: Edisto Marina
UST Permit #: 01442 CP #:

	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1.	Plan Preparation*	1	x	$100.00	$ 100.00
2.	Receptor Survey*	1	x	$500.00	$ 500.00
3.	Comprehensive Survey	1	x	$1,000.00	$ 1000.00
4.	Mob/Demob (List component #)				
	A. Equipment 6,9,~~12~~	2 ~~3~~	x	$500.00	$ ~~1500.00~~ 1000
	B. Personnel 1,6,9,10,12	5	x	$250.00	$ 1250.00
5.	Soil Borings (hand auger)*		feet x	$14.00	$
6.	Soil Borings (drilled) and Field Screening*	(includes collection and quantification) 350	feet x	$17.00	$ 5950.00
7.	Soil Leachability Model	1	x	$200.00	$ 200.00
8.	Abandonment*	350	feet x	$4.00	$ 1400.00
9.	Well Installation *	(includes drilling costs)			
	A. Water Table (hand auger)		feet x	$20.00	$
	B. Water Table (drilled)	120	feet x	$38.00	$ 4560.00
	C. Telescoping	35	feet x	$58.00	$ 2030.00
	D. Rock Drilling		feet x	$58.00	$
10.	Groundwater sample collection	13	samples x	$55.00	$ 660.00
11.	Analyses-Groundwater	(See RA Guidance for site specific analyses)			
	A. BTEX + Napth. + MTBE	13	samples x	$100.00	$ 1300.00
	B. BTEX + Napth. + MTBE Trimethylbenzene		samples x	$135.00	$
	C. PAH's	13	samples x	$120.00	$ 1560.00
	D. Lead	13	samples x	$20.00	$ 260.00
	E. EDB	13	samples x	$55.00	$ 715.00
	F. 8 RCRA Metals		samples x	$140.00	$
	G. TPH (9070)		samples x	$55.00	$
	H. pH		samples x	$10.00	$
	I. BOD		samples x	$40.00	$
	J. Nitrate	13	samples x	$20.00	$ 260.00
	K. Sulfate	13	samples x	$20.00	$ 260.00
	L. Ferrous Iron	13	samples x	$20.00	$ 260.00

ASSESSMENT COMPONENT COST AGREEMENT

11.	Analyses-Soil						
	M. Methane	13	samples	x	$110.00	$	1430.00
	N. Organic Lead	13	samples	x	$100.00	$	1300.00
	O. BTEX + Napth.		samples	x	$100.00	$	
	P. PAH's	8	samples	x	~~$120.00~~ 100 ?	$	800.00
	Q. 8 RCRA Metals	8	samples	x	~~$150.00~~ 120	$	960.00
	R. TPH (9071)		samples	x	$60.00	$	
	S. TPH (3550)	1	samples	x	$65.00	$	65.00
	T. TPH (5035)		Samples	x	$65.00	$	
	U. Grain size / hydrometer	1	samples	x	$75.00	$	63.00
	V. Total Organic Carbon	1	samples	x	$35.00	$	35.00
12.	Aquifer Characterization*						
	A. Pumping Test		hours	x	$120.00	$	
	B. Slug Test	3	tests	x	$150.00	$	450.00
13.	Free Product Recovery Rate Test*		tests	x	$120.00	$	
14.	Fate/Transport Modeling						
	A. Mathematical Model	1	models	x	$300.00	$	300.00
	B. Computer Model	1	models	x	$500.00	$	500.00
15.	Risk Evaluation						
	A. Tier I		x		$300.00	$	
	B. Tier II	1	x		$500.00	$	500.00
16.	Subsequent Survey*		x		$260.00	$	
17.	Disposal						
	A. Wastewater						
	1. Purging/Sampling	2	drums	x	$90.00	$	180.00
	2. Pumping test		gallons	x	$0.60	$	
	B. Free Product		drums	x	$110.00	$	
	C. Soil (Treatment/Disposal)*		tons	x	$50.00	$	
		10	drums	x	$50.00	$	500.00
18.	Miscellaneous* (attach receipts)				preapproved		
			x			$	
			x			$	
19.	Report/Project Management and Coordination				(SUBTOTAL)	$	30,903.00
		30,903.00	x		.15	$	4635.45
20.	Total					$	35538.45

* The appropriate mobilization cost can be added to complete these tasks, as necessary.

30403.00
4 560.45
34963.45

03/06/2000 14:48:01 COST PROPOSAL 10583
01442 EDISTO MARINA MANAGEMENT CORP
Project Manager WILLIACJ
PO Number ====>

TASKS	Categories	Procedures	Description	Unit	Rate	Amount	TOTAL
01	ASSESSMENT COMPONENTS						
	A Personnel		A125 PLAN PREP (C)	1.00	100.000	100.00	
			A120 SOIL LEACHABILITY(C)	1.00	200.000	200.00	
			A121 MATH MODEL (C)	1.00	300.000	300.00	
			A122 COMPUTER MODEL (C)	1.00	500.000	500.00	
			A127 RISK EVAL TIER II(C)	1.00	500.000	500.00	
			A124 REPORT/PROJ MAN. (C)	30403.00	0.150	4560.45	
			Subtotal			6160.45	
	F Well Drill		F122 MOB/DEMOB EQUIP (C)	2.00	500.000	1000.00	
			F123 MOB/DEMOB PERSON (C)	5.00	250.000	1250.00	
			F114 SOIL BOR\FLD SCR (C)	350.00	17.000	5950.00	
			F117 ABANDONMENT (C)	350.00	4.000	1400.00	
			F119 WATER TABLE (C)	120.00	38.000	4560.00	
			F120 TELESCOPING (C)	35.00	58.000	2030.00	
			Subtotal			16190.00	
	G Analysis		G134 BTEX+NAPTH+MTBE W(C)	13.00	100.000	1300.00	
			G136 PAH'S GW (C)	13.00	120.000	1560.00	
			G138 LEAD GW (C)	13.00	20.000	260.00	
			G139 EDB GW (C)	13.00	55.000	715.00	
			G148 NITRATE (C)	13.00	20.000	260.00	
			G149 SULFATE (C)	13.00	20.000	260.00	
			G150 FERROUS IRON (C)	13.00	20.000	260.00	
			G151 METHANE (C)	13.00	110.000	1430.00	
			G153 ORGANIC LEAD (C)	13.00	100.000	1300.00	
			G137 PAH'S SOIL (C)	8.00	100.000	800.00	
			G141 8 RCRA METALS SL (C)	8.00	120.000	960.00	
			G144 TPH(3550) SOIL (C)	1.00	65.000	65.00	
			G145 GRAIN SIZE/HYDRO (C)	1.00	63.000	63.00	
			G146 TOT ORG CARB SL (C)	1.00	35.000	35.00	
			Subtotal			9268.00	
	H Misc		H116 RECEPTOR SURVEY (C)	1.00	500.000	500.00	
			H117 COMP SURVEY (C)	1.00	1000.000	1000.00	
			H122 GW SAMP COLLECTN (C)	13.00	55.000	715.00	
			H108 SLUG TEST (C)	3.00	150.000	450.00	
			H111 DISP WW PURG/SAM (C)	2.00	90.000	180.00	
			H115 DISP SOIL (C)	10.00	50.000	500.00	
			Subtotal			3345.00	
					TASK TOTAL ==>		34963.45
					TOTAL COST PROPOSAL ==>		34963.45

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

MAR 07 2000

Edisto Marine Management Corporation
Attn.: Mr. Michael Schraibman
2711 Middleburg Drive, Suite 101
Columbia, SC 29204

Re: Edisto Marina Management Corporation
UST Permit #01442, Cost Proposal #10583, Release # 1
Rapid Assessment Plan received February 29, 2000
Colleton County

Dear Mr. Schraibman:

The Bureau of Underground Storage Tank Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the Rapid Assessment Plan. Rehabilitation activities at the site should be resumed immediately upon receipt of this letter.

According to our records, the release was reported to the SCDHEC subsequent to the early detection incentive program. Therefore, in accordance with Section 44-2-40(D) of the Act, you are responsible for the first $25,000 for site rehabilitation. To insure that any expenditures you make apply to this $25,000 deductible, it is prudent for this agency to pre-approve such costs along with your technical plan of action. By law, the SUPERB account cannot compensate any costs that are not pre-approved. Eligible costs exceeding the $25,000 deductible can be compensated from the SUPERB Account.

The Cost Agreement is approved up to the amount of the enclosed cost agreement form. This includes the adjustment of the following rates and/or site rehabilitation activities proposed in the cost proposal to ensure compliance with current SUPERB program criteria per Section 44-2-20(2):

- Item 4: Equipment mob/demob has been decreased from three to two.
- Item 9: Monitoring well installation has been approved for 155 feet.

The Bureau grants pre-approval for transportation of virgin petroleum contaminated soil, ten drums, and wastewater, two drums, from the referenced site to a permitted treatment facility. The contaminated soil or groundwater must be properly stored in labeled containers or covered with plastic as appropriate. The contaminated soil and/or ground water must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. If the levels of petroleum contamination based on laboratory analysis are below risk-based screening levels, please contact the project manager for approval to dispose of soil and/or ground water on site. The SUPERB Account will not compensate for transportation or treatment of clean soil and/or ground water.

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: February 29, 2000 Approval No.: 12552

Approval is hereby granted to: Albrecht and Assoc.
UST Permit #: 01442
County: Colleton

This approval is for the construction of ten Type II, one Type III monitoring well(s) and 350 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 Division
Bureau of UST Management

cc: Low Country District EQC
Mr. Michael Schraibman, 2711 Middleburg Drive, Suite 101, Columbia, SC 29204
[redacted]

ALBRECHT ENVIRONMENTAL

ASSESSMENT · REMEDIATION · COMPLIANCE · LAKE MANAGEMENT

P.O. Box 189
Mt. Pleasant, SC 29465

Phone: (843) 856-8450
Fax: (843) 856-8453

This transmittal contains privileged and confidential information to be viewed only by the specified recipient and his/her designee. If you have received this transmittal in error, please contact us at the number above and we will make arrangements to retrieve the information at no charge to you.

Date: 2/29

To: Chuck Williams

Phone:

Fax: (803) 898-4330

From:
- ☐ John H. Albrecht, PE
- ☐ Jim Concannon
- ☐ T. Scott Towns
- ☐ Helen Albrecht
- ☐ David Camp
- ☒ Mark L. Keller
- ☐ Carol Hummel
- ☐ Brett Elrod
- ☐ Gene Rickett

No. of Pages Including Cover: 5

REF: Edisto Marina

ALBRECHT Project#

Remarks:

RECEIVED
FEB 29 2000
Bureau of Underground Storage Tank Management

If enclosures not as noted, please notify our office at the above number at once.

Copy(s) to:

Signed:

1111-C Bowman Road, Mt. Pleasant, South Carolina 29464
email: albrecht@albrechtenvironmental.com www.albrechtenvironmental.com

RAPID ASSESSMENT PLAN

SOUTH CAROLINA
Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Site ID # 01442 County Charleston Facility Name Edisto Marina
Facility Address 3702 Dockside Road, Edisto Beach, SC 29438
Responsible party Mr. Bill Hackett Address Same
No. USTs 2 removed? No (date) replaced ? N/A (date)
Current use of facility/property Marina
Current property owner name Mr. Bill Hackett
Current property owner address

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.
Geoprobe borings. Soil sampling and water sampling. Field screening with field gas chromatograph.

Permanent Monitoring wells (Estimate number and total completed depth)
# of shall wells 10 total depth 120 feet
# of deep wells 1 total depth 35 feet (if necessary)
Comments, if warranted

Analyses BTEX, Naphthalene, MTBE
List the analytical parameters (e.g., BTEX MTBE) and estimated number.
Ten shallow wells, one deep well, 2 potential receptors (if needed).
BTEX, Naphthalene, MTBE, PAH's, Lead, EDB, Nitrate Sulfate Ferrous Iron, Methane, Organic Lead

8 soil samples for BTEX, Naphthalene, and PAH's
1 TPH sample, 1 Grain Size, 1 Total Organic Carbon

Implementation Schedule
Start up date ASAP Completion date 90 Days
Report submittal date Same

RAPID ASSESSMENT PLAN

SOUTH CAROLINA
Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Site ID # 01442 Facility Name Edisto Marina

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	Legend with facility name and address, Site ID number, date, and a bar scale
Location of property lines	Streets or highways (indicate names and numbers)
Location of buildings	Identification of located buildings
Paved areas on or adjacent to site	Locations of all present and former ASTs and USTs
Previous soil sampling locations	Underground and above ground utilities on or adjacent to site
Previous monitoring well locations	Locations of any other potential receptor

Aquifer Characterization (Check one an provide explanation for choice)

Pump Test _____ Slug Tests 3

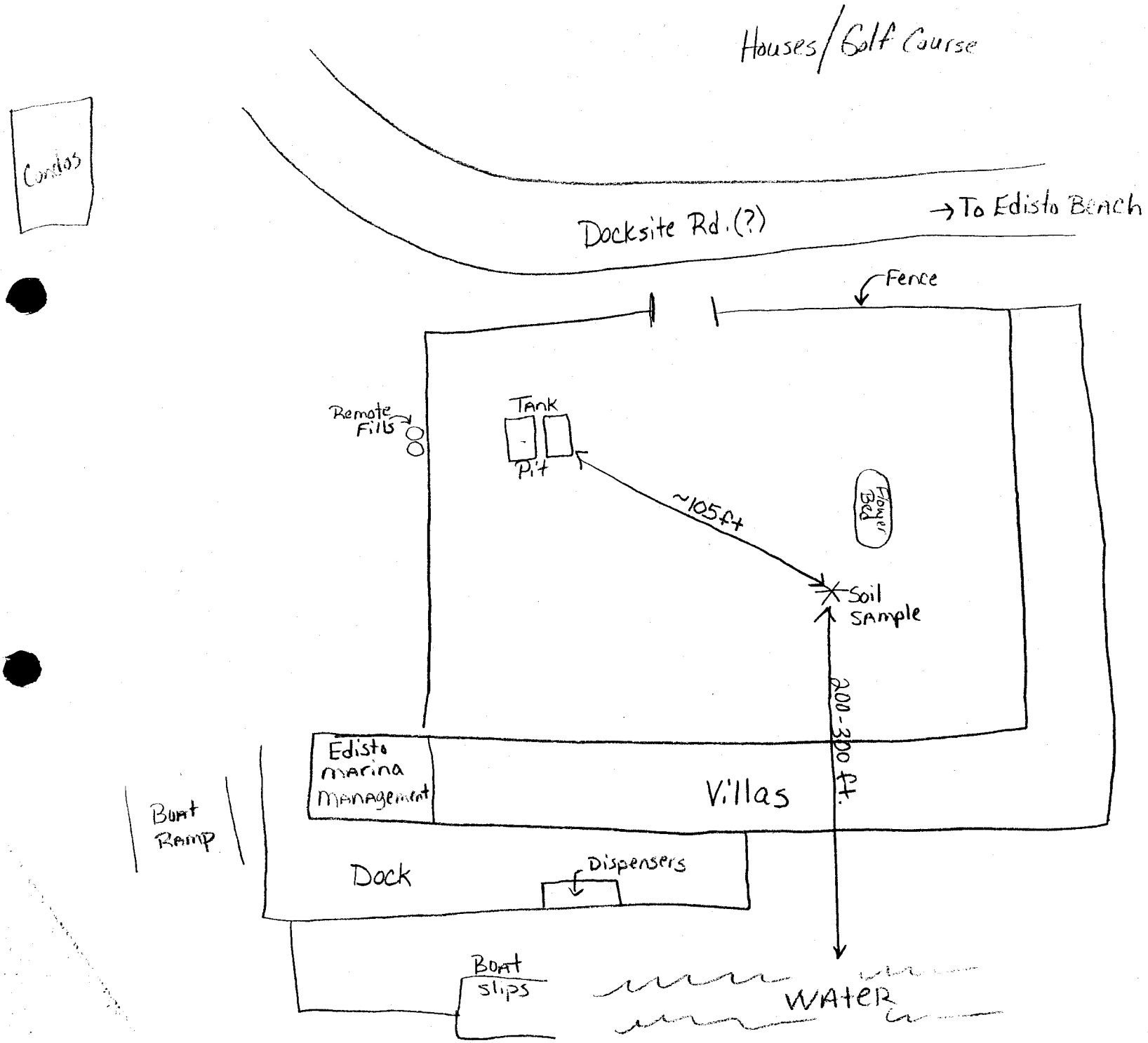
Slug testing will suffice for aquifer characterization at this site.

Small Volume Disposal Type and Method

Soil **Via thermal treatment at Southeastern Soil Recovery, Inc.**

Purge Water **Disposal at Water Recovery System, Inc.**

Additional Comments


Houses/Golf Course
Condos
Docksite Rd.(?)
→To Edisto Beach
Fence
Remote Fills
Tank
Pit
~105 ft
Flower Bed
Soil Sample
200-300 ft.
Edisto marina management
Villas
Boat Ramp
Dock
Dispensers
Boat slips
WATER

UNDERGROUND STORAGE TANK (UST) OWNER/OPERATOR LEAD INFORMATION SHEET

1. CONTRACTOR OF CHOICE

As the UST Owner/Operator of UST Permit #01442, I would like to use the contractor or person(s)* listed below and request that they represent me for:

☐ RA
☑ All future assessment scopes. **

Name of Contractor/Person(s) Albrecht Environmental, Inc.
Address PO Box 189
Mount Pleasant, SC. 29465

Telephone Number (843) 856-8450

Note: After September 20, 1997, rehabilitation activities must be performed by a SC Certified Site Rehabilitation Contractor.

*indicate if the person listed is your own employee

** if you would like the contractor to perform all future assessent activities at this and/or other UST sites that have confirmed releases, please provide a list of all sites on your letterhead and provide the information requested in items 2 and 3 below within the context of the letter.

2. FINANCIAL OR FAMILIAL RELATIONSHIP

Does a financial or familial relationship, as defined below, exist between you and the contractor/person that you listed above?
_____ Yes ✓ No (please initial)

Financial Relationship: A connection or association through a material interest of sources of income which exceeds five percent of annual gross income from a business entity.

Familial Relationship: A connection or association by family or relatives, in which a family member or relative has a material interest. Family or relatives include: father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, or fiancee.

3. PAYMENT

The first $25,000.00 in eligible site rehabilitation costs will be applied against the applicable SUPERB deductible, upon submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment.

For eligible costs exceeding the $25,000.00 deductible, you can pay the contractor and, upon the submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment, be compensated from the SUPERB Account, or have payment issued directly from the SUPERB Account to the contractor. (check one)

_____ For eligible costs exceeding the deductible, I request that payment be made to me after I have paid the contractor.

✓ For eligible costs exceeding the deductible, I request that payment be made directly to the contractor.

(Note: all costs must receive prior financial approval from the Department regardless of payment option.)

Underground Storage Tank Owner/Operator Signature [signature]

Date 2/24/00

RECEIVED
FEB 28 2000
Bureau of Underground Storage Tank Management

INSURANCE STATEMENT FORM

UST Permit **#01442** 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 other than self-insurance for this site is required. Please complete the following information:

__✓__ I do not have any insurance other than self-insurance or SUPERB that would cover releases from underground storage tanks.

____ I have an insurance policy other than self-insurance 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:

Date: 2/24/00

To be Completed by Notary Public:

Sworn before me this 25 day of Feb, ~~19~~ 2000.

(Name) Michelle L Balfour

Notary Public for the state of South Carolina

My commission expires January 11, 2009

Please affix State Seal if you are commissioned outside South Carolina.

BAY CREEK VILLAS
AT·EDISTO·MARINA

February 22, 2001

Mr. Noel Hudson
Nesco, Inc.
521 Clemson Road
Columbia, SC 29229

Telefax: 803-699-9863

Please be advised that our insurance liability policy on Bay Creek Villas does not cover any petroleum release and/or contamination of property. If you have any questions please call me anytime.

Sincerely,

Robert Fowlkes

Robert F. Fowlkes
Bay Creek Villas Management

3701 DOCKSITE ROAD
EDISTO BEACH, SOUTH CAROLINA 29438
(803) 869-1848

NESCO

For Practical Solutions

FAX TRANSMITTAL FORM

521 Clemson Road
Columbia, SC 29229
Tel: (803) 699-1976
Fax: (803) 699-9863

TO: John Wright

ATTENTION:

FAX NUMBER: 898-3795

FROM: Noal Hudson

SUBJECT: Bay Creek Villas

Page 1 of 8 (including this page)

DATE: 1/12/01

PROJECT NUMBER:

Hard copy to be mailed: Yes ☐ No ☐

ATTENTION: The information contained in this fax is privileged and/or confidential, intended only for the individual/entity named above. Please forward it to the recipient immediately. If there are any difficulties with this facsimile transmission or you have received this fax in error, please telephone (803) 699-1976 or fax (803) 699-9863.

SHEALY ENVIRONMENTAL SERVICES, INC.
Scientists and Consultants

Report of Analysis

Nesco
521 Clemson Road
Columbia, SC 29229
Attention : Noal Hudson

Project Name : **Bay Creek Villas**

Lot Number : **BL15002**
Date Completed : **12/27/2000**

Jennifer L. Orr
Project Manager

Total number of pages in report : **7**

This report has been prepared and reviewed in accordance with Shealy's Quality Assurance Management Plan. Any data qualifiers associated with sample analysis are footnoted on the analytical results page(s). 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.

Report of Analysis

SC DHEC No. 32010 NC DEHNR No. 32

Client : **NESCO**
521 Clemson Road
Columbia, SC 29229

Attention : **Noal Hudson**
Project Name : **Bay Creek Villas**

Description : **GW-1 Ground Water** Date Sampled : 12/13/2000 1200
Lot Number : BL15002-001 Matrix : Aqueous

Date Received : 12/14/2000

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	**2500**		100	ug/L		12/21/2000 1814	RED
Ethylbenzene	5030B	8260B	**2500**		100	ug/L		12/21/2000 1814	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		100	ug/L		12/21/2000 1814	RED
Naphthalene	5030B	8260B	**1500**		100	ug/L		12/21/2000 1814	RED
Toluene	5030B	8260B	**10000**		500	ug/L		12/21/2000 1848	RED
)nes (total)	5030B	8260B	**22000**		500	ug/L		12/21/2000 1848	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	71.2		70.0-130	%		12/21/2000 1814	RED
Toluene-d8	5030B	8260B	80.6		70.0-130	%		12/21/2000 1814	RED
Bromofluorobenzene	5030B	8260B	80.6		70.0-130	%		12/21/2000 1814	RED
Semivolatile Organic Compounds by GC/MS									
Chrysene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Acenaphthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Acenaphthylene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Anthracene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Fluoranthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Fluorene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Naphthalene	3520C	8270C	**650**		26	ug/L	12/19/2000 1200	12/21/2000 1235	MWK
Phenanthrene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
)ne	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : GW-1 Ground Water
Lot Number : BL15002-001
Client : NESCO
Date Received : 12/14/2000
Date Sampled : 12/13/2000 1200
Matrix : Aqueous

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Surrogates									
2-Fluorobiphenyl	3520C	8270C	80.5		30.0-130	%	12/19/2000 1200	12/21/2000 1141	MWK
Nitrobenzene-d5	3520C	8270C	81.8		30.0-130	%	12/19/2000 1200	12/21/2000 1141	MWK
Terphenyl-d14	3520C	8270C	59.5		30.0-130	%	12/19/2000 1200	12/21/2000 1141	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : S-1 Soil
Lot Number : BL15002-002
Client : NESCO
Date Received : 12/14/2000
Date Sampled : 12/13/2000 1400
Matrix : Solid

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	72.3			%		12/18/2000 1115	TES
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	14000		8300	ug/kg		12/27/2000 1137	SZY
Ethylbenzene	5035	8260B	160000		8300	ug/kg		12/27/2000 1137	SZY
Naphthalene	5035	8260B	86000		8300	ug/kg		12/27/2000 1137	SZY
Toluene	5035	8260B	270000		8300	ug/kg		12/27/2000 1137	SZY
Xylenes (total)	5035	8260B	820000		16000	ug/kg		12/27/2000 1244	SZY
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	0.0	@	70.0-130	%		12/27/2000 1137	SZY
Toluene-d8	5035	8260B	0.0	@	70.0-130	%		12/27/2000 1137	SZY
Bromofluorobenzene	5035	8260B	0.0	@	70.0-130	%		12/27/2000 1137	SZY
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Acenaphthylene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Anthracene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(a)anthracene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(a)pyrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Chrysene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Fluoranthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Fluorene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Naphthalene	3550B	8270C	62000		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Phenanthrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Pyrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Surrogates									
Terphenyl-d14	3550B	8270C	114		30.0-130	%	12/18/2000 1450	12/21/2000 1046	MWK
Nitrobenzene-d5	3550B	8270C	96.6		30.0-130	%	12/18/2000 1450	12/21/2000 1046	MWK
2-Fluorobiphenyl	3550B	8270C	80.6		30.0-130	%	12/18/2000 1450	12/21/2000 1046	MWK

Footnote(s) @ = Surrogate recovery outside acceptance criteria due to sample dilution.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : **S-2 Soil**
Lot Number : BL15002-003
Client : **NESCO**
Date Received : 12/14/2000

Date Sampled : 12/13/2000 1430
Matrix : Solid

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	**80.5**			%		12/18/2000 1115	TES
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		3900	ug/kg		12/26/2000 1933	RZ
Ethylbenzene	5035	8260B	**64000**		3900	ug/kg		12/26/2000 1933	RZ
Naphthalene	5035	8260B	**45000**		3900	ug/kg		12/26/2000 1933	RZ
Toluene	5035	8260B	ND		3900	ug/kg		12/26/2000 1933	RZ
Xylenes (total)	5035	8260B	**50000**		3900	ug/kg		12/26/2000 1933	RZ
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	0.0	@	70.0-130	%		12/26/2000 1933	RZ
Toluene-d8	5035	8260B	56	@	70.0-130	%		12/26/2000 1933	RZ
Bromofluorobenzene	5035	8260B	103		70.0-130	%		12/26/2000 1933	RZ
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Acenaphthylene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Anthracene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(a)anthracene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(a)pyrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Chrysene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Fluoranthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Fluorene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Naphthalene	3550B	8270C	**37000**		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Phenanthrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Pyrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Surrogates									
Terphenyl-d14	3550B	8270C	130		30.0-130	%	12/20/2000 1415	12/21/2000 1114	MWK
Nitrobenzene-d5	3550B	8270C	18.0		30.0-130	%	12/20/2000 1415	12/21/2000 1114	MWK
2-Fluorobiphenyl	3550B	8270C	101		30.0-130	%	12/20/2000 1415	12/21/2000 1114	MWK

Footnote(s) @ = Surrogate recovery outside acceptance criteria due to sample dilution.

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E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

SE BALL POINT PEN ONLY, PRESS HARD

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Pointe Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

CHAIN OF CUSTODY RECORD

SAMPLE ANALYSIS REQUIRED

CHAIN OF CUSTODY #

Client Name: NESCO

Reporting Address: Bay Creek Villas
Tank Closure

Attention: Neal Hudson

Telephone No. _____ Fax No. 21-989e

NPDES # _____
County _____
Receiving Stream _____
Outfall No. _____

Sample ID (Location)	Yr. 00 DATE	TIME	WELL	SOLID	COMP	GRAB	# of containers	pH, Conductivity	BOD	Nutrients - Specify	METALS - Specify	TOC/TOX - Specify	BTEX	VOC - Specify Method required	Pesticides/PCBs - Specify	Herbicides	Total Phenol	Oil & Grease	BNAs	Solids - Specify	Cyanide	Coliform - Specify type	Toxicity - Specify					REMARKS	SESI LAB I.D.
GW-1 Ground water	Start 12/13/00 Finish	1200				X	3																					BTEX, Naph, MTBE, PAH 5035/8260B 3580B/8270C	
S-1 Soil	Start 12/13/00 Finish	1400				X	5																					BTEX, Naph, PAH 5035/8260B 3550B/8270C	
S-2 Soil	Start 12/13/00 Finish	1430				X	5																					BTEX, Naph, PAH 5035/8260B 3550B/8270C	
Apt 116	Start 12/13 Finish	1000				X	2																					BTEX/MTBE/Naph 5030B/8260B	
Apt 217	Start 12/13 Finish	1010				X	2																					BTEX/MTBE/Naph " "	
	Start Finish																												
	Start Finish																												
	Start Finish																												

←PRESERVATION (CODE)
CODE: A = None
B = HNO3
C = H2SO4
D = NaOH
E = ICE
F = _____

LAB USE ONLY
Program Area (Circle)
DW CWA/NPDES
RCRA SP/SOL
SP/LIQ Other: _____

SAMPLER	Date/Time	Received by (Sig.)	Date/Time	Hazards Associated with Sample	Custody Seal Intact (Circle) YES NO NONE
Print Name: Noal Hudson Signature: [signature]	12/13/00	Secure Area	12/14/00		Receipt TRC _____ mg/l Receipt pH _____ su Receipt Temp. _____ °C
Relinquished by (Sig.) Secure Area	Date/Time 12/14/00 1045	Received by (Sig.) [signature]	Date/Time 12/14/00 1045		
Relinquished by (Sig.)	Date/Time	Lab Receipt by (Sig.)	Date/Time		Received on Ice (Circle) YES NO ICE PACK

Jan. 12. 2001 9:07AM No. 8802 P. 7/7

SHEALY ENVIRONMENTAL SERVICES, INC.
Scientists and Consultants

Report of Analysis

Nesco
521 Clemson Road
Columbia, SC 29229
Attention : Noal Hudson

Project Name : **Bay Creek Villas**

Lot Number : **BL15002**
Date Completed : **12/27/2000**

Jennifer L. Orr
Project Manager

Total number of pages in report : **7**

This report has been prepared and reviewed in accordance with Shealy's Quality Assurance Management Plan. Any data qualifiers associated with sample analysis are footnoted on the analytical results page(s). 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.

Report of Analysis

SC DHEC No. 32010 NC DEHNR No. 32

Client : **NESCO**
521 Clemson Road
Columbia, SC 29229

Attention : **Noal Hudson**
Project Name : **Bay Creek Villas**

Description : **GW-1 Ground Water** Date Sampled : 12/13/2000 1200
Lot Number : BL15002-001 Matrix : Aqueous

Date Received : 12/14/2000

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	**2500**		100	ug/L		12/21/2000 1814	RED
Ethylbenzene	5030B	8260B	**2500**		100	ug/L		12/21/2000 1814	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		100	ug/L		12/21/2000 1814	RED
Naphthalene	5030B	8260B	**1500**		100	ug/L		12/21/2000 1814	RED
Toluene	5030B	8260B	**10000**		500	ug/L		12/21/2000 1848	RED
)nes (total)	5030B	8260B	**22000**		500	ug/L		12/21/2000 1848	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	71.2		70.0-130	%		12/21/2000 1814	RED
Toluene-d8	5030B	8260B	80.6		70.0-130	%		12/21/2000 1814	RED
Bromofluorobenzene	5030B	8260B	80.6		70.0-130	%		12/21/2000 1814	RED
Semivolatile Organic Compounds by GC/MS									
Chrysene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Acenaphthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Acenaphthylene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Anthracene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Fluoranthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Fluorene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Naphthalene	3520C	8270C	**650**		26	ug/L	12/19/2000 1200	12/21/2000 1235	MWK
Phenanthrene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
)ne	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : GW-1 Ground Water
Lot Number : BL15002-001
Client : NESCO
Date Received : 12/14/2000
Date Sampled : 12/13/2000 1200
Matrix : Aqueous

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Surrogates									
2-Fluorobiphenyl	3520C	8270C	80.5		30.0-130	%	12/19/2000 1200	12/21/2000 1141	MWK
Nitrobenzene-d5	3520C	8270C	81.8		30.0-130	%	12/19/2000 1200	12/21/2000 1141	MWK
Terphenyl-d14	3520C	8270C	59.5		30.0-130	%	12/19/2000 1200	12/21/2000 1141	MWK

PQL = Practical quantitation limit
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Soils reported on a dry weight basis unless flagged with a "W"

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive, Cayce, South Carolina 29033 (803) 791-9700 Fax (803) 791-9111 www.shealyenvironmental.com

Description : S-1 Soil
Lot Number : BL15002-002
Client : NESCO
Date Received : 12/14/2000
Date Sampled : 12/13/2000 1400
Matrix : Solid

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	72.3			%		12/18/2000 1115	TES
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	14000		8300	ug/kg		12/27/2000 1137	SZY
Ethylbenzene	5035	8260B	160000		8300	ug/kg		12/27/2000 1137	SZY
Naphthalene	5035	8260B	86000		8300	ug/kg		12/27/2000 1137	SZY
Toluene	5035	8260B	270000		8300	ug/kg		12/27/2000 1137	SZY
Xylenes (total)	5035	8260B	820000		16000	ug/kg		12/27/2000 1244	SZY
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	0.0	@	70.0-130	%		12/27/2000 1137	SZY
Toluene-d8	5035	8260B	0.0	@	70.0-130	%		12/27/2000 1137	SZY
Bromofluorobenzene	5035	8260B	0.0	@	70.0-130	%		12/27/2000 1137	SZY
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Acenaphthylene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Anthracene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(a)anthracene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(a)pyrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Chrysene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Fluoranthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Fluorene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Naphthalene	3550B	8270C	62000		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Phenanthrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Pyrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Surrogates									
Terphenyl-d14	3550B	8270C	114		30.0-130	%	12/18/2000 1450	12/21/2000 1046	MWK
Nitrobenzene-d5	3550B	8270C	96.6		30.0-130	%	12/18/2000 1450	12/21/2000 1046	MWK
2-Fluorobiphenyl	3550B	8270C	80.6		30.0-130	%	12/18/2000 1450	12/21/2000 1046	MWK

Footnote(s) @ = Surrogate recovery outside acceptance criteria due to sample dilution.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : **S-2 Soil**
Lot Number : BL15002-003
Client : **NESCO**
Date Received : 12/14/2000

Date Sampled : 12/13/2000 1430
Matrix : Solid

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	80.5			%		12/18/2000 1115	TES
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		3900	ug/kg		12/26/2000 1933	RZ
Ethylbenzene	5035	8260B	64000		3900	ug/kg		12/26/2000 1933	RZ
Naphthalene	5035	8260B	45000		3900	ug/kg		12/26/2000 1933	RZ
Toluene	5035	8260B	ND		3900	ug/kg		12/26/2000 1933	RZ
Xylenes (total)	5035	8260B	50000		3900	ug/kg		12/26/2000 1933	RZ
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	0.0	@	70.0-130	%		12/26/2000 1933	RZ
Toluene-d8	5035	8260B	56	@	70.0-130	%		12/26/2000 1933	RZ
Bromofluorobenzene	5035	8260B	103		70.0-130	%		12/26/2000 1933	RZ
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Acenaphthylene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Anthracene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(a)anthracene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(a)pyrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Chrysene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Fluoranthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Fluorene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Naphthalene	3550B	8270C	37000		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Phenanthrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Pyrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Surrogates									
Terphenyl-d14	3550B	8270C	130		30.0-130	%	12/20/2000 1415	12/21/2000 1114	MWK
Nitrobenzene-d5	3550B	8270C	18.0		30.0-130	%	12/20/2000 1415	12/21/2000 1114	MWK
2-Fluorobiphenyl	3550B	8270C	101		30.0-130	%	12/20/2000 1415	12/21/2000 1114	MWK

Footnote(s) @ = Surrogate recovery outside acceptance criteria due to sample dilution.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

SE BALL POINT PEN ONLY, PRESS HARD

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantag inte Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

ge 1 of 1

CHAIN OF CUSTODY RECORD

SAMPLE ANALYSIS REQUIRED

:HAIN OF CUSTODY #

lient Name NESCO

eporting Address Bay Creek Villas
Tank Closure

ttention Noal Hudson

elephone No. _____ No. 21-989e

NPDES # _____
County _____
Receiving Stream _____
Outfall No. _____

←PRESERVATION (CODE)
CODE: A = None
B = HNO3
C = H2SO4
D = NaOH
E = ICE
F = _____

LAB USE ONLY
Program Area (Circle)
DW CWA/NPDES
RCRA SP/SOL
SP/LIQ Other: _____

Sample ID (Location)	Yr. 00 DATE	TIME	WELL	SOLID	COMP	GRAB	# of containers	pH, Conductivity	BOD	Nutrients - Specify	METALS - Specify	TOC/TOX - Specify	BTEX	VOC - Specify Method required	Pesticides/PCBs - Specify	Herbicides	Total Phenol	Oil & Grease	BNAs	Solids - Specify	Cyanide	Coliform - Specify type	Toxicity - Specify				REMARKS	SESI LAB I.D.
GW-1 Ground water	Start 12/13/00 Finish	1200				X	3																				BTEX, Naph, MTBE, PAH 5035/8260B 3550B/8270C	
S-1 Soil	Start 12/13/00 Finish	1400				X	5																				BTEX, Naph, PAH 5035/8260B 3550B/8270C	
S-2 Soil	Start 12/13/00 Finish	1430				X	5																				BTEX, Naph, PAH 5035/8260B 3550B/8270C	
Apt 116	Start 12/13 Finish	1000				X	2																				BTEX/MTBE/Naph 5030B/8260B	
Apt 217	Start 12/13 Finish	1010				X	2																				BTEX/MTBE/Naph " "	
	Start Finish																											
	Start Finish																											
	Start Finish																											

SAMPLER	Date/Time	Received by (Sig.)	Date/Time	Hazards Associated with Sample	Custody Seal Intact (Circle)
Print Name: Noal Hudson Signature: [signature]	12/13/00	Secure Area	12/14/00		YES NO NONE Receipt TRC _____ mg/l Receipt pH _____ su Receipt Temp. _____ °C
Relinquished by (Sig.) Secure Area	Date/Time 12/14/00 1045	Received by (Sig.) [signature]	Date/Time 12/14/00 1045		Received on Ice (Circle) YES NO ICE PACK
Relinquished by (Sig.)	Date/Time	Lab Receipt by (Sig.)	Date/Time		

Jan. 12. 2001 9:08AM No. 8801 P. 6/6

South Carolina
DHEC
Department of Health and Environmental Control

Communication Slip

ow Country District
nvironmental Quality Control
313 Thirteenth Street
ort Royal, SC 29935
43-522-9097 Fax: 843-522-8463

Serving
Beaufort, Colleton,
Hampton and Jasper Counties

Date: 12/20/00

To: JOHN WRIGHT
ASSESSMENT & MONITORING SECTION

- ☐ Approval
- ☒ As Requested
- ☐ Necessary Action
- ☐ Note and Return
- ☐ Prepare Reply
- ☐ Note and File
- ☐ Comment
- ☐ Other

RECEIVED
DEC 21 2000
Water Monitoring, Assessment & Protection Division

Remarks:

From: JIM WHITE, LOW COUNTRY EQC

DHEC 3001 (11/93)

During a site visit to the above-referenced site, an underground storage tank (UST) was uncovered and abandoned in-place with flow able concrete after determination was made that the tank could not be safely removed and disposed of. The tank appeared to be four feet by eleven feet and have a capacity of around 1000 gallons. Aven Lecke, of the Town of Edisto Beach Water Department, said that he remembered gasoline and diesel fuel being dispensed from pumps in that general UST area.

Analytical data indicates that petroleum constituents are being detected from taps within certain residential units. It appears as though the PVC water supply lines are being impacted by the documented product release. I would appreciate whatever you could do to help address this situation in a timely and efficient manner.

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
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BOARD:
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Larry R. Chewning, Jr., DMD

December 6, 2000

Bay Creek Villas
Attention: Mr. Robert Folk
3701 Dockside Road
Edisto Beach, SC 29438

RE: Bay Creek Villas, Site ID #01515
Assessment Report received November 13, 2000
Colleton County

Dear Mr. Folk:

The Groundwater Quality Section of the Bureau of Water has reviewed the referenced assessment report and offers the following comments:

- This Section concurs with your consultant that it appears that the contamination is not associated with the existing underground storage tanks (UST) or the former aboveground storage tanks. The source of contamination appears to be located at the former pump island and/or an unknown UST at the former pump island. This area does require active corrective action (removal of the contaminated water in the void/probable UST location, removal of contaminated soil, and the UST if it exists) to remove the ongoing source of contamination;

- The tap water at apartment 116 still contains low levels of petroleum constituents (ethylbenzene 7.1 ug/L and xylenes 23 ug/L) below their respective maximum contaminant levels of 700 ug/L and 10,000 ug/L. The tap water in apartments 116 and 216 should continue to be monitored.

Please submit a plan to address the above on or before January 2, 2001. A meeting can be scheduled to discuss any specific issues regarding the above comments. On all correspondence, please reference Site ID #01515. If you have any questions, please call me at 803-898-4264.

Sincerely,

John Wright, Hydrogeologist
Groundwater Quality Section
Water Monitoring, Assessment, and Protection Division
Bureau of Water

cc: Jim White, Low Country District EQC
Karen Ramos, Water Pollution Enforcement Section
Blake Burgess, NESCO, Inc., 521 Clemson Road, Columbia, SC 29229-4307

SCDHEC/BOW/jww/001205
01515asa.rev

NESCO, Inc.

For Practical Solutions

November 3, 2000

Mr. John Wright, Hydrogeologist
SCDHEC
Groundwater Quality Section
Bureau of Water
2600 Bull St.
Columbia, SC 29201

RECEIVED

NOV 13 2000

Water Monitoring, Assessment & Protection Division

Re: Assessment Report
Edisto Marina/Bay Creek Villas
Site ID #01515
Colleton County
21-989

Dear Mr. Wright:

Please find enclosed the historical summary and an assessment report of the referenced property. See Figure 1 for a site location map.

Historical Summary

1. Residents of condominiums at the Bay Creek Villas detected an unusual odor in the drinking water. The water is supplied by the local public water authority and is directed to the Bay creek Villas through a series of PVC conduit.
2. A local South Carolina Department of Health and Environmental Control inspector sampled and analyzed tap water from a condominium where a complaint was initiated. Laboratory analysis detected small concentrations of compounds frequently associated with petroleum-based fuel (toluene, ethylbenzene, and xylene). Detected concentrations were far below EPA and SC drinking water standards and as such are not considered a health threat at the present time. However, these compounds do not occur naturally and are an indication of a contamination problem. There are documented case studies at other sites of fuel compounds migrating through PVC piping. Therefore, SCDHEC believes that this may be happening at the Bay Creek site.
3. Edisto Marina Management Corporation retained Cypress Bay Geological to perform a site assessment to determine the source of the potential contamination.
4. Cypress Bay collected a series of groundwater samples using direct push Geoprobe technology. A field gas chromatograph was used to analyze samples in the field.
5. The majority of samples were collected in the area in the southeast corner of the condominium complex where an existing pump island was known to exist and toward the center of the parking lot. The center of the parking lot is the location of an old UST that was believed to have been closed out between 1983 and 1985.
6. Anomalously high concentrations of gasoline components were detected near the location of the former pump island. Geoprobe samples collected adjacent to the existing underground storage tank basin did not show the presence of gasoline constituents.

521 Clemson Rd. • Columbia, SC 29229-4307 • 803-699-1976 • Fax 803-699-9863

Summary of Field Work

1) On October 10, 2000, NESCO personnel installed 8 temporary 2" monitoring wells (MW-1 through MW-8) to an approximate depth of 12 feet in strategic locations in the areas of investigation (Figure 2). Field screening by OVA was performed during drilling and the results are shown in borings logs located in Appendix A. Based on the field screening results three soil samples were collected for analytical analysis (MW-3, MW-4, MW-5) The temporary wells were screened across the surficial aquifer and are constructed of schedule 40 PVC with 10 feet of 0.01-slotted screen. A sand pack was installed around the screen and the annular space was packed with bentonite from the top of the sand pack to the surface. The wells were flush mounted and protected with a temporary well cover. These wells were designed so that they can later be completed as permanent monitoring wells or permanently closed out.

2) Two soil borings (Marsh 1 and Marsh 2) were advanced with a hand auger to a depth of approximately 4 feet below land surface. These borings were located in the marsh between the Bay View Villas and the Big Bay Creek (Figure 2). These borings were installed to investigate a reported sheen that seeps from the marsh into the Big Bay Creek after heavy rains. Each boring was screened in the field with an OVA and one soil sample was collected from the Marsh 1 location and one groundwater sample was collected from the Marsh 2 location.

3) The temporary wells were developed and sampled by a NESCO field geologist. No free product was noted in any well or boring. The groundwater samples (MW-1 through MW-8 and Marsh 2) were submitted to a South Carolina certified laboratory for BTEX, MTBE and Naphthalene analysis. Four soil samples (Marsh 1, MW-2, MW-3 and MW-4) were collected to help determine the location of a source. Soil samples were submitted to a South Carolina certified laboratory for BTEX and Naphthalene analysis.

4) To address complaints of petroleum odor in the tap water of specific Bay View Villa Apartments. Water samples (Apt, 116 and Apt. 217) were collected from apartments 116 and 217 and submitted for BTEX, MTBE and Naphthalene analysis.

Conclusions

The two objectives of the additional assessment were to identify the source of the contamination and to further delineate the contaminant plume.

1) Based on the results of the analytical analysis of the groundwater and the soil it appears the contamination is not associated with the existing underground storage tanks or the former above ground storage tanks (Figure 2). The analytical results are summarized in Table 1 and the laboratory report is included in Appendix B. The source of contamination appears to be located near a former pump island and a possibly unknown UST located in the area of MW-2. During the installation of MW-2 the auger encountered some resistance at 6 feet below land surface. Once the resistance was passed

the auger dropped approximately 5 feet to a total depth of 11 feet, indicating a void, thought to be an existing UST.

2) Trace amounts of COCs were detected in the tap water sample from apartment 116, however the results were below the public drinking water MCLs.

3) The delineation of the contamination is not complete, however based on the analytical findings a few assumptions can be made. The source area is near MW-2 and MW-4, and is defined to the north, east, southeast, and northwest by monitoring points Marsh 1, MW-5, MW-7 and MW-1 respectively.

Recommendations

The area near MW-2 should be excavated to determine the existence of possible USTs and to remove some of the source area. After the source of contamination is determined, further assessment and possible remediation may be recommended.

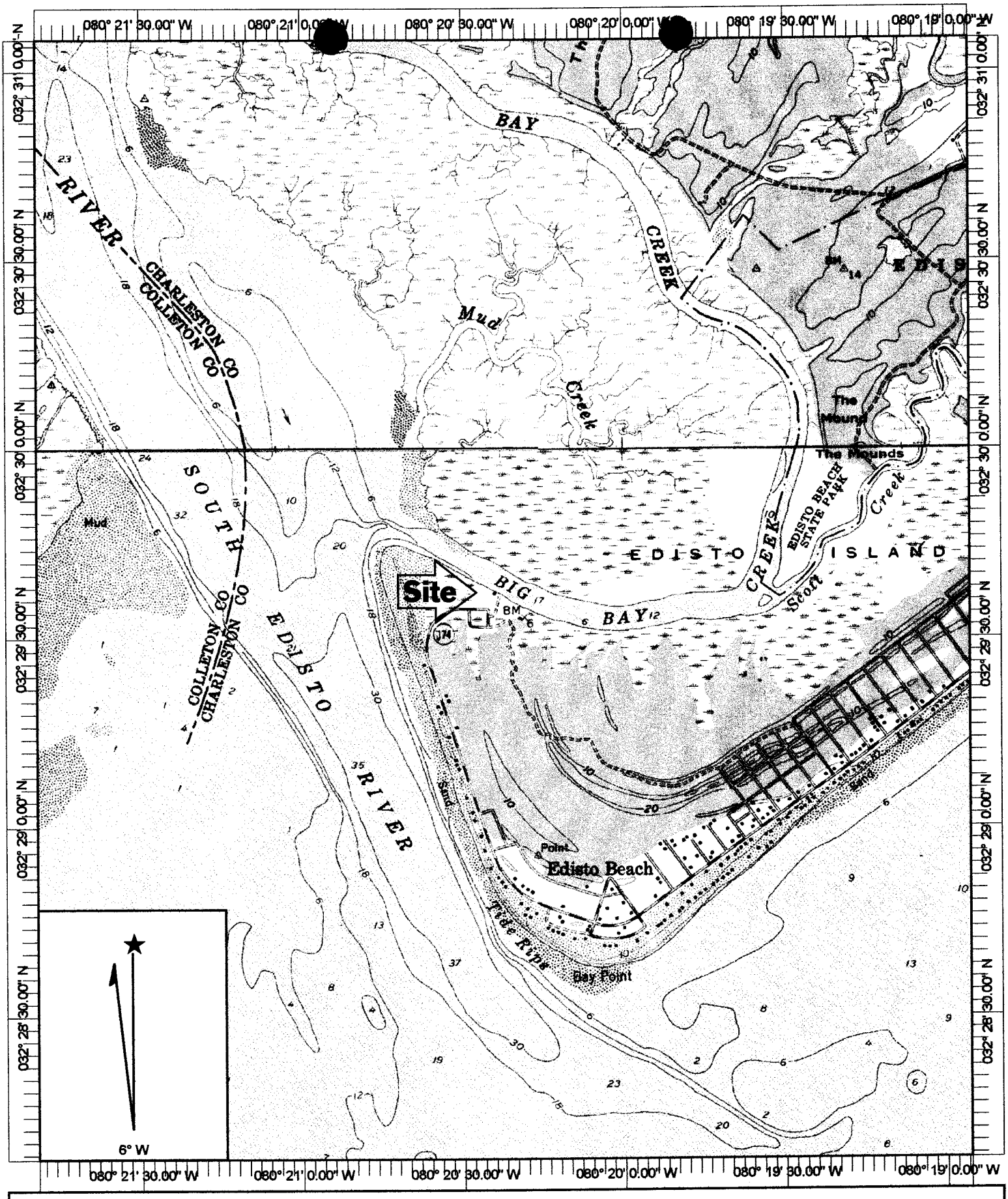
Sincerely,

NESCO, Inc.

Noal Hudson
Project Manager

Blake Burgess, P.G.
Senior Geologist

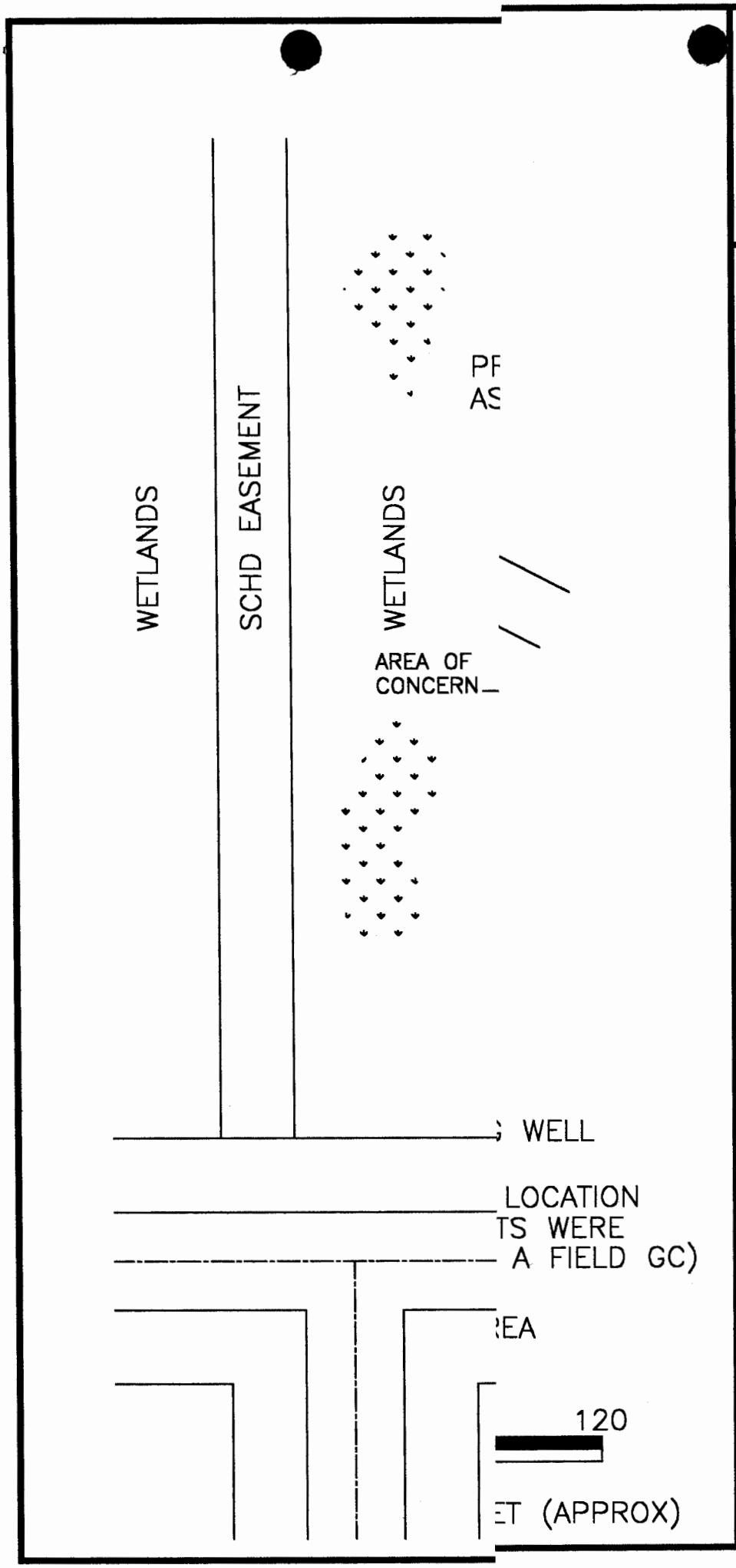
Cc: Robert Folks, Bay Creek Villas



Name: EDISTO BEACH
Date: 10/13/2000
Scale: 1 inch equals 2000 feet

Location: 032° 29' 36.2" N 080° 20' 22.5" W
Caption: FIGURE 1
SITE LOCATION MAP
BAY VIEW VILLAS

Copyright (C) 1997, Maptech, Inc.



NESCO
Ingenuity At Work

NESCO, Inc.
521 CLEMSON ROAD
COLUMBIA, SOUTH CAROLINA 29229, USA
PHONE: 803.699.1976
FAX: 803.699.9863

FIGURE 1

BAY VIEW VILLAS
COLLETON COUNTY
SC

ASSESMENT

PROJ. MGR.:	BB
DES. BY:	JRF
DRAWN:	JRF
APPR:	BB
SCALE:	GRAPHIC
DATE:	10/02/00

REFERENCES

NOTES

REPORT:
FILE:

TABLE 1
ANALYTICAL RESULTS
BAY VIEW VILLAS
EDISTO BEACH, SC
DHEC #01515

SOIL QUALITY RESULTS

SAMPLE LOCATION	DATE COLLECTED	DEPTH FEET BLS	BENZENE UG/KG	TOLUENE UG/KG	ETHYL-BENZENE UG/KG	TOTAL XYLENES UG/KG	TOTAL BTEX UG/KG	NAPH-THALENE UG/KG
MW-2	10/11/00	4	<6.6	<6.6	<6.6	<6.6	--	<6.6
MW-3	10/11/00	5	<5.3	<5.3	<5.3	10	10	<5.3
MW-4	10/11/00	5	<390	4,600	5,700	6,600	17,290	6,600
MARSH 1	10/11/00	4	<13	<13	<13	39	39	<13

GROUNDWATER QUALITY RESULTS

SAMPLE LOCATION	DATE COLLECTED	BENZENE UG/L	TOLUENE UG/L	ETHYL-BENZENE UG/L	TOTAL XYLENES UG/L	TOTAL BTEX UG/L	NAPH-THALENE UG/L	MTBE UG/L
GP-6	3/22/00	408	158	43	257	865	NA	NA
GP-8	3/22/00	30,094	20,450	6,127	15,903	72,574	NA	NA
GP-9	3/22/00	394	46	41	120	602	NA	NA
GP-11	3/22/00	40,962	25,771	3,704	6,993	77,429	NA	NA
GP-12	3/22/00	37,608	27,747	2,671	6,129	74,155	NA	NA
GP-13	3/22/00	121	63	48	168	400	NA	NA
GP-15	3/22/00	34,866	28,132	4,994	11,926	79,918	NA	NA
MW-1	10/11/00	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0
MW-2	10/11/00	2,800	3,500	1,800	4,200	12,300	890	<100
MW-3	10/11/00	590	440	600	1,400	3,030	670	<5.0
MW-4	10/11/00	87	200	200	230	717	290	<5.0
MW-5	10/11/00	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0
MW-6	10/11/00	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0
MW-7	10/11/00	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0
MW-8	10/11/00	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0
MARSH 2	10/11/00	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0
Apt. 116	10/11/00	<5.0	<5.0	7.1	23	--	<5.0	<5.0
Apt. 217	10/11/00	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0
RBSLs		5	1,000	700	10,000	NA	25	40

Shaded blocks exceed Risk-Based Screening Levels (RBSLs)
GP = Geoprobe locations
Note -Results for GP locations 1 through 5, 7 and 10 were below detetion limits
Note - GP locations 14 and 16 were not sampled

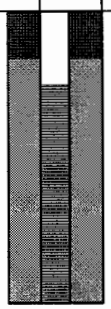
LOG OF BORING: MW-1

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
5		6ppm	Clayey Sand - Tan	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:

ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

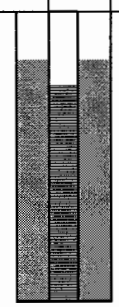
LOG OF BORING: MW-2

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft-bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
5		>1000ppm	Silty Sand - Gray	Moist		5
			Hit concrete @ 6' then auger dropped 5 '	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:

ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: MW-3

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	6.21
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Sand - Gray			
5		300ppm	Sandy Clay - Brown	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45

COMMENTS:

NOTES:

ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

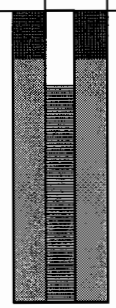
LOG OF BORING: MW-4

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	6.05
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Sand - Gray			
5		>1000ppm	Sandy Clay - Brown	Moist/Staining		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:

ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

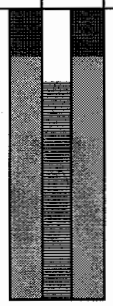
LOG OF BORING: MW-6

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	5.71
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Clay - Tan	Fill		
5		60ppm	Sandy Clay - Tan	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:

ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

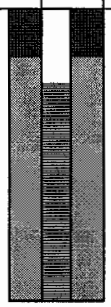
LOG OF BORING: MW-8

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	4.35
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Sand - Gray			
5		4ppm	Sandy Clay - Brown	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:

ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

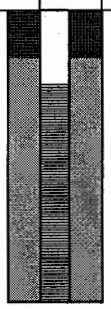
LOG OF BORING: MW-1

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	4.51
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample I	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Sand - Gray			
5		40ppm	Sandy Clay - Brown	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:

ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

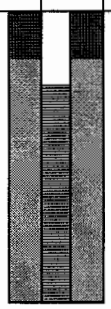
LOG OF BORING: MW-8

NESCO

For Practical Solutions.

Site Name:	Bay View Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	15'
				Depth to water (ft):	4.75
Project Number:	21-989-e	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO	Latitude	N 32° 49.96'
Bentonite Seal	0-1'	Driller Certification	Todd Allred #1446	Longitude	W 80° 33.46'
Date/Time Complet	10/11/00	Sand 1'-12'	Screen 2'-12'	Geologist/ Engineer:	Noal Hudson

ft -bgs	Sample #	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt - Fill			
			Silty Sand - Gray			
5		6ppm	Sandy Clay - Brown	Moist		5
			Silty Sand - Gray	Wet		
10						10
15						15
20						20
25						25
30			Total well depth = 12'			30
35						35
40						40
45						45



COMMENTS:

NOTES:

ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

SHEALY ENVIRONMENTAL SERVICES, INC.
Scientists and Consultants

Report of Analysis

Nesco
521 Clemson Road
Columbia, SC 29229
Attention : Noal Hudson

Project Name : **Bay View Villas**

Lot Number : **BJ13013**
Date Completed : **10/23/2000**

Jennifer L. Orr
Project Manager

Total number of pages in report : **16**

This report has been prepared and reviewed in accordance with Shealy's Quality Assurance Management Plan. Any data qualifiers associated with sample analysis are footnoted on the analytical results page(s). 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.

Report of Analysis

SC DHEC No. 32010 NC DEHNR No. 329

Client : **NESCO**
521 Clemson Road
Columbia, SC 29229

Attention : **Noal Hudson**
Project Name : **Bay View Villas**

Description : **Bay View Villas Edisto, SC MW-1** Date Sampled : 10/11/2000 1500
Lot Number : BJ13013-001 Matrix : Aqueous

Date Received : 10/12/2000

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1519	RED
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1519	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		10/17/2000 1519	RED
Naphthalene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1519	RED
Toluene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1519	RED
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		10/17/2000 1519	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	120		70.0-130	%		10/17/2000 1519	RED
Toluene-d8	5030B	8260B	118		70.0-130	%		10/17/2000 1519	RED
Bromofluorobenzene	5030B	8260B	110		70.0-130	%		10/17/2000 1519	RED

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : **Bay View Villas Edisto, SC MW-2**
Lot Number : BJ13013-002
Client : **NESCO**
Date Received : 10/12/2000

Date Sampled : 10/11/2000 1650
Matrix : Aqueous

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	**2800**		100	ug/L		10/20/2000 1131	RED
Ethylbenzene	5030B	8260B	**1800**		100	ug/L		10/20/2000 1131	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		100	ug/L		10/20/2000 1131	RED
Naphthalene	5030B	8260B	**890**		100	ug/L		10/20/2000 1131	RED
Toluene	5030B	8260B	**3500**		500	ug/L		10/20/2000 1922	RED
Xylenes (total)	5030B	8260B	**4200**		500	ug/L		10/20/2000 1922	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	60.0	@	70.0-130	%		10/20/2000 1131	RED
Toluene-d8	5030B	8260B	71.4		70.0-130	%		10/20/2000 1131	RED
Bromofluorobenzene	5030B	8260B	64.3	@	70.0-130	%		10/20/2000 1131	RED

Footnote(s) : @ = Surrogate recovery out of acceptance criteria due to matrix interference.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**Bay View Villas Edisto, SC MW-3**	Date Sampled	:	10/11/2000 1550
Lot Number	:	BJ13013-003	Matrix	:	Aqueous
Client	:	**NESCO**			
Date Received	:	10/12/2000			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	**590**		100	ug/L		10/20/2000 2025	RED
Ethylbenzene	5030B	8260B	**600**		100	ug/L		10/20/2000 2025	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		10/20/2000 1305	RED
Naphthalene	5030B	8260B	**670**		100	ug/L		10/20/2000 2025	RED
Toluene	5030B	8260B	**440**		100	ug/L		10/20/2000 2025	RED
Xylenes (total)	5030B	8260B	**1400**		100	ug/L		10/20/2000 2025	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	85.7		70.0-130	%		10/20/2000 2025	RED
Toluene-d8	5030B	8260B	98.6		70.0-130	%		10/20/2000 2025	RED
Bromofluorobenzene	5030B	8260B	95.6		70.0-130	%		10/20/2000 2025	RED

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**Bay View Villas Edisto, SC MW-4**	Date Sampled	:	10/11/2000 1305
Lot Number	:	BJ13013-004	Matrix	:	Aqueous
Client	:	NESCO			
Date Received	:	10/12/2000			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	**87**		5.0	ug/L		10/20/2000 1439	RED
Ethylbenzene	5030B	8260B	**200**		5.0	ug/L		10/20/2000 1439	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		10/20/2000 1439	RED
Naphthalene	5030B	8260B	**290**		100	ug/L		10/20/2000 1337	RED
Toluene	5030B	8260B	**200**		5.0	ug/L		10/20/2000 1439	RED
Xylenes (total)	5030B	8260B	**230**		100	ug/L		10/20/2000 1337	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	77.7		70.0-130	%		10/20/2000 1337	RED
Toluene-d8	5030B	8260B	96.4		70.0-130	%		10/20/2000 1337	RED
Bromofluorobenzene	5030B	8260B	83.8		70.0-130	%		10/20/2000 1337	RED

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : **Bay View Villas Edisto, SC MW-5**
Lot Number : BJ13013-005
Client : **NESCO**
Date Received : 10/12/2000

Date Sampled : 10/11/2000 1413
Matrix : Aqueous

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1551	RED
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1551	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		10/17/2000 1551	RED
Naphthalene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1551	RED
Toluene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1551	RED
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		10/17/2000 1551	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	125		70.0-130	%		10/17/2000 1551	RED
Toluene-d8	5030B	8260B	121		70.0-130	%		10/17/2000 1551	RED
Bromofluorobenzene	5030B	8260B	109		70.0-130	%		10/17/2000 1551	RED

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**Bay View Villas Edisto, SC MW-6**	Date Sampled	:	10/11/2000 1205
Lot Number	:	BJ13013-006	Matrix	:	Aqueous
Client	:	**NESCO**			
Date Received	:	10/12/2000			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1622	RED
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1622	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		10/17/2000 1622	RED
Naphthalene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1622	RED
Toluene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1622	RED
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		10/17/2000 1622	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	114		70.0-130	%		10/17/2000 1622	RED
Toluene-d8	5030B	8260B	112		70.0-130	%		10/17/2000 1622	RED
Bromofluorobenzene	5030B	8260B	99.2		70.0-130	%		10/17/2000 1622	RED

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**Bay View Villas Edisto, S[illegible]W-7**	Date Sampled	:	10/11/2000 1105
Lot Number	:	BJ13013-007	Matrix	:	Aqueous
Client	:	**NESCO**			
Date Received	:	10/12/2000			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1654	RED
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1654	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		10/17/2000 1654	RED
Naphthalene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1654	RED
Toluene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1654	RED
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		10/17/2000 1654	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	118		70.0-130	%		10/17/2000 1654	RED
Toluene-d8	5030B	8260B	112		70.0-130	%		10/17/2000 1654	RED
Bromofluorobenzene	5030B	8260B	100		70.0-130	%		10/17/2000 1654	RED

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**Bay View Villas Edisto, SC MW-8**	Date Sampled	:	10/11/2000 1240
Lot Number	:	BJ13013-008	Matrix	:	Aqueous
Client	:	**NESCO**			
Date Received	:	10/12/2000			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1725	RED
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1725	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		10/17/2000 1725	RED
Naphthalene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1725	RED
Toluene	5030B	8260B	ND		5.0	ug/L		10/17/2000 1725	RED
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		10/17/2000 1725	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	114		70.0-130	%		10/17/2000 1725	RED
Toluene-d8	5030B	8260B	110		70.0-130	%		10/17/2000 1725	RED
Bromofluorobenzene	5030B	8260B	100		70.0-130	%		10/17/2000 1725	RED

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : **Bay View Villas Edisto, SC Marsh 2**
Lot Number : BJ13013-011
Client : **NESCO**
Date Received : 10/12/2000

Date Sampled : 10/11/2000 1740
Matrix : **Aqueous**

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1155	RED
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1155	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		10/18/2000 1155	RED
Naphthalene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1155	RED
Toluene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1155	RED
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		10/18/2000 1155	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	187	@	70.0-130	%		10/18/2000 1155	RED
Toluene-d8	5030B	8260B	114		70.0-130	%		10/18/2000 1155	RED
Bromofluorobenzene	5030B	8260B	96.8		70.0-130	%		10/18/2000 1155	RED

Footnote(s) : @ = Surrogate recovery outside of acceptance criteria. Insufficient sample volume to re-analyze.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : **Bay View Villas Edisto, SC Apt. 116**
Lot Number : BJ13013-009
Client : **NESCO**
Date Received : 10/12/2000

Date Sampled : 10/11/2000 1436
Matrix : Aqueous

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1052	RED
Ethylbenzene	5030B	8260B	7.1		5.0	ug/L		10/18/2000 1052	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		10/18/2000 1052	RED
Naphthalene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1052	RED
Toluene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1052	RED
Xylenes (total)	5030B	8260B	23		5.0	ug/L		10/18/2000 1052	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	186	@	70.0-130	%		10/18/2000 1052	RED
Toluene-d8	5030B	8260B	117		70.0-130	%		10/18/2000 1052	RED
Bromofluorobenzene	5030B	8260B	107		70.0-130	%		10/18/2000 1052	RED

Footnote(s) : @ Surrogate recovery outside of acceptance criteria. Insufficient sample volume to re-analyze.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**Bay View Villas Edisto, SC Apt. 217**	Date Sampled	:	10/11/2000 1431
Lot Number	:	BJ13013-010	Matrix	:	Aqueous
Client	:	**NESCO**			
Date Received	:	10/12/2000			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1124	RED
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1124	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		10/18/2000 1124	RED
Naphthalene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1124	RED
Toluene	5030B	8260B	ND		5.0	ug/L		10/18/2000 1124	RED
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		10/18/2000 1124	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	159	@	70.0-130	%		10/18/2000 1124	RED
Toluene-d8	5030B	8260B	110		70.0-130	%		10/18/2000 1124	RED
Bromofluorobenzene	5030B	8260B	104		70.0-130	%		10/18/2000 1124	RED

Footnote(s): @ = Surrogate recovery outside of acceptance criteria. Insufficient sample volume to re-analyze

PQL = Practical quantitation limit	B = Detected in the method blank	E = Quantitation of compound exceeded the calibration range
ND = Not detected at or above the PQL	J = Estimated result less than the PQL	Soils reported on a dry weight basis unless flagged with a "W"

BAY CREEK VILLAS AT EDISTO MARINA

SITE NAME

3701 DOCKSIDE ROAD

LOCATION ADDRESS

EDISTO ISLAND

LOCATION CITY

ZIP CODE -

COLLETON

LOCATION COUNTY

SIZE OF SITE: (acres)

° ' . " N ° ' . " W

LATITUDE LONGITUDE

YEARS OF OPERATION:

SITE DESCRIPTION: BAY CREEK IS A CONDOMINIUM COMPLEX THAT HAS APPROXIMATELY 50 RESIDENTS ON SITE. EDISTO MARINA HAS EXISTING USTS ON SITE.

Circle permits issued: RCRA TSD; RCRA Gen.; NPDES; ND; WW Const.; UIC; Air; NESHAPS; Other:

EPA IDENTIFICATION NUMBER:

Is the facility currently operating? Yes No

OTHER/ALTERNATE NAMES FOR THE FACILITY/SITE:

PROBLEM BELIEVED PRESENT; EST. QUANTITIES OF WASTE AND/OR CONTAMINANTS PRESENT:

Significant soil & groundwater petroleum contamination in immediate area of a previously unknown 1,000 gallon tank (see attached fax dated 1/12/01.

SITE OWNER: Bay Creek Villas (Mr. Robert Fowlkes)

ADDRESS: 3701 Dockside Road

CITY: Edisto Beach STATE: SC ZIP CODE: 29438

MOST RECENT SITE OPERATOR: —

TELEPHONE NUMBER: ( ) - DISTRICT NAME:

01/12/01 REPORTED BY: NESCD

DATE REPORTED

Reasons for adding this site to the EQC PROJECTS LIST (Brief description of potential hazard or concern):

concerned over issue of drinking water contamination in apartments 116 & 217.

Rev. 2/17/98

SPECIALIZED ASSAYS, INC.

2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

SCDHEC 2200

2600 BULL STREET
COLUMBIA, SC 29201

Project: 01442
Project Name:
Sampler: ROBIN MACK

Lab Number: 00-A24382
Sample ID: #1
Sample Type: Water
Site ID:

Date Collected: 2/22/00
Time Collected: 4:00
Date Received: 2/24/00
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
Benzene	ND	ug/l	1.0	1.0	1	2/26/00	20:25	T.Johnson	602	1090
Toluene	ND	ug/l	1.0	1.0	1	2/26/00	20:25	T.Johnson	602	1090
Ethylbenzene	ND	ug/l	1.0	1.0	1	2/26/00	20:25	T.Johnson	602	1090
Xylenes, total	ND	ug/l	1.0	1.0	1	2/26/00	20:25	T.Johnson	602	1090
Naphthalene	ND	ug/l	5.0	5.0	1	2/26/00	20:25	T.Johnson	602	1090

ND = Not detected at the report limit.

Surrogate	% Recovery	Target Range
BTEX/GRO Surr., a,a,a-trifluorotoluene	105.	50. - 150.

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: Michael D. Dunn Report Date: 3/ 1/00

Theodore J. Duello, Ph.D., Technical Serv.
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Gail A Lage, Technical Serv.
Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly S. Ruppel, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 84009

End of Sample Report.

COPY 1

SPECIALIZED ASSAYS, INC.

2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

RECEIVED

MAR 0 2 2000

Bureau of Underground
Storage Tank Management

PROJECT QUALITY CONTROL DATA

Matrix Spike Recovery

Analyte	Units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch
Benzene	mg/l	< 0.0010	0.0210	0.0200	105	39. - 150.	1090
Toluene	mg/l	< 0.0010	0.0210	0.0200	105	46. - 148.	1090
Ethylbenzene	mg/l	< 0.0010	0.0200	0.0200	100	32. - 160.	1090
Xylenes, total	mg/l	< 0.0010	0.0200	0.0200	100	58. - 136.	1090
Naphthalene	mg/l	< 0.0050	0.0200	0.0200	100	52. - 139.	1090

Laboratory Control Data

Analyte	Units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Benzene	mg/l	0.0200	0.0200	100	70 - 130	1090
Toluene	mg/l	0.0200	0.0210	105	70 - 130	1090
Ethylbenzene	mg/l	0.0200	0.0200	100	70 - 130	1090
Xylenes, total	mg/l	0.0200	0.0210	105	70 - 130	1090
Naphthalene	mg/l	0.0200	0.0200	100	70 - 130	1090

Blank Data

Analyte	Blank Value	Units	Q.C. Batch
Benzene	< 0.0010	mg/l	1090
Toluene	< 0.0010	mg/l	1090
Ethylbenzene	< 0.0010	mg/l	1090
Xylenes, total	< 0.0010	mg/l	1090
Naphthalene	< 0.0050	mg/l	1090

End of Report for Project 181279

COPY 1

COOLER RECEIPT FORM

Client: SCDHEC

Cooler Received On: 2-24-00 And Opened On: 2-24 By: AW

Adrian Whipple
(Signature)

1. Temperature of Cooler when opened 4 Degrees C

2. Were custody seals on outside of cooler and intact? Y N

   a. If yes, what kind and where: __

   b. Were the signature and date correct? Y N

3. Were custody papers inside cooler? (Y) N

4. Were custody papers properly filled out (ink.signed.etc)? (Y) N

5. Did you sign the custody papers in the appropriate place? (Y) N

6. What kind of packing material? (BUBBLEWRAP) PEANUTS OTHER

7. Was sufficient ice used (if appropriate)? (Y) N

8. Did all bottles arrive in good condition(unbroken)? (Y) N

9. Were all bottle labels complete (#.date. signed. pres., etc)? (Y) N

10. Did all bottle labels and tags agree with custody papers? (Y) N

11. Were correct bottles used for the analysis requested? (Y) N

12. If present, were VOA vials checked for absence of air bubbles and noted if found? (Y) N

13. Was sufficient amount of sample sent in each bottle? (Y) N

14. Were correct preservatives used? (Y) N

IF CORRECTIVE ACTION NEEDED THEN SEE ATTACHED FOR RESOLUTION

Chain of Custody Record 01442

TESTAMERICA INC.

2200

❒ Asheville, NC (A) (828) 254-5169	❒ Bartlett, IL (C) (630) 289-3100	❒ Cedar Falls, IA (E) (319) 277-2401	❒ Charlotte, NC (G) (704) 392-1164	❒ Dayton, OH (I) (937) 294-6856	❒ Lumberton, NC (K) (910) 738-6190	❒ Nashville, TN (M) (615) 726-0177	❒ Pontiac, MI (O) (248) 332-1940	❒ Rockford. Il (Q) (815) 874-2171
❒ Atlanta, GA (B) (770) 368-0636	❒ Brighton, CO (D) (303) 659-0497	❒ Charleston, SC (F) (843) 849-6550	❒ Columbia, SC (H) (803) 796-8989	❒ Davenport. IA (J) (319) 323-7944	❒ Indianapolis, IN (L) (317) 842-4261	❒ Macon, GA (N) (912) 757-0811	❒ Orlando, FL (P) (407) 851-2560	❒ Watertown, WI (R) (920) 261-1660

Client: SCDHEC
Project No.: 01442
Report Address: 2600 Bull St. Columbia, SC 29201
Invoice Address: Sunset Grille Colleton
Attn: Debra Thoma
Attn: Chuck Williams
Phone No.: 803-898-4350
Sampled By: Robin Mack
Fax No.: 803-899-4330
P.O. No: 179220
Quote No.
State Samples Collected SC
Date Needed: 3-1-00

TURNAROUND TIME
❒ Standard
❒ Rush (surcharges may apply)

REQUESTED PARAMETERS

181279 BTEX, Naphthalene

RECEIVED
MAR 0 2 2000
Bureau of Underground Storage Tank Management

Is this work being conducted for regulatory compliance monitoring? Yes___ No✓

Is this work being conducted for regulatory enforcement action? Yes___ No✓

Which regulations apply:
RCRA___ NPDES Wastewater___
UST✓ Drinking Water___
Other___ None___

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use		# and type of containers: HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
#1	2-22-00	4:00pm	G	DW	24382	X							

QC Deliverables: ❒ None ❒ Level 2 - Batch QC ❒ Level 3 ❒ Level 4 ❒ Other

Init Lab Temp: 1.0°C
Rec Lab Temp: 4

COMMENTS:

FED 816 23939 2109 FAX CHAIN TO COLUMBIA

Relinquished By: Robin Mack	Date 2/23/00	Time 10:35am	Received By: Michelle Riddle	Date 2/23/00	Time 1400
Relinquished By: Lynne Hebert	Date 2/23	Time 4:20	Received By:	Date	Time
Relinquished By:	Date	Time	Received By:	Date	Time
Relinquished By:	Date	Time	Received By: Adrian Whipple	Date 2-24-00	Time 9:00

LAB USE ONLY:
Custody Seal: ❒ Yes ❒ No ❒ N/A
Bottles Supplied by TA: ❒ Yes ❒ No

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 **Fax (803) 898-4330**

Edisto Marine Management Corporation
Attn.: Mr. Bill Hackett
3702 Docksite Road
Edisto Beach, SC 29438-3601

FEB 16 2000

Re: Edisto Marina Management Corporation
UST Permit #01442, Release # 1
Release Confirmed January 28, 2000
Colleton County

Dear Mr. Hackett:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the enclosed analytical results from the Bay Creek Villa Apartment building. The analytical report confirms a release of petroleum chemicals of concern at this site. To determine what risk the release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of the scope of work as outlined in the enclosed Rapid Assessment (RA) document is necessary. The Bureau requests that a Rapid Assessment Plan be submitted within 10 days. Additionally, the Bureau requests that you make arrangements to have the main water supply pipes of the apartment building's plumbing replaced with galvanized or other metal pipes. The costs that are incurred for the replacement plumbing will be applied towards the $25,000.00 deductible if pre-approval is obtained from this office. Please contact me immediately so costs can be pre-approved.

If this release becomes qualified for funding through the State Underground Petroleum Environmental Response Bank (SUPERB) Act, eligible costs exceeding the $25,000 deductible (according to Section 44-2-40 (D) of the SUPERB Act) can be compensated. As the responsible party, you are liable for the first $25,000 of actual costs incurred for rehabilitation activities from your financial responsibility mechanism or other financial means. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. To insure any expenditure you make do apply towards the deductible, the Bureau must pre-approve any such costs along with your technical plan of action.

To proceed with the qualification process for the SUPERB Act, the following information is required:

- Written confirmation of the existence or nonexistence of an environmental insurance policy for this site. **The responsible party and a notary public must sign this information.** For your convenience, an insurance statement form has been enclosed. If an environmental insurance policy existed at the time of the release, a copy of the policy with all endorsements must be submitted with the insurance statement. **Please complete and return the enclosed Insurance Information Form within 10 days from the date of this letter.**

- **All rehabilitation activities associated with a UST release must be performed by a SCDHEC certified site rehabilitation contractor as required by R.61-98.** A list of certified UST contractors is attached for your information. **Please complete and return the enclosed Owner/Operator Information Sheet within 10 days from the date of this letter.**

SCDHEC/UST/ACA/cjw/0144225r/02.16.2000

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

January 17, 2001

RECEIVED JAN 18 2001 Bureau of Underground Storage Tank Management

MEMORANDUM

TO: Mark Berenbrok
Division Underground Storage Tank Management

FROM: John Wright
Groundwater Quality Section
Bureau of Water

THROUGH: Tom Knight, P.G. Manager
Groundwater Quality Section
Bureau of Water

SUBJECT: Bay Creek Villas/Edisto Marina
Transfer of Project to Division of Underground Storage Tank Management

NESCO on behalf of Bay Creek Villas recently conducted a groundwater assessment of the Bay Creek Villas and discovered what appeared to be an underground storage tank (see NESCO report dated November 3, 2000). On December 13, 2000 NESCO uncovered and properly abandoned a 1,000 gallon UST. This Section concurs with NESCO's assessment that suggests that the source of the contaminants is the former UST, located upgradient from three previously identified former ASTs on the property. Furthermore, Jim White's memorandum dated December 20, 2000 states that Aven Lecke, of the Town of Edisto Beach Water Department, said that he remembered gasoline and diesel fuel being dispensed from pumps in that general area. NESCO on behalf of Bay Creek Villas requests that this site be transferred to the Division of UST management for the purpose of registering in the state SUPERB Fund Program.

Please note that the highest concentrations of chemicals of concern were identified in the assessment at the former UST as noted below:

MW-2 (NESCO Report dated November 3, 2000) in tank water/groundwater:

Benzene	2,800 ppb
Ehtylbenzene	1,800 ppb
Toluene	3,500 ppb
Xylene	4,200 ppb

MW-2 (NESCO Report dated December 13, 2000) in tank water/groundwater:

Benzene	2,500 ppb
Ehtylbenzene	2,500 ppb
Toluene	10,000 ppb
Xylene	22,000 ppb

MW-1 (NESCO Report dated November 3, 2000) downgradient from MW-2 at the two former AST location:

Benzene	<5.0 ppb
Ehtylbenzene	<5.0 ppb
Toluene	<5.0 ppb
Xylene	<5.0 ppb

MW-3 (NESCO Report dated November 3, 2000) downgradient from MW-2 at the former AST location:

Benzene	590 ppb
Ehtylbenzene	600 ppb
Toluene	440 ppb
Xylene	1,400 ppb

cc: Jim White, Low Country District EQC
Christopher Doll, Manager, DUSTM
Arthur Shrader, Director, DUSTM

CALVERT W. HUFFINES
HM: (843) 844-2856

e-mail: huff@lowcountry.com
Web site:
http:\\www.thehuffinescompany.com

THE HUFFINES COMPANY

804 WICHMAN STREET
POST OFFICE BOX 877
WALTERBORO, S.C. 29488

Exclusive Affiliate
SOTHEBY'S
INTERNATIONAL REALTY

OFFICE (843) 549-6654
FAX (843) 549-6657

L. EDWARD WILLIAMS
HM: (843) 549-5488

RAY L. JACOBS, JR., A.F.M.
HM: (843) 844-8433

SARA L. PETERS
HM: (843) 549-7267

February 16, 2000

RECEIVED
FEB 18 2000
Bureau of Underground Storage Tank Management

01442

VIA FAX 803-898-4330 & MAIL

Mr. Charles J. Williams, III, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management
Department of Health Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

Dear Mr. Williams,

Mr. Bill Hackett,who is the Marina manager at the Edisto Marina,faxed to me the correspondence that was received from you on February 16, 2000 concerning the Edisto Marina Management Corporations UST Permit #01442, release #1.

The responsibility for these tanks is, as stated, the Edisto Marina Management Corporation and all further correspondence should go directly to them since it is their responsibility.

I would suggest to you that you send the same correspondence to:

Edisto Marina Management Corporation
Attn: Mr. Michael Schraibman
2711 Middleburg Drive, Suite 101
Columbia, SC 29204
Tel#(803)252-4901 ext 22 Fax#(803)252-4933

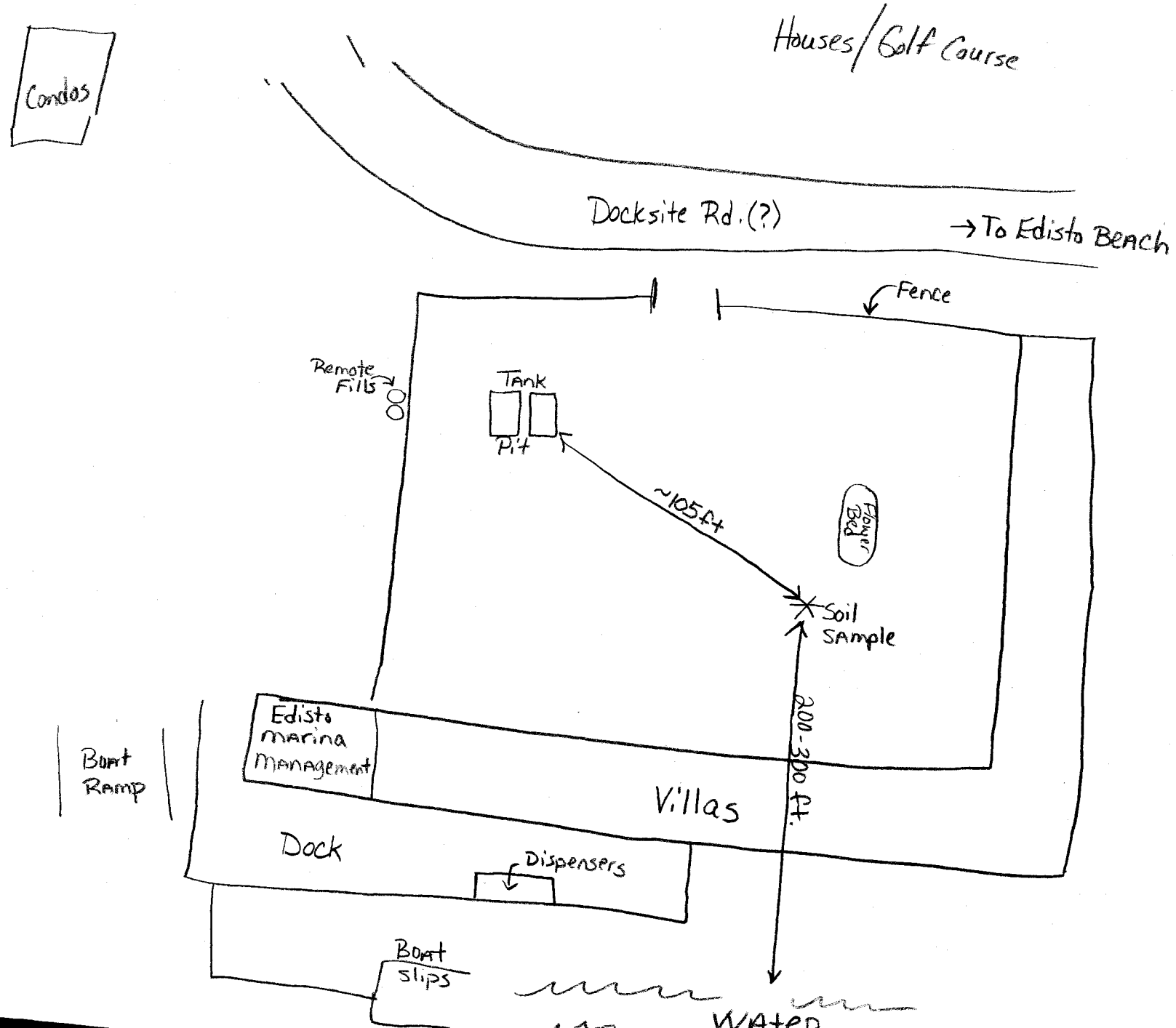
I'm certain Mr. Schraibman will take immediate action regarding your request and be very cooperative with your department.

Sincerely,

Calvert W. Huffines

Calvert W. Huffines

CWH:sm
cc: Mr. Michael Schraibman
Mr. Bill Hackett


Condos
Houses/Golf Course
Docksite Rd.(?)
→To Edisto Beach
Fence
Remote Fills
Tank
Pit
~105 ft
Power Box
Soil Sample
200-300 ft.
Edisto marina management
Boat Ramp
Villas
Dock
Dispensers
Boat slips
Water

UNDERGROUND STORAGE TANK (UST) OWNER/OPERATOR LEAD INFORMATION SHEET

1. CONTRACTOR OF CHOICE

As the UST Owner/Operator of UST Permit #01442, I would like to use the contractor or person(s)* listed below and request that they represent me for:

☐ RA
☑ All future assessment scopes. **

Name of Contractor/Person(s) Albright Environmental, Inc.
Address PO Box 189
Mount Pleasant, SC. 29465

Telephone Number (843) 856-8450

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)

Financial Relationship: A connection or association through a material interest of sources of income which exceeds five percent of annual gross income from a business entity.

Familial Relationship: A connection or association by family or relatives, in which a family member or relative has a material interest. Family or relatives include: father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, or fiancee.

3. PAYMENT

The first $25,000.00 in eligible site rehabilitation costs will be applied against the applicable SUPERB deductible, upon submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment.

For eligible costs exceeding the $25,000.00 deductible, you can pay the contractor and, upon the submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment, be compensated from the SUPERB Account, or have payment issued directly from the SUPERB Account to the contractor. (check one)

_____ For eligible costs exceeding the deductible, I request that payment be made to me after I have paid the contractor.

✓ For eligible costs exceeding the deductible, I request that payment be made directly to the contractor.

(Note: all costs must receive prior financial approval from the Department regardless of payment option.)

Underground Storage Tank Owner/Operator Signature [signature]

Date 2/24/00

INSURANCE STATEMENT FORM

UST Permit **#01442** 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 other than self-insurance for this site is required. Please complete the following information:

__✓__ I do not have any insurance other than self-insurance or SUPERB that would cover releases from underground storage tanks.

____ I have an insurance policy other than self-insurance 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:

Date: 2/24/00

To be Completed by Notary Public:

Sworn before me this 25 day of Feb, ~~19~~ 2000.

(Name) Michelle L Balfour

Notary Public for the state of South Carolina

My commission expires January 11, 2009

Please affix State Seal if you are commissioned outside South Carolina.

RECEIVED

FEB 25 2000

Bureau of Underground Storage Tank Management

Palmetto Marketing OF MYRTLE BEACH INC.

"Providing Professional Direction in Property Management"

COLUMBIA OFFICE
Middleburg Drive, Suite 101
Columbia, SC 29204
803-252-4901
FAX: 803-252-4933

MYRTLE BEACH OFFICE
6301 N. Kings Highway
Myrtle Beach, SC 29572
843-449-1354
FAX: 843-449-9469

HILTON HEAD OFFICE
P. O. Box 6171
Hilton Head Island, SC 29938
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Underground Storage Tank Program

TIER II ASSESSMENT REPORT

BAY CREEK VILLAS
3701 DOCKSITE ROAD
EDISTO BEACH, SOUTH CAROLINA
UST PERMIT #18662

February 13, 2002

Prepared by:

NESCO, Inc.
521 Clemson Road
Columbia, South Carolina 29229

NESCO Project #21-1151c

Parking Lot Code -
9086

Docket # 112 a tech

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INTRODUCTION

Subject Site:
Bay Creek Villas
3701 Docksite Road
Edisto Beach, South Carolina
Colleton County
UST Permit #18662

SCDHEC responsible party:
Bay Creek Villas
Attn: Robert Fowlkes
3701 Docksite Road
Edisto Beach, South Carolina 29438

This assessment was conducted by:
NESCO, Inc.
521 Clemson Road
Columbia, South Carolina 29229
Phone: 803-699-1976

NESCO, Inc. (NESCO) has implemented the scope of work outlined in the South Carolina Department of Health and Environmental Control (SCDHEC) letter dated August 8, 2001, and in accordance with Cost Proposal #14375 for the subject site. The results of the work completed are presented in the narrative below and the accompanying figures and tables. A copy of the relevant portion of the tax map and adjacent property owner information is included in Appendix VIII.

SITE DESCRIPTION AND HISTORY

The Bay Creek Villas are located in a residential area of Edisto Beach, South Carolina (Figure 1.0, Appendix I). The site contains privately owned condominiums and boat dock. The dock area contains a fueling center for boaters on the local waterways. The fuel was formerly supplied by a 1,000-gallon underground storage tank (UST) that was abandoned in December 2000 and new tanks were installed to accommodate boaters. A site map showing the site plan is included as Figure 2.0, Appendix I. Additional development of the area is possible but unlikely. Previous work at the site includes UST Closure Report (December 2000) and temporary well assessment.

REGIONAL GEOLOGY

The site is situated in the Lower Coastal Plain Physiographic Province of South Carolina. The Coastal Plain is composed of sedimentary deposits, which form a wedge of successively overlapping formations extending from the Fall Line to the coast. The total sediment thickness increases from a thin veneer at the fall line to approximately 4,000 feet in coastal Beaufort County.

The oldest sedimentary units in the area of the site directly overlie crystalline basement and are Late Cretaceous in age. These deposits represent continental to inner shelf marine depositional environments. These units are overlain by recent sedimentary deposits, which comprise the shallow subsurface and surficial soils at the site.

Groundwater typically occurs under unconfined (water table) conditions in the shallow aquifer and was encountered during this investigation at a depth of approximately five to six feet below surface grade (bsg). Shallow groundwater flow in the water table aquifer is towards the northeast.

RECEPTOR SURVEY

No public or private water supply wells were located within the 1,000 feet search radius. The site is surrounded on the west, north and northeast sides by a tidal marsh. Big Bay Creek is approximately 125 feet from the former UST. Because of seasonal and tidal fluctuations in groundwater elevation, underground electric, water, and sewer lines (approximately 3 ½ to 4 feet bsg) that run across the site are also potential groundwater receptors.

SOIL BORING INSTALLATION AND SOIL QUALITY

Four soil borings (SB-1 through SB-4) were installed at the site on December 6, 2001 in order to collect soil samples for laboratory analysis. A soil sample was also collected during the installation of monitoring wells MW-9 and MW-10. Three field-screening points (FS-1 through FS-3) were installed in order to help determine the proper locations of permanent monitoring wells. The locations of the soil borings are presented on the site map, Figure 2.0. Soil borings were installed using solid stem augers. Grab soil samples were collected from three feet bsg. Soil boring logs are included in Appendix III.

The soil samples that were collected were analyzed for concentrations of benzene, toluene, ethylbenzene, total xylenes (BTEX), naphthalene, and polynuclear aromatic hydrocarbons (PAHs). The sample collected from monitoring well MW-9 was also analyzed for total petroleum hydrocarbons (TPH) and a grain size analysis with hydrometer. The grain size analysis report is included in Appendix V. A total organic compounds (TOC) analysis was conducted on the sample collected from monitoring well MW-10. Results of the laboratory analysis are presented on Figure 3.0, Appendix I and in Table 1, Appendix II. Soil analytical data displayed levels of benzene above the Risk-Based Screening Level (RBSL) for sandy soil in borings SB-1 and SB-4. The RBSL for naphthalene was exceeded in borings SB-1, SB-2, and SB-3. The TPH value was below the laboratory detection limit of 3,600 mg/l and TOC was 1,600 mg/l. All other analyzed constituents were reported below RBSLs or method detection limits.

Soils collected during drilling activities were field screened for the presence of organic vapors using an Organic Vapor Analyzer (OVA). Soil cuttings generated from drilling activities of borings and monitor wells that exhibited OVA readings of greater than 100 parts per million (ppm) were containerized in five 55-gallon drums. OVA readings are summarized on the boring logs located in Appendix III. A copy of the disposal manifest is included in Appendix IX.

MONITORING WELL INSTALLATION

NESCO personnel installed six permanent shallow monitoring wells (MW-9 through MW-14) and one deep telescoping well (PW-1) at the site on December 5, 2001 and January 8, 2002 in order to delineate the horizontal and vertical extent of groundwater contamination at the Bay Creek Villas site. The locations of all newly installed and existing (MW-1, MW-3 through MW-8) monitoring wells are displayed on Figure 2.0, Appendix I. South Carolina licensed drillers (S.C. #1411 and 1505) installed the new wells using hollow stem augers and mud rotary drilling (telescoping well) driven by a truck mounted CME-55 drill rig.

The permanent, shallow monitoring wells were constructed with two-inch diameter flush threaded, schedule 40 PVC casing and 0.010 inch slotted PVC screen. The pit-cased well was constructed with a four-inch diameter flush threaded, schedule 40 PVC outer casing with two-inch diameter schedule 40 PVC casing and 0.010 inch slotted PVC screen installed inside the outer casing. The well construction details are contained on the boring logs included in Appendix III. The well completion materials were installed through the hollow stem augers. Clean, washed filter sand was placed around and at least one foot above the well screens. A bentonite seal was then placed above the sand pack and the wells were grouted with neat cement from the bentonite seal to the surface. The wells were completed with a locking cap, and a flush mounted, steel protective manhole. Prior to initiating fieldwork, and upon completion of each boring, the augers were steam cleaned to reduce the potential of cross contamination.

GROUNDWATER SAMPLE COLLECTION

NESCO personnel collected groundwater samples from the monitor wells at the site on December 10, 2001 and January 10, 2002. Free product was not detected in any of the wells at the time of sampling. Water level measurements were collected in each well prior to purging in order to calculate a relative groundwater elevation. Water level measurements and groundwater elevations are summarized in Table 2, Appendix II and a potentiometric map (Figure 4.0, Appendix I) was constructed from the data collected on January 10, 2002. Shallow groundwater flow at the site during this investigation is towards the northeast with an average hydraulic gradient of 1.13 E^{-2} ft/ft.

The groundwater samples were collected using disposable polyethylene bailers dedicated for each well. Care was taken throughout the procedure to avoid cross contamination. During the sampling, steps were taken to limit the agitation of the groundwater samples and to prevent aeration. All sample containers were precleaned and provided by the analytical laboratory. Samples were kept at approximately four degrees centigrade throughout the operation and during transport to the laboratory. Chains of custody were maintained and documented during the shipping and handling process to insure sample integrity. The groundwater samples were analyzed for concentrations of benzene, toluene, ethylbenzene, xylenes (BTEX), naphthalene, methyl tertiary butyl ether (MTBE), 1,2-Dibromoehtane (EDB), trimethylbenzene, polynuclear aromatic hydrocarbons (PAHs), lead, organic lead, ferrous iron, nitrate, sulfate, and methane. Analytical results are displayed on Figure 5.0, Appendix I and summarized in Tables 3A and 3B, Appendix II. A summary of field sampling parameters is included in Table 4. The RBSLs for benzene and naphthalene were exceeded in groundwater samples collected from wells MW-3, MW-4, and MW-9. Groundwater from monitoring well MW-9 contained a toluene concentration above RBSL. The RBSL for ethylbenzene was exceeded in groundwater from monitoring wells MW-3 and MW-9. 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene was detected in samples collected from wells MW-3, MW-4, and MW-9. The RBSL for lead was exceeded in eleven of the fourteen wells on site. However, this is not uncommon in South Carolina and the concentrations do not appear to be above background levels. All other constituents analyzed were reported as non-detectable or below RBSLs. The laboratory analytical reports are located in Appendix IV.

AQUIFER CHARACTERISTICS

Three slug tests were performed on wells MW-3, MW-9, and PW-1 on December 10, 2001. The average hydraulic conductivity (K) calculated for the water table aquifer is 3.57 E^{-3} cm/sec. Monitoring wells MW-3 and MW-9 have total depths of 12 feet bsg with ten foot screened intervals. PW-1 has a total depth of approximately 40 feet bsg with a five foot screened interval. Construction details are included on the boring logs in Appendix III.

The groundwater elevation at the well was gauged with an electronic water level indicator probe and compared to the surveyed top of casing. The slug test was performed by rapidly removing a bailer of water and measuring the resultant stress (rise vs. time) on the aquifer with an electronic water level indicator and a stopwatch. Slug test data was analyzed using the modified Bower and Rice Methodology (1989). The slug data and results are contained in Appendix IV.

An estimate of the radial hydraulic conductivity for the shallow water table aquifer was calculated from the slug test data and yielded K values of 14.6 ft/day (MW-3) and 5.6 ft/day (MW-9). The K value of the deeper aquifer (PW-1) was calculated to be 3.7 ft/day. A table summarizing the hydraulic conductivities is presented in Appendix V.

A shallow groundwater horizontal flow velocity was calculated using the following formula:

$$\mathbf{V = (i \times K)/n_e}$$

Where V is the velocity, i is the hydraulic gradient, K is the average hydraulic conductivity, and n_e is the effective porosity (0.40 established from the grain size analysis using Figure C1 of the Leachability Model for Petroleum Contaminated Soils in the South Carolina Risk-Based Corrective Action for Petroleum Releases guidance document). Shallow, horizontal groundwater flow velocities were calculated to be 4.12 E^{-2} ft/day (15.05 ft/year) and 1.58 E^{-2} ft/day (5.77 ft/year) for monitoring wells MW-3 and MW-9, respectively. A horizontal velocity for the deeper aquifer cannot be calculated at this time due to the lack of hydraulic gradient and porosity data.

A vertical hydraulic gradient was calculated between wells MW-9 and PW-1 using the following formula:

$$\mathbf{i_v = (WL_d - WL_s)/(D_{tds} - D_{bss})}$$

Where WL_d (93.07 ft) is the groundwater elevation in the deep well (PW-1), WL_s (93.58 ft) is the groundwater elevation in the shallow well (MW-9), D_{tds} (35 ft) is the depth to the top of the deep well screen, and D_{bss} (12 ft) is the depth to the bottom of the shallow well screen. Negative values indicate a downward gradient and positive values indicated an upward gradient. The vertical gradient for the well pair of MW-9 and PW-1 was calculated to be –2.22 E^{-2} ft/ft.

SOIL LEACHABILITY MODEL

A soil leachability model was not performed for the Bay Creek Villas site due to the shallow water table.

FATE AND TRANSPORT MODEL

Groundwater data collected from monitoring wells at the site were used to estimate the movement of benzene, ethylbenzene, and naphthalene within the groundwater. These were the only constituents reported above RBSLs. Fate and Transport modeling was conducted using the BIOSCREEN Natural Attenuation Decision Support System (1996) in order to estimate the predicted horizontal extent of contaminants.

Based on the evaluation of the groundwater data, monitoring well MW-3 was chosen to represent the source area due to its proximity to the receptor. The existing chemical of concern (CoCs) concentration was set at the level reported in laboratory analysis. Evaluations of the potentiometric data indicate that the predominant

direction of groundwater flow is to the northeast. Results of the receptor survey indicate the most likely receptor at the site is the tidal marsh to the northeast of monitoring well MW-3 (approximately 45 feet). Therefore, fate and transport modeling was conducted to the edge of the tidal marsh, the exposure point (E.P.). The compliance point (C.P.) was set half way between the E.P. and monitoring well MW-3. The C.P. and E.P. are displayed on Figure 4.0, Appendix I.

Input parameters used in the fate and transport model were determined using data collected during this investigation and are summarized on Table 5, Appendix II. The BIOSCREEN model used for this assessment was the Instantaneous Reaction (IR) model. This model takes into consideration the environment of degradation acting on the contaminant plume. Sufficient site-specific data was gathered to make the IR model a reliable fate and transport predictor. The first-order decay model does not take into account the availability of electron acceptors such as oxygen and sulfate. Therefore, the first-order decay model results were not utilized.

Results of the fate and transport model are presented in Tables 6 and 7 and in Appendix VII. Evaluations of the results of the model predict that benzene, and naphthalene will reach the receptor above RBSLs. The model predicts that ethylbenzene will not reach the receptor above RBSL. SSTL values were calculated for benzene, ethylbenzene, and naphthalene and are summarized in Table 7, Appendix II.

TIER II EVALUATION

A Tier II evaluation was conducted by NESCO on the site using data collected during this assessment. Tables 8 and 9, Appendix II are site conceptual models for the current and future land use, respectively. Evaluation of the available data indicates that at present, the tidal marsh, Big Bay Creek, and existing underground utilities are potential groundwater receptors. No public or private water supply wells were located within 1,000 feet of the site. Free-phase petroleum product was not detected during this assessment, or previous assessments. Three monitoring wells (MW-3, MW-4, and MW-9) displayed levels of chemicals of concern (CoC) above the RBSLs. The area near MW-3 was used as the source area for the fate and transport modeling. Results of the Fate and Transport modeling predict that CoC concentrations may impact the receptor at current concentrations in the future. Based on the results of the fate and transport modeling, SSTLs were calculated for benzene, ethylbenzene, and naphthalene and are summarized in Table 7, Appendix II.

RECOMMENDATIONS

Based on the results of this investigation, NESCO recommends that active remediation begin immediately at the site in order to prevent petroleum contamination from migrating into the tidal marsh or Big Bay Creek.

Brian J. Kvam
Senior Project Manager

Jeremy Grant, P.G.
S.C. Reg. #2259
Manager of Geological Services

APPENDIX I

FIGURES

LIST OF FIGURES

Figure 1.0: Site Location Map (USGS 7.5" Series Topographic Map)
Figure 2.0: Site Map
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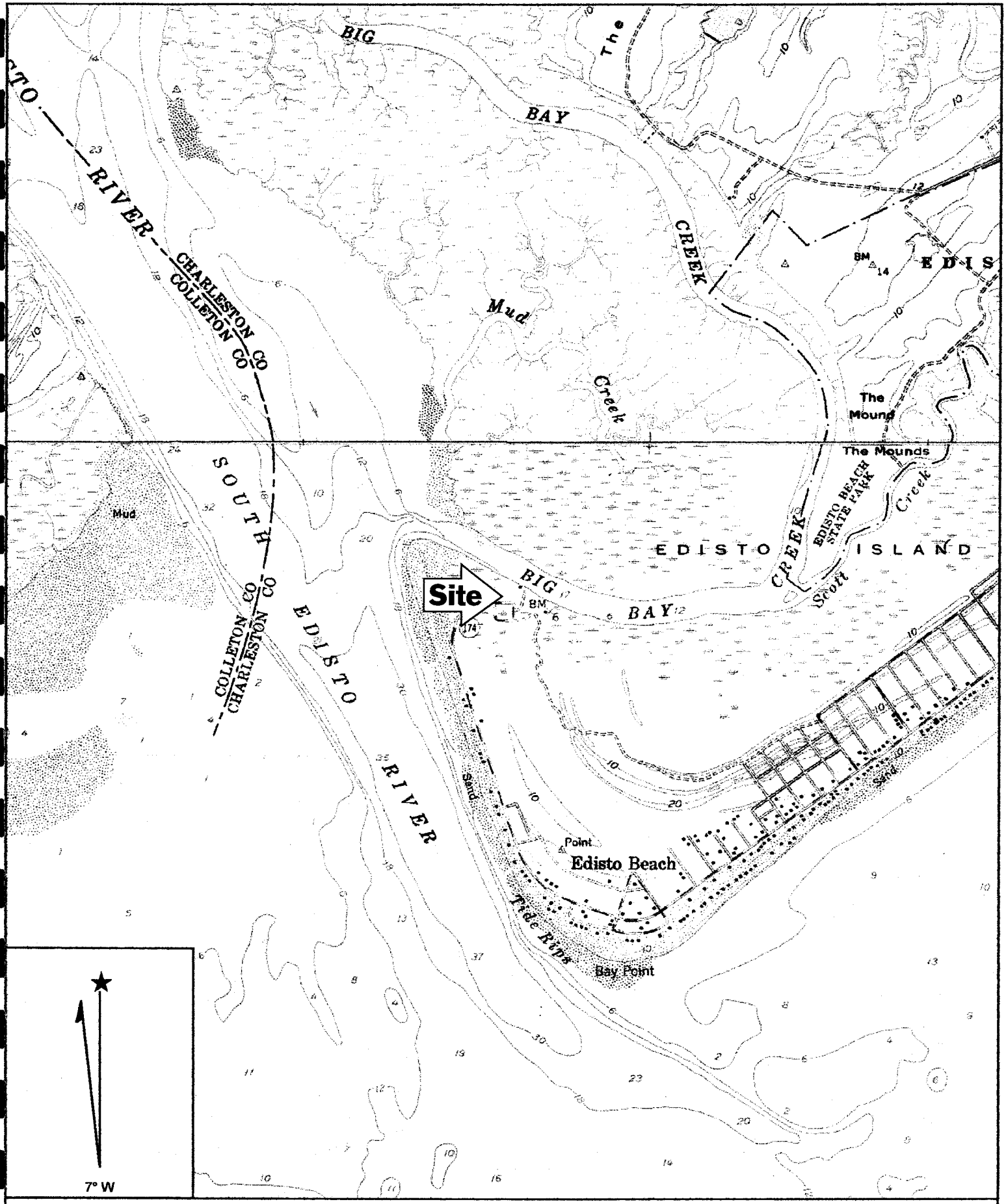
Figure 4.0: Potentiometric Map (Data Collected on 1/10/02)
Figure 4.0: Groundwater CoC Map (Data collected 12/10/01 & 1/10/02)
Site Survey Map – Robert H. Lackey Surveying, Inc.



Name: EDISTO BEACH
Date: 2/7/2002
Scale: 1 inch equals 2000 feet

Location: 032° 29.5771' N 080° 20.4556' W
Caption: FIGURE 1.0 - SITE LOCATION MAP
BAY CREEK VILLAS
EDISTO BEACH, SC

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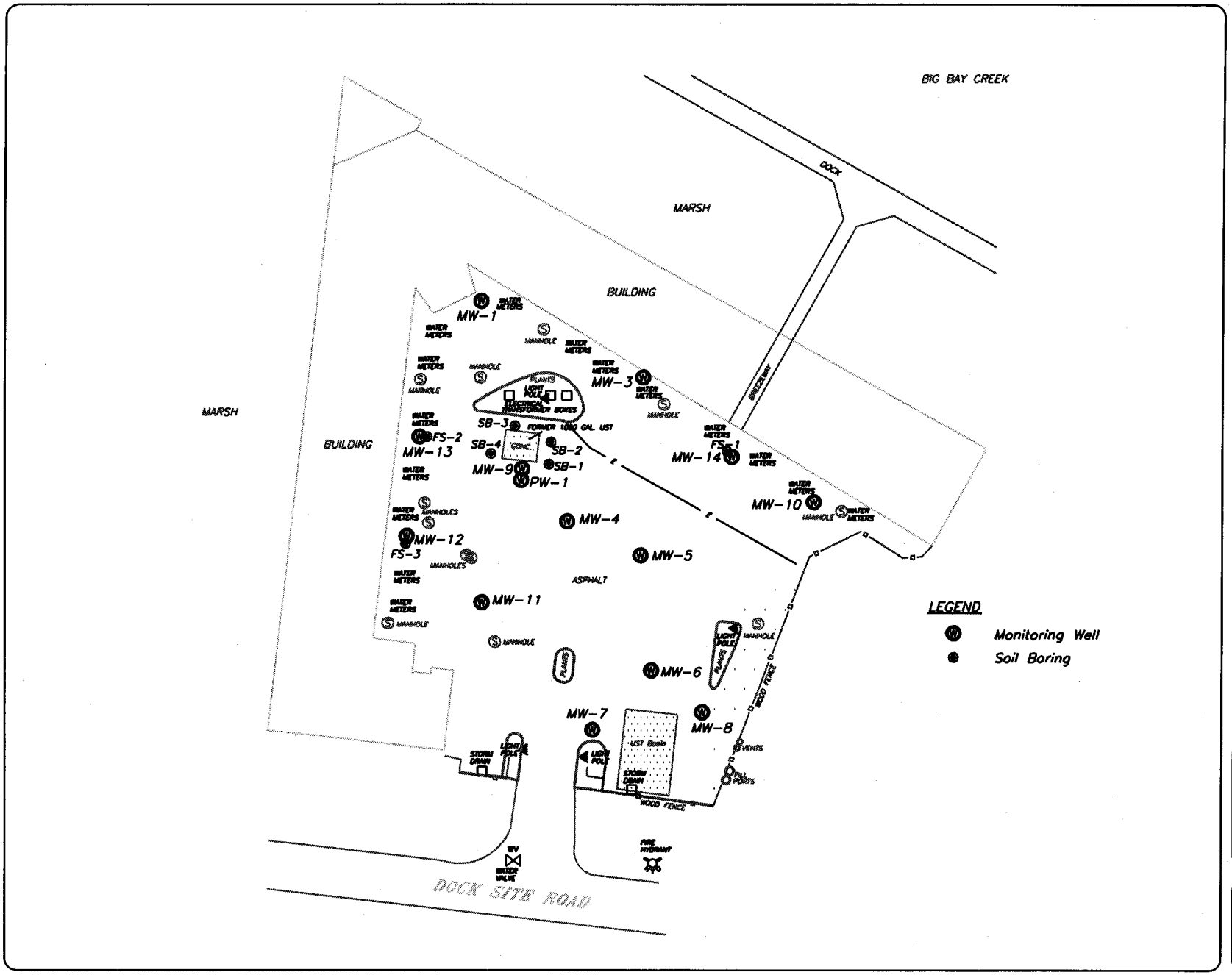

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521 CLEMSON ROAD, COLUMBIA, SOUTH CAROLINA, 29229 USA
PHONE: 803 699 1976 FACSIMILE: 803 699 9863

BAY CREEK VILLAS
UST PERMIT #18662
3701 DOCK SITE RD.
EDISTO BEACH, SC

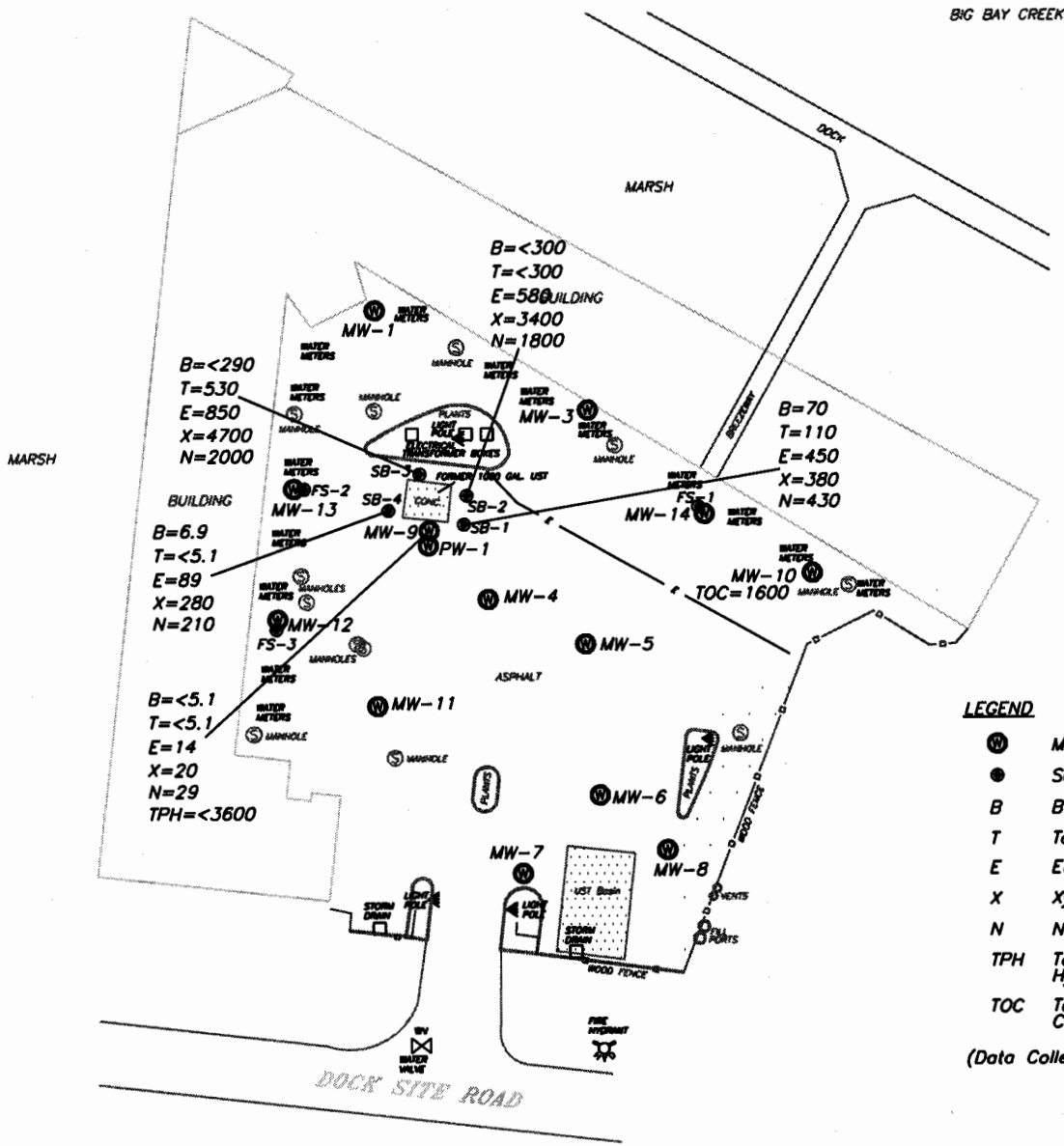
DRAWN BY:	LAST REVISED:
Brian Kvam	2/6/02

SITE MAP

40 0 20 40
GRAPHIC SCALE IN FEET

NORTH

FIGURE NUMBER:
2.0
JOB NO: 21-1151c



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BAY CREEK VILLAS
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3701 DOCK SITE RD.
EDISTO BEACH, SC

DRAWN BY:	LAST REVISED:
Brian Kvam	2/6/02

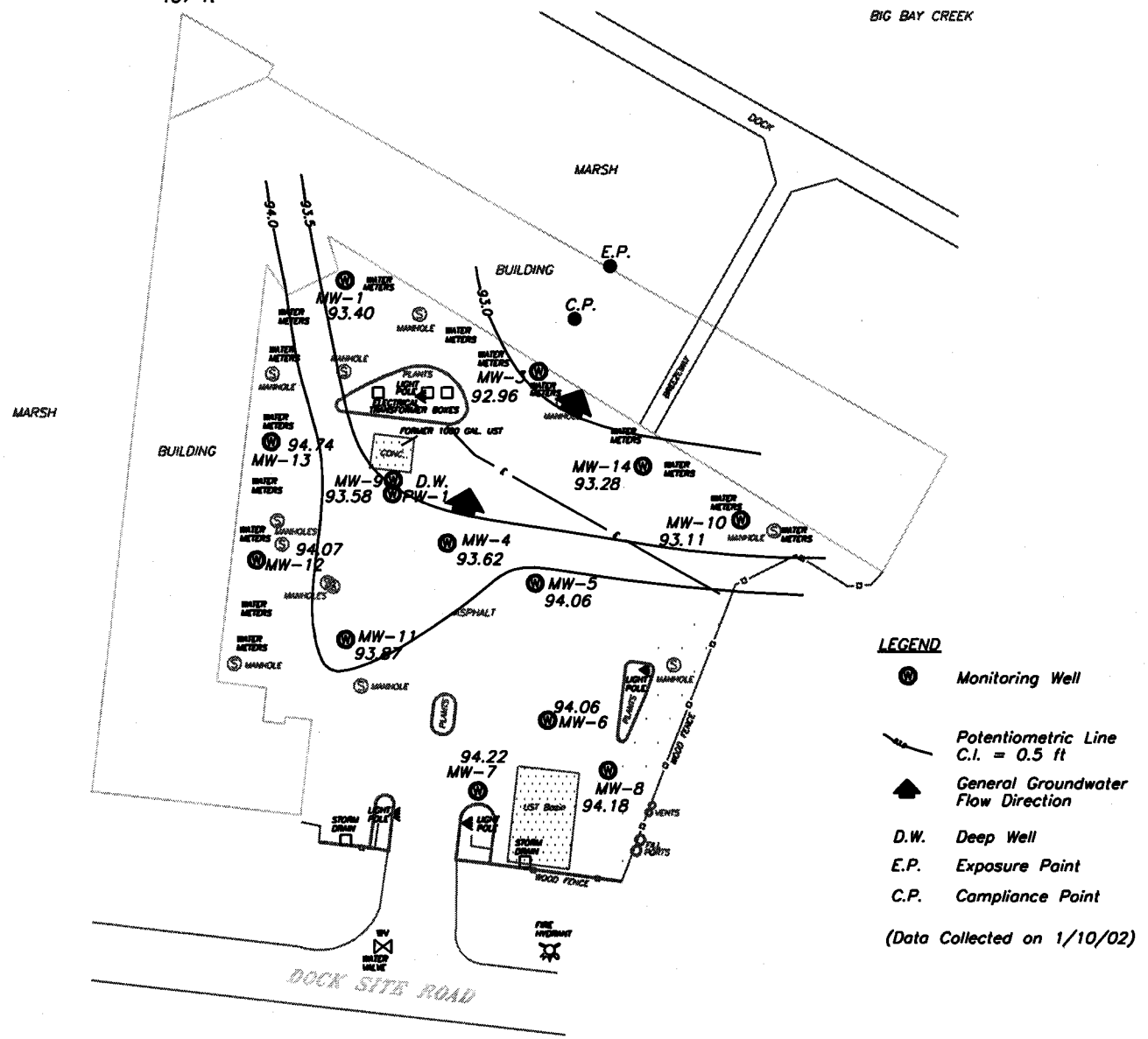
SOIL CoC MAP

40 0 20 40
GRAPHIC SCALE IN FEET

NORTH

FIGURE NUMBER: 3.0
JOB NO: 21-1151c

$$\text{Average Hydraulic Gradient} = \frac{94.74\ ft - 92.96\ ft}{157\ ft} = 1.13\ E^{-2}\ ft/ft$$



LEGEND

- Monitoring Well
- Potentiometric Line C.I. = 0.5 ft
- General Groundwater Flow Direction
- D.W. Deep Well
- E.P. Exposure Point
- C.P. Compliance Point

(Data Collected on 1/10/02)

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BAY CREEK VILLAS
UST PERMIT #18662
3701 DOCK SITE RD.
EDISTO BEACH, SC

DRAWN BY:	LAST REVISED:
Brian Kvam	2/6/02

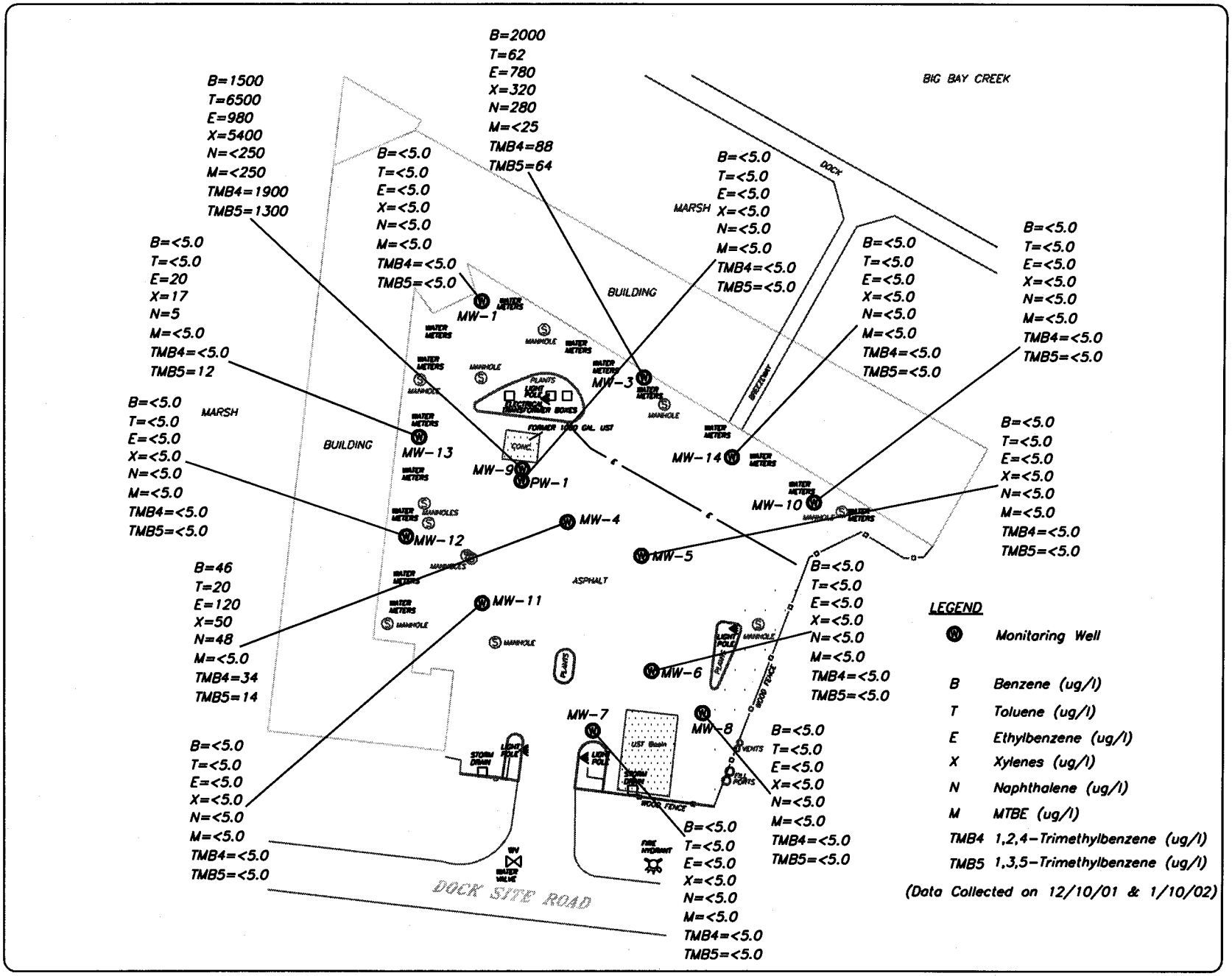
POTENTIOMETRIC MAP

40 0 20 40
GRAPHIC SCALE IN FEET

NORTH

FIGURE NUMBER: 4.0

JOB NO: 21-1151c



LEGEND

W	Monitoring Well
B	Benzene (ug/l)
T	Toluene (ug/l)
E	Ethylbenzene (ug/l)
X	Xylenes (ug/l)
N	Naphthalene (ug/l)
M	MTBE (ug/l)
TMB4	1,2,4-Trimethylbenzene (ug/l)
TMB5	1,3,5-Trimethylbenzene (ug/l)

(Data Collected on 12/10/01 & 1/10/02)

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BAY CREEK VILLAS
UST PERMIT #18662
3701 DOCK SITE RD.
EDISTO BEACH, SC

DRAWN BY:	LAST REVISED:
Brian Kvam	2/6/02

GROUNDWATER CoC MAP

40 0 20 40
GRAPHIC SCALE IN FEET

NORTH

FIGURE NUMBER: 5.0
JOB NO: 21-1151c

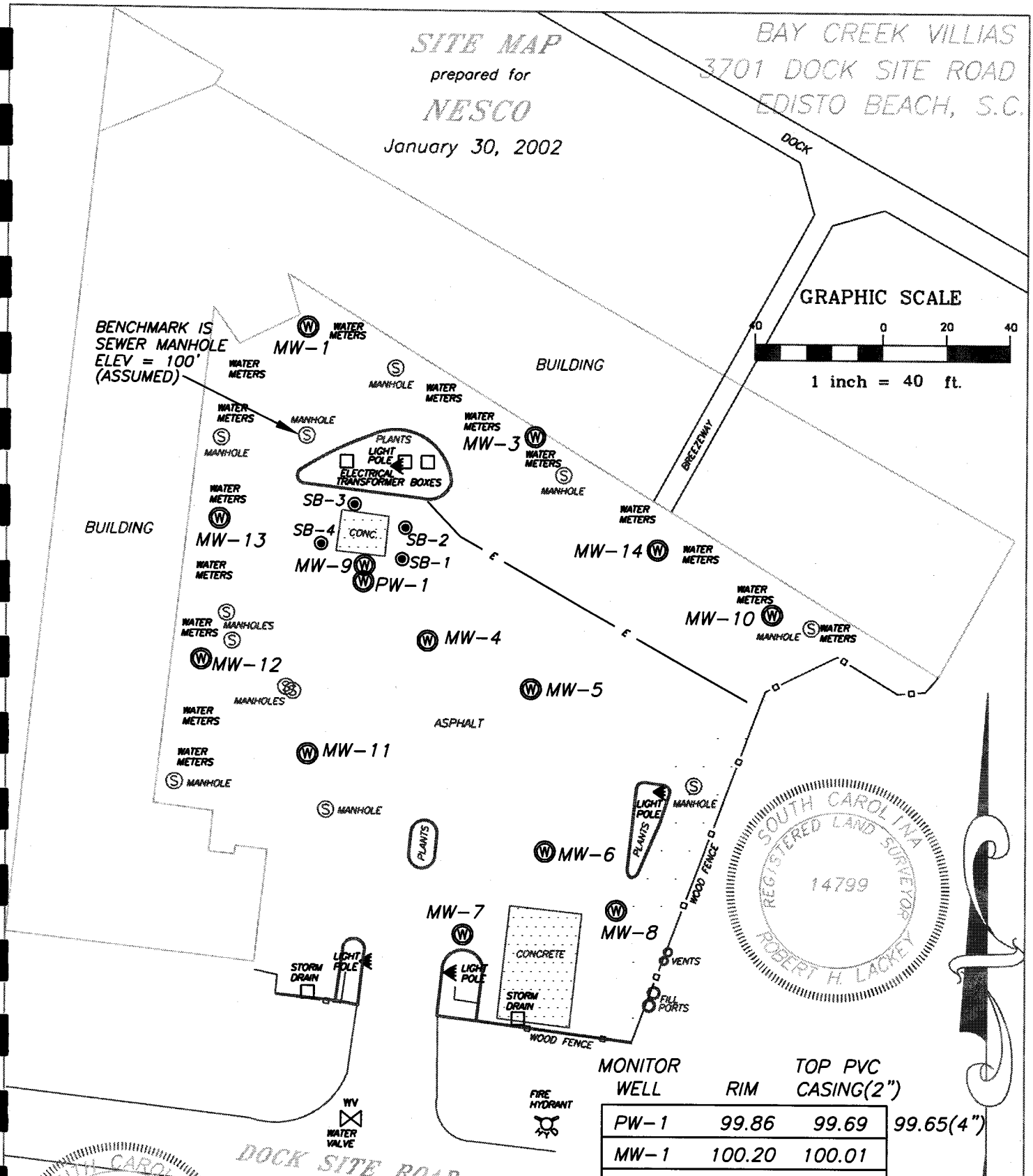
SITE MAP

prepared for

NESCO

January 30, 2002

BAY CREEK VILLIAS
3701 DOCK SITE ROAD
EDISTO BEACH, S.C.



MONITOR WELL	RIM	TOP PVC CASING(2")	
PW-1	99.86	99.69	99.65(4")
MW-1	100.20	100.01	
MW-3	100.21	99.93	
MW-4	100.16	99.95	
MW-5	100.11	99.92	
MW-6	99.32	99.06	
MW-7	99.72	99.48	
MW-8	99.50	99.27	
MW-9	99.91	99.59	
MW-10	100.02	99.89	

MW-11	99.48	99.17
MW-14	99.94	99.69
MW-12	100.08	99.92
MW-13	100.00	99.82

ROBERT H. LACKEY SURVEYING, INC.
P.O. BOX 713 – CAMDEN, S.C. 29020
office 803-432-0968 – fax 803-425-4439

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APPENDIX II

TABLES

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Table 9: Site Conceptual Model (Future Land Use)

TABLE 1
SUMMARY OF SOIL QUALITY ANALYSIS
BAY CREEK VILLAS
EDISTO BEACH, SC

SAMPLE ID	DATE SAMPLED	SAMPLE DEPTH	BENZENE (ug/l)	TOLUENE (ug/l)	ETHYL-BENZENE (ug/l)	TOTAL XYLENES (ug/l)	NAPH-THALENE (ug/l)	TPH (mg/l)	TOC (mg/l)
SB-1	12/06/01	3'	**70**	110	450	380	**430**	NA	NA
SB-2	12/06/01	3'	<300	<300	580	3400	**1800**	NA	NA
SB-3	12/06/01	3'	<290	530	850	4700	**2000**	NA	NA
SB-4	12/06/01	3'	**6.9**	<5.1	89	280	210	NA	NA
MW-9	12/06/01	3'	<5.1	<5.1	14	20	29	<3600	NA
MW-10	12/06/01	3'	NA	NA	NA	NA	NA	NA	1600
RBSLs			5	1640	1292	42898	211	NA	NA

NOTES: Risk-Based Screening Levels (RBSLs) from RBCA Table B3 for sandy soils 5-10 ft
Bolded Values exceed RBSLs
NA = Not Applicable

TABLE 2
SUMMARY OF GROUNDWATER ELEVATIONS
BAY CREEK VILLAS
EDISTO BEACH, SC

WELL	DATE MEASURED	TOC ELEVATION	TOC to PL	TOC to WL	PRODUCT THICKNESS	WL ELEVATION
MW-1	1/10/02	100.01	ND	6.61	NA	93.40
MW-3	1/10/02	99.93	ND	6.97	NA	92.96
MW-4	1/10/02	99.95	ND	6.33	NA	93.62
MW-5	1/10/02	99.92	ND	5.86	NA	94.06
MW-6	1/10/02	99.06	ND	5.00	NA	94.06
MW-7	1/10/02	99.48	ND	5.26	NA	94.22
MW-8	1/10/02	99.27	ND	5.09	NA	94.18
MW-9	1/10/02	99.59	ND	6.01	NA	93.58
MW-10	1/10/02	99.89	ND	6.78	NA	93.11
MW-11	1/10/02	99.17	ND	5.30	NA	93.87
MW-12	1/10/02	99.91	ND	5.84	NA	94.07
MW-13	1/10/02	99.82	ND	5.08	NA	94.74
MW-14	1/10/02	99.69	ND	6.41	NA	93.28
PW-1	1/10/02	99.69	ND	6.62	NA	93.07

NOTES: Measurements in feet
TOC = Top of Casing
WL = Water Level
PL = Free Product Level
ND = Not Detected
NA = Not Applicable

TABLE 3A
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
BAY CREEK VILLAS
EDISTO BEACH, SC

MONITOR WELL	DATE COLLECTED	BENZENE (ug/l)	TOLUENE (ug/l)	ETHYL-BENZENE (ug/l)	TOTAL XYLENES (ug/l)	TOTAL BTEX (ug/l)	NAPH-THALENE (ug/l)	MTBE (ug/l)	EDB (ug/l)	1,2,4-TRIMETHYL-BENZENE (ug/l)	1,3,5-TRIMETHYL-BENZENE (ug/l)
MW-1	12/10/01	**14**	<5.0	19	16	<54.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-3	12/10/01	**1900**	52	**740**	270	2962	**220**	<25	<25	26	97
	01/10/02	**2000**	62	**780**	320	3162	**280**	<25	NA	88	64
MW-4	12/10/01	**71**	7.1	140	76	294.1	**94**	<5.0	<5.0	37	22
	01/10/02	**46**	20	120	50	236	**48**	<5.0	NA	34	13
MW-5	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-6	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-7	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-8	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-9	12/10/01	**1200**	**3900**	**900**	2700	8700	**310**	<25	<25	360	1500
	01/10/02	**1500**	**6500**	**980**	5400	14380	<250	<250	NA	1900	1300
MW-10	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-11	12/10/01	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	NA	NA
MW-12	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
MW-13	01/10/02	<5.0	<5.0	20	17	<47	5	<5.0	<5.0	<5.0	12
MW-14	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	<5.0	<5.0	<5.0
PW-1	12/10/01	<5.0	<5.0	13	8.6	31.6	5.5	<5.0	<5.0	<5.0	9.1
	01/10/02	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<5.0	NA	<5.0	<5.0
RBSLs		5	1000	700	10000	NA	25	40	NA	NA	NA

NOTES: **Bolded Values** Exceed Risk-Based Screening Levels (RBSLs)
NA = Not Applicable
MTBE = Methyl Tertiary Butyl Ether
EDB = 1,2-Dibromoethane

TABLE 3B
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS (continued)
BAY CREEK VILLAS
EDISTO BEACH, SC

MONITOR WELL	DATE COLLECTED	LEAD (mg/l)	TETRAETHYL-LEAD (ug/l)	NITRATES (mg/l)	SULFATES (mg/l)	FERROUS IRON (mg/l)	METHANE (ug/l)
MW-1	12/10/01	0.007	<500	<0.020	2.2	5	3480
MW-3	12/10/01	**0.072**	<500	0.093	<1.0	30	3620
MW-4	12/10/01	**0.051**	<500	<0.020	<1.0	22	2880
MW-5	12/10/01	**0.020**	<500	<0.020	40	20	1020
MW-6	12/10/01	**0.140**	<500	0.032	61	50	2660
MW-7	12/10/01	**0.091**	<500	0.026	18	52	2890
MW-8	12/10/01	**0.270**	<500	0.2	5.7	13	380
MW-9	12/10/01	**0.160**	<500	<0.020	3.8	55	3020
MW-10	12/10/01	**0.056**	<500	<0.020	180	10	235
MW-11	12/10/01	<0.0030	<500	0.035	<1.0	0.18	<26.0
MW-12	01/10/02	**0.080**	<500	0.058	41	30	926
MW-13	01/10/02	**0.120**	<500	0.02	18	76	2360
MW-14	01/10/02	**0.110**	<500	0.11	51	50	56.7
PW-1	12/10/01	<0.0030	<500	0.19	270	0.52	122
RBSLs		0.015	NA	NA	NA	NA	NA

NOTES: **Bolded Values** Exceed Risk-Based Screening Levels (RBSLs)
NA = Not Applicable

TABLE 4
SUMMARY OF SAMPLING PARAMETERS
BAY CREEK VILLAS
EDISTO BEACH, SC

WELL	DATE MEASURED	D.O. (ppm)	TEMP. (C^O)	pH	COND. (ms/m)
MW-1	12/10/01	1.87	21.2	6.46	83.60
MW-3	12/10/01	1.22	24.7	7.0	28.30
MW-4	12/10/01	1.12	25.1	7.51	21.80
MW-5	12/10/01	0.80	23.2	7.17	17.30
MW-6	12/10/01	2.89	19.7	8.61	6.90
MW-7	12/10/01	0.63	21.4	8.33	18.25
MW-8	12/10/01	0.77	23.2	8.05	6.68
MW-9	12/10/01	0.71	24.2	7.80	34.60
MW-10	12/10/01	1.82	24.1	7.76	12.06
MW-11	12/10/01	NM	16.8	8.52	3.06
MW-12	01/10/02	1.54	20.6	6.93	21.90
MW-13	01/10/02	1.93	19.3	6.19	24.30
MW-14	01/10/02	2.35	24.2	7.06	24.70
PW-1	12/10/01	0.30	22.8	8.01	135.70

NOTES: D.O. = Dissolved Oxygen
TEMP. = Temperature
COND. = Conductivity
NM = Not Measured

TABLE 5
FATE AND TRANSPORT MODEL INPUT PARAMETERS
BAY CREEK VILLAS
EDISTO BEACH, SC

Seepage Velocity (Vs)	104.3 ft/yr	Calculated by model.
Hydraulic Conductivity (K)	3.57 E^{-3} cm/sec	Average from slug tests on 12/10/01.
Hydraulic Gradient (i)	1.13 E^{-2} ft/ft	Calculated based on water level data.
Effective Porosity (n)	0.4	Figure C1 (RBCA for Petroleum Releases).
Estimated Plume Length (Lp)	150 ft	Estimated based on professional judgement.
Soil Bulk Density (ρ_b)	1.55 kg/l	Figure C3 (RBCA for Petroleum Releases).
Partition Coefficient (Koc) - Benzene	81 L/kg	SCDHEC (RBCA for Petroleum Releases).
Partition Coefficient (Koc) - Toluene	NA	(Constituent not modeled.)
Partition Coefficient (Koc) - Ethylbenzene	176 L/kg	SCDHEC (RBCA for Petroleum Releases).
Partition Coefficient (Koc) - Xylenes	NA	(Constituent not modeled.)
Partition Coefficient (Koc)- Naphthalene	1543	SCDHEC (RBCA for Petroleum Releases).
Partition Coefficient (Koc) - MTBE	NA	(Constituent not modeled.)
Fractional Organic Carbon (foc)	1.6	Reported in soil sample from MW-10.
Solute Half-Life ($t_{1/2}$) - Benzene Anaerobic Low	0.306 yrs	Environmental Degradation Rates by Howard et. al. (1991)
Solute Half-Life ($t_{1/2}$) - Toluene	NA	(Constituent not modeled.)
Solute Half-Life ($t_{1/2}$) - Ethylbenzene Anaerobic Low	0.482 yrs	Environmental Degradation Rates by Howard et. al. (1991)
Solute Half-Life ($t_{1/2}$) - Xylenes	NA	(Constituent not modeled.)
Solute Half-Life ($t_{1/2}$) - Naphthalene Anaerobic Low	0.068 yrs	Environmental Degradation Rates by Howard et. al. (1991)
Solute Half-Life ($t_{1/2}$) - MTBE	NA	(Constituent not modeled.)
Delta Oxygen (O_2)	2.26 mg/l	Calculated based on analytical results.
Delta Nitrate (NO_3)	0.18 mg/l	Calculated based on analytical results.
Observed Ferrous Iron (Fe^{2+})	30 mg/l	Reported concentration @ MW-3.
Delta Sulfate (SO_4)	179 mg/l	Calculated based on analytical results.
Observed Methane (CH_4)	3.62 mg/l	Reported concentration @ MW-3.
Modeled Area Length (L)	45 ft	Estimated based on professional judgement.
Modeled Area Width (W)	25 ft	Estimated based on professional judgement.
Source Thickness (z)	10 ft	Estimated based on professional judgement.
CoC Concentration - Benzene	2000 ug/l	Report concentration @ MW-3.
CoC Concentration - Toluene	NA	(Constituent not modeled.)
CoC Concentration - Ethylbenzene	780 ug/l	Report concentration @ MW-3.
CoC Concentration - Xylenes	NA	(Constituent not modeled.)
CoC Concentration - Naphthalene	280 ug/l	Report concentration @ MW-3.
CoC Concentration - MTBE	NA	(Constituent not modeled.)

TABLE 6
SUMMARY OF PREDICTED CoC CONCENTRATIONS
BAY CREEK VILLAS
EDISTO BEACH, SC

CoC	EXISTING CoC CONCENTRATION AT MW-3 (ug/l)	PREDICTED TIME TO PLUME STABILIZATION (years)	PREDICTED CONCENTRATION AT RECEPTOR (ug/l)	RBSL (ug/l)
BENZENE	2000	2000	1550	5
ETHYLBENZENE	780	4500	610	700
NAPHTHALENE	280	40,000	120	25

NOTES: CoC = Chemical of Concern
MW-1 designates the source area.
The receptor is the marsh (approximately 45 feet downgradient from MW-3.)

TABLE 7
SUMMARY OF GROUNDWATER SSTL CALCULATIONS
BAY CREEK VILLAS
EDISTO BEACH, SC

CoC	EXISTING CoC CONCENTRATION AT MW-3 (ug/l)	MODELED TIME (years)	PREDICTED SSTL AT MW-3 (ug/l)	PREDICTED CONCENTRATION AT RECEPTOR (ug/l)	RBSL (ug/l)
BENZENE	2000	2000	136	4	5
ETHYLBENZENE	780	4500	880	693	700
NAPHTHALENE	280	40,000	164	24	25

NOTES: CoC = Chemical of Concern
The receptor is the marsh (approximately 45 feet downgradient from MW-3.)

TABLE 8
SITE CONCEPTUAL MODEL (Current Land Use)
BAY CREEK VILLAS
EDISTO BEACH, SC

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	**Yes**	No	Potential for exposure to VOCs during construction activities.	VOCs remain below 10 % of LEL.
	Explosion Hazard	**Yes**	No		
Groundwater	Ingestion	**Yes**	No	Potential exposure during construction activities. Potential exposure to marsh.	Ensure CoCs remain below RBSLs.
	Dermal Contact	**Yes**	No		
	Inhalation	**Yes**	No		
Surface Water	Ingestion	**Yes**	No	Potential exposure to marsh.	Ensure CoCs remain below RBSLs.
	Dermal Contact	**Yes**	No		
	Inhalation	**Yes**	No		
Surficial Soil	Ingestion	Yes	**No**	Contamination at depth, non-surficial.	
	Dermal Contact	Yes	**No**		
	Inhalation	Yes	**No**		
	Leaching to Groundwater	Yes	**No**		
Subsurface Soil	Ingestion	**Yes**	No	Potential exposure during construction activities.	Ensure CoCs remain below RBSLs.
	Dermal Contact	**Yes**	No		
	Inhalation	**Yes**	No		
	Leaching to Groundwater	**Yes**	No		

TABLE 9
SITE CONCEPTUAL MODEL (Future Land Use)
BAY CREEK VILLAS
EDISTO BEACH, SC

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	**Yes**	No	VOC emissions possible during future construction acitivities.	VOCs remain below 10 % of LEL.
	Explosion Hazard	**Yes**	No		
Groundwater	Ingestion	**Yes**	No	Future construction acitivities possible. Potential future exposure to marsh.	Ensure CoCs remain below RBSLs.
	Dermal Contact	**Yes**	No		
	Inhalation	**Yes**	No		
Surface Water	Ingestion	**Yes**	No	Potential future exposure to marsh.	Ensure CoCs remain below RBSLs.
	Dermal Contact	**Yes**	No		
	Inhalation	**Yes**	No		
Surficial Soil	Ingestion	Yes	**No**	Contamnination at depth, non-surficial.	
	Dermal Contact	Yes	**No**		
	Inhalation	Yes	**No**		
	Leaching to Groundwater	Yes	**No**		
Subsurface Soil	Ingestion	**Yes**	No	Potential exposure during future construction activities.	Ensure CoCs remain below RBSLs.
	Dermal Contact	**Yes**	No		
	Inhalation	**Yes**	No		
	Leaching to Groundwater	**Yes**	No		

LOG OF BORING: SB-1

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	3
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	NA
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/5/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/5/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)	Construction	ft-bgs
					Asphalt/fill Tan/gray fine SAND		
2	Slight Petroleum	52			T.D. (Soil sample collected @ 3')		2
4							4
6							6
8							8
10							10
12							12
14							14
16							16
18							18
20							20
22							22
24							24
26							26
28							28
30							30

COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: SB-2

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	3
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	NA
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/5/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/5/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)	Construction	ft-bgs
					Asphalt/fill Tan/gray fine SAND		
2	Strong Petroleum	276			T.D. (Soil sample collected @ 3')		2
4							4
6							6
8							8
10							10
12							12
14							14
16							16
18							18
20							20
22							22
24							24
26							26
28							28
30							30

COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: SB-3

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	3
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	NA
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/5/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/5/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)	Construction	ft-bgs
					Asphalt/fill Tan/gray fine SAND		
2	Slight Petroleum	24			T.D. (Soil sample collected @ 3')		2
4							4
6							6
8							8
10							10
12							12
14							14
16							16
18							18
20							20
22							22
24							24
26							26
28							28
30							30

COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: SB-4

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	3
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	NA
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/5/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/5/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)	Construction	ft-bgs
					Asphalt/fill Tan/gray fine SAND		
2	Moderate Petroleum	35			T.D. (Soil sample collected @ 3')		2
4							4
6							6
8							8
10							10
12							12
14							14
16							16
18							18
20							20
22							22
24							24
26							26
28							28
30							30

COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-1

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	10
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	NA
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/6/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/6/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)	Construction	ft-bgs
					Asphalt/fill Tan brown fine to medium SAND		
2							2
4							4
	Moderate Petroleum	66					
6					Gray fine sandy CLAY (Saturated @ 5')		6
					Dark gray fine to medium SAND		
8							8
10	Slight	18			Gray fine to medium SAND w/shell hash T.D.		10
12							12
14							14
16							16
18							18
20							20
22							22
24							24
26							26
28							28
30							30

COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-2

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	5
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	NA
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/6/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/6/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)	Construction	ft-bgs
					Asphalt/fill Tan brown fine SAND		
2							2
4							4
	Strong Petroleum	370			Gray fine to medium SAND (Saturated @ 4') T.D.		
6							6
8							8
10							10
12							12
14							14
16							16
18							18
20							20
22							22
24							24
26							26
28							28
30							30

COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-3

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Solid Stem Auger	Total Boring Depth (ft):	5
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	NA
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/6/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/6/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)	Construction	ft-bgs
					Asphalt/fill Tan brown fine SAND		
2							2
4							4
	Strong Petroleum	>1000			Dark gray fine sandy CLAY (Saturated @ 4') T.D.		
6							6
8							8
10							10
12							12
14							14
16							16
18							18
20							20
22							22
24							24
26							26
28							28
30							30

COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

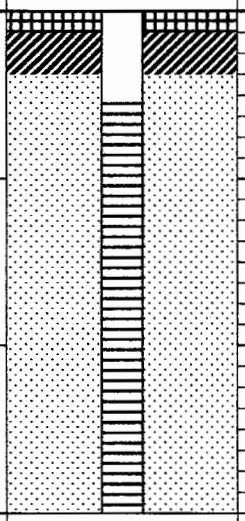
LOG OF BORING: MW-9

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.59
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/5/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/5/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
					Asphalt/fill Tan/gray fine SAND (Soil sample collected @ 3')
	Strong Petroleum	424			Dark gray fine sandy CLAY (Saturated @ 4')
	Strong	678			Gray black fine to medium SAND w/shell hash T.D. (Set 2" well, 10' of screen)

Construction



ft-bgs: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30

COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

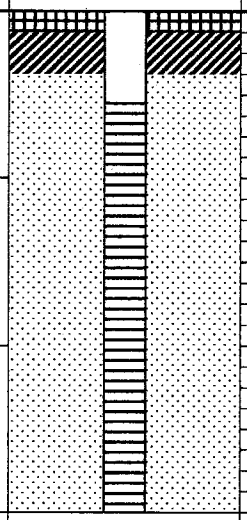
LOG OF BORING: MW-10

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.89
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/6/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/6/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft-bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
					Asphalt/fill Tan brown fine to medium SAND (TOC Soil sample collected @ 3')
	None	0			Dark gray fine sandy CLAY (Saturated @ 4')
	None	0			Gray black fine to medium SAND w/shell hash T.D. (Set 2" well, 10' of screen)

Construction



COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

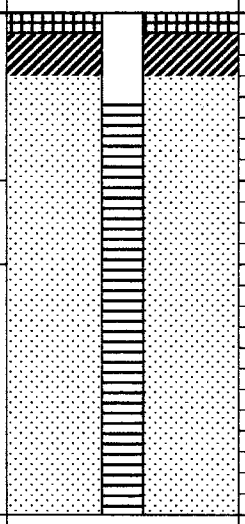
LOG OF BORING: MW-11

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.17
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/6/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/6/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
					Asphalt/fill Tan/gray fine SAND
	None	0			Dark gray fine sandy CLAY (Saturated @ 4')
	None	0			Gray black fine to medium SAND w/shell hash T.D. (Set 2" well, 10' of screen)

Construction



COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

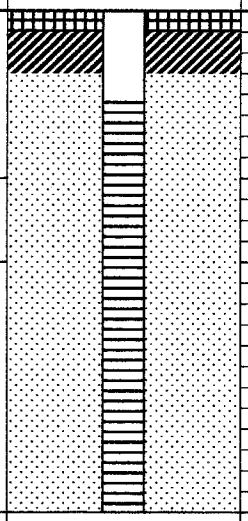
LOG OF BORING: MW-12

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.91
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	1/8/02	Driller	Nate Rollins (1411)	Longitude	80° 19' 43" W
Date/Time Completed:	1/8/02	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
2					Asphalt/fill Tan/gray fine SAND
4					
6	None	0			Dark gray fine sandy CLAY (Saturated @ 4')
8					Gray black fine to medium SAND w/shell hash
10	None	0			
12					T.D. (Set 2" well, 10' of screen)
14					
16					
18					
20					
22					
24					
26					
28					
30					

Construction



COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

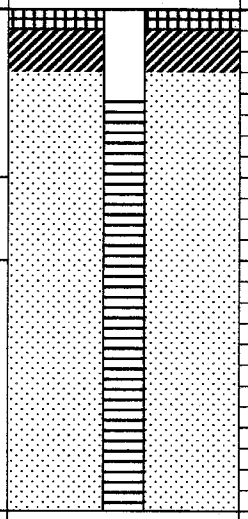
LOG OF BORING: MW-13

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.82
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	1/8/02	Driller	Nate Rollins (1411)	Longitude	80° 19' 43" W
Date/Time Completed:	1/8/02	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
2, 4					Asphalt/fill Tan/gray fine SAND
6	None	0			Dark gray fine sandy CLAY (Saturated @ 4')
8, 10, 12	None	0			Gray black fine to medium SAND w/shell hash T.D. (Set 2" well, 10' of screen)

Construction



ft-bgs: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30

COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

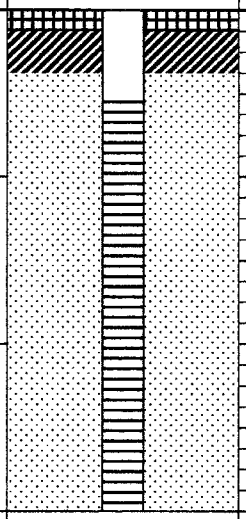
LOG OF BORING: MW-14

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	Hollow Stem Augers	Total Boring Depth (ft):	12
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.69
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	1/8/02	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	1/8/02	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
2					Asphalt/fill Tan brown fine to medium SAND
4					
6	None	0			Dark gray fine sandy CLAY (Saturated @ 4')
8					
10	None	0			Gray black fine to medium SAND w/shell hash
12					T.D. (Set 2" well, 10' of screen)
14					
16					
18					
20					
22					
24					
26					
28					
30					

Construction



COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

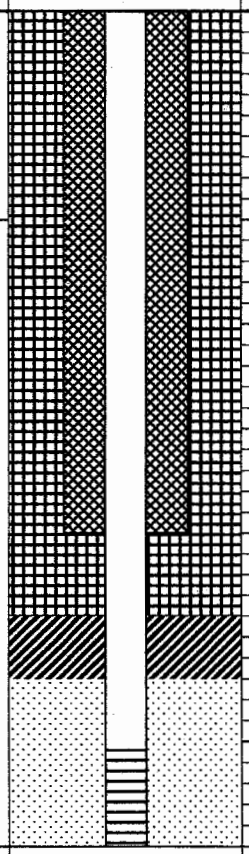
LOG OF BORING: PW-1

NESCO, Inc.

Site Name:	Bay Creek Villas	Drilling/Boring Method:	H.S. Augers w/Mud Rotary	Total Boring Depth (ft):	40
Project Number:	21-1151c	Sampling Method:	Grab	Measuring Point Elev. (relative):	99.69
Location:	Edisto Beach, SC	Subcontractor/Drillers:	NESCO, Inc.	Latitude	32° 29' 33" N
Date/Time Started:	12/5/01	Driller	Billy Ewing (1505)	Longitude	80° 19' 43" W
Date/Time Completed:	12/6/01	Monitoring Equipment:	FID	Geologist/Engineer:	Brian Kvam

ft -bgs	Odors	OVA (ppm)	Blows/6-in.	Recovery (ft.)	SOIL DESCRIPTION (color, texture, moisture, etc.)
					Asphalt/fill Tan/gray fine SAND
5	Strong Petroleum	784			(Saturated @ 4')
10					
	Strong	>1000			Gray black clayey fine to medium SAND w/shell hash
15	Moderate	246			
20	Slight	20			
25	Slight	0			(Set 4" Outer Casing @ 25') (Begin mud rotary drilling)
30					
35					
40					T.D. (Set 2" well, 5' of screen)
45					
50					
55					
60					

Construction



COMMENTS:

in - indicates inches
ft - indicates depth in feet
ft-bgs - indicates feet below ground surface

N/A - indicates not applicable to this boring
ppm - indicates parts per million

SHEALY ENVIRONMENTAL SERVICES, INC.
Scientists and Consultants

Report of Analysis

Nesco

521 Clemson Road
Columbia, SC 29229
Attention : Brian Kvam

Project Name : **Bay Creek Villas**

Project Number : **21-1151c**

Lot Number : **CL09003**

Date Completed : **12/22/2001**

Jennifer Orr

Project Manager

Total number of pages in report : **8**

This report has been prepared and reviewed in accordance with Shealy's Quality Assurance Management Plan. Any data qualifiers associated with sample analysis are footnoted on the analytical results page(s). 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.

Report of Analysis

SC DHEC No. 32010 | NC DEHNR No. 329

Client : **NESCO**
521 Clemson Road
Columbia, SC 29229

Attention : **Brian Kvam**
Project Name : **Bay Creek Villas** Project Number : **21-1151c**

Description : **MW-9** Date Sampled : 12/06/2001
Lot Number : CL09003-001 Matrix : Solid

Date Received : 12/07/2001

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	**91.7**			%		12/10/2001 1545	LTF
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		5.1	ug/kg		12/12/2001 1539	RED
Ethylbenzene	5035	8260B	**14**		5.1	ug/kg		12/12/2001 1539	RED
Naphthalene	5035	8260B	**29**		5.1	ug/kg		12/12/2001 1539	RED
Toluene	5035	8260B	ND		5.1	ug/kg		12/12/2001 1539	RED
Xylenes (total)	5035	8260B	**20**		5.1	ug/kg		12/12/2001 1539	RED
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	84		70-130	%		12/12/2001 1539	RED
Bromofluorobenzene	5035	8260B	106		70-130	%		12/12/2001 1539	RED
Toluene-d8	5035	8260B	110		70-130	%		12/12/2001 1539	RED
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Acenaphthylene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Anthracene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Benzo(a)anthracene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Benzo(a)pyrene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Chrysene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Fluoranthene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Fluorene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Naphthalene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-9**		Date Sampled	: 12/06/2001
Lot Number	: CL09003-001		Matrix	: Solid
Client	: **NESCO**			
Date Received	: 12/07/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Semivolatile Organic Compounds by GC/MS									
Phenanthrene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Pyrene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1533	MWK
Surrogates									
2-Fluorobiphenyl	3550B	8270C	66		30-130	%	12/11/2001 1511	12/12/2001 1533	MWK
Nitrobenzene-d5	3550B	8270C	66		30-130	%	12/11/2001 1511	12/12/2001 1533	MWK
Terphenyl-d14	3550B	8270C	70		30-130	%	12/11/2001 1511	12/12/2001 1533	MWK
TPH - DRO									
TPH-DRO	3550B	8015B	ND		3600	ug/kg	12/12/2001 1050	12/14/2001 1751	MTR
Surrogates									
o - Terphenyl	3550B	8015B	59		50-130	%	12/12/2001 1050	12/14/2001 1751	MTR

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**SB-1**	Date Sampled	:	12/06/2001
Lot Number	:	CL09003-002	Matrix	:	Solid
Client	:	**NESCO**			
Date Received	:	12/07/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	**87.4**			%		12/10/2001 1545	LTF
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	**70**		5.6	ug/kg		12/12/2001 0445	RED
Ethylbenzene	5035	8260B	**450**		5.6	ug/kg		12/12/2001 0445	RED
Naphthalene	5035	8260B	**430**		300	ug/kg		12/13/2001 1755	RED
Toluene	5035	8260B	**110**		5.6	ug/kg		12/12/2001 0445	RED
Xylenes (total)	5035	8260B	**380**		300	ug/kg		12/13/2001 1755	RED
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	84		70-130	%		12/12/2001 0445	RED
Bromofluorobenzene	5035	8260B	76		70-130	%		12/12/2001 0445	RED
Toluene-d8	5035	8260B	70		70-130	%		12/12/2001 0445	RED
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Acenaphthylene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Anthracene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Benzo(a)anthracene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Benzo(a)pyrene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Chrysene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Fluoranthene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Fluorene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Naphthalene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Phenanthrene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Pyrene	3550B	8270C	ND		380	ug/kg	12/11/2001 1511	12/12/2001 1607	MWK
Surrogates									
2-Fluorobiphenyl	3550B	8270C	65		30-130	%	12/11/2001 1511	12/12/2001 1607	MWK
Nitrobenzene-d5	3550B	8270C	63		30-130	%	12/11/2001 1511	12/12/2001 1607	MWK
Terphenyl-d14	3550B	8270C	66		30-130	%	12/11/2001 1511	12/12/2001 1607	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**SB-2**	Date Sampled	: 12/06/2001
Lot Number	:	CL09003-003	Matrix	: Solid
Client	:	**NESCO**		
Date Received	:	12/07/2001		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	**84.8**			%		12/10/2001 1545	LTF
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		300	ug/kg		12/13/2001 1819	RED
Ethylbenzene	5035	8260B	**580**		300	ug/kg		12/13/2001 1819	RED
Naphthalene	5035	8260B	**1800**		300	ug/kg		12/13/2001 1819	RED
Toluene	5035	8260B	ND		300	ug/kg		12/13/2001 1819	RED
Xylenes (total)	5035	8260B	**3400**		300	ug/kg		12/13/2001 1819	RED
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	78		70-130	%		12/13/2001 1819	RED
Bromofluorobenzene	5035	8260B	86		70-130	%		12/13/2001 1819	RED
Toluene-d8	5035	8260B	97		70-130	%		12/13/2001 1819	RED
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Acenaphthylene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Anthracene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Benzo(a)anthracene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Benzo(a)pyrene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Chrysene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Fluoranthene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Fluorene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Naphthalene	3550B	8270C	**1300**		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Phenanthrene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Pyrene	3550B	8270C	ND		390	ug/kg	12/11/2001 1511	12/12/2001 1641	MWK
Surrogates									
2-Fluorobiphenyl	3550B	8270C	63		30-130	%	12/11/2001 1511	12/12/2001 1641	MWK
Nitrobenzene-d5	3550B	8270C	63		30-130	%	12/11/2001 1511	12/12/2001 1641	MWK
Terphenyl-d14	3550B	8270C	62		30-130	%	12/11/2001 1511	12/12/2001 1641	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **SB-3**		Date Sampled	: 12/06/2001
Lot Number	: CL09003-004		Matrix	: Solid
Client	: **NESCO**			
Date Received	: 12/07/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	**89.5**			%		12/10/2001 1545	LTF
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		290	ug/kg		12/13/2001 1844	RED
Ethylbenzene	5035	8260B	**850**		290	ug/kg		12/13/2001 1844	RED
Naphthalene	5035	8260B	**2000**		290	ug/kg		12/13/2001 1844	RED
Toluene	5035	8260B	**530**		290	ug/kg		12/13/2001 1844	RED
Xylenes (total)	5035	8260B	**4700**		290	ug/kg		12/13/2001 1844	RED
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	75		70-130	%		12/13/2001 1844	RED
Bromofluorobenzene	5035	8260B	90		70-130	%		12/13/2001 1844	RED
Toluene-d8	5035	8260B	99		70-130	%		12/13/2001 1844	RED
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Acenaphthylene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Anthracene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Benzo(a)anthracene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Benzo(a)pyrene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Chrysene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Fluoranthene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Fluorene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Naphthalene	3550B	8270C	**1300**		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Phenanthrene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Pyrene	3550B	8270C	ND		370	ug/kg	12/11/2001 1511	12/12/2001 1715	MWK
Surrogates									
2-Fluorobiphenyl	3550B	8270C	67		30-130	%	12/11/2001 1511	12/12/2001 1715	MWK
Nitrobenzene-d5	3550B	8270C	66		30-130	%	12/11/2001 1511	12/12/2001 1715	MWK
Terphenyl-d14	3550B	8270C	70		30-130	%	12/11/2001 1511	12/12/2001 1715	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**SB-4**	Date Sampled	:	12/06/2001
Lot Number	:	CL09003-005	Matrix	:	Solid
Client	:	**NESCO**			
Date Received	:	12/07/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	**91.3**			%		12/10/2001 1545	LTF
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	**6.9**		5.1	ug/kg		12/12/2001 0624	RED
Ethylbenzene	5035	8260B	**89**		5.1	ug/kg		12/12/2001 0624	RED
Naphthalene	5035	8260B	**210**		5.1	ug/kg		12/12/2001 0624	RED
Toluene	5035	8260B	ND		5.1	ug/kg		12/12/2001 0624	RED
Xylenes (total)	5035	8260B	**280**		5.1	ug/kg		12/12/2001 0624	RED
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	79		70-130	%		12/12/2001 0624	RED
Bromofluorobenzene	5035	8260B	67	@	70-130	%		12/12/2001 0624	RED
Toluene-d8	5035	8260B	86		70-130	%		12/12/2001 0624	RED
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Acenaphthylene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Anthracene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Benzo(a)anthracene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Benzo(a)pyrene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Chrysene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Fluoranthene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Fluorene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Naphthalene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Phenanthrene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Pyrene	3550B	8270C	ND		360	ug/kg	12/11/2001 1511	12/12/2001 1750	MWK
Surrogates									
2-Fluorobiphenyl	3550B	8270C	65		30-130	%	12/11/2001 1511	12/12/2001 1750	MWK
Nitrobenzene-d5	3550B	8270C	63		30-130	%	12/11/2001 1511	12/12/2001 1750	MWK
Terphenyl-d14	3550B	8270C	69		30-130	%	12/11/2001 1511	12/12/2001 1750	MWK

Footnote(s) : @Surrogate recovery outside acceptance criteria due to matrix interference.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**MW-10**	Date Sampled	: 12/06/2001
Lot Number	:	CL09003-006	Matrix	: Solid
Client	:	**NESCO**		
Date Received	:	12/07/2001		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date		Analyst
Inorganic non-metals										
% Solids		160.3	**80.6**			%		12/10/2001	1545	LTF
TOC		Walkley-Black	**1600**		250	mg/kg		12/19/2001	1700	NWD

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

SHEALY Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 10090

Client: NESCO, INC.	Project Manager: BRIAN KVAM	Telephone No. / Fax No. / E-mail: 699-1976	Quote No.
Address: 521 CLEMSON RD.	Sampler's Signature: x Brian J. Kvam	Waybill No.	Page 1 of 1
City: COLUMBIA / State: SC / Zip Code: 29229	Printed Name: BRIAN J. KVAM	Analysis (Attach list if more space is needed.)	
Project Name: BAY CREEK VILLAS			
Project No.: 21-1156	P.O. No.		Lot No.: CL09003

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	BTEX + NAPH.	PAHs	TPH 3550	TOC	Remarks / Cooler I.D.
MW-9	12/6/01				X								X	X	X		
SB-1	↓				X								X	X			
SB-2	↓				X								X	X			
SB-3	↓				X								X	X			
SB-4	↓				X								X	X			
MW-10	↓				X										X		

Possible Hazard Identification: X Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): X Standard ☐ Rush (Specify)

QC Requirements (Specify):

	Date	Time		Date	Time
1. Relinquished by: Brian J. Kvam	12/6/01	1830	1. Received by: SECURE AREA	12/6/01	1830
2. Relinquished by: [illegible]	12/7/01	1000	2. Received by: [illegible]	12/7/01	1000
3. Relinquished by: [illegible]	12/7/01	1600	3. Laboratory received by: PMcClanahan	12/7/01	1600

Comments:

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack
Receipt Temp. 4.0 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Form No. 1001

Sample Receipt Checklist

Client: Nesco Cooler received by/date: lbm 12/7/01 Lot number: CL09003

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ DirectX ☐ Other

Cooler temperature upon receipt 4.0 °C
Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Yes ☐	No ☐	NA ☑	1. Is the shipper's packing slip attached to this form? (if applicable)
Yes ☑	No ☐	NA ☐	2. Was a chain of custody provided with the samples?
Yes ☑	No ☐	NA ☐	3. Were proper custody procedures followed?
Yes ☑	No ☐	NA ☐	4. Was the client name listed?
Yes ☑	No ☐	NA ☐	5. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	6. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	7. Were the tests to be performed listed on either the C of C or quote?
Yes ☑	No ☐	NA ☐	8. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	9. Did all bottle labels agree with custody papers?
Yes ☑	No ☐	NA ☐	10. Did all containers arrive in good condition (unbroken)?
Yes ☑	No ☐	NA ☐	11. Was adequate sample volume available?
Yes ☑	No ☐	NA ☐	12. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	13. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	14. Were there any excess samples not listed on C of C?
Yes ☐	No ☐	NA ☑	15. Were air bubbles >6 mm in any VOA vials (if applicable)?
Yes ☐	No ☐	NA ☑	16. Were all Metals; Oil & Grease; Nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	17. Were all Cyanide; Sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	18. Were all NH3; TKN; Cyanide; BNA; PEST; PCB; HERB; Toxicity samples free of residual chlorine? (< 0.1 mg/L)
Yes ☐	No ☐	NA ☑	19. For North Carolina samples, were collection temperatures documented on the chain of custody?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved.)

Sample(s)_____were received incorrectly preserved and were adjusted accordingly in sample receiving.

Sample(s)_____were received incorrectly preserved and were unable to be analyzed.

Sample(s) _____ were received with bubble >6 mm in diameter

Toxicity sample(s)_____ were received with TRC > 0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐
Did client respond: Yes ☐ No ☐
Date of response: _____
SESI employee: _____
Client instructions / Comments:

_____
_____
_____
_____

Report of Analysis

Nesco
521 Clemson Road
Columbia, SC 29229
Attention : Brian Kvam

Project Name : **Bay Creek Villas**

Project Number : **21-1151c**

Lot Number : **CL11002**
Date Completed : **12/26/2001**

Jennifer Orr
Project Manager

Total number of pages in report : **23**

This report has been prepared and reviewed in accordance with Shealy's Quality Assurance Management Plan. Any data qualifiers associated with sample analysis are footnoted on the analytical results page(s). 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.

Report of Analysis

SC DHEC No. 32010 | NC DEHNR No. 329

Client : **NESCO**
521 Clemson Road
Columbia, SC 29229

Attention : **Brian Kvam**
Project Name : **Bay Creek Villas** Project Number : **21-1151c**

Description : **MW-1** Date Sampled : 12/10/2001 1400
Lot Number : CL11002-001 Matrix : Aqueous

Date Received : 12/11/2001

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**5.0**		2.5	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	ND		0.020	mg/L		12/11/2001 1138	MDC
Sulfate		300.0	**2.2**		1.0	mg/L		12/14/2001 1210	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	**14**		5.0	ug/L		12/17/2001 2343	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		5.0	ug/L		12/17/2001 2343	DLB
Ethylbenzene	5030B	8260B	**19**		5.0	ug/L		12/17/2001 2343	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		12/17/2001 2343	DLB
Naphthalene	5030B	8260B	ND		5.0	ug/L		12/17/2001 2343	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0226	RED
Toluene	5030B	8260B	ND		5.0	ug/L		12/17/2001 2343	DLB
1,2,4-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/17/2001 2343	DLB
1,3,5-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/17/2001 2343	DLB
Xylenes (total)	5030B	8260B	**16**		5.0	ug/L		12/17/2001 2343	DLB
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	122		70-130	%		12/17/2001 2343	DLB
Bromofluorobenzene	5030B	8260B	89		70-130	%		12/17/2001 2343	DLB
Toluene-d8	5030B	8260B	99		70-130	%		12/17/2001 2343	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Acenaphthylene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Anthracene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Benzo(a)anthracene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Benzo(a)pyrene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**MW-1**	Date Sampled	: 12/10/2001 1400
Lot Number	:	CL11002-001	Matrix	: Aqueous
Client	:	**NESCO**		
Date Received	:	12/11/2001		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Semivolatile Organic Compounds by GC/MS									
Benzo(b)fluoranthene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Chrysene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Fluoranthene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Fluorene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Naphthalene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Phenanthrene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Pyrene	3520C	8270C	ND		6.2	ug/L	12/13/2001 1713	12/17/2001 1031	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	85		30-130	%	12/13/2001 1713	12/17/2001 1031	MWK
Nitrobenzene-d5	3520C	8270C	85		30-130	%	12/13/2001 1713	12/17/2001 1031	MWK
Terphenyl-d14	3520C	8270C	61		30-130	%	12/13/2001 1713	12/17/2001 1031	MWK
Dissolved Methane									
Methane		RSK - 175	**3480**		260	ug/L		12/13/2001 1055	MWK
ICP-AES									
Lead	3005A	6010B	**0.0069**		0.0030	mg/L	12/12/2001 1145	12/14/2001 1545	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-3**		Date Sampled	: 12/10/2001 1430
Lot Number	: CL11002-002		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**30**		2.5	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	**0.093**		0.020	mg/L		12/11/2001 1138	ARM
Sulfate		300.0	ND		1.0	mg/L		12/14/2001 1226	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	**1900**		50	ug/L		12/18/2001 0009	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		25	ug/L		12/18/2001 0425	DLB
Ethylbenzene	5030B	8260B	**740**		25	ug/L		12/18/2001 0425	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		25	ug/L		12/18/2001 0425	DLB
Naphthalene	5030B	8260B	**220**		25	ug/L		12/18/2001 0425	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0251	RED
Toluene	5030B	8260B	**52**		25	ug/L		12/18/2001 0425	DLB
1,2,4-Trimethylbenzene	5030B	8260B	**26**		25	ug/L		12/18/2001 0425	DLB
1,3,5-Trimethylbenzene	5030B	8260B	**97**		25	ug/L		12/18/2001 0425	DLB
Xylenes (total)	5030B	8260B	**270**		25	ug/L		12/18/2001 0425	DLB
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	98		70-130	%		12/18/2001 0425	DLB
Bromofluorobenzene	5030B	8260B	89		70-130	%		12/18/2001 0425	DLB
Toluene-d8	5030B	8260B	91		70-130	%		12/18/2001 0425	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Acenaphthylene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Anthracene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Chrysene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Fluoranthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Fluorene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Naphthalene	3520C	8270C	**220**		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Phenanthrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Pyrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1109	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	79		30-130	%	12/13/2001 1713	12/17/2001 1109	MWK
Nitrobenzene-d5	3520C	8270C	80		30-130	%	12/13/2001 1713	12/17/2001 1109	MWK
Terphenyl-d14	3520C	8270C	40		30-130	%	12/13/2001 1713	12/17/2001 1109	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**MW-3**	Date Sampled	: 12/10/2001 1430
Lot Number	:	CL11002-002	Matrix	: Aqueous
Client	:	**NESCO**		
Date Received	:	12/11/2001		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Dissolved Methane									
Methane		RSK - 175	**3620**		260	ug/L		12/13/2001 1101	MWK
ICP-AES									
Lead	3005A	6010B	**0.072**		0.0030	mg/L	12/12/2001 1145	12/13/2001 2001	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-4**		Date Sampled	: 12/10/2001 1525
Lot Number	: CL11002-003		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**22**		2.5	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	ND		0.020	mg/L		12/11/2001 1138	ARM
Sulfate		300.0	ND		1.0	mg/L		12/14/2001 1242	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	**71**		5.0	ug/L		12/18/2001 0035	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0035	DLB
Ethylbenzene	5030B	8260B	**140**		5.0	ug/L		12/18/2001 0035	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0035	DLB
Naphthalene	5030B	8260B	**94**		5.0	ug/L		12/18/2001 0035	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0315	RED
Toluene	5030B	8260B	**7.1**		5.0	ug/L		12/18/2001 0035	DLB
1,2,4-Trimethylbenzene	5030B	8260B	**37**		5.0	ug/L		12/18/2001 0035	DLB
1,3,5-Trimethylbenzene	5030B	8260B	**22**		5.0	ug/L		12/18/2001 0035	DLB
Xylenes (total)	5030B	8260B	**76**		5.0	ug/L		12/18/2001 0035	DLB
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	128		70-130	%		12/18/2001 0035	DLB
Bromofluorobenzene	5030B	8260B	34		70-130	%		12/18/2001 0035	DLB
Toluene-d8	5030B	8260B	68		70-130	%		12/18/2001 0035	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	**6.4**		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Acenaphthylene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Anthracene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Chrysene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Fluoranthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Fluorene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Naphthalene	3520C	8270C	**54**		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Phenanthrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Pyrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1148	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	79		30-130	%	12/13/2001 1713	12/17/2001 1148	MWK
Nitrobenzene-d5	3520C	8270C	80		30-130	%	12/13/2001 1713	12/17/2001 1148	MWK
Terphenyl-d14	3520C	8270C	26		30-130	%	12/13/2001 1713	12/17/2001 1148	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-4**	Date Sampled	:	12/10/2001 1525
Lot Number	: CL11002-003	Matrix	:	Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Dissolved Methane									
Methane		RSK - 175	**2880**		260	ug/L		12/13/2001 1058	MWK
ICP-AES									
Lead	3005A	6010B	**0.051**		0.0030	mg/L	12/12/2001 1145	12/14/2001 1548	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-5**		Date Sampled	: 12/10/2001 1540
Lot Number	: CL11002-004		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**20**		2.5	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	ND		0.020	mg/L		12/11/2001 1138	ARM
Sulfate		300.0	**40**		1.0	mg/L		12/14/2001 1258	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0100	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0100	DLB
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0100	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0100	DLB
Naphthalene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0100	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0340	RED
Toluene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0100	DLB
1,2,4-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0100	DLB
1,3,5-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0100	DLB
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0100	DLB
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	104		70-130	%		12/18/2001 0100	DLB
Bromofluorobenzene	5030B	8260B	88		70-130	%		12/18/2001 0100	DLB
Toluene-d8	5030B	8260B	94		70-130	%		12/18/2001 0100	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Acenaphthylene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Anthracene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Chrysene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Fluoranthene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Fluorene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Naphthalene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Phenanthrene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Pyrene	3520C	8270C	ND		5.1	ug/L	12/13/2001 1713	12/17/2001 1226	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	81		30-130	%	12/13/2001 1713	12/17/2001 1226	MWK
Nitrobenzene-d5	3520C	8270C	83		30-130	%	12/13/2001 1713	12/17/2001 1226	MWK
Terphenyl-d14	3520C	8270C	45		30-130	%	12/13/2001 1713	12/17/2001 1226	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-5**		Date Sampled	: 12/10/2001 1540
Lot Number	: CL11002-004		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Dissolved Methane									
Methane		RSK - 175	**1020**		260	ug/L		12/13/2001 0919	MWK
ICP-AES									
Lead	3005A	6010B	**0.020**		0.0030	mg/L	12/12/2001 1145	12/14/2001 1551	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-6**		Date Sampled	: 12/10/2001 1555
Lot Number	: CL11002-005		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**50**		2.5	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	**0.032**		0.020	mg/L		12/11/2001 1138	ARM
Sulfate		300.0	**61**		2.0	mg/L		12/14/2001 1617	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0126	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0126	DLB
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0126	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0126	DLB
Naphthalene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0126	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0405	RED
Toluene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0126	DLB
1,2,4-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0126	DLB
1,3,5-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0126	DLB
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0126	DLB
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	108		70-130	%		12/18/2001 0126	DLB
Bromofluorobenzene	5030B	8260B	83		70-130	%		12/18/2001 0126	DLB
Toluene-d8	5030B	8260B	98		70-130	%		12/18/2001 0126	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Acenaphthylene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Anthracene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Chrysene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Fluoranthene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Fluorene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Naphthalene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Phenanthrene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Pyrene	3520C	8270C	ND		5.8	ug/L	12/13/2001 1713	12/17/2001 1304	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	79		30-130	%	12/13/2001 1713	12/17/2001 1304	MWK
Nitrobenzene-d5	3520C	8270C	81		30-130	%	12/13/2001 1713	12/17/2001 1304	MWK
Terphenyl-d14	3520C	8270C	34		30-130	%	12/13/2001 1713	12/17/2001 1304	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-6**		Date Sampled	: 12/10/2001 1555
Lot Number	: CL11002-005		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Dissolved Methane									
Methane		RSK - 175	**2660**		260	ug/L		12/13/2001 0934	MWK
ICP-AES									
Lead	3005A	6010B	**0.14**		0.0030	mg/L	12/12/2001 1145	12/13/2001 2010	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**MW-7**	Date Sampled	: 12/10/2001 1615
Lot Number	:	CL11002-006	Matrix	: Aqueous
Client	:	**NESCO**		
Date Received	:	12/11/2001		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**52**		2.5	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	**0.026**		0.020	mg/L		12/11/2001 1138	ARM
Sulfate		300.0	**18**		1.0	mg/L		12/14/2001 0202	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0151	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0151	DLB
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0151	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0151	DLB
Naphthalene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0151	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0429	RED
Toluene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0151	DLB
1,2,4-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0151	DLB
1,3,5-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0151	DLB
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0151	DLB
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	111		70-130	%		12/18/2001 0151	DLB
Bromofluorobenzene	5030B	8260B	84		70-130	%		12/18/2001 0151	DLB
Toluene-d8	5030B	8260B	100		70-130	%		12/18/2001 0151	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Acenaphthylene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Anthracene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Chrysene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Fluoranthene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Fluorene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Naphthalene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Phenanthrene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Pyrene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1343	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	82		30-130	%	12/13/2001 1713	12/17/2001 1343	MWK
Nitrobenzene-d5	3520C	8270C	82		30-130	%	12/13/2001 1713	12/17/2001 1343	MWK
Terphenyl-d14	3520C	8270C	45		30-130	%	12/13/2001 1713	12/17/2001 1343	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**MW-7**	Date Sampled	: 12/10/2001 1615
Lot Number	:	CL11002-006	Matrix	: Aqueous
Client	:	**NESCO**		
Date Received	:	12/11/2001		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Dissolved Methane									
Methane		RSK - 175	**2890**		260	ug/L		12/13/2001 0940	MWK
ICP-AES									
Lead	3005A	6010B	**0.091**		0.0030	mg/L	12/12/2001 1145	12/13/2001 2013	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**MW-8**	Date Sampled	:	12/10/2001 1600
Lot Number	:	CL11002-007	Matrix	:	Aqueous
Client	:	**NESCO**			
Date Received	:	12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**13**		2.5	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	**0.20**		0.020	mg/L		12/11/2001 1138	ARM
Sulfate		300.0	**5.7**		1.0	mg/L		12/14/2001 0218	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0217	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0217	DLB
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0217	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0217	DLB
Naphthalene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0217	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0454	RED
Toluene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0217	DLB
1,2,4-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0217	DLB
1,3,5-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0217	DLB
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0217	DLB
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	114		70-130	%		12/18/2001 0217	DLB
Bromofluorobenzene	5030B	8260B	83		70-130	%		12/18/2001 0217	DLB
Toluene-d8	5030B	8260B	98		70-130	%		12/18/2001 0217	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Acenaphthylene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Anthracene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Chrysene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Fluoranthene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Fluorene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Naphthalene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Phenanthrene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Pyrene	3520C	8270C	ND		5.7	ug/L	12/13/2001 1713	12/17/2001 1421	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	82		30-130	%	12/13/2001 1713	12/17/2001 1421	MWK
Nitrobenzene-d5	3520C	8270C	83		30-130	%	12/13/2001 1713	12/17/2001 1421	MWK
Terphenyl-d14	3520C	8270C	44		30-130	%	12/13/2001 1713	12/17/2001 1421	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**MW-8**	Date Sampled	: 12/10/2001 1600
Lot Number	:	CL11002-007	Matrix	: Aqueous
Client	:	**NESCO**		
Date Received	:	12/11/2001		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Dissolved Methane									
Methane		RSK - 175	**380**		260	ug/L		12/13/2001 0943	MWK
ICP-AES									
Lead	3005A	6010B	**0.27**		0.0030	mg/L	12/12/2001 1145	12/13/2001 2016	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-9**		Date Sampled	: 12/10/2001 1500
Lot Number	: CL11002-008		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**55**		2.5	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	ND		0.020	mg/L		12/11/2001 1138	ARM
Sulfate		300.0	**3.8**		1.0	mg/L		12/14/2001 0305	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	**1200**		50	ug/L		12/18/2001 0243	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		25	ug/L		12/18/2001 0451	DLB
Ethylbenzene	5030B	8260B	**900**		25	ug/L		12/18/2001 0451	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		25	ug/L		12/18/2001 0451	DLB
Naphthalene	5030B	8260B	**310**		25	ug/L		12/18/2001 0451	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0519	DLB
Toluene	5030B	8260B	**3900**		100	ug/L		12/20/2001 1705	RED
1,2,4-Trimethylbenzene	5030B	8260B	**360**		25	ug/L		12/18/2001 0451	DLB
1,3,5-Trimethylbenzene	5030B	8260B	**1500**		50	ug/L		12/18/2001 0243	DLB
Xylenes (total)	5030B	8260B	**2700**		100	ug/L		12/20/2001 1705	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	106		70-130	%		12/18/2001 0451	DLB
Bromofluorobenzene	5030B	8260B	84		70-130	%		12/18/2001 0451	DLB
Toluene-d8	5030B	8260B	85		70-130	%		12/18/2001 0451	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Acenaphthylene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Anthracene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Benzo(a)anthracene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Benzo(a)pyrene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Chrysene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Fluoranthene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Fluorene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Naphthalene	3520C	8270C	**420**		12	ug/L	12/13/2001 1713	12/17/2001 1753	MWK
Phenanthrene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Pyrene	3520C	8270C	ND		6.0	ug/L	12/13/2001 1713	12/17/2001 1456	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	78		30-130	%	12/13/2001 1713	12/17/2001 1456	MWK
Nitrobenzene-d5	3520C	8270C	80		30-130	%	12/13/2001 1713	12/17/2001 1456	MWK
Terphenyl-d14	3520C	8270C	38		30-130	%	12/13/2001 1713	12/17/2001 1456	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
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E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**MW-9**	Date Sampled	: 12/10/2001 1500
Lot Number	:	CL11002-008	Matrix	: Aqueous
Client	:	**NESCO**		
Date Received	:	12/11/2001		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Dissolved Methane									
Methane		RSK - 175	**3020**		260	ug/L		12/13/2001 0946	MWK
ICP-AES									
Lead	3005A	6010B	**0.16**		0.0030	mg/L	12/12/2001 1145	12/13/2001 2019	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-10**		Date Sampled	: 12/10/2001 1630
Lot Number	: CL11002-009		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**10**		2.5	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	ND		0.020	mg/L		12/11/2001 1138	ARM
Sulfate		300.0	**180**		10	mg/L		12/14/2001 1633	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0308	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0308	DLB
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0308	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0308	DLB
Naphthalene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0308	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0543	RED
Toluene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0308	DLB
1,2,4-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0308	DLB
1,3,5-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0308	DLB
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0308	DLB
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	103		70-130	%		12/18/2001 0308	DLB
Bromofluorobenzene	5030B	8260B	86		70-130	%		12/18/2001 0308	DLB
Toluene-d8	5030B	8260B	95		70-130	%		12/18/2001 0308	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Acenaphthylene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Anthracene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Chrysene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Fluoranthene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Fluorene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Naphthalene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Phenanthrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Pyrene	3520C	8270C	ND		5.6	ug/L	12/13/2001 1713	12/17/2001 1531	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	81		30-130	%	12/13/2001 1713	12/17/2001 1531	MWK
Nitrobenzene-d5	3520C	8270C	81		30-130	%	12/13/2001 1713	12/17/2001 1531	MWK
Terphenyl-d14	3520C	8270C	46		30-130	%	12/13/2001 1713	12/17/2001 1531	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	:	**MW-10**	Date Sampled	: 12/10/2001 1630
Lot Number	:	CL11002-009	Matrix	: Aqueous
Client	:	**NESCO**		
Date Received	:	12/11/2001		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Dissolved Methane									
Methane		RSK - 175	**235**		26.0	ug/L		12/13/2001 0235	MWK
ICP-AES									
Lead	3005A	6010B	**0.056**		0.0030	mg/L	12/12/2001 1145	12/14/2001 1554	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-11**		Date Sampled	: 12/10/2001 1650
Lot Number	: CL11002-010		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**0.18**		0.050	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	**0.035**		0.020	mg/L		12/11/2001 1138	ARM
Sulfate		300.0	ND		1.0	mg/L		12/14/2001 0337	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0334	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0334	DLB
Ethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0334	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0334	DLB
Naphthalene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0334	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0608	RED
Toluene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0334	DLB
1,2,4-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0334	DLB
1,3,5-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0334	DLB
Xylenes (total)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0334	DLB
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	108		70-130	%		12/18/2001 0334	DLB
Bromofluorobenzene	5030B	8260B	90		70-130	%		12/18/2001 0334	DLB
Toluene-d8	5030B	8260B	98		70-130	%		12/18/2001 0334	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Acenaphthylene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Anthracene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Chrysene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Fluoranthene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Fluorene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Naphthalene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Phenanthrene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Pyrene	3520C	8270C	ND		5.3	ug/L	12/13/2001 1713	12/17/2001 1607	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	86		30-130	%	12/13/2001 1713	12/17/2001 1607	MWK
Nitrobenzene-d5	3520C	8270C	80		30-130	%	12/13/2001 1713	12/17/2001 1607	MWK
Terphenyl-d14	3520C	8270C	85		30-130	%	12/13/2001 1713	12/17/2001 1607	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **MW-11**		Date Sampled	: 12/10/2001 1650
Lot Number	: CL11002-010		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Dissolved Methane									
Methane		RSK - 175	ND		26.0	ug/L		12/13/2001 0958	MWK
ICP-AES									
Lead	3005A	6010B	ND		0.0030	mg/L	12/12/2001 1145	12/14/2001 1557	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **PW-1**		Date Sampled	: 12/10/2001 1450
Lot Number	: CL11002-011		Matrix	: Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
Ferrous Iron		3500 Fe-D	**0.52**		0.050	mg/L		12/11/2001 1400	ADH
Nitrate - N		353.2	**0.19**		0.020	mg/L		12/11/2001 1138	ARM
Sulfate		300.0	**270**		10	mg/L		12/14/2001 1649	LMC
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0359	DLB
1,2-Dibromoethane (EDB)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0359	DLB
Ethylbenzene	5030B	8260B	**13**		5.0	ug/L		12/18/2001 0359	DLB
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		5.0	ug/L		12/18/2001 0359	DLB
Naphthalene	5030B	8260B	**5.5**		5.0	ug/L		12/18/2001 0359	DLB
Tetraethyl lead	5030B	8260B	ND		500	ug/L		12/15/2001 0633	RED
Toluene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0359	DLB
1,2,4-Trimethylbenzene	5030B	8260B	ND		5.0	ug/L		12/18/2001 0359	DLB
1,3,5-Trimethylbenzene	5030B	8260B	**9.1**		5.0	ug/L		12/18/2001 0359	DLB
Xylenes (total)	5030B	8260B	**8.6**		5.0	ug/L		12/18/2001 0359	DLB
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	109		70-130	%		12/18/2001 0359	DLB
Bromofluorobenzene	5030B	8260B	91		70-130	%		12/18/2001 0359	DLB
Toluene-d8	5030B	8260B	99		70-130	%		12/18/2001 0359	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Acenaphthylene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Anthracene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Benzo(a)anthracene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Benzo(a)pyrene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Chrysene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Fluoranthene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Fluorene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Naphthalene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Phenanthrene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Pyrene	3520C	8270C	ND		6.1	ug/L	12/13/2001 1713	12/17/2001 1642	MWK
Surrogates									
2-Fluorobiphenyl	3520C	8270C	69		30-130	%	12/13/2001 1713	12/17/2001 1642	MWK
Nitrobenzene-d5	3520C	8270C	73		30-130	%	12/13/2001 1713	12/17/2001 1642	MWK
Terphenyl-d14	3520C	8270C	37		30-130	%	12/13/2001 1713	12/17/2001 1642	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **PW-1**	Date Sampled	:	12/10/2001 1450
Lot Number	: CL11002-011	Matrix	:	Aqueous
Client	: **NESCO**			
Date Received	: 12/11/2001			

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Dissolved Methane									
Methane		RSK - 175	**122**		26.0	ug/L		12/13/2001 1001	MWK
ICP-AES									
Lead	3005A	6010B	ND		0.0030	mg/L	12/12/2001 1145	12/13/2001 2035	FTS

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY Chain of Custody Record

Number 04730

Client: NESCO	Project Manager: BRIAN KVAM	Telephone No. / Fax No. / E-mail: 699-1976	Quote No.
Address: 521 CLEMSON RD.	Sampler's Signature: X Brian J. Kvam	Waybill No.	Page 1 of 2
City: COLUMBIA / State: SC / Zip Code: 29229	Printed Name: BRIAN KVAM	Analysis (Attach list if more space is needed.)	
Project Name: BAY CREEK VILLAS			
Project No.: 21-1151c			Lot No.: CL11002

Sample ID / Description (Containers for each sample may be combined on one line.)	P.O. No. Date	Time	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	STEARN RPW: TANTASE + EDBT TRIEMETHYLBENZENE	PAHs	ORGANIC LEAD	LEAD	NITRATE	SULFATE	FERROUS IRON	METHANE	Remarks / Cooler I.D.
MW-1	12/10/01	1400	G	X									X	X	X	X	X	X	X	X	
MW-3		1430																			
MW-4		1525																			
MW-5		1540																			
MW-6		1555																			
MW-7		1615																			
MW-8		1606																			
MW-9		1500																			
MW-10		1630																			
MW-11		1650																			

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify):

1. Relinquished by: Brian J. Kvam	Date: 12/01/01	Time: 2000	1. Received by: SECURE AREA	Date: 12/10/01	Time: 2000
2. Relinquished by: Secure Area	Date: 12/11/01	Time: 0930	2. Received by: [signature]	Date: 12/11/01	Time: 0930
3. Relinquished by: [signature]	Date: 12/11/01	Time: 1020	3. Laboratory received by: [signature]	Date: 12/11/01	Time: 1020

Comments:

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack
Receipt Temp. 3.3 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Form No. 1001

SHEALY **Chain of Custody Record**

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 04731

Client: NESCO	Project Manager: BRIAN KVAM	Telephone No. / Fax No. / E-mail: 699-1976	Quote No.
Address: 521 CLEMSON RD.	Sampler's Signature: X Brian J. Kvam	Waybill No.	Page 2 of 2
City: COLUMBIA State: SC Zip Code: 29229	Printed Name: BRIAN KVAM	Analysis (Attach list if more space is needed.)	
Project Name: BAY CREEK VILLAS			
Project No.: 21-1151C	P.O. No.		Lot No.: CL11002

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	BTEX+NAPH+MTBE+EDB+TRIMETHYLBENZENE	PAHs	ORGANIC LEAD	LEAD	NITRATE	SULFATE	FERROUS IRON	METHANE	Remarks / Cooler I.D.
PW-1	12/10/01	1450	G	X									X	X	X	X	X	X	X	X	

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: Brian J. Kvam	12/10/01	2000	1. Received by: SECURE AREA	12/10/01	2000
2. Relinquished by: Secure Area	12/11/01	0930	2. Received by: [signature]	12/11/01	0930
3. Relinquished by: [signature]	12/11/01	~~12/11/01~~ PM 1020	3. Laboratory received by: [signature]	12/11/01	1020

Comments

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack

Receipt Temp. 3.3 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Form No. 1001

Sample Receipt Checklist

Client: Nesco Cooler received by/date: PGM 12/11/01 Lot number: CL11002

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ DirectX ☐ Other

Cooler temperature upon receipt 3.3 °C
Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Yes ☐	No ☐	NA ☑	1. Is the shipper's packing slip attached to this form? (if applicable)
Yes ☑	No ☐	NA ☐	2. Was a chain of custody provided with the samples?
Yes ☑	No ☐	NA ☐	3. Were proper custody procedures followed?
Yes ☑	No ☐	NA ☐	4. Was the client name listed?
Yes ☑	No ☐	NA ☐	5. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	6. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	7. Were the tests to be performed listed on either the C of C or quote?
Yes ☑	No ☐	NA ☐	8. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	9. Did all bottle labels agree with custody papers?
Yes ☑	No ☐	NA ☐	10. Did all containers arrive in good condition (unbroken)?
Yes ☑	No ☐	NA ☐	11. Was adequate sample volume available?
Yes ☐	No ☑	NA ☐	12. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	13. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	14. Were there any excess samples not listed on C of C?
Yes ☐	No ☑	NA ☐	15. Were air bubbles >6 mm in any VOA vials (if applicable)?
Yes ☑	No ☐	NA ☐	16. Were all Metals; Oil & Grease; Nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	17. Were all Cyanide; Sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	18. Were all NH3; TKN; Cyanide; BNA; PEST; PCB; HERB; Toxicity samples free of residual chlorine? (< 0.1 mg/L)
Yes ☐	No ☐	NA ☑	19. For North Carolina samples, were collection temperatures documented on the chain of custody?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved.)

Sample(s)_____were received incorrectly preserved and were adjusted accordingly in sample receiving.

Sample(s)_____were received incorrectly preserved and were unable to be analyzed.

Sample(s) -011 1 of 5 were received with bubble >6 mm in diameter

Toxicity sample(s)_____ were received with TRC > 0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐
Did client respond: Yes ☐ No ☐
Date of response: _____
SESI employee: _____
Client instructions / Comments:

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

NESCO
521 Clemson Road
Columbia, SC 29229
Attention: Brian Kvam

Project Name: **Bay Creek Villas**

Project Number: **21-1151C**

Lot Number: **DA11014**

Date Completed: **01/24/2002**

Jennifer Orr
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.

Case Narrative
NESCO
Lot Number: DA11014

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative.

Sample receipt, sample analysis, and data review have been performed in accordance with Shealy's Quality Assurance Management Plan and Standard Operating Procedures. Any data qualifiers associated with sample analysis are footnoted on the analytical results page(s) or are discussed below.

Shealy Environmental Services, Inc.
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SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
NESCO
Lot Number: DA11014

Sample Number	Sample ID	Matrix	Date Sampled
001	MW 12	Aqueous	01/10/2002 1145
002	MW 13	Aqueous	01/10/2002 1130
003	MW 14	Aqueous	01/10/2002 1200
004	PW 1	Aqueous	01/10/2002 1145

(4 samples)

Shealy Environmental Services, Inc.
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Executive Summary
NESCO
Lot Number: DA11014

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units
001	MW 12	Aqueous	Ferrous Iron	3500 Fe-D	30		mg/L
001	MW 12	Aqueous	Nitrate - N	353.2	0.058		mg/L
001	MW 12	Aqueous	Sulfate	300.0	41		mg/L
001	MW 12	Aqueous	Methane	RSK - 175	926		ug/L
001	MW 12	Aqueous	Lead	6010B	0.080		mg/L
002	MW 13	Aqueous	Ferrous Iron	3500 Fe-D	76		mg/L
002	MW 13	Aqueous	Nitrate - N	353.2	0.020		mg/L
002	MW 13	Aqueous	Sulfate	300.0	18		mg/L
002	MW 13	Aqueous	Ethylbenzene	8260B	20		ug/L
002	MW 13	Aqueous	Naphthalene	8260B	5.0		ug/L
002	MW 13	Aqueous	1,3,5-Trimethylbenzene	8260B	12		ug/L
002	MW 13	Aqueous	Xylenes (total)	8260B	17		ug/L
002	MW 13	Aqueous	Methane	RSK - 175	2360		ug/L
002	MW 13	Aqueous	Lead	6010B	0.12		mg/L
003	MW 14	Aqueous	Ferrous Iron	3500 Fe-D	50		mg/L
003	MW 14	Aqueous	Nitrate - N	353.2	0.11		mg/L
003	MW 14	Aqueous	Sulfate	300.0	51		mg/L
003	MW 14	Aqueous	Methane	RSK - 175	56.7		ug/L
003	MW 14	Aqueous	Lead	6010B	0.11		mg/L

(19 detections)

Shealy Environmental Services, Inc.
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Inorganic non-metals

Client: **NESCO**
Description: **MW 12**
Date Sampled: **01/10/2002 1145**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-001**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Ferrous Iron) 3500 Fe-D	50	01/11/2002 1050	SRW		
1		(Nitrate - N) 353.2	1	01/11/2002 1408	LMC		
1		(Sulfate) 300.0	1	01/15/2002 0623	LMC		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Ferrous Iron		**3500 Fe-D**	**30**		**2.5**	**mg/L**	**1**
Nitrate - N		**353.2**	**0.058**		**0.020**	**mg/L**	**1**
Sulfate		**300.0**	**41**		**1.0**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 12**
Date Sampled: **01/10/2002 1145**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-001**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 0322	RED		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
1,2,4-Trimethylbenzene	95-63-6	8260B	ND		5.0	ug/L	1
1,3,5-Trimethylbenzene	108-67-8	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		108	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 12**
Date Sampled: **01/10/2002 1145**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-001**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 1603	DLB		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Tetraethyl lead	78-00-2	8260B	ND		500	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		120	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		98	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Shealy Environmental Services, Inc.
106 Vantage Point Drive Cayce, SC 29033 (803) 791-9700 Fax (803) 791-9111 www.shealyenvironmental.com

Semivolatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 12**
Date Sampled: **01/10/2002 1145**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-001**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	01/20/2002 2127	MWK	01/15/2002 1815	3938

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.7	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.7	ug/L	1
Anthracene	120-12-7	8270C	ND		5.7	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.7	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.7	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.7	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.7	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.7	ug/L	1
Chrysene	218-01-9	8270C	ND		5.7	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.7	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.7	ug/L	1
Fluorene	86-73-7	8270C	ND		5.7	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.7	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.7	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.7	ug/L	1
Pyrene	129-00-0	8270C	ND		5.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		74	30-130
Nitrobenzene-d5		78	30-130
Terphenyl-d14		30	30-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Dissolved Methane

Client: **NESCO**
Description: **MW 12**
Date Sampled: **01/10/2002 1145**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-001**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	01/18/2002 1430	MWK		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Methane		**RSK - 175**	**926**		**26.0**	**ug/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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ICP-AES

Client: **NESCO**
Description: **MW 12**
Date Sampled: **01/10/2002 1145**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-001**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010B	1	01/16/2002 1809	FTS	01/14/2002 1345	3932

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010B**	**0.080**		**0.0030**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
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P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Inorganic non-metals

Client: **NESCO**
Description: **MW 13**
Date Sampled: **01/10/2002 1130**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-002**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Ferrous Iron) 3500 Fe-D	50	01/11/2002 1050	SRW		
1		(Nitrate - N) 353.2	1	01/11/2002 1408	LMC		
1		(Sulfate) 300.0	1	01/15/2002 0639	LMC		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Ferrous Iron		**3500 Fe-D**	**76**		**2.5**	**mg/L**	**1**
Nitrate - N		**353.2**	**0.020**		**0.020**	**mg/L**	**1**
Sulfate		**300.0**	**18**		**1.0**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 13**
Date Sampled: **01/10/2002 1130**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-002**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/15/2002 0532	DLB		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**20**		**5.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**5.0**		**5.0**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
1,2,4-Trimethylbenzene	95-63-6	8260B	ND		5.0	ug/L	1
1,3,5-Trimethylbenzene	**108-67-8**	**8260B**	**12**		**5.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**17**		**5.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		128	70-130
Bromofluorobenzene		88	70-130
Toluene-d8		90	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
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P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 13**
Date Sampled: **01/10/2002 1130**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-002**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 1629	DLB		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Tetraethyl lead	78-00-2	8260B	ND		500	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		120	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		90	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
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E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Semivolatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 13**
Date Sampled: **01/10/2002 1130**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-002**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	01/20/2002 2202	MWK	01/15/2002 1815	3938

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acenaphthene	83-32-9	8270C	ND		6.5	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		6.5	ug/L	1
Anthracene	120-12-7	8270C	ND		6.5	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		6.5	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		6.5	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		6.5	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		6.5	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		6.5	ug/L	1
Chrysene	218-01-9	8270C	ND		6.5	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		6.5	ug/L	1
Fluoranthene	206-44-0	8270C	ND		6.5	ug/L	1
Fluorene	86-73-7	8270C	ND		6.5	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		6.5	ug/L	1
Naphthalene	91-20-3	8270C	ND		6.5	ug/L	1
Phenanthrene	85-01-8	8270C	ND		6.5	ug/L	1
Pyrene	129-00-0	8270C	ND		6.5	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		74	30-130
Nitrobenzene-d5		78	30-130
Terphenyl-d14		56	30-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
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Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Dissolved Methane

Client: **NESCO**
Description: **MW 13**
Date Sampled: **01/10/2002 1130**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-002**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	5	01/18/2002 1436	MWK		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Methane		**RSK - 175**	**2360**		**130**	**ug/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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ICP-AES

Client: **NESCO**
Description: **MW 13**
Date Sampled: **01/10/2002 1130**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-002**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010B	1	01/16/2002 1812	FTS	01/14/2002 1345	3932

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	7439-92-1	6010B	0.12		0.0030	mg/L	1

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Inorganic non-metals

Client: **NESCO**
Description: **MW 14**
Date Sampled: **01/10/2002 1200**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-003**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		(Ferrous Iron) 3500 Fe-D	50	01/11/2002 1050	SRW		
1		(Nitrate - N) 353.2	1	01/11/2002 1408	LMC		
1		(Sulfate) 300.0	2	01/15/2002 2422	LMC		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Ferrous Iron		**3500 Fe-D**	**50**		**2.5**	**mg/L**	**1**
Nitrate - N		**353.2**	**0.11**		**0.020**	**mg/L**	**1**
Sulfate		**300.0**	**51**		**2.0**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 14**
Date Sampled: **01/10/2002 1200**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-003**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/15/2002 0558	DLB		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
1,2,4-Trimethylbenzene	95-63-6	8260B	ND		5.0	ug/L	1
1,3,5-Trimethylbenzene	108-67-8	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		127	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
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J = Estimated result less than the PQL
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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 14**
Date Sampled: **01/10/2002 1200**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-003**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 1655	DLB		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Tetraethyl lead	78-00-2	8260B	ND		500	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		123	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
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P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Semivolatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 14**
Date Sampled: **01/10/2002 1200**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-003**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	01/20/2002 2241	MWK	01/15/2002 1815	3938

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.7	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.7	ug/L	1
Anthracene	120-12-7	8270C	ND		5.7	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.7	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.7	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.7	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.7	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.7	ug/L	1
Chrysene	218-01-9	8270C	ND		5.7	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.7	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.7	ug/L	1
Fluorene	86-73-7	8270C	ND		5.7	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.7	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.7	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.7	ug/L	1
Pyrene	129-00-0	8270C	ND		5.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		74	30-130
Nitrobenzene-d5		76	30-130
Terphenyl-d14		52	30-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Dissolved Methane

Client: **NESCO**
Description: **MW 14**
Date Sampled: **01/10/2002 1200**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-003**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1		RSK - 175	1	01/18/2002 1432	MWK		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Methane		**RSK - 175**	**56.7**		**26.0**	**ug/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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ICP-AES

Client: **NESCO**
Description: **MW 14**
Date Sampled: **01/10/2002 1200**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-003**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010B	1	01/16/2002 1815	FTS	01/14/2002 1345	3932

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Lead	**7439-92-1**	**6010B**	**0.11**		**0.0030**	**mg/L**	**1**

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **PW 1**
Date Sampled: **01/10/2002 1145**
Date Received: **01/11/2002**

Laboratory ID: **DA11014-004**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/15/2002 0624	DLB		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
1,2,4-Trimethylbenzene	95-63-6	8260B	ND		5.0	ug/L	1
1,3,5-Trimethylbenzene	108-67-8	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		129	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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SHEALY **Chain of Custody Record**

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 04736

Client: NESCO, INC.	Project Manager: BRIAN KVAM	Telephone No. / Fax No. / E-mail: 699-1976	Quote No.
Address: 521 CLEMSON RD.	Sampler's Signature: X Brian J. Kvam	Waybill No.	Page 2 of 2
City: COLUMBIA State: SC Zip Code: 29229	Printed Name: BRIAN KVAM		
Project Name: BAY CREEK VILLAS			
Project No.: 21-1151C	P.O. No.		Lot No.: DA11014

Analysis (Attach list if more space is needed.)

Sample ID / Description (Containers for each sample may be combined on one line.)	Date 2002	Time	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	BTEX + NAPH. + MTBE + EDB	TRIMETHYLBENZENE	PAHS	LEAD + ORGANIC LEAD	NITRATE	SULFATE	FERROUS IRON	METHANE	Remarks / Cooler I.D.
MW 12	1/10	1145	G	X			5	1	1	7			X	X	X	X	X	X	X	X	
MW 13	↓	1130	↓	↓			5	1	1	7			X	X	X	X	X	X	X	X	
MW 14	↓	1200	↓	↓			5	1	1	7			X	X	X	X	X	X	X	X	
PW 1	↓	1145	↓	↓						3			X	X							NO EDB ON PW1

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal
☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.)
☒ Standard ☐ Rush (Specify)

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: Brian J. Kvam	1/10/02	1700	1. Received by: SECURE AREA	1/10/02	1700
2. Relinquished by: Secure Area	1/11/02	0930	2. Received by: [signature]	1/11/02	0930
3. Relinquished by: [signature]	1/11/02	1000	3. Laboratory received by: [signature]	1/11/02	1000

Comments

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack

Receipt Temp. 6.0 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Form No. 1001

Sample Receipt Checklist

Client: Nesco Cooler received by/date: PBM 1/4/02 Lot number: DA1014

Means of receipt: ☐ SESI ☐ Client ☐ UPS ☑ FedEx ☐ DirectX ☐ Other

Cooler temperature upon receipt 6.0 °C
Method: ☐ Temperature Blank ☑ Against Bottles
Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Yes ☐	No ☐	NA ☑	1. Is the shipper's packing slip attached to this form? (if applicable)
Yes ☑	No ☐	NA ☐	2. Was a chain of custody provided with the samples?
Yes ☑	No ☐	NA ☐	3. Were proper custody procedures followed?
Yes ☑	No ☐	NA ☐	4. Was the client name listed?
Yes ☑	No ☐	NA ☐	5. Were sample IDs listed?
Yes ☑	No ☐	NA ☐	6. Was collection date & time listed?
Yes ☑	No ☐	NA ☐	7. Were the tests to be performed listed on either the C of C or quote?
Yes ☑	No ☐	NA ☐	8. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐	NA ☐	9. Did all bottle labels agree with custody papers?
Yes ☑	No ☐	NA ☐	10. Did all containers arrive in good condition (unbroken)?
Yes ☑	No ☐	NA ☐	11. Was adequate sample volume available?
Yes ☐	No ☑	NA ☐	12. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑	NA ☐	13. Were any samples containers missing?
Yes ☐	No ☑	NA ☐	14. Were there any excess samples not listed on C of C?
Yes ☐	No ☑	NA ☐	15. Were air bubbles >6 mm in any VOA vials (if applicable)?
Yes ☑	No ☐	NA ☐	16. Were all Metals; Oil & Grease; Nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	17. Were all Cyanide; Sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	18. Were all NH3; TKN; Cyanide; BNA; PEST; PCB; HERB; Toxicity samples free of residual chlorine? (< 0.1 mg/L)
Yes ☐	No ☐	NA ☑	19. For North Carolina samples, were collection temperatures documented on the chain of custody?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved.)

Sample(s)_____were received incorrectly preserved and were adjusted accordingly in sample receiving.

Sample(s)_____were received incorrectly preserved and were unable to be analyzed.

Sample(s) _____ were received with bubble >6 mm in diameter

Toxicity sample(s)_____ were received with TRC > 0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐
Did client respond: Yes ☐ No ☐
Date of response: _____
SESI employee: _____
Client instructions / Comments:

_____
_____
_____
_____

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

NESCO
521 Clemson Road
Columbia, SC 29229
Attention: Brian Kvam

Project Name: **Bay Creek Villas**

Project Number: **21-1151C**

Lot Number: **DA11015**

Date Completed: **01/24/2002**

Jennifer Orr
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.

Case Narrative
NESCO
Lot Number: DA11015

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative.

Sample receipt, sample analysis, and data review have been performed in accordance with Shealy's Quality Assurance Management Plan and Standard Operating Procedures. Any data qualifiers associated with sample analysis are footnoted on the analytical results page(s) or are discussed below.

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SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
NESCO
Lot Number: DA11015

Sample Number	Sample ID	Matrix	Date Sampled
001	MW 1	Aqueous	01/10/2002 1200
002	MW 3	Aqueous	01/10/2002 1215
003	MW 4	Aqueous	01/10/2002 1130
004	MW 5	Aqueous	01/10/2002 1230
005	MW 6	Aqueous	01/10/2002 1245
006	MW 7	Aqueous	01/10/2002 1300
007	MW 8	Aqueous	01/10/2002 1245
008	MW 9	Aqueous	01/10/2002 1330
009	MW 10	Aqueous	01/10/2002 1215
010	MW 11	Aqueous	01/10/2002 1230

(10 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary
NESCO
Lot Number: DA11015

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units
002	MW 3	Aqueous	Benzene	8260B	2000		ug/L
002	MW 3	Aqueous	Ethylbenzene	8260B	780		ug/L
002	MW 3	Aqueous	Naphthalene	8260B	280		ug/L
002	MW 3	Aqueous	Toluene	8260B	62		ug/L
002	MW 3	Aqueous	1,2,4-Trimethylbenzene	8260B	88		ug/L
002	MW 3	Aqueous	1,3,5-Trimethylbenzene	8260B	64		ug/L
002	MW 3	Aqueous	Xylenes (total)	8260B	320		ug/L
003	MW 4	Aqueous	Benzene	8260B	46		ug/L
003	MW 4	Aqueous	Ethylbenzene	8260B	120		ug/L
003	MW 4	Aqueous	Naphthalene	8260B	48		ug/L
003	MW 4	Aqueous	Toluene	8260B	20		ug/L
003	MW 4	Aqueous	1,2,4-Trimethylbenzene	8260B	34		ug/L
003	MW 4	Aqueous	1,3,5-Trimethylbenzene	8260B	13		ug/L
003	MW 4	Aqueous	Xylenes (total)	8260B	50		ug/L
008	MW 9	Aqueous	Benzene	8260B	1500		ug/L
008	MW 9	Aqueous	Ethylbenzene	8260B	980		ug/L
008	MW 9	Aqueous	Toluene	8260B	6500		ug/L
008	MW 9	Aqueous	1,2,4-Trimethylbenzene	8260B	1900		ug/L
008	MW 9	Aqueous	1,3,5-Trimethylbenzene	8260B	1300		ug/L
008	MW 9	Aqueous	Xylenes (total)	8260B	5400		ug/L

(20 detections)

Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 1**
Date Sampled: **01/10/2002 1200**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-001**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/15/2002 0649	DLB		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		130	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 3**
Date Sampled: **01/10/2002 1215**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-002**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	01/17/2002 0449	RED		
2	5030B	8260B	50	01/17/2002 0514	RED		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**2000**		**250**	**ug/L**	**2**
Ethylbenzene	**100-41-4**	**8260B**	**780**		**25**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		25	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**280**		**25**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**62**		**25**	**ug/L**	**1**
1,2,4-Trimethylbenzene	**95-63-6**	**8260B**	**88**		**25**	**ug/L**	**1**
1,3,5-Trimethylbenzene	**108-67-8**	**8260B**	**64**		**25**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**320**		**25**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130		98	70-130
Bromofluorobenzene		97	70-130		88	70-130
Toluene-d8		104	70-130		90	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 4**
Date Sampled: **01/10/2002 1130**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-003**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 1859	RED		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**46**		**5.0**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**120**		**5.0**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**48**		**5.0**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**20**		**5.0**	**ug/L**	**1**
1,2,4-Trimethylbenzene	**95-63-6**	**8260B**	**34**		**5.0**	**ug/L**	**1**
1,3,5-Trimethylbenzene	**108-67-8**	**8260B**	**13**		**5.0**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**50**		**5.0**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		122	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
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E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Semivolatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 4**
Date Sampled: **01/10/2002 1130**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-003**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3520C	8270C	1	01/24/2002 1313	MWK	01/16/2002 1800	3952

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Acenaphthene	83-32-9	8270C	ND		5.4	ug/L	1
Acenaphthylene	208-96-8	8270C	ND		5.4	ug/L	1
Anthracene	120-12-7	8270C	ND		5.4	ug/L	1
Benzo(a)anthracene	56-55-3	8270C	ND		5.4	ug/L	1
Benzo(a)pyrene	50-32-8	8270C	ND		5.4	ug/L	1
Benzo(b)fluoranthene	205-99-2	8270C	ND		5.4	ug/L	1
Benzo(g,h,i)perylene	191-24-2	8270C	ND		5.4	ug/L	1
Benzo(k)fluoranthene	207-08-9	8270C	ND		5.4	ug/L	1
Chrysene	218-01-9	8270C	ND		5.4	ug/L	1
Dibenzo(a,h)anthracene	53-70-3	8270C	ND		5.4	ug/L	1
Fluoranthene	206-44-0	8270C	ND		5.4	ug/L	1
Fluorene	86-73-7	8270C	ND		5.4	ug/L	1
Indeno(1,2,3-c,d)pyrene	193-39-5	8270C	ND		5.4	ug/L	1
Naphthalene	91-20-3	8270C	ND		5.4	ug/L	1
Phenanthrene	85-01-8	8270C	ND		5.4	ug/L	1
Pyrene	129-00-0	8270C	ND		5.4	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
2-Fluorobiphenyl		63	30-130
Nitrobenzene-d5		73	30-130
Terphenyl-d14		22	30-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 5**
Date Sampled: **01/10/2002 1230**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-004**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 1607	RED		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		63	70-130
Toluene-d8		83	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 6**
Date Sampled: **01/10/2002 1245**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-005**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 1631	RED		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130
Bromofluorobenzene		72	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 7**
Date Sampled: **01/10/2002 1300**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-006**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 1656	RED		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	70-130
Bromofluorobenzene		73	70-130
Toluene-d8		86	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 8**
Date Sampled: **01/10/2002 1245**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-007**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 1721	RED		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		69	70-130
Toluene-d8		86	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 9**
Date Sampled: **01/10/2002 1330**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-008**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	01/17/2002 1348	RED		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	**71-43-2**	**8260B**	**1500**		**250**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**980**		**250**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		250	ug/L	1
Naphthalene	91-20-3	8260B	ND		250	ug/L	1
Toluene	**108-88-3**	**8260B**	**6500**		**250**	**ug/L**	**1**
1,2,4-Trimethylbenzene	**95-63-6**	**8260B**	**1900**		**250**	**ug/L**	**1**
1,3,5-Trimethylbenzene	**108-67-8**	**8260B**	**1300**		**250**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**5400**		**250**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

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Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 10**
Date Sampled: **01/10/2002 1215**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-009**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 1745	RED		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		74	70-130
Toluene-d8		85	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Shealy Environmental Services, Inc.
106 Vantage Point Drive Cayce, SC 29033 (803) 791-9700 Fax (803) 791-9111 www.shealyenvironmental.com

Volatile Organic Compounds by GC/MS

Client: **NESCO**
Description: **MW 11**
Date Sampled: **01/10/2002 1230**
Date Received: **01/11/2002**

Laboratory ID: **DA11015-010**
Matrix: **Aqueous**

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	01/16/2002 1810	RED		

Parameter	CAS Number	Analytical Method	Result	Q	PQL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Bromofluorobenzene		74	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Shealy Environmental Services, Inc.
106 Vantage Point Drive Cayce, SC 29033 (803) 791-9700 Fax (803) 791-9111 www.shealyenvironmental.com

SHEALY **Chain of Custody Record**

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Number 04735

Client: NESCO, INC.	Project Manager: BRIAN KVAM	Telephone No. / Fax No. / E-mail: 699-1976	Quote No.
Address: 521 CLEMSON RD.	Sampler's Signature: X Brian J. Kvam	Waybill No.	Page 1 of 2
City: COLUMBIA State: SC Zip Code: 29229	Printed Name: BRIAN KVAM	Analysis (Attach list if more space is needed.)	
Project Name: BAY CREEK VILLAS			
Project No.: 21-1151c	P.O. No.		Lot No.: DA11015

Sample ID / Description (Containers for each sample may be combined on one line.)	Date 2002	Time	G=Grab C=Composite	Matrix: Aqueous	Matrix: Solid	Matrix: Non-Aqueous	No. of Containers by Preservative Type: Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit	BTEX+NAPH+MTBE+TRIMETHYLBENZENE	PAHs	Remarks / Cooler I.D.
MW 1	1/10	1200	G	X						3			X		
MW 3		1215								3			X	X	
MW 4		1130					2			3			X	X	X
MW 5		1230								3			X		
MW 6		1245								3			X		
MW 7		1300								3			X		
MW 8		1245								3			X		
MW 9		1330								3			X	X	
MW 10		1215								3			X		
MW 11		1230								3			X		

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☒ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☒ Standard ☐ Rush (Specify)

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished by: Brian J. Kvam	1/10/02	1700	1. Received by: SECURE AREA	1/10/02	1700
2. Relinquished by: Secure Area	1/11/02	0930	2. Received by: [signature]	1/11/02	0930
3. Relinquished by: [signature]	1/11/02	1000	3. Laboratory received by: P McClanahan	1/11/02	1000

Comments

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack

Receipt Temp. 6.8 °C

DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PINK-Field/Client Copy

Shealy Form No. 1001

Sample Receipt Checklist

Client: Nesco Cooler received by/date: PBM 1/11/02 Lot number: 0A11015

Means of receipt: [x] SESI [ ] Client [ ] UPS [ ] FedEx [ ] DirectX [ ] Other

Cooler temperature upon receipt 6.4 °C
Method: [ ] Temperature Blank [x] Against Bottles
Method of coolant: [x] Wet Ice [ ] Blue Ice [ ] Dry Ice [ ] None

Yes [ ]	No [ ]	NA [x]	1. Is the shipper's packing slip attached to this form? (if applicable)
Yes [x]	No [ ]	NA [ ]	2. Was a chain of custody provided with the samples?
Yes [x]	No [ ]	NA [ ]	3. Were proper custody procedures followed?
Yes [x]	No [ ]	NA [ ]	4. Was the client name listed?
Yes [x]	No [ ]	NA [ ]	5. Were sample IDs listed?
Yes [x]	No [ ]	NA [ ]	6. Was collection date & time listed?
Yes [x]	No [ ]	NA [ ]	7. Were the tests to be performed listed on either the C of C or quote?
Yes [x]	No [ ]	NA [ ]	8. Did all samples arrive in the proper containers for each test?
Yes [x]	No [ ]	NA [ ]	9. Did all bottle labels agree with custody papers?
Yes [x]	No [ ]	NA [ ]	10. Did all containers arrive in good condition (unbroken)?
Yes [x]	No [ ]	NA [ ]	11. Was adequate sample volume available?
Yes [x]	No [ ]	NA [ ]	12. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes [ ]	No [x]	NA [ ]	13. Were any samples containers missing?
Yes [ ]	No [x]	NA [ ]	14. Were there any excess samples not listed on C of C?
Yes [ ]	No [x]	NA [ ]	15. Were air bubbles >6 mm in any VOA vials (if applicable)?
Yes [ ]	No [ ]	NA [x]	16. Were all Metals; Oil & Grease; Nutrient samples received at a pH of <2?
Yes [ ]	No [ ]	NA [x]	17. Were all Cyanide; Sulfide samples received at a pH >12?
Yes [ ]	No [ ]	NA [x]	18. Were all NH3; TKN; Cyanide; BNA; PEST; PCB; HERB; Toxicity samples free of residual chlorine? (< 0.1 mg/L)
Yes [ ]	No [ ]	NA [x]	19. For North Carolina samples, were collection temperatures documented on the chain of custody?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved.)

Sample(s)_____ were received incorrectly preserved and were adjusted accordingly in sample receiving.

Sample(s)_____ were received incorrectly preserved and were unable to be analyzed.

Sample(s) were received with bubble >6 mm in diameter

Toxicity sample(s)_____ were received with TRC > 0.1 mg/L and were analyzed by method 330.5.

Corrective Action taken, if necessary:

Was client notified: Yes [ ] No [ ]
Did client respond: Yes [ ] No [ ]
Date of response: _____
SESI employee: _____
Client instructions / Comments:

SESI QAMP
Section: 9
Revision: F
Effective Date: 03/08/01
Replaces Date: 06/01/00

HYDROGEOLOGIC DATA TABLE
BAY CREEK VILLAS
EDISTO BEACH, SC

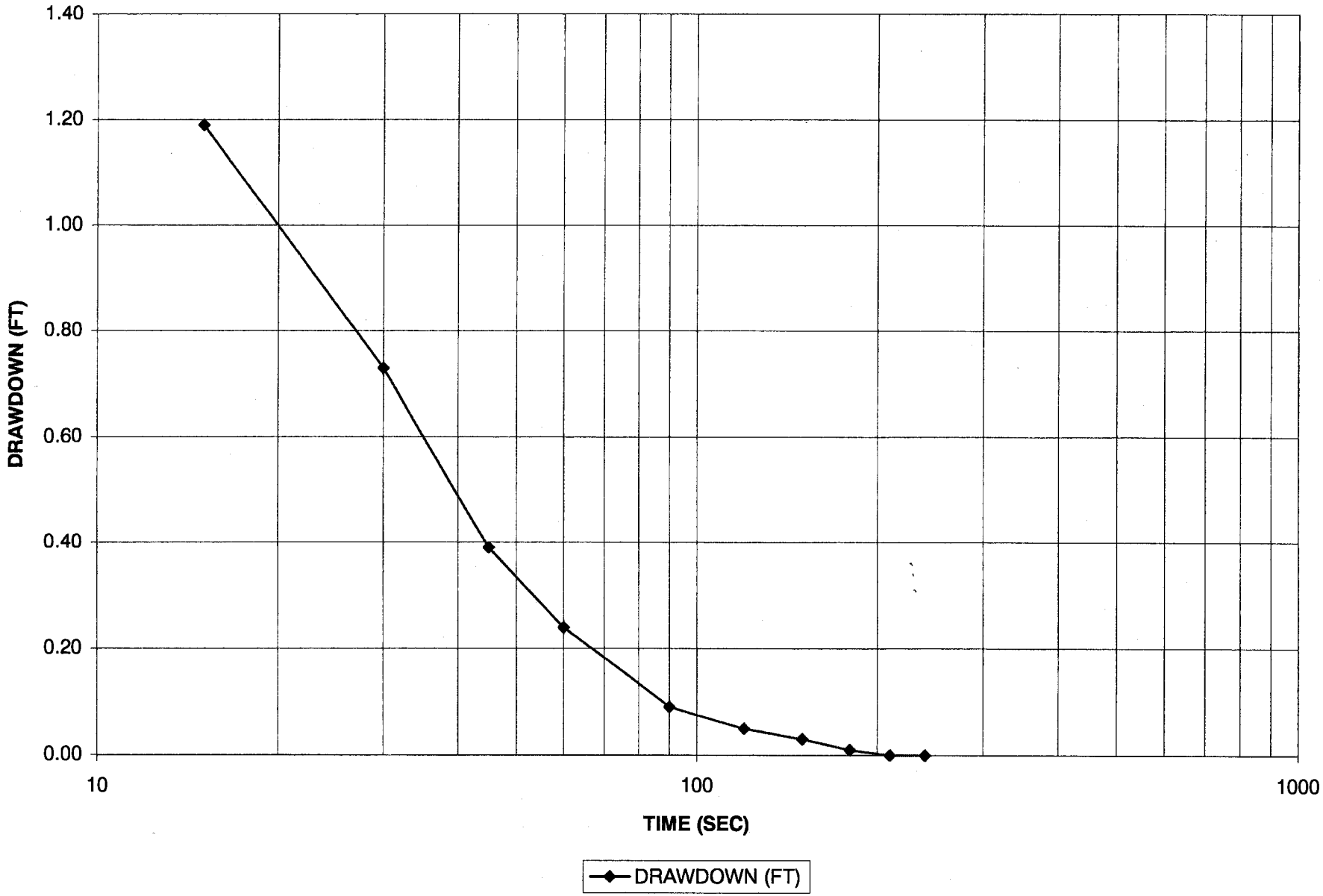
MONITOR WELL	TEST DATE	HYDRAULIC CONDUCTIVITY (ft/min)	HYDRAULIC CONDUCTIVITY (ft/day)	HYDRAULIC CONDUCTIVITY (cm/sec)	AQUIFER THICKNESS (ft)	TRANSMISSIVITY (ft^2/day)
MW-3	12/10/01	1.01E-02	14.6	5.15E-03	50.0	730.0
MW-9	12/10/01	3.89E-03	5.6	1.98E-03	50.0	280.0
PW-1	12/10/01	2.57E-03	3.7	1.31E-03	50.0	185.0

SLUG TEST MW-3
BAY CREEK VILLAS
EDISTO BEACH, SC

Slug Test: MW-3
Date: 12/10/01
STATIC WL = 5.92

TIME (SEC)	W.L. (FT)	DRAWDOWN (FT)
15	7.11	1.19
30	6.65	0.73
45	6.31	0.39
60	6.16	0.24
90	6.01	0.09
120	5.97	0.05
150	5.95	0.03
180	5.93	0.01
210	5.92	0.00
240	5.92	0.00

SLUG TEST MW-3
BAY CREEK VILLAS
EDISTO BEACH, SC



NESCO Job #21-1151c
Bay Creek Villas
UST Permit #18662

2/5/02
SLUG TEST DATA

NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (MW-3)	SHEET 1 OF 5	

This form is used for finding a least squares regression curve to the first few relevant data points from a Bouwer and Rice slug test. This calculation sheet requires the input of the y vs. t data points and outputs y_0, y_t, and t for use in the Bouwer and Rice equations (1985).

Input Data Section

Input data in y vs. t coordinates as vectors for the straight-line portion of the y vs. t curve.

Input data coordinates below:

y (feet) t (sec)

$y := \begin{bmatrix} 0.75 \\ 0.39 \\ 0.24 \\ 0.09 \end{bmatrix}$ $t := \begin{bmatrix} 30 \\ 45 \\ 60 \\ 90 \end{bmatrix}$

The output graph is plotted from t = 0 to t = $Range_t$ as specified by the user. Enter ending time for plotting range below.

$Range_t := 100$

Input desired y_t value here (default is 1.0):

$y_t := 0.1$

Automated Calculations Section to Determine Least Squares Regression Data

Linear interpolation functions:

$m := slope(t, \overrightarrow{ln(y)})$ $\quad m = -0.034$

$b := intercept(t, \overrightarrow{ln(y)})$ $\quad b = 0.663$

$G := e^b$ $\quad G = 1.941$

Governing least squares fit equation:

$Y(T) := G \cdot e^{m \cdot T}$

Equations to determine plotting variables:

$T := 0, 1 .. Range_t$ $\quad i := 0 .. length(y) - 1$

$x := 1$

$t_2 := root(G \cdot e^{m \cdot x} - y_t, x)$ $\quad y_0 := Y(0)$

NESCO

CALCULATION SHEET

PROJECT: BAY CREEK VILLAS
CALCULATED BY: BRIAN KVAM
DATE: 12/10/01
TOPIC: Slug Test Data Calculations (MW-3)

PROJECT NO.: 21-1151c
CHECKED BY:
DATE:
SHEET 2 OF 5

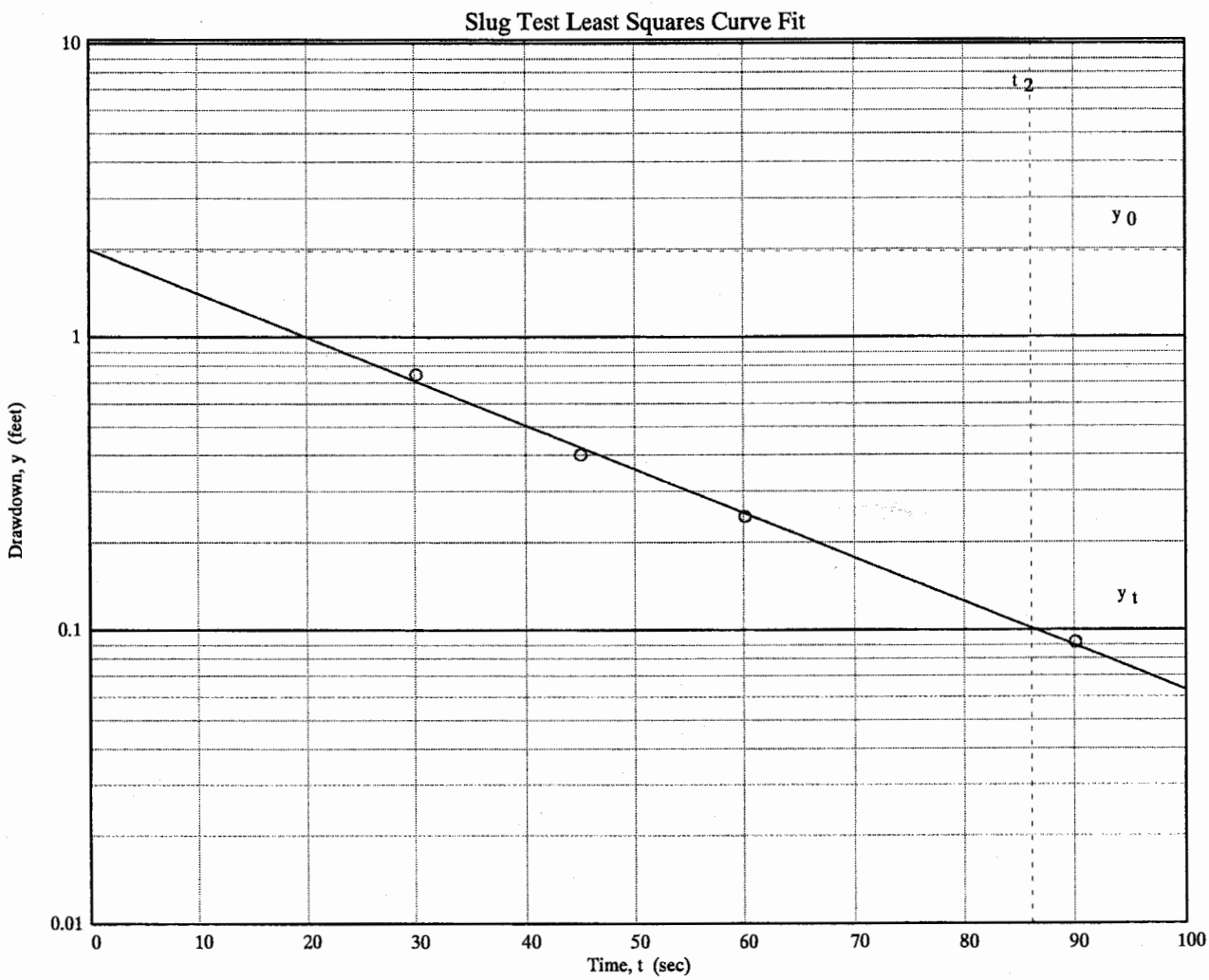
Output Section

$y_0 = 1.941$

$y_t = 0.1$

$t_2 = 86.093$

===Values for input to Bouwer and Rice (1985)



OOO Data Points
—— Least Squares Regression

NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (MW-3)	SHEET 3 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, A

$$Adata := \begin{bmatrix} 3.8 & 1.7 \\ 12 & 1.9 \\ 24 & 2.3 \\ 39 & 2.6 \\ 80 & 3.8 \\ 200 & 6.0 \\ 400 & 7.9 \\ 700 & 8.75 \\ 1000 & 9.3 \\ 1600 & 9.7 \end{bmatrix}$$

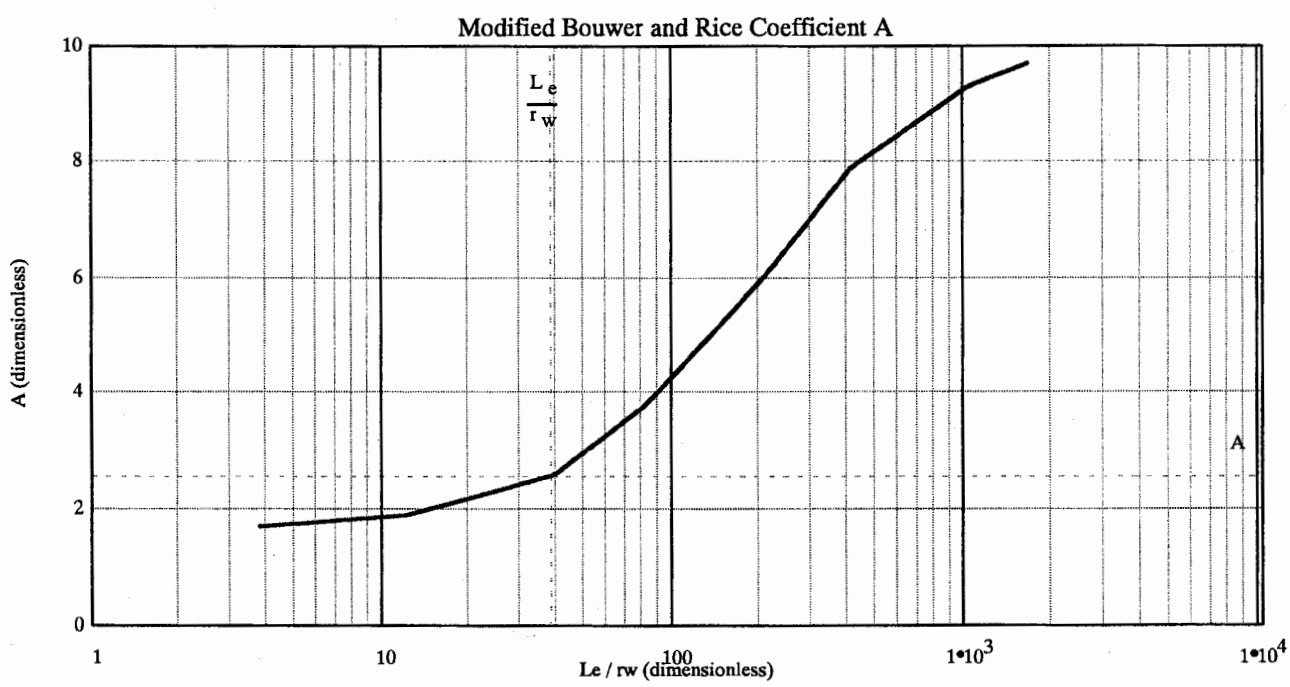
$X_A := Adata^{<0>}$ $\quad Y_A := Adata^{<1>}$ $\quad i := 0 .. \text{length}(X_A) - 1$

$Xlog_{A_i} := \log(X_{A_i})$

$Afit(x) := \text{linterp}(Xlog_A, Y_A, x)$

$scale := 100$ $\quad j := 0 .. scale$

$x_j := \min(Xlog_A) + j \cdot \frac{\max(Xlog_A) - \min(Xlog_A)}{scale}$ $\quad A := Afit\left(\log\left(\frac{L_e}{r_w}\right)\right)$



NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (MW-3)	SHEET 4 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, B

$$Bdata := \begin{bmatrix} 3.8 & 0.25 \\ 10 & 0.27 \\ 20 & 0.30 \\ 50 & 0.55 \\ 150 & 1.1 \\ 200 & 1.2 \\ 250 & 1.35 \\ 500 & 2.2 \\ 800 & 2.7 \\ 1600 & 3.25 \end{bmatrix}$$

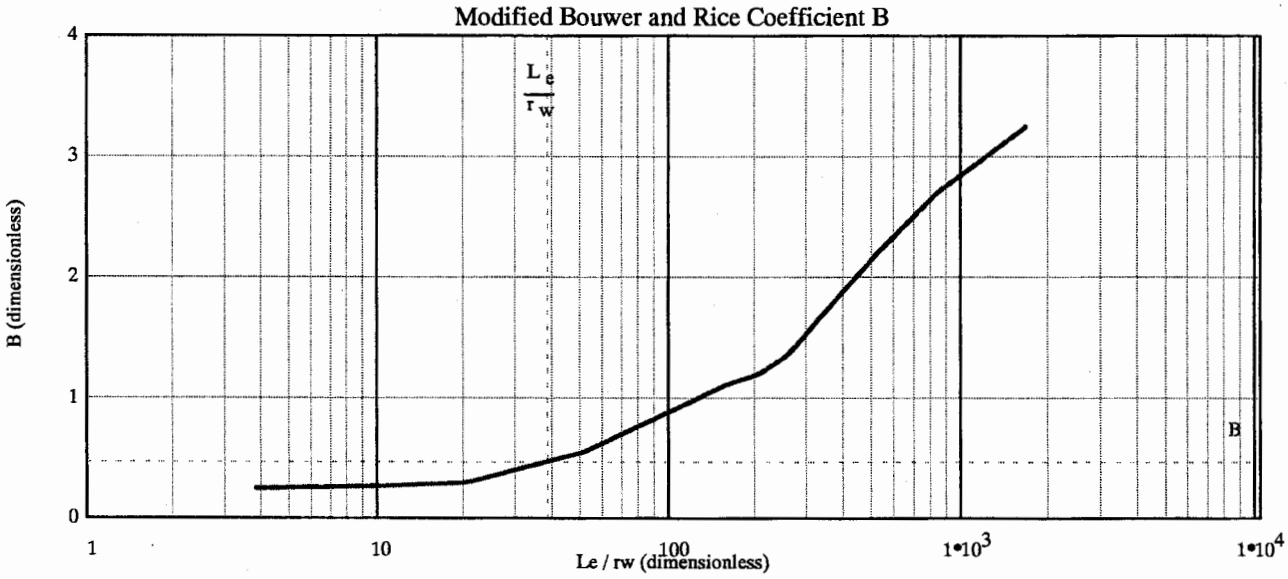
$X_B := Bdata^{<0>}$ $\quad Y_B := Bdata^{<1>}$ $\quad k := 0 .. \text{length}(X_B) - 1$

$Xlog_{B_k} := \log(X_{B_k})$

$Bfit(y) := \text{linterp}(Xlog_B, Y_B, y)$

$l := 0 .. \text{scale}$

$y_l := \min(Xlog_B) + l \cdot \dfrac{\max(Xlog_B) - \min(Xlog_B)}{\text{scale}}$ $\quad B := Bfit\left(\log\left(\dfrac{L_e}{r_w}\right)\right)$



NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (MW-3)	SHEET 5 OF 5	

Known Constants

Input the following values:

$r_c := \sqrt{(1\cdot in)^2 + 0.3\cdot\left[(4.5\cdot in)^2 - (1\cdot in)^2\right]}$

$r_w \equiv 3.125\cdot in$ $\quad L_w := 6.08\cdot ft$

$L_e \equiv 10.0\cdot ft$ $\quad H := 50\cdot ft$

$A = 2.59$ $\quad B = 0.478$

From the least squares curve fit above:

$y_0 = 1.941$

$y_t = 0.1$

$\tau := t_2\cdot sec$ $\quad \tau = 86.093\ sec$

Defining Functions -- Modified Bouwer and Rice Slug Test Equations

$$\ln Re := \left[\frac{1.1}{\ln\left(\frac{L_w}{r_w}\right)} + \frac{A + B\cdot\ln\left(\frac{H - L_w}{r_w}\right)}{\left(\frac{L_e}{r_w}\right)}\right]^{-1}$$

$$K := \frac{r_c^2\cdot \ln Re}{2\cdot L_e}\cdot\left(\frac{1}{\tau}\right)\cdot\ln\left(\frac{y_0}{y_t}\right)$$

Solution Block, K in terms of ft/day and cm/sec

$$K = 14.6\cdot\frac{ft}{day}$$

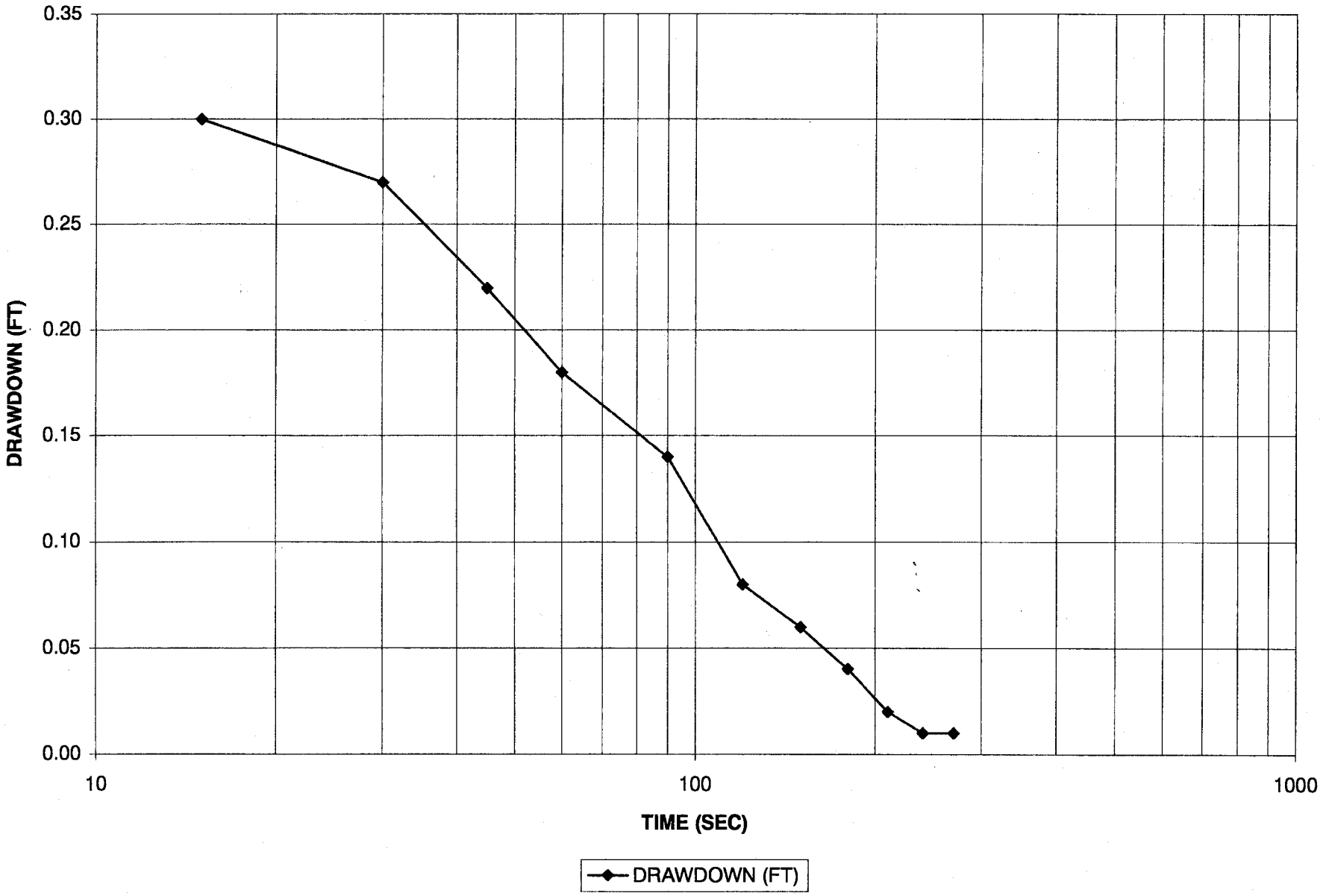
$$K = 5.1\cdot 10^{-3}\cdot\frac{cm}{sec}$$

SLUG TEST MW-9
BAY CREEK VILLAS
EDISTO BEACH, SC

Slug Test: MW-9
Date: 12/10/01
STATIC WL = 5.33

TIME (SEC)	W.L. (FT)	DRAWDOWN (FT)
15	5.63	0.30
30	5.60	0.27
45	5.55	0.22
60	5.51	0.18
90	5.47	0.14
120	5.41	0.08
150	5.39	0.06
180	5.37	0.04
210	5.35	0.02
240	5.34	0.01
270	5.34	0.01

SLUG TEST MW-9
BAY CREEK VILLAS
EDISTO BEACH, SC



NESCO Job #21-1151c
Bay Creek Villas
UST Permit #18662

2/5/02
SLUG TEST DATA

NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (MW-9)	SHEET 1 OF 5	

This form is used for finding a least squares regression curve to the first few relevant data points from a Bouwer and Rice slug test. This calculation sheet requires the input of the y vs. t data points and outputs y_0, y_t, and t for use in the Bouwer and Rice equations (1985).

Input Data Section

Input data in y vs. t coordinates as vectors for the straight-line portion of the y vs. t curve.

Input data coordinates below:

y (feet) t (sec)

$y := \begin{bmatrix} 0.22 \\ 0.18 \\ 0.14 \\ 0.08 \end{bmatrix}$ $t := \begin{bmatrix} 45 \\ 60 \\ 90 \\ 120 \end{bmatrix}$

The output graph is plotted from t = 0 to t = $Range_t$ as specified by the user. Enter ending time for plotting range below.

$Range_t := 150$

Input desired y_t value here (default is 1.0):

$y_t := 0.1$

Automated Calculations Section to Determine Least Squares Regression Data

Linear interpolation functions:

$m := slope(t, \overrightarrow{ln(y)})$ $m = -0.013$

$b := intercept(t, \overrightarrow{ln(y)})$ $b = -0.909$

$G := e^b$ $G = 0.403$

Governing least squares fit equation:

$Y(T) := G \cdot e^{m \cdot T}$

Equations to determine plotting variables:

$T := 0, 1 .. Range_t$ $i := 0 .. length(y) - 1$

$x := 1$

$t_2 := root(G \cdot e^{m \cdot x} - y_t, x)$ $y_0 := Y(0)$

NESCO

CALCULATION SHEET

PROJECT: BAY CREEK VILLAS
CALCULATED BY: BRIAN KVAM
DATE: 12/10/01
TOPIC: Slug Test Data Calculations (MW-9)

PROJECT NO.: 21-1151c
CHECKED BY:
DATE:
SHEET 2 OF 5

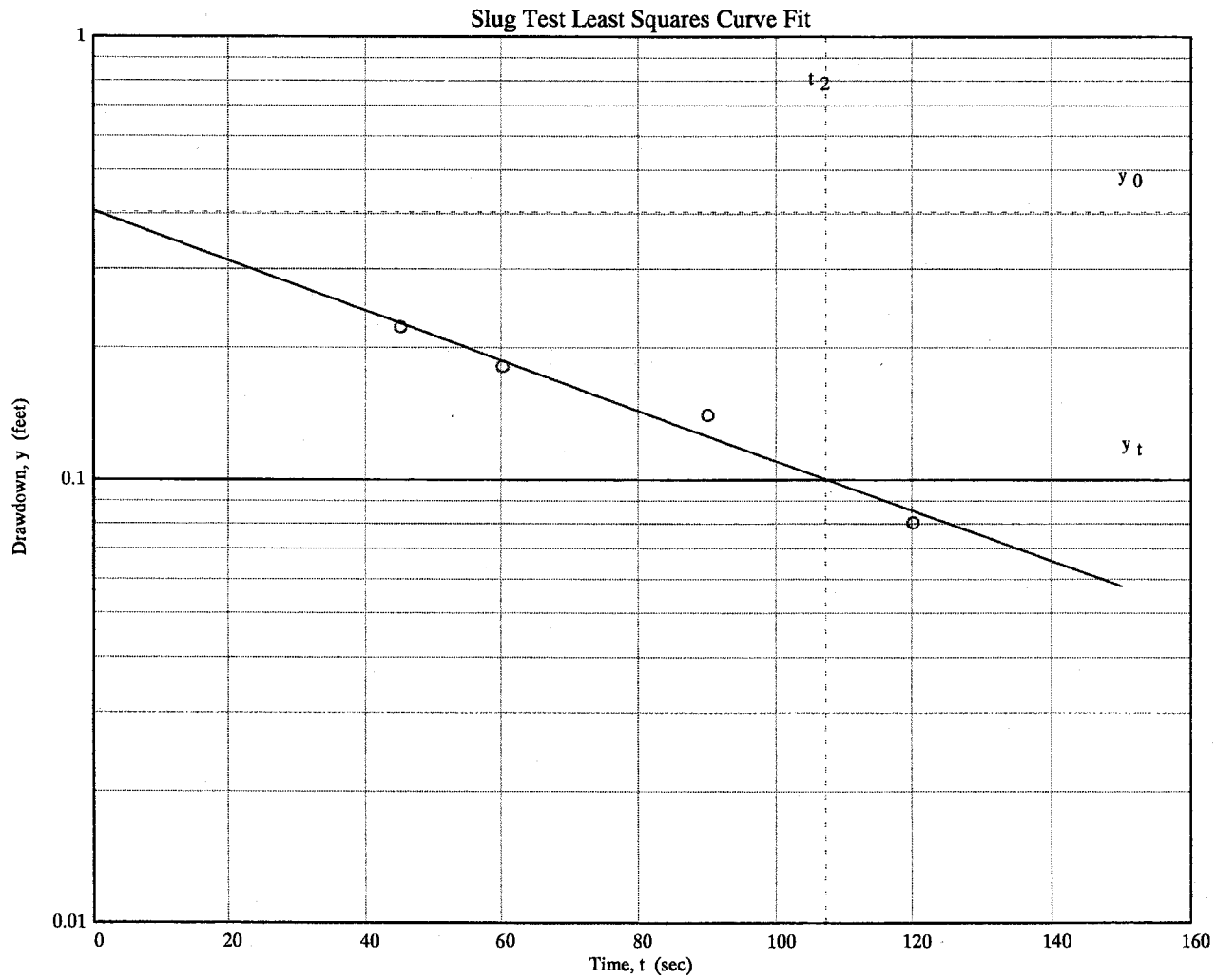
Output Section

$y_0 = 0.403$

$y_t = 0.1$

$t_2 = 107.416$

===Values for input to Bouwer and Rice (1985)



ooo Data Points
—— Least Squares Regression

NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (MW-9)	SHEET 3 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, A

$$Adata := \begin{bmatrix} 3.8 & 1.7 \\ 12 & 1.9 \\ 24 & 2.3 \\ 39 & 2.6 \\ 80 & 3.8 \\ 200 & 6.0 \\ 400 & 7.9 \\ 700 & 8.75 \\ 1000 & 9.3 \\ 1600 & 9.7 \end{bmatrix}$$

$X_A := Adata^{<0>}$ $\quad Y_A := Adata^{<1>}$ $\quad i := 0..\ length(X_A) - 1$

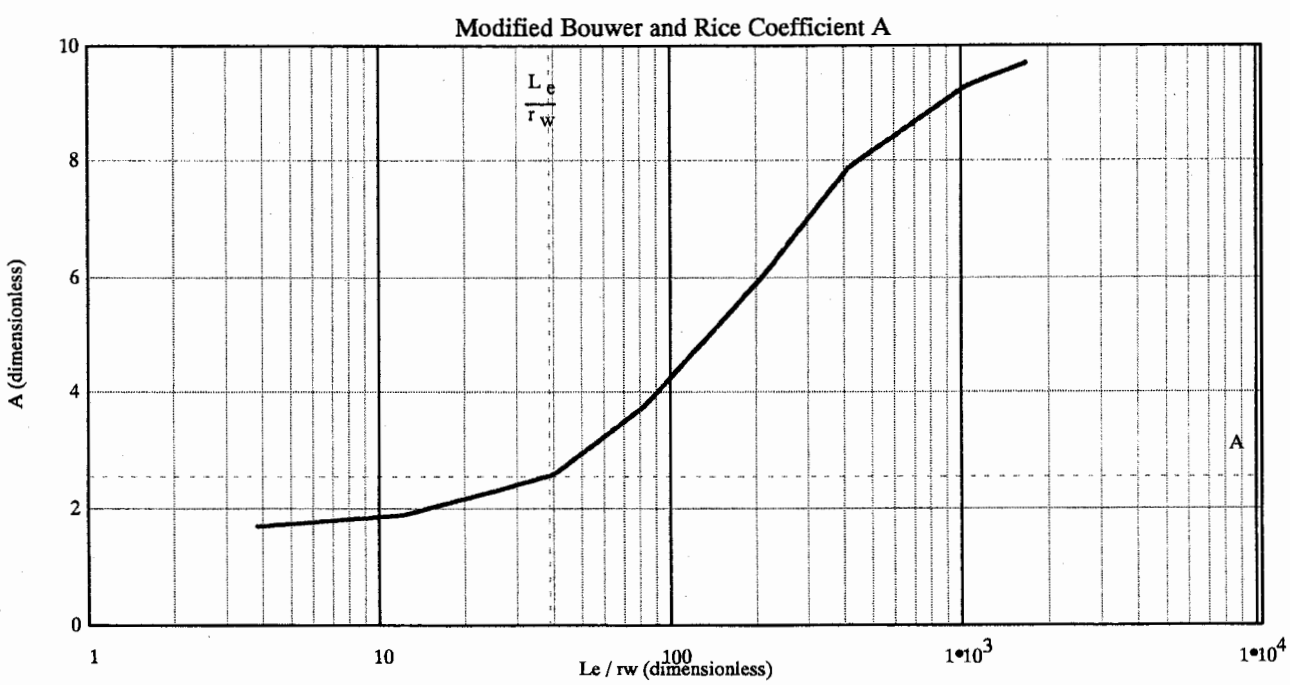
$Xlog_{A_i} := log(X_{A_i})$

$Afit(x) := linterp(Xlog_A, Y_A, x)$

$scale := 100$ $\quad j := 0..\ scale$

$$x_j := min(Xlog_A) + j \cdot \frac{max(Xlog_A) - min(Xlog_A)}{scale}$$

$$A := Afit\left(log\left(\frac{L_e}{r_w}\right)\right)$$



NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (MW-9)	SHEET 4 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, B

$$Bdata := \begin{bmatrix} 3.8 & 0.25 \\ 10 & 0.27 \\ 20 & 0.30 \\ 50 & 0.55 \\ 150 & 1.1 \\ 200 & 1.2 \\ 250 & 1.35 \\ 500 & 2.2 \\ 800 & 2.7 \\ 1600 & 3.25 \end{bmatrix}$$

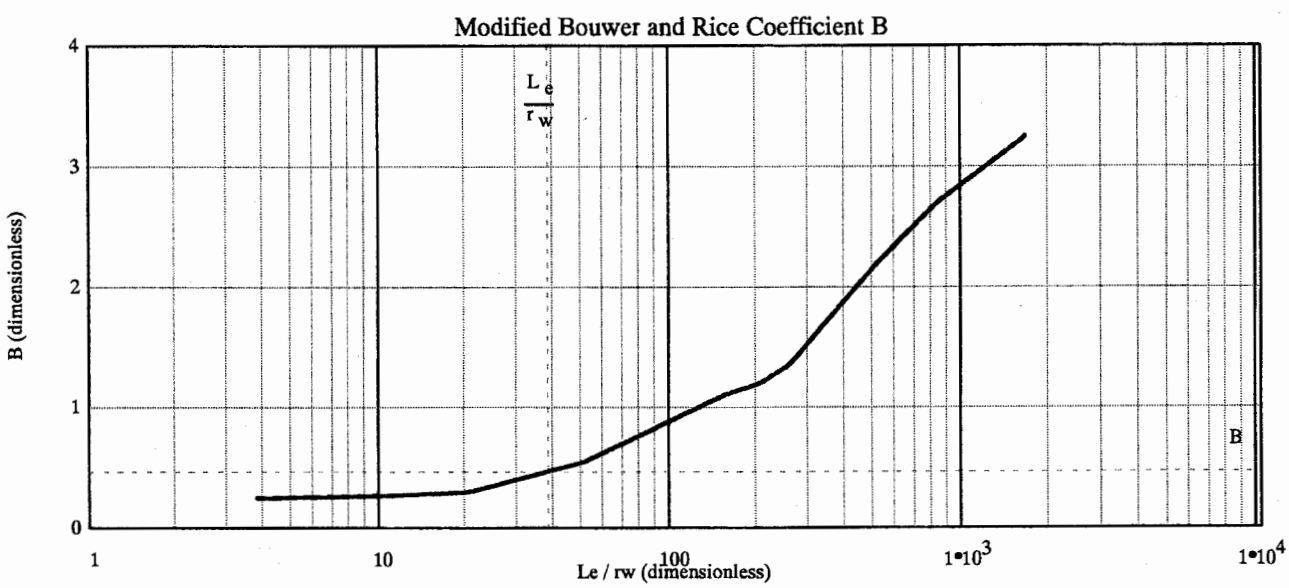
$X_B := Bdata^{<0>}$ $\quad Y_B := Bdata^{<1>}$ $\quad k := 0 .. \text{length}(X_B) - 1$

$Xlog_{B_k} := \log(X_{B_k})$

$Bfit(y) := \text{linterp}(Xlog_B, Y_B, y)$

$l := 0 .. \text{scale}$

$y_l := \min(Xlog_B) + l \cdot \dfrac{\max(Xlog_B) - \min(Xlog_B)}{\text{scale}}$ $\quad B := Bfit\left(\log\left(\dfrac{L_e}{r_w}\right)\right)$



NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (MW-9)	SHEET 5 OF 5	

Known Constants

Input the following values:

$$r_c := \sqrt{(1\cdot in)^2 + 0.3\cdot\left[(4.5\cdot in)^2 - (1\cdot in)^2\right]}$$

$r_w \equiv 3.125\cdot in$ $\quad L_w := 6.67\cdot ft$

$L_e \equiv 10.0\cdot ft$ $\quad H := 50\cdot ft$

$A = 2.59$ $\quad B = 0.478$

From the least squares curve fit above:

$y_0 = 0.403$

$y_t = 0.1$

$\tau := t_2\cdot sec$ $\quad \tau = 107.416\ sec$

Defining Functions -- Modified Bouwer and Rice Slug Test Equations

$$\ln Re := \left[\frac{1.1}{\ln\left(\frac{L_w}{r_w}\right)} + \frac{A + B\cdot\ln\left(\frac{H - L_w}{r_w}\right)}{\left(\frac{L_e}{r_w}\right)}\right]^{-1}$$

$$K := \frac{r_c^2\cdot \ln Re}{2\cdot L_e}\cdot\left(\frac{1}{\tau}\right)\cdot\ln\left(\frac{y_0}{y_t}\right)$$

Solution Block, K in terms of ft/day and cm/sec

$$K = 5.6\cdot\frac{ft}{day}$$

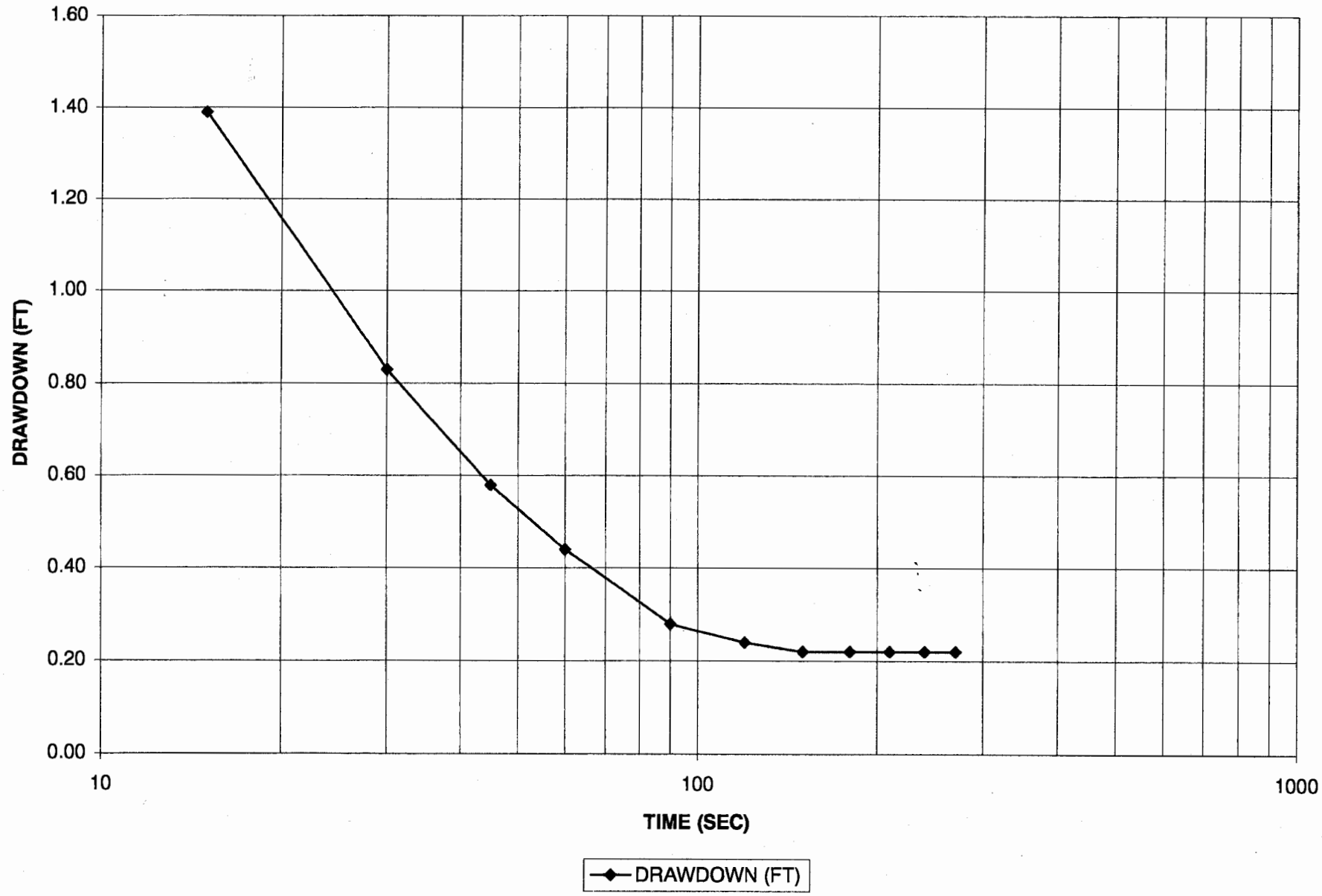
$$K = 2\cdot 10^{-3}\cdot\frac{cm}{sec}$$

SLUG TEST PW-1
BAY CREEK VILLAS
EDISTO BEACH, SC

Slug Test: PW-1
Date: 12/10/01
STATIC WL = 5.32

TIME (SEC)	W.L. (FT)	DRAWDOWN (FT)
15	6.71	1.39
30	6.15	0.83
45	5.90	0.58
60	5.76	0.44
90	5.60	0.28
120	5.56	0.24
150	5.54	0.22
180	5.54	0.22
210	5.54	0.22
240	5.54	0.22
270	5.54	0.22

SLUG TEST PW-1
BAY CREEK VILLAS
EDISTO BEACH, SC



NESCO Job #21-1151c
Bay Creek Villas
UST Permit #18662

2/5/02
SLUG TEST DATA

NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (PW-1)	SHEET 1 OF 5	

This form is used for finding a least squares regression curve to the first few relevant data points from a Bouwer and Rice slug test. This calculation sheet requires the input of the y vs. t data points and outputs y_0, y_t, and t for use in the Bouwer and Rice equations (1985).

Input Data Section

Input data in y vs. t coordinates as vectors for the straight-line portion of the y vs. t curve.

Input data coordinates below:

y (feet) t (sec)

$y := \begin{bmatrix} 1.39 \\ 0.83 \\ 0.58 \\ 0.44 \\ 0.28 \end{bmatrix}$ $t := \begin{bmatrix} 15 \\ 30 \\ 45 \\ 60 \\ 90 \end{bmatrix}$

The output graph is plotted from t = 0 to t = $Range_t$ as specified by the user. Enter ending time for plotting range below.

$Range_t := 100$

nput desired y_t value here (default is 1.0):

$y_t := 0.1$

0.60

Automated Calculations Section to Determine Least Squares Regression Data

Linear interpolation functions:

$m := slope(t, \overrightarrow{ln(y)})$ $m = -0.021$

$b := intercept(t, \overrightarrow{ln(y)})$ $b = 0.498$

$G := e^b$ $G = 1.646$

Governing least squares fit equation:

$Y(T) := G \cdot e^{m \cdot T}$

Equations to determine plotting variables:

$T := 0, 1 .. Range_t$ $i := 0 .. length(y) - 1$

$x := 1$

$t_2 := root(G \cdot e^{m \cdot x} - y_t, x)$ $y_0 := Y(0)$

NESCO

CALCULATION SHEET

PROJECT: BAY CREEK VILLAS
CALCULATED BY: BRIAN KVAM
DATE: 12/10/01
TOPIC: Slug Test Data Calculations (PW-1)

PROJECT NO.: 21-1151c
CHECKED BY:
DATE:
SHEET 2 OF 5

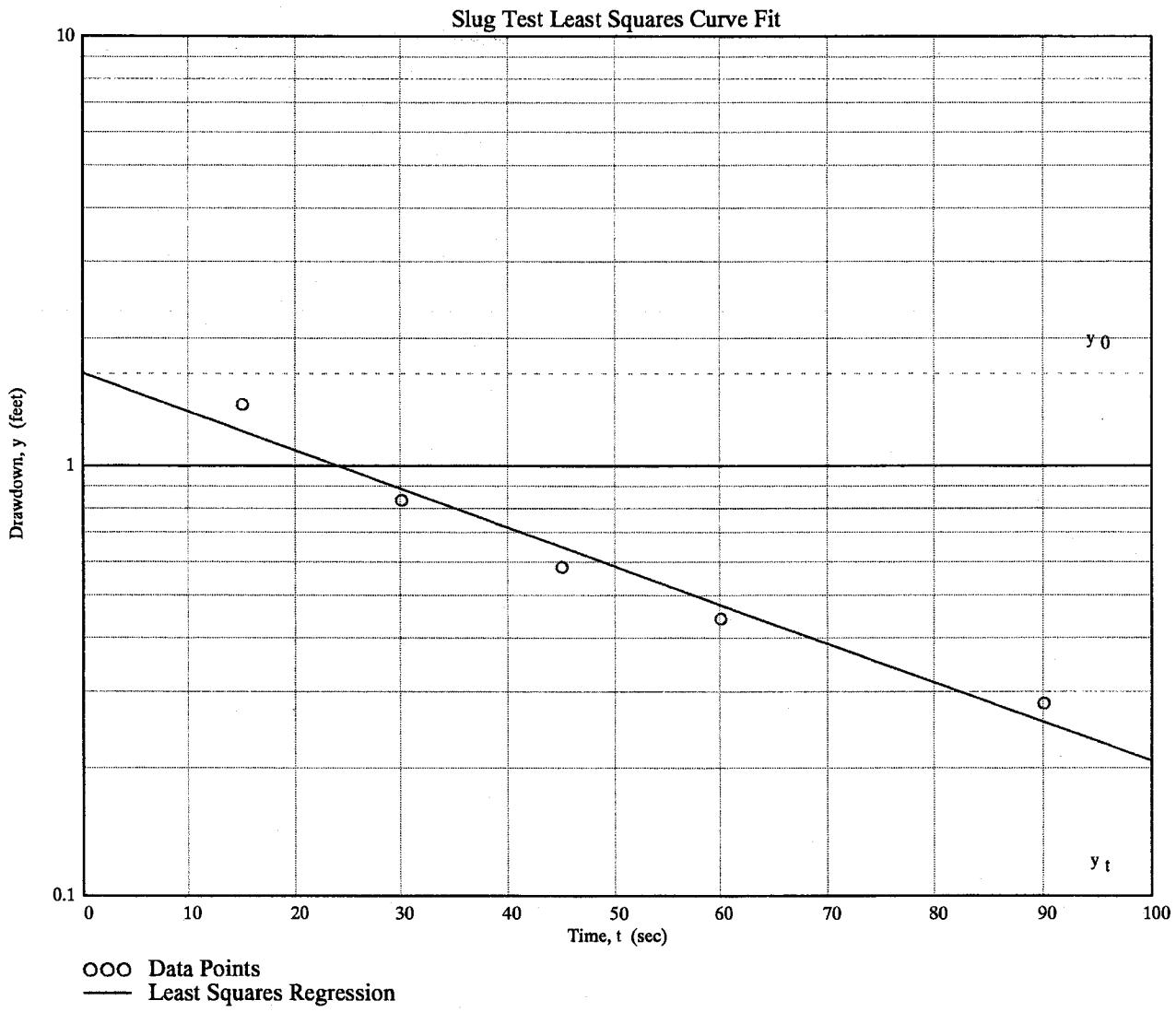
Output Section

$y_0 = 1.646$

$y_t = 0.1$

$t_2 = 134.734$

===Values for input to Bouwer and Rice (1985)



NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (PW-1)	SHEET 3 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, A

$$Adata := \begin{bmatrix} 3.8 & 1.7 \\ 12 & 1.9 \\ 24 & 2.3 \\ 39 & 2.6 \\ 80 & 3.8 \\ 200 & 6.0 \\ 400 & 7.9 \\ 700 & 8.75 \\ 1000 & 9.3 \\ 1600 & 9.7 \end{bmatrix}$$

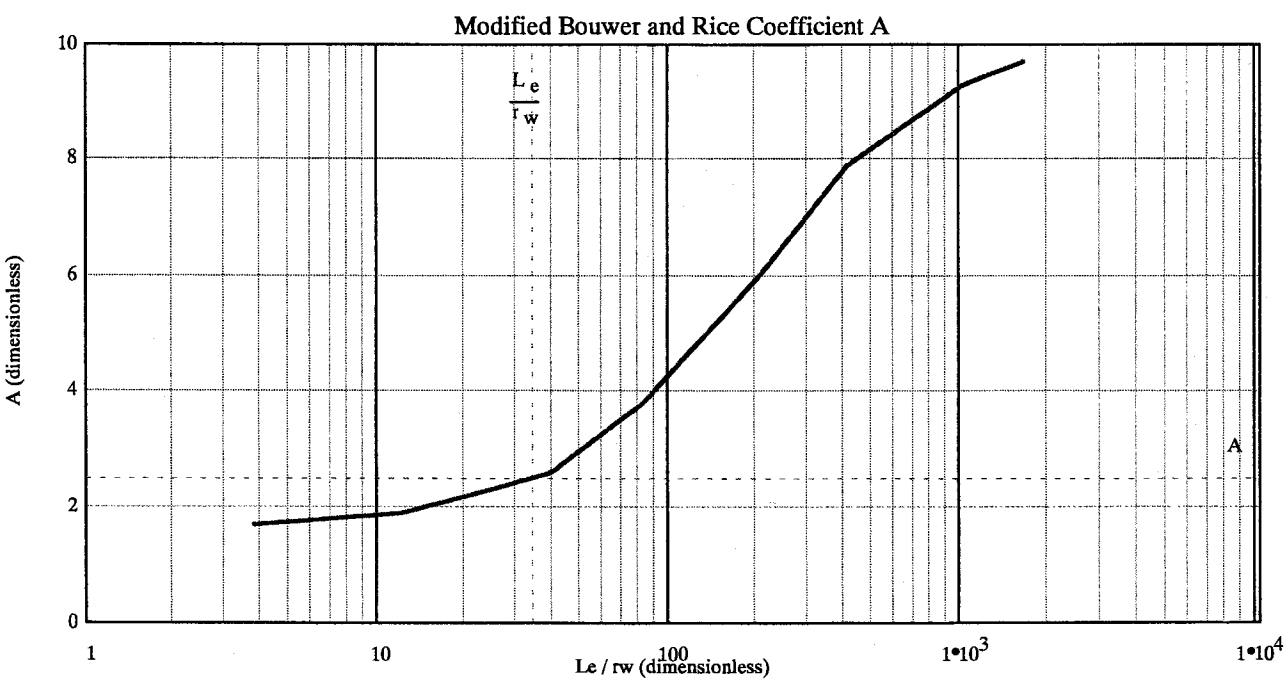
$X_A := Adata^{<0>}$ $\quad Y_A := Adata^{<1>}$ $\quad i := 0..\ length(X_A) - 1$

$Xlog_{A_i} := \log(X_{A_i})$

$Afit(x) := linterp(Xlog_A, Y_A, x)$

$scale := 100$ $\quad j := 0..\ scale$

$x_j := \min(Xlog_A) + j \cdot \dfrac{\max(Xlog_A) - \min(Xlog_A)}{scale}$ $\quad A := Afit\left(\log\left(\dfrac{L_e}{r_w}\right)\right)$



NESCO

CALCULATION SHEET

PROJECT:	BAY CREEK VILLAS	PROJECT NO.:	21-1151c
CALCULATED BY:	BRIAN KVAM	CHECKED BY:	
DATE:	12/10/01	DATE:	
TOPIC:	Slug Test Data Calculations (PW-1)	SHEET 4 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, B

$$Bdata := \begin{bmatrix} 3.8 & 0.25 \\ 10 & 0.27 \\ 20 & 0.30 \\ 50 & 0.55 \\ 150 & 1.1 \\ 200 & 1.2 \\ 250 & 1.35 \\ 500 & 2.2 \\ 800 & 2.7 \\ 1600 & 3.25 \end{bmatrix}$$

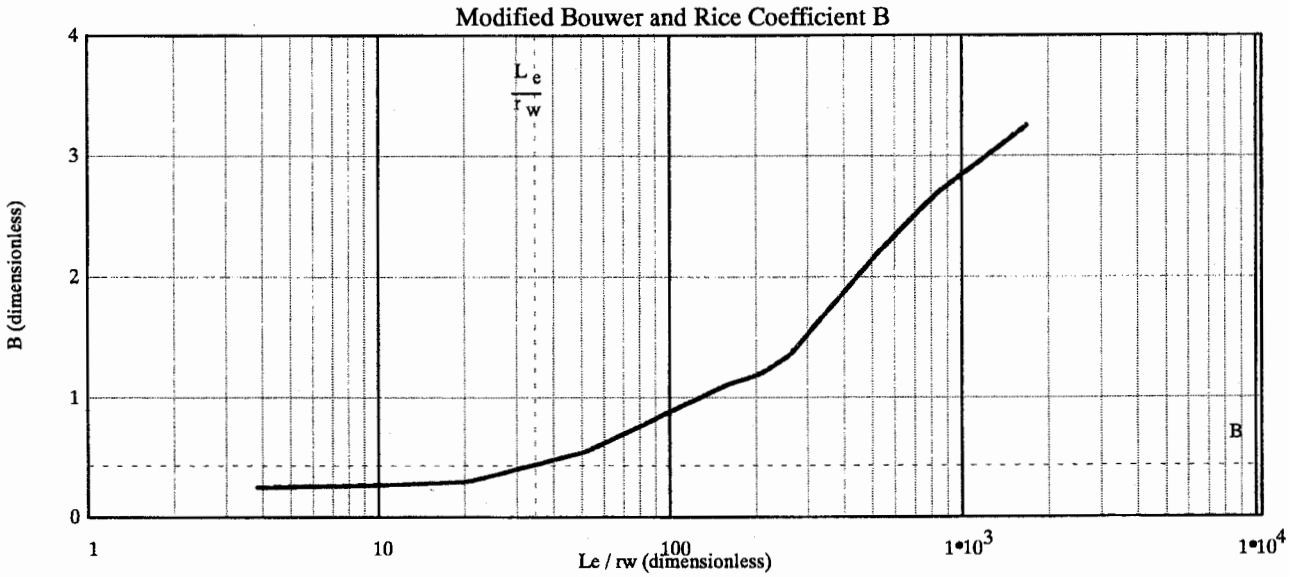
$X_B := Bdata^{<0>}$ $\quad Y_B := Bdata^{<1>}$ $\quad k := 0 .. \text{length}(X_B) - 1$

$Xlog_{B_k} := \log(X_{B_k})$

$Bfit(y) := \text{linterp}(Xlog_B, Y_B, y)$

$l := 0 .. \text{scale}$

$y_l := \min(Xlog_B) + l \cdot \dfrac{\max(Xlog_B) - \min(Xlog_B)}{\text{scale}}$ $\quad B := Bfit\left(\log\left(\dfrac{L_e}{r_w}\right)\right)$



NESCO

CALCULATION SHEET

PROJECT:	ISLAND TIRE SERVICE	PROJECT NO.:	21-1190c
CALCULATED BY:	BJK	CHECKED BY:	
DATE:	10/23/01	DATE:	
TOPIC:	Slug Test Data Calculations (PW-1)	SHEET 5 OF 5	

Known Constants

Input the following values:

$r_c := 1 \cdot in$

$r_w \equiv 1.75 \cdot in$ $\quad L_w := 34.68 \cdot ft$

$L_e \equiv 5.0 \cdot ft$ $\quad H := 50 \cdot ft$

$A = 2.52$ $\quad B = 0.447$

From the least squares curve fit above:

$y_0 = 1.646$

$y_t = 0.1$

$\tau := t_2 \cdot sec$ $\quad \tau = 134.734\ sec$

Defining Functions -- Modified Bouwer and Rice Slug Test Equations

$$\ln Re := \left[\frac{1.1}{\ln\left(\frac{L_w}{r_w}\right)} + \frac{A + B \cdot \ln\left(\frac{H - L_w}{r_w}\right)}{\left(\frac{L_e}{r_w}\right)} \right]^{-1}$$

$$K := \frac{r_c^2 \cdot \ln Re}{2 \cdot L_e} \cdot \left(\frac{1}{\tau}\right) \cdot \ln\left(\frac{y_0}{y_t}\right)$$

Solution Block, K in terms of ft/day and cm/sec

$$K = 3.7 \cdot \frac{ft}{day}$$

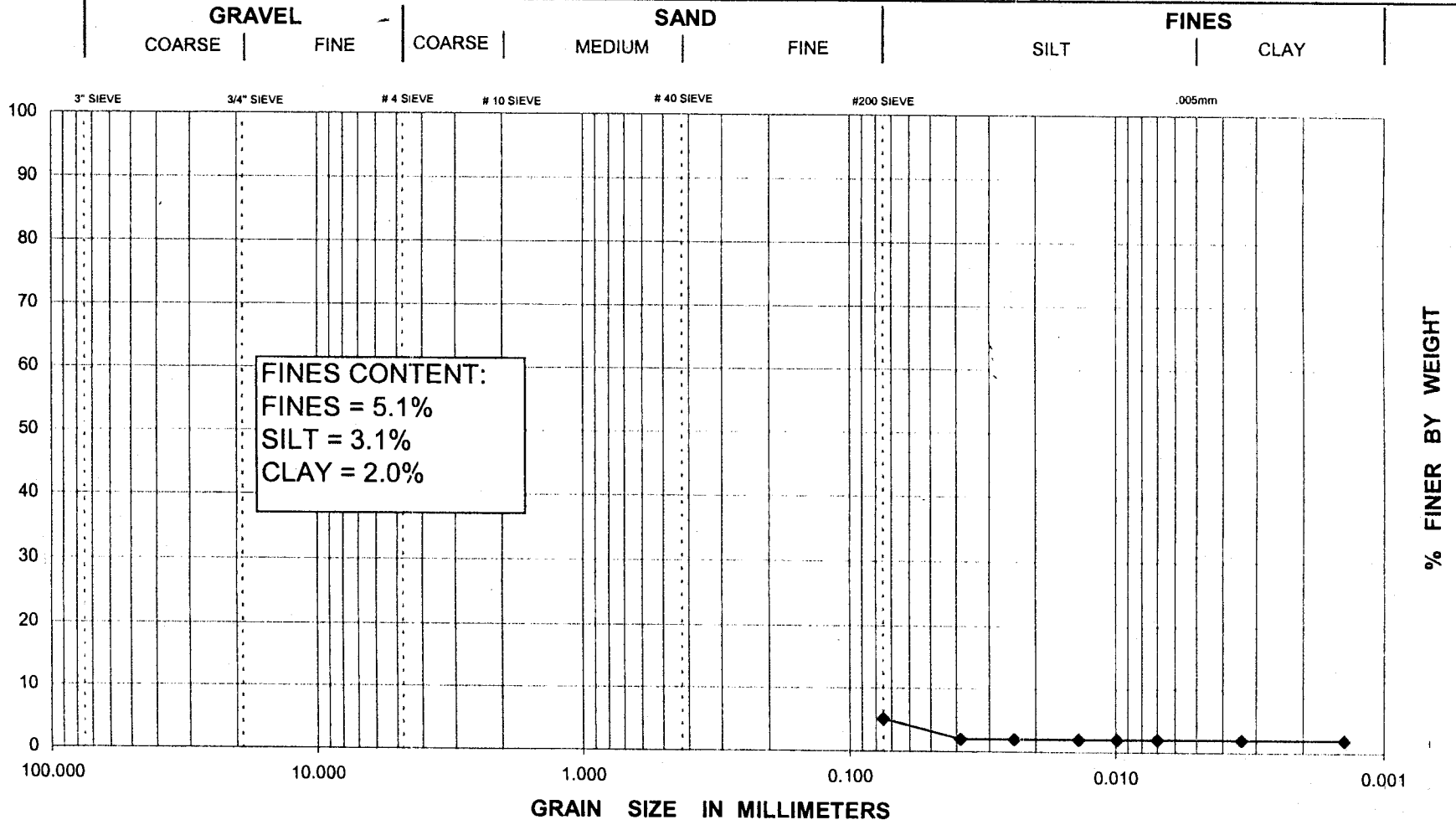
$$K = 1.3 \cdot 10^{-3} \cdot \frac{cm}{sec}$$

GAGE GROUP

GRAIN SIZE DISTRIBUTION TEST REPORT

(ASTM D422)

JOB NAME : Baycreek Villas			
JOB NO. : 0201-287	DATE : 01/08/02	TESTED BY : RS	REVIEWED BY : PM
BORING / PIT NO. :	DEPTH / ELEV. : 3	SAMPLE NO. : 1	SAMPLE TYPE :
SAMPLE LOCATION : N/A			
SOIL DESCRIPTION : Gray fine to medium SAND with trace of silt			SP. GRAVITY, Gs : -
LIQUID LIMIT, % :		MOISTURE , % :	FINES , % : 5.1
D10 , MM :	D30 , MM :	D60 , MM :	COEFF. OF CURVATURE , C_C :
CLASSIFICATION	UNIFIED :	AASHTO : -	COEFF. OF UNIFORMITY , C_U :



FATE AND TRANSPORT MODEL
BENZENE
BAY CREEK VILLAS
EDISTO BEACH, SC

BIOSCREEN Natural Attenuation Decision Support System

NESCO *Version 1.3*

Data Input Instructions:

115 → *1. Enter value directly.... or*
or
0.02 → *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable* → *Data used directly in model.*

20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	104.3	*(ft/yr)*
or		or	
Hydraulic Conductivity	*K*	3.6E-03	*(cm/sec)*
Hydraulic Gradient	*i*	1.1E-02	*(ft/ft)*
Porosity	*n*	0.4	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	9.3	*(ft)*
Transverse Dispersivity*	*alpha y*	0.9	*(ft)*
Vertical Dispersivity*	*alpha z*	0.0	*(ft)*
or		or	
Estimated Plume Length	*Lp*	150	*(ft)*

3. ADSORPTION

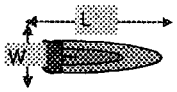
Retardation Factor*	*R*	503.2	*(-)*
or		or	
Soil Bulk Density	*rho*	1.55	*(kg/l)*
Partition Coefficient	*Koc*	81	*(L/kg)*
FractionOrganicCarbon	*foc*	1.6	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	2.3E+0	*(per yr)*
or		or	
Solute Half-Life	*t-half*	0.306	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	2.26	*(mg/L)*
Delta Nitrate*	*NO3*	0.18	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	30	*(mg/L)*
Delta Sulfate*	*SO4*	179	*(mg/L)*
Observed Methane*	*CH4*	3.62	*(mg/L)*

5. GENERAL

Modeled Area Length*	45	*(ft)*
Modeled Area Width*	25	*(ft)*
Simulation Time*	2000	*(yr)*



6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

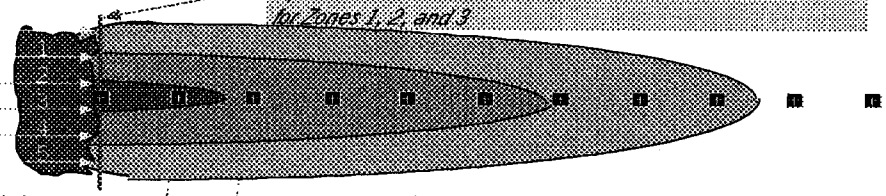
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0.001
10	0.05
25	2
10	0.05
5	0.001

Source Decay (see Help):

SourceHalflife*	Infinite	*(yr)*
Soluble Mass	or	
In NAPL, Soil	Infinite	*(Kg)*

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	5	9	14	18	23	27	32	36	41	45

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE

View Output

RUN ARRAY

View Output

Help

Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

NESCO Job #21-1151c
Bay Creek Villas
Benzene, Anaerobic Low

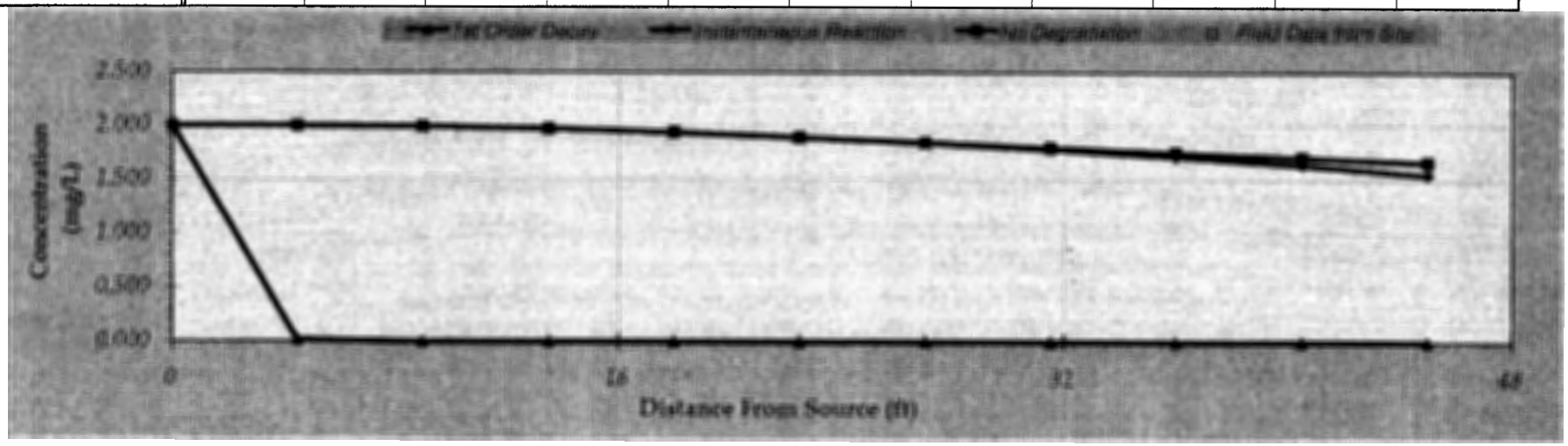
2/8/02
Benzene

FATE AND TRANSPORT MODEL
BENZENE
BAY CREEK VILLAS
EDIST BEACH, SC

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	5	9	14	18	23	27	32	36	41	45
No Degradation	2.000	2.000	1.996	1.976	1.941	1.897	1.850	1.802	1.755	1.709	1.666
1st Order Decay	2.000	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	2.000	2.000	1.996	1.976	1.941	1.896	1.845	1.787	1.720	1.642	1.550
Field Data from Site											



Calculate Animation

Time:
2,000 Years

Return to Input

Recalculate This Sheet

NESCO Job #21-1151c
Bay Creek Villas
Benzene, Anaerobic Low

2/8/02
Benzene

FATE AND TRANSPORT MODEL
BENZENE
SSTL CALCULATION
BAY CREEK VILLAS
EDISTO BEACH, SC

BIOSCREEN Natural Attenuation Decision Support System

NESCO — *Version 1.3*

Data Input Instructions:

115 — 1. Enter value directly... or
or
0.02 — 2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* — Data used directly in model.
20 — Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	104.3	(ft/yr)
or		or	
Hydraulic Conductivity	K	3.6E-03	(cm/sec)
Hydraulic Gradient	i	1.1E-02	(ft/ft)
Porosity	n	0.4	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	9.3	(ft)
Transverse Dispersivity*	alpha y	0.9	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	150	(ft)

3. ADSORPTION

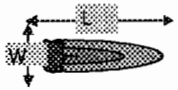
Retardation Factor*	R	503.2	(-)
or		or	
Soil Bulk Density	rho	1.55	(kg/l)
Partition Coefficient	Koc	81	(L/kg)
FractionOrganicCarbon	foc	1.6	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	2.3E+0	(per yr)
or		or	
Solute Half-Life	t-half	0.306	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	2.26	(mg/L)
Delta Nitrate*	NO3	0.18	(mg/L)
Observed Ferrous Iron*	Fe2+	30	(mg/L)
Delta Sulfate*	SO4	179	(mg/L)
Observed Methane*	CH4	3.62	(mg/L)

5. GENERAL

Modeled Area Length*	45	(ft)
Modeled Area Width*	25	(ft)
Simulation Time*	2000	(yr)



6. SOURCE DATA

Source Thickness in Sat.Zone* 10 (ft)

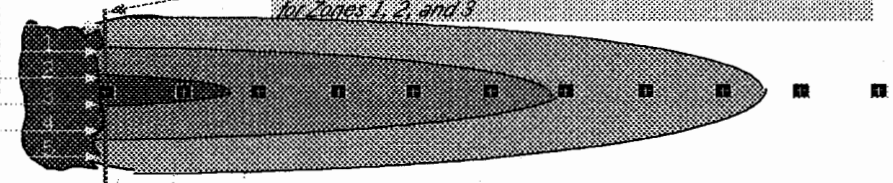
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0.001
10	0.05
25	0.136
10	0.05
5	0.001

Source Decay (see Help):

SourceHalflife*	Infinite	(yr)
Soluble Mass	or	
In NAPL, Soil	Infinite	(Kg)

Vertical Plane Source. Look at Plume Cross Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	5	9	14	18	23	27	32	36	41	45

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help — Recalculate This Sheet

Paste Example Dataset

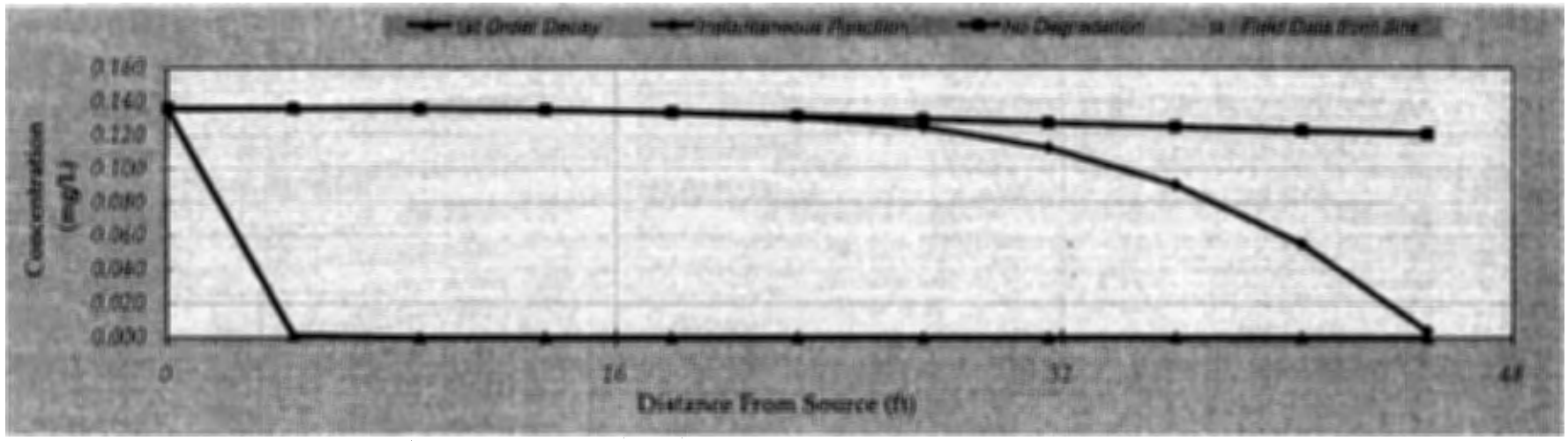
Restore Formulas for Vs, Dispersivities, R, lambda, other

FATE AND TRANSPORT MODEL
BENZENE
SSTL CALCULATION
BAY CREEK VILLAS
EDIST BEACH, SC

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	5	9	14	18	23	27	32	36	41	45
No Degradation	0.136	0.136	0.136	0.135	0.133	0.131	0.129	0.127	0.125	0.123	0.121
1st Order Decay	0.136	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	0.136	0.136	0.136	0.135	0.133	0.130	0.125	0.113	0.091	0.055	0.004
Field Data from Site											



Calculate Animation

Time:
2,000 Years

Return to Input

Recalculate This Sheet

FATE AND TRANSPORT MODEL
ETHYLBENZENE
BAY CREEK VILLAS
EDISTO BEACH, SC

BIOSCREEN Natural Attenuation Decision Support System

NESCO — *Version 1.3*

Data Input Instructions:

115 — 1. Enter value directly.... or
or — 2. Calculate by filling in grey cells below. (To restore formulas, hit button below).
0.02

Variable* — Data used directly in model.
20 — Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	104.3	(ft/yr)
or		or	
Hydraulic Conductivity	*K*	3.6E-03	(cm/sec)
Hydraulic Gradient	*i*	1.1E-02	(ft/ft)
Porosity	*n*	0.4	(-)

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	9.3	(ft)
Transverse Dispersivity*	*alpha y*	0.9	(ft)
Vertical Dispersivity*	*alpha z*	0.0	(ft)
or		or	
Estimated Plume Length	*Lp*	150	(ft)

3. ADSORPTION

Retardation Factor*	*R*	1092.2	(-)
or		or	
Soil Bulk Density	*rho*	1.55	(kg/l)
Partition Coefficient	*Koc*	176	(L/kg)
FractionOrganicCarbon	*foc*	1.6	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	1.4E+0	(per yr)
or		or	
Solute Half-Life	*t-half*	0.482	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	2.26	(mg/L)
Delta Nitrate*	*NO3*	0.18	(mg/L)
Observed Ferrous Iron*	*Fe2+*	30	(mg/L)
Delta Sulfate*	*SO4*	179	(mg/L)
Observed Methane*	*CH4*	3.62	(mg/L)

5. GENERAL

Modeled Area Length*	45	(ft)
Modeled Area Width*	25	(ft)
Simulation Time*	4500	(yr)

6. SOURCE DATA

Source Thickness in Sat.Zone* 10 (ft)

Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0.1
10	0.5
25	0.78
10	0.5
5	0.1

Source Decay (see Help):

SourceHalflife*	Infinite	(yr)
Soluble Mass	or	
In NAPL, Soil	Infinite	(Kg)

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3

View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Dist. from Source (ft)	Concentration (mg/L)
0	
5	
9	
14	
18	
23	
27	
32	
36	
41	
45	

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

Recalculate This Sheet

Paste Example Dataset

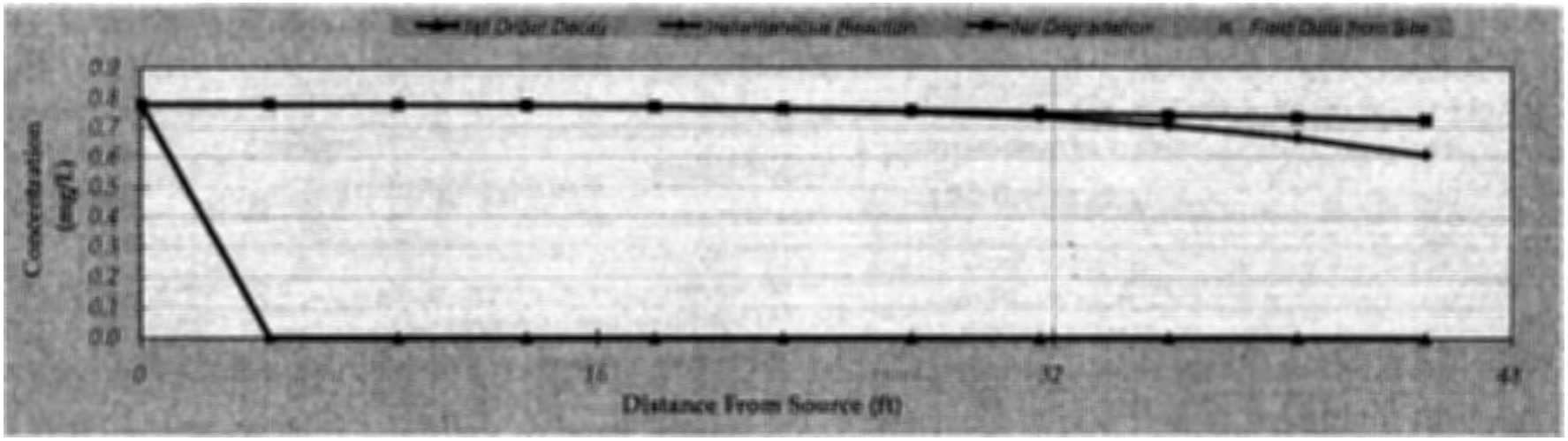
Restore Formulas for Vs, Dispersivities, R, lambda, other

FATE AND TRANSPORT MODEL
ETHYLBENZENE
BAY CREEK VILLAS
EDIST BEACH, SC

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	5	9	14	18	23	27	32	36	41	45
No Degradation	0.780	0.780	0.779	0.777	0.771	0.765	0.758	0.750	0.742	0.734	0.726
1st Order Decay	0.780	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	0.780	0.780	0.779	0.776	0.771	0.764	0.753	0.736	0.708	0.667	0.610
Field Data from Site											



Replay Animation

Next Timestep

Prev Timestep

Time:

4,500 Years

Return to Input

Recalculate This Sheet

FATE AND TRANSPORT MODEL
ETHYLBENZENE
SSTL CALCULATION
BAY CREEK VILLAS
EDISTO BEACH, SC

BIOSCREEN Natural Attenuation Decision Support System

NESCO — *Version 1.3*

Data Input Instructions:

115 — *1. Enter value directly.... or*
or — *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*
0.02

Variable* → *Data used directly in model.*
20 → *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	104.3	*(ft/yr)*
or		or	
Hydraulic Conductivity	*K*	3.6E-03	*(cm/sec)*
Hydraulic Gradient	*i*	1.1E-02	*(ft/ft)*
Porosity	*n*	0.4	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	9.3	*(ft)*
Transverse Dispersivity*	*alpha y*	0.9	*(ft)*
Vertical Dispersivity*	*alpha z*	0.0	*(ft)*
or		or	
Estimated Plume Length	*Lp*	150	*(ft)*

3. ADSORPTION

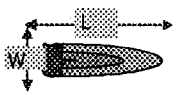
Retardation Factor*	*R*	1092.2	*(-)*
or		or	
Soil Bulk Density	*rho*	1.55	*(kg/l)*
Partition Coefficient	*Koc*	176	*(L/kg)*
FractionOrganicCarbon	*foc*	1.6	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	1.4E+0	*(per yr)*
or		or	
Solute Half-Life	*t-half*	0.482	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	2.26	*(mg/L)*
Delta Nitrate*	*NO3*	0.18	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	30	*(mg/L)*
Delta Sulfate*	*SO4*	179	*(mg/L)*
Observed Methane*	*CH4*	3.62	*(mg/L)*

5. GENERAL

Modeled Area Length*	45	*(ft)*
Modeled Area Width*	25	*(ft)*
Simulation Time*	4500	*(yr)*



6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

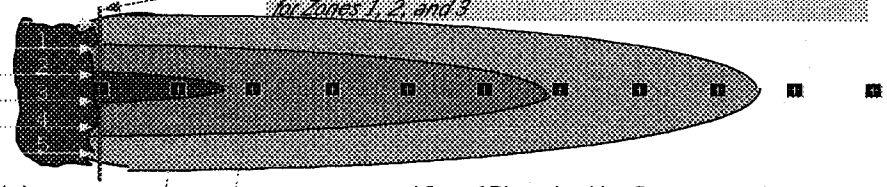
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0.1
10	0.5
25	0.88
10	0.5
5	0.1

Source Decay (see Help):

SourceHalflife*	Infinite	*(yr)*
Soluble Mass	or	
In NAPL, Soil	Infinite	*(Kg)*

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	5	9	14	18	23	27	32	36	41	45

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — **View Output**

RUN ARRAY — **View Output**

Help — **Recalculate This Sheet**

Paste Example Dataset

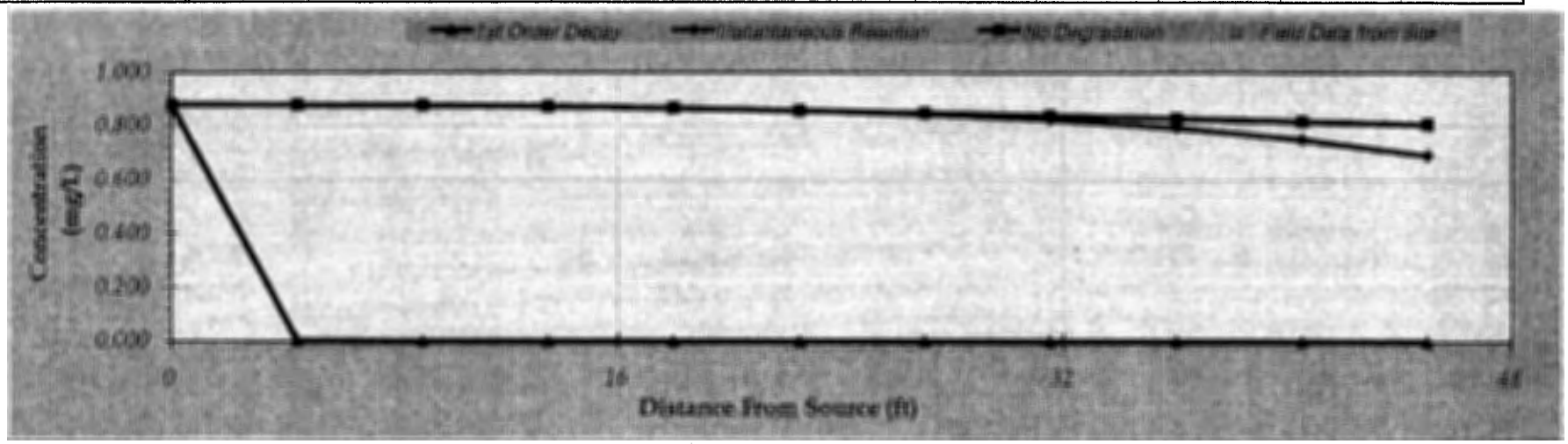
Restore Formulas for Vs, Dispersivities, R, lambda, other

FATE AND TRANSPORT MODEL
ETHYLBENZENE
SSTL CALCULATION
BAY CREEK VILLAS
EDIST BEACH, SC

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	5	9	14	18	23	27	32	36	41	45
No Degradation	0.880	0.880	0.879	0.875	0.868	0.860	0.850	0.840	0.830	0.820	0.809
1st Order Decay	0.880	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	0.880	0.880	0.879	0.875	0.868	0.859	0.845	0.826	0.796	0.752	0.693
Field Data from Site											



Calculate Animation

Time:
4,500 Years

Return to Input

Recalculate This Sheet

FATE AND TRANSPORT MODEL
NAPHTHALENE
BAY CREEK VILLAS
EDISTO BEACH, SC

BIOSCREEN Natural Attenuation Decision Support System

NESCO — *Version 1.3*

Data Input Instructions:

115 — *1. Enter value directly.... or*
or — *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*
0.02

Variable* — *Data used directly in model.*
20 — *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	104.3	*(ft/yr)*
or		or	
Hydraulic Conductivity	*K*	3.6E-03	*(cm/sec)*
Hydraulic Gradient	*i*	1.1E-02	*(ft/ft)*
Porosity	*n*	0.4	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	9.3	*(ft)*
Transverse Dispersivity*	*alpha y*	0.9	*(ft)*
Vertical Dispersivity*	*alpha z*	0.0	*(ft)*
or		or	
Estimated Plume Length	*Lp*	150	*(ft)*

3. ADSORPTION

Retardation Factor*	*R*	9567.6	*(-)*
or		or	
Soil Bulk Density	*rho*	1.55	*(kg/l)*
Partition Coefficient	*Koc*	1543	*(L/kg)*
FractionOrganicCarbon	*foc*	1.6	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	1.0E+1	*(per yr)*
or		or	
Solute Half-Life	*t-half*	0.068	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	2.26	*(mg/L)*
Delta Nitrate*	*NO3*	0.18	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	30	*(mg/L)*
Delta Sulfate*	*SO4*	179	*(mg/L)*
Observed Methane*	*CH4*	3.62	*(mg/L)*

5. GENERAL

Modeled Area Length*	45	*(ft)*
Modeled Area Width*	25	*(ft)*
Simulation Time*	40000	*(yr)*

6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

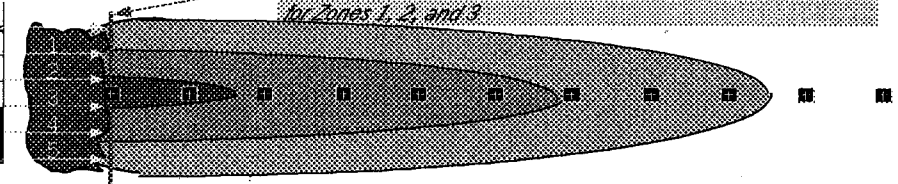
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0.01
10	0.025
25	0.28
10	0.025
5	0.01

Source Decay (see Help):

SourceHalflife*	Infinite	*(yr)*
Soluble Mass	or	
In NAPL, Soil	Infinite	*(Kg)*

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Dist. from Source (ft)	Concentration (mg/L)
0	
5	
9	
14	
18	
23	
27	
32	
36	
41	
45	

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help — Recalculate This Sheet

Paste Example Dataset

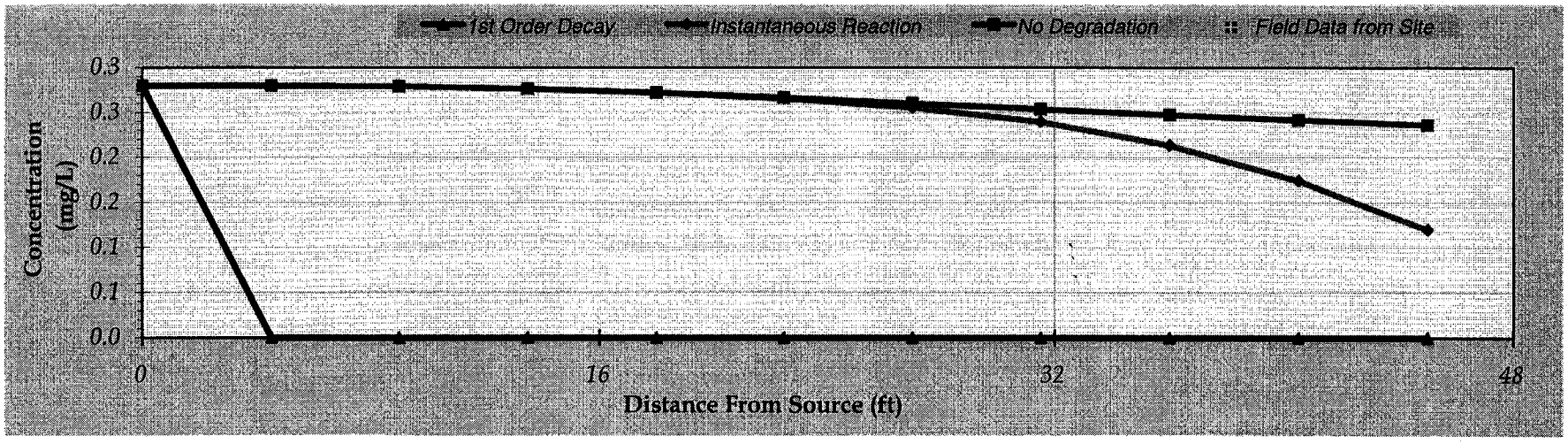
Restore Formulas for Vs, Dispersivities, R, lambda, other

FATE AND TRANSPORT MODEL
NAPHTHALENE
BAY CREEK VILLAS
EDIST BEACH, SC

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	5	9	14	18	23	27	32	36	41	45
No Degradation	0.280	0.280	0.279	0.277	0.272	0.267	0.260	0.254	0.248	0.242	0.236
1st Order Decay	0.280	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	0.280	0.280	0.279	0.277	0.272	0.266	0.256	0.240	0.214	0.175	0.120
Field Data from Site											



Calculate Animation

Time:
40,000 Years

Return to Input

Recalculate This Sheet

FATE AND TRANSPORT MODEL
NAPHTHALENE
SSTL CALCULATION
BAY CREEK VILLAS
EDISTO BEACH, SC

BIOSCREEN Natural Attenuation Decision Support System

NESCO *Version 1.3*

Data Input Instructions:

115 ... *1. Enter value directly.... or*
or ... *2. Calculate by filling in grey cells below. (To restore formulas, hit button below).*
0.02

Variable* ... *Data used directly in model.*
20 ... *Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	104.3	*(ft/yr)*
or		or	
Hydraulic Conductivity	*K*	3.6E-03	*(cm/sec)*
Hydraulic Gradient	*i*	1.1E-02	*(ft/ft)*
Porosity	*n*	0.4	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	9.3	*(ft)*
Transverse Dispersivity*	*alpha y*	0.9	*(ft)*
Vertical Dispersivity*	*alpha z*	0.0	*(ft)*
or		or	
Estimated Plume Length	*Lp*	150	*(ft)*

3. ADSORPTION

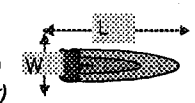
Retardation Factor*	*R*	9567.6	*(-)*
or		or	
Soil Bulk Density	*rho*	1.55	*(kg/l)*
Partition Coefficient	*Koc*	1543	*(L/kg)*
FractionOrganicCarbon	*foc*	1.6	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	1.0E+1	*(per yr)*
or		or	
Solute Half-Life	*t-half*	0.068	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	2.26	*(mg/L)*
Delta Nitrate*	*NO3*	0.18	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	30	*(mg/L)*
Delta Sulfate*	*SO4*	179	*(mg/L)*
Observed Methane*	*CH4*	3.62	*(mg/L)*

5. GENERAL

Modeled Area Length*	45	*(ft)*
Modeled Area Width*	25	*(ft)*
Simulation Time*	40000	*(yr)*



6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

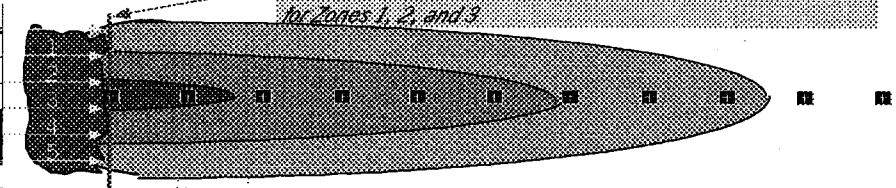
Source Zones:

Width* (ft)	Conc. (mg/L)*
5	0.01
10	0.025
25	0.164
10	0.025
5	0.01

Source Decay (see Help):

SourceHalflife*	Infinite	*(yr)*
Soluble Mass	or	
In NAPL, Soil	Infinite	*(Kg)*

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)											
Dist. from Source (ft)	0	5	9	14	18	23	27	32	36	41	45

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE

View Output

RUN ARRAY

View Output

Help

Recalculate This Sheet

Paste Example Dataset

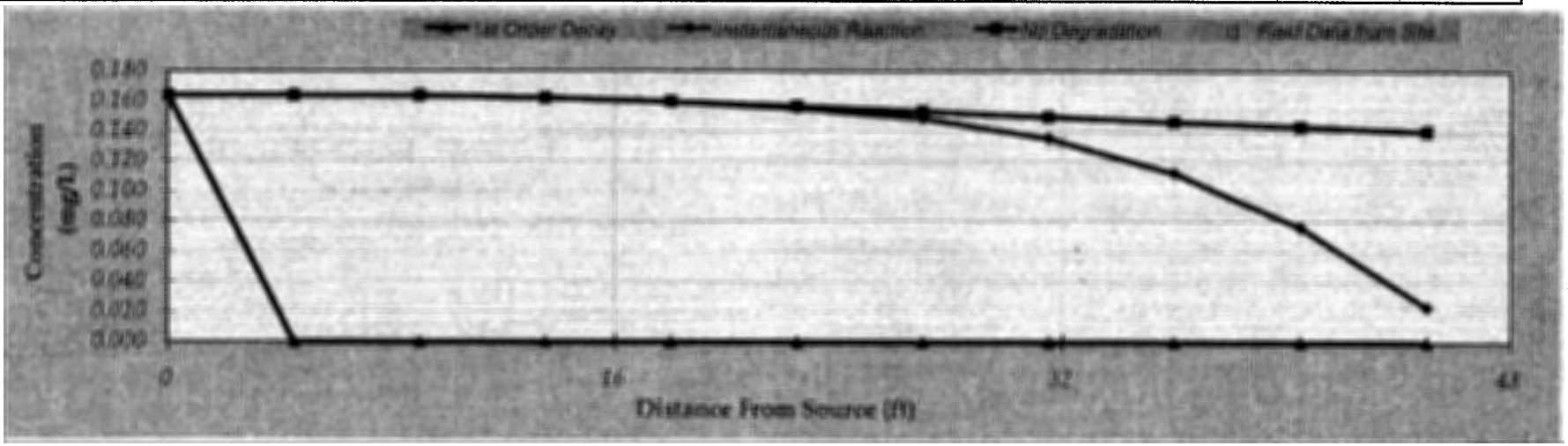
Restore Formulas for Vs, Dispersivities, R, lambda, other

FATE AND TRANSPORT MODEL
NAPHTHALENE
SSTL CALCULATION
BAY CREEK VILLAS
EDIST BEACH, SC

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	5	9	14	18	23	27	32	36	41	45
No Degradation	0.164	0.164	0.164	0.162	0.160	0.157	0.153	0.150	0.146	0.143	0.140
1st Order Decay	0.164	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	0.164	0.164	0.164	0.162	0.160	0.156	0.149	0.135	0.112	0.076	0.024
Field Data from Site											



Calculate Animation

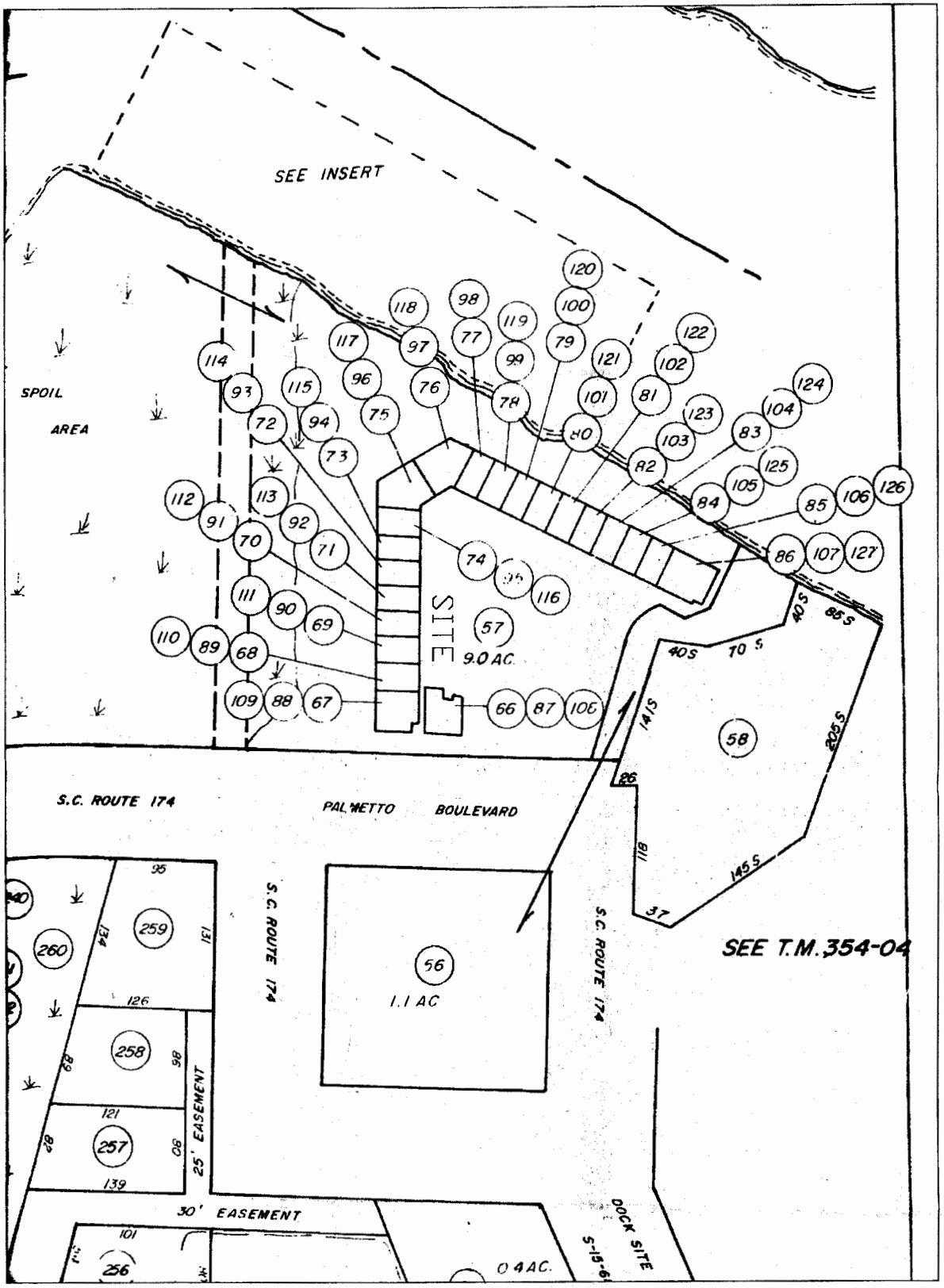
Time:
40,000 Years

Return to Input

Recalculate This Sheet

NESCO Job #21-1151c
Bay Creek Villas
Naphthalene, SSTL, Anaerobic Low

2/8/02
Naphthalene,SSTL



NORTH

TAX MAP NUMBER
354-03
JOB NO: 21-1151c

DRAWN BY: COLLETON COUNTY
TAX YEAR: 2001

TAX MAP
APPROXIMATE SCALE
1 INCH = 100 FEET

BAY CREEK VILLAS
UST PERMIT #18662
3701 DOCK SITE RD.
EDISTO BEACH, SC

NESCO
For Practical Solutions.
CONSULTING ENGINEERS & SCIENTISTS
521 CLEMSON ROAD, COLUMBIA, SOUTH CAROLINA, 29229 USA
PHONE: 803 699 1976 FACSIMILE: 803 699 9863

TAX MAP AND PROPERTY OWNER INFORMATION
FOR SURROUNDING PROPERTIES
BAY CREEK VILLAS
EDISTO BEACH, SC

TAX MAP NUMBER	BLOCK NUMBER	PARCEL NUMBER	OWNER/ ADDRESS
354-03	00	56	Edisto Marina Management Corp. 3702 Dock Site Rd. Edisto Island, SC 29438
354-03	00	58	Weldon Bell 3706 Docksite Rd. Edisto Island, SC 29438
354-03	00	259	Moss Falmily Trust 3535 Heron Cove Edisto Island, SC 29438
354-03	00	260	Fairfield Communities Inc. P.O. Box 3375 Little Rock, AR 72203

NESCO

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 5162	2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address: NESCO, INC. (AGENT FOR BAY CREEK VILLAS)
521 CLEMSON RD.
COLUMBIA, SC 29229

4. Generator's Phone (803) 699-1976

5. Transporter 1 Company Name: NESCO, INC.
6. US EPA ID Number:

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address:
G+K
HWY 378
SUMTER, SC
10. US EPA ID Number:

A. Transporter's Phone: 803-699-1976
B. Transporter's Phone:
C. Facility's Phone:

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. NON-HAZ. / NON-REG. PETROLEUM CONTACT SOIL	5	DMS		
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
BAY CREEK VILLAS
UST PERMIT # 18662
NESCO PROJECT # 21-1151C

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: BRIAN KUAM (AGENT) | Signature: Brian J Kuam | Month 01 Day 23 Year 02

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger | Signature: Billy Pittenger | Month 1 Day 22 Year 02

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: S. Colley | Signature: S. Colley | Month 01 Day 23 Year 02

White - Return to Generator • Canary - Transporter • Pink - Generator • Gold - T/S/D/F

NESCO

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address (As Agent For various sites listed below) NESCO, Inc. 521 Clemson Rd. Cola, S.C. 29229

4. Generator's Phone (803) 699-1976

5. Transporter 1 Company Name: NESCO, Inc.

6. US EPA ID Number

7. Transporter 2 Company Name

8. US EPA ID Number

9. Designated Facility Name and Site Address: U+K, HWY 378, 76, Sumter, S.C 29154

10. US EPA ID Number

A. Transporter's Phone 803-699-1976

B. Transporter's Phone

C. Facility's Phone

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non Hazardous / Non Regulated Petroleum Contact Water.	1	DT	116	Gal
b. Various Sites 21-1751, UST# 05213; 21-1752, UST# 02188; 21-1810, UST# 12493; 21-1826, UST# 05170; 21-1828, UST# 03591; 21-1845, UST# 00143;				
c. 21-1580, UST# 13579; 21-1027, UST# 11294; 21-1226, UST# 10176; 21-766, UST# 16614; 21-562, UST# 13699; 21-1484, UST# 04210;				
d. 21-950, UST# 04136; 21-1827, UST# 11552; 21-1151 UST# 18662; 21-1661, SC Landfill Permit# 401001-1101; 21-1561, UST# 15633				

D. Additional Descriptions for Materials Listed Above

BAY CREEK VILLAS (2 DRUMS WATER)
UST # 18662
NESCO JOB # 21-1151c

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

TRANSPORTER

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: As Agent For Brad DeFee — Signature: [signature] — Month 01 Day 22 Year 02

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Billy Pittenger — Signature: Billy Pittenger — Month 1 Day 22 Year 02

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: S. Collins — Signature: S. Collins — Month 01 Day 22 Year 02

White - Return to Generator • Canary - Transporter • Pink - Generator • Gold - T/S/D/F

18662

18662

Site ID # R-15-NO 0442 Facility Name Edisto Marina Management Corp

Triage Date 1/30/01 triaged By BGF

TRIAGE (Indicate type of submittal)

CR* ✓

AR ____

SC ____

RLS ____

TST ____

MWR ____

ToFO* ____

Other ____

Date Reported To Bureau: 1/29/01

Project Manager Assigned: Fant / Williams

REPORT RANKING

A (Free Product, Sheen on GW) ____

B (GW contamination >MCL) ✓

C (Soil contamination >RBSLs) ____

D (Soil contamination <RBSLs) ____

E (No contamination documented) ____

F (Incomplete submittal) ____

RELEASE REPORT CLASSIFICATION

Free Product (Forward to Remediation) ____

TST Failure (tank/line/lld) ____

SIR (Fail/2 Months Inconclusive) ____

Soil or GW Contamination ____

TANK SYSTEM STATUS

System CIU or TOU (product in USTs) ____

System ABD or TOU (USTs closed/USTs are empty) ✓ tank #1

DATABASE LOG-IN/CHANGE (** Needs database change)

Submittal(s) Logged-In By: BGF

Database Changes Given To: K Mc

RF

South Carolina Department of Health and Environmental Control (S.C.D.H.E.C.)

Underground Storage Tank (UST) Assessment Report

Date Received
State Use Only

Submit Completed Form To:
UST Regulatory Section
SCDHEC
2600 Bull Street
Columbia, South Carolina 29201
Telephone (803) 734-5331

RECEIVED
JAN 2 9 2001
Bureau of Underground Storage Tank Management

I. OWNERSHIP OF UST(S)

Horizontal Property Regime - Bay Creek Villas		
Owner Name (Corporation, Individual, Public Agency, Other)		
3701 Docksite Road		
Mailing Address		
Edisto Beach	**SC**	**29438**
City	State	Zip Code
(843)	**869-1848**	**Robert Fowlkes**
Area Code	Telephone Number	Contact Person

II. SITE IDENTIFICATION AND LOCATION

~~01515~~ ~~01442~~ 18662	
Site I.D.#	
Bay Creek Villas	
Facility Name or Company Site Identifier	
3701 Docksite Road	
Street Address or State Road (as applicable)	
Edisto Beach	**Colleton**
City	County

III. CLOSURE INFORMATION

12/13/00	**12/13/00**	**One (1)**
Closure Started	Closure Completed	Number of USTs Closed
NESCO, Inc.	**NESCO, Inc.**	
Consultant	UST Removal Contractor	

IV. CERTIFICATION

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Name (Type or print.) Robert Fowlkes

Robert Fowlkes

Signature

V. UST INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6	Tank 7
A. Product.....	**Diesel**						
B. Capacity.....	**1,000 gal.**						
C. Age.....	**30+ years**						
D. Construction Material.....	**Steel**						
E. Month/Year of Last Use.....	**Unk.**						
F. Depth (ft.) To Base of Tank.....	**9 feet**						
G. Spill Prevention Equipment Y/N.....	**No**						
H. Overfill Prevention Equipment Y/N.....	**No**						
I. Method of Closure Remove/Filled.....	**Filled**						
J. Visible Corrosion or Pitting.....	**N/A**						
K. Visible Holes Y/N.....	**Yes**						

L. Method of disposal for any USTs removed from the ground (attach disposal manifests)

The UST was abandoned in place by filling with flow able fill cement.

M. Method of disposal for any liquid petroleum, sludges, or waste waters removed from the USTs (attach disposal manifests)

The contents of the USTs were removed and transported to AMBAC Environmental Services (manifest in appendix 3).

N. If any corrosion, pitting, or holes were observed, describe the location and extent for each UST

There were (6) six visible holes located along the top of the tank. Three fill holes with no associated piping, two rusted holes, and one drill hole (the former MW-2). See attached photograph.

VI. PIPING INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6	Tank 7
A. Construction Material.....	**Steel**						
B. Distance from UST to Dispenser.....	**0**						
C. Number of Dispensers.....	**0**						
D. Type of System P/S.....	**N/A**						
E. Was Piping Removed from the Ground? Y/N.	**Yes**						
F. Visible Corrosion or Pitting Y/N.....	**N/A**						
G. Visible Holes Y/N.....	**N/A**						
H. Age.....	**Unk.**						

I. If any corrosion, pitting, or holes were observed, describe the location and extent for each line.

The UST was abandoned in place by filling with cement, however one vent line was observed on the east end and removed.

VII. BRIEF SITE DESCRIPTION AND HISTORY

The site is currently a condominium complex located in Edisto Beach, SC. The surrounding area is serviced with municipal water and sewer services . Two soil samples and one groundwater were collected from the UST basin.

The surrounding area is serviced with municipal water
And sewer services . Two soil samples and one groundwater were collected from the UST basin.

VIII. SITE CONDITIONS

	Yes	No	Unk
A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, monitoring wells? If yes, indicate depth and location on the site map.	**Yes**		
B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells? If yes, indicate location on site map and describe the odor (strong, mild, etc.)	**Yes**		
C. Was water present in the UST excavation, soil borings, or trenches? If yes, how far below land surface (indicate location and depth)? _____	**Yes**		
D. Did contaminated soils remain stockpiled on site after closure? If yes, indicate the stockpile location on the site map. Name of DHEC representative authorizing soil removal: _____		**No**	
E. Was a petroleum sheen or free product detected on any excavation or boring waters? If yes, indicate location and thickness.	**Yes**		

IX. SAMPLE INFORMATION

A. S.C.D.H.E.C. Lab Certification **32010**

B.

Sample #	Location	Sample Type (Soil/Water)	Depth*	Date/Time of Collection	Collected by	OVA #
1	**S-1 (East end of UST basin)**	**Soil**	**7 ft.**	**12/13/00 2:00 PM**	**Noal Hudson**	**N/A**
2	**S-2 (west end of UST basin)**	**Soil**	**7 ft.**	**12/13/00 2:15 PM**	**Noal Hudson**	**N/A**
3	**GW-1 (from east fill hole of tank)**	**Water**		**12/13/00 2:30 PM**	**Noal Hudson**	**N/A**
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

* = Depth Below the Surrounding Land Surface

X. SAMPLING METHODOLOGY

Provide a detailed description of the methods used to collect and store (preserve) the samples. Please us the space provided below.

Samples were collected according to proper laboratory protocol. A back hoe was used to uncover the top of tank so that soil samples could be collected. A different pair of latex gloves was utilized to collect each individual sample. The samples were placed into sample jars by the laboratory and stored on site in a cooler chilled with ice. After transport in the cooler to the office, the samples were placed in a refrigerator for storage. The samples were picked up the following day (approximately 24 hours) by a laboratory representative for transport, in a cooler with ice, to the laboratory for analysis. A proper chain of custody was maintained throughout the operation. The soil samples were analyzed by the laboratory for BTEX and Naphthalene by method 5035/8260B and PAHs by method 3550B/8270C. The groundwater was sampled for BTEX, Napthalene, MTBE by method 5035/8260B and PAHs by method 3510B/8270C.

XI. RECEPTORS

	Yes	No
A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? If yes, indicate type of receptor, distance and direction on site map.	**Yes**	
B. Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? If yes, indicate type of well, distance and direction on site map.	YES	
C. Are there any underground structures (e.g., basements) located within 100 feet of the UST system? If yes, indicate type of structure, distance and direction on site map.	**Yes**	
D. Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located with 100 feet of the UST system that could potentially come in contact with the contamination? If yes, indicate type of utility, distance and direction on site map.	**Yes**	
E. Has contaminated soil been identified at a depth less that 3 feet below land surface in an area that is not capped by asphalt or concrete? If yes, indicate the area of contaminated soil on the site map.		**No**

Tank Closure

AMBAC Environmental Services
Waste Water Shipping Manifest

1. Generator's E.P.A. ID # (if applicable)

Manifest Document Number: 5043

2. Generator's Name and Mailing Address: Bay Creek Villas
3701 Dock Site Rd.
Myrtle Beach S.C.

3. Generator's Phone:( )

4. Transporter 1 Company Name: NESCO
Truck License Number: P251999 31-989e Phone (803) 699-1976 PO 21-29321

5. Transporter 1 U.S. EPA ID No.:

6. Transporter 2 Company Name:
Truck License Number: Phone ( )

7. Transporter 2 U.S. EPA ID No.:

8. Designated Facility Name and Site Address:

AMBAC Environmental Services, P.O. Box 85, I-77 & Killian Rd.
Columbia, SC 29202
(803) 735-1400

9. Designated Facility U.S. EPA ID No.: SCD055274666

10. U.S. DOT Description (including proper shipping name, hazard class, and generator name, address, and contact person)	11. Container No.	11. Container Type	12. Total Quantity	13. Unit
a. Petroleum Contact Water	1	TT	1082	Gal.
b.				
c.				
d.				

14. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify the contents of this consignment are as represented by the description contained on the Waste Profile previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Neal Hudson Signature: Neal Hudson Month Day Year

15. Transporter 1 Acknowledgment of Receipt of Materials
Printed/Typed Name: [illegible] Bonfield Signature: [illegible] Month Day Year 12-13-00

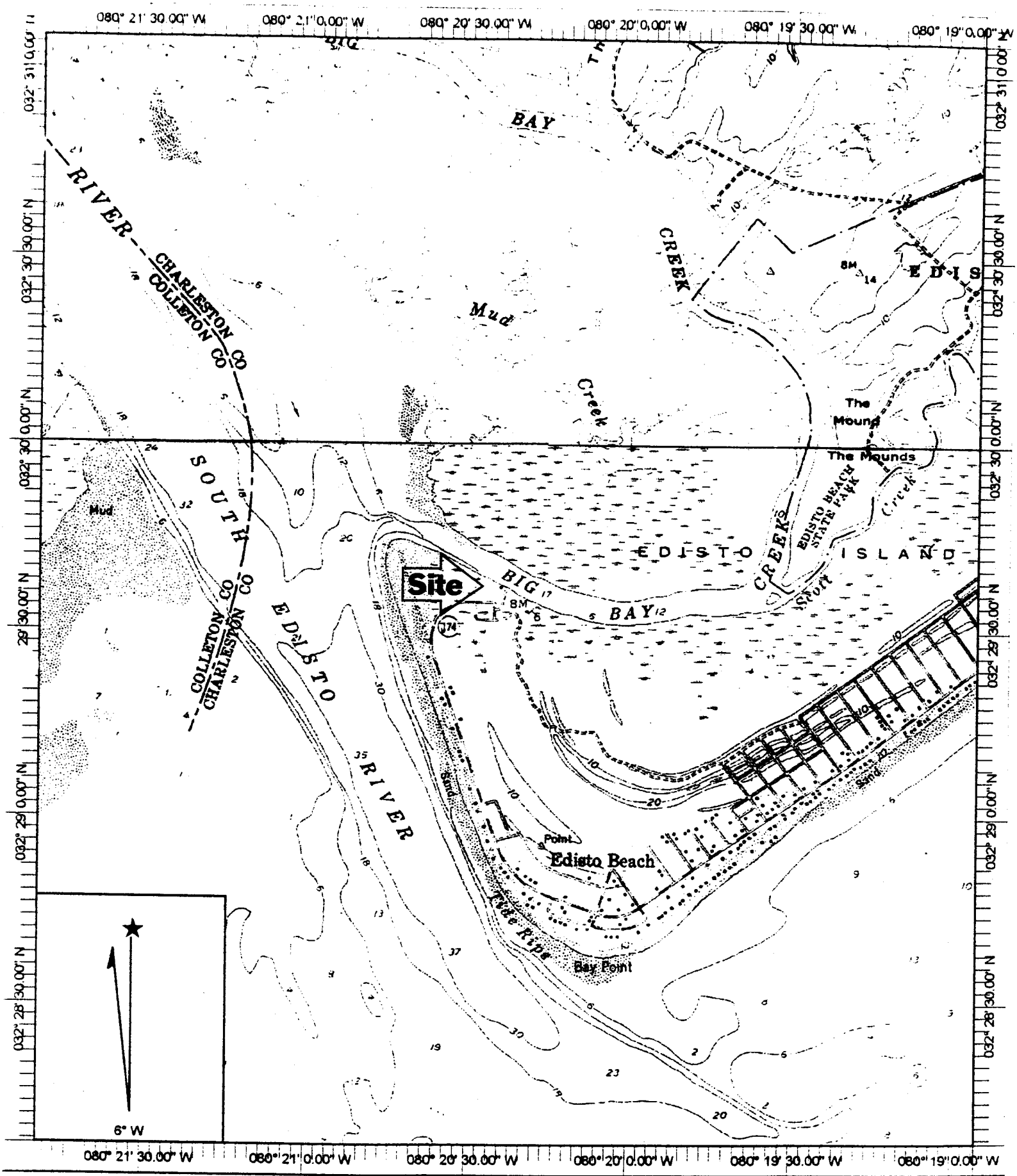
16. Transporter 2 Acknowledgment of Receipt of Materials
Printed/Typed Name Signature Month Day Year

17. Discrepancy Indication Space

a.	b.
c.	d.

Facility Owner or Operator: Certification of receipt of materials covered by this manifest except as noted in item 17.
Printed/Typed Name: Larry R. Thurlow Sr. Signature: Larry R. Thurlow Sr. Month Day Year 12/15/00

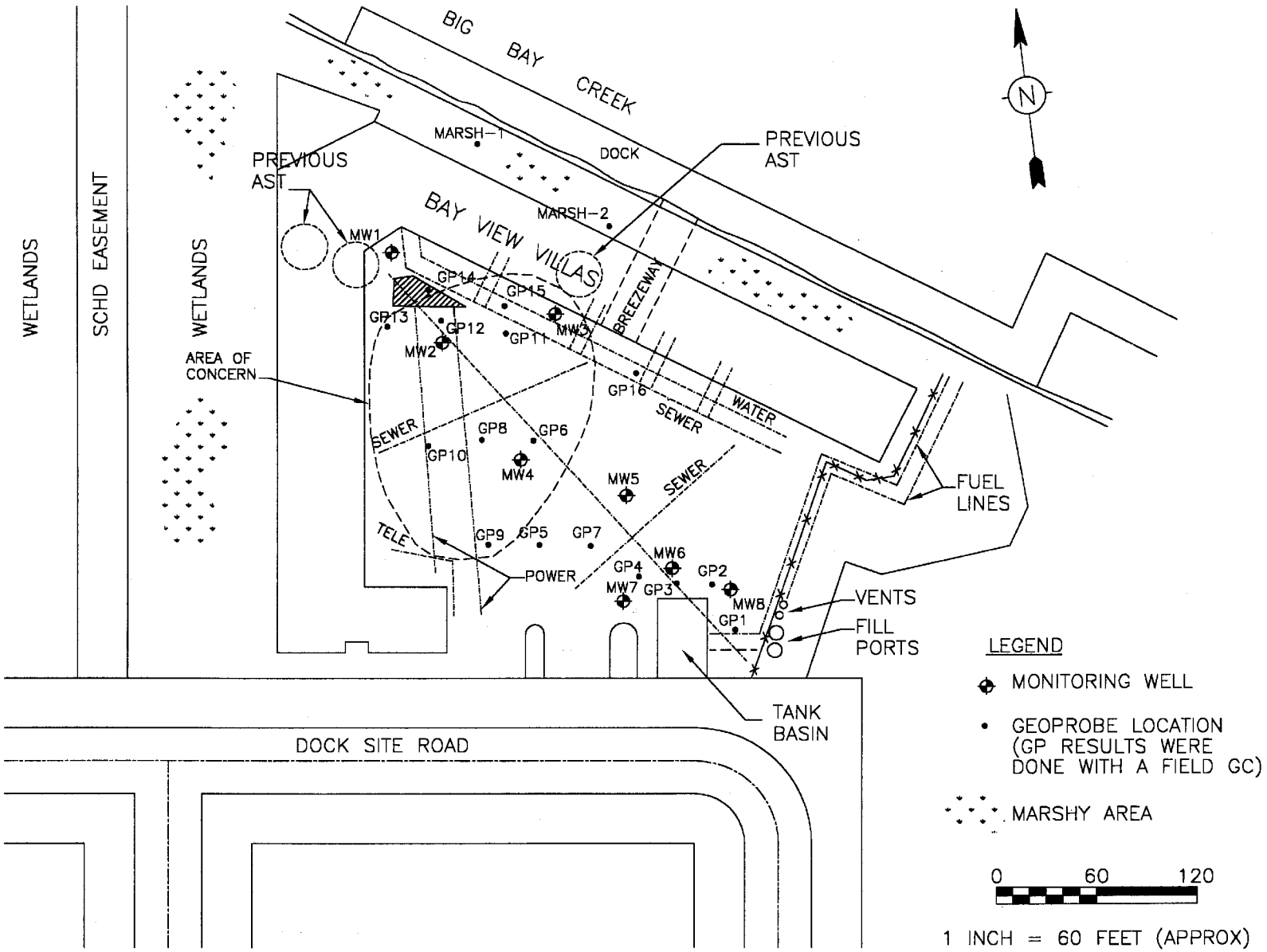
GENERATOR - WHITE • TRANSPORTER - CANARY • FACILITY - PINK • INTERIM - BLUE • INVOICING - GOLD



Name: EDISTO BEACH
Date: 10/13/2000
Scale: 1 inch equals 2000 feet

Location: 032° 29' 36.2" N 080° 20' 22.5" W
Caption: FIGURE 1
SITE LOCATION MAP
BAY VIEW VILLAS

Copyright (C) 1997, Maptech, Inc.



NESCO
Ingenuity At Work

NESCO, Inc.
521 CLEMSON ROAD
COLUMBIA, SOUTH CAROLINA 29229, USA
PHONE: 803.699.1976
FAX: 803.699.9863

FIGURE 1

BAY VIEW VILLAS
COLLETON COUNTY
SC

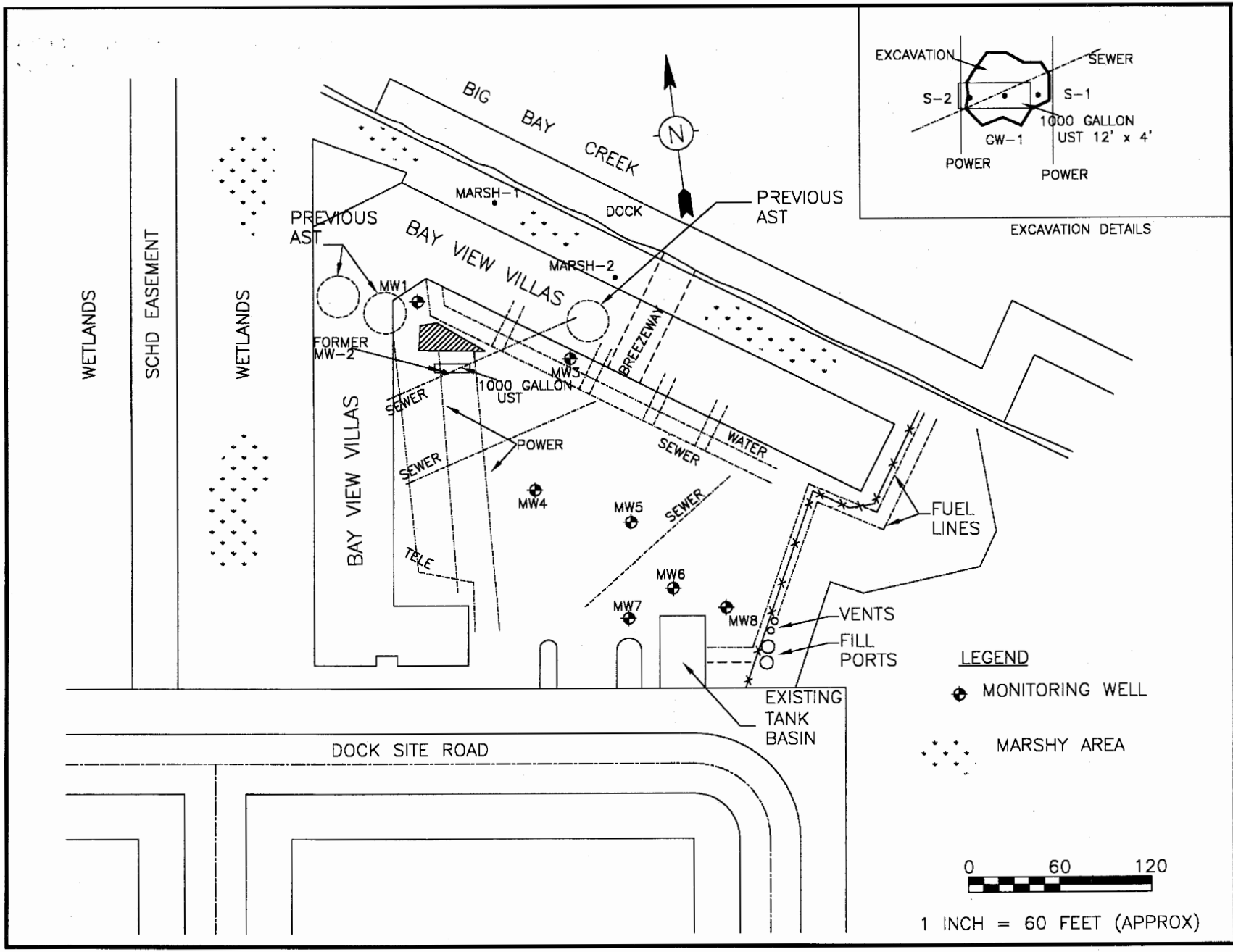
SITE MAP

PROJ. MGR.:	BB
DES. BY:	JRF
DRAWN:	JRF
APPR:	BB
SCALE:	GRAPHIC
DATE:	10/02/00

REFERENCES

NOTES

REPORT:
FILE:



EXCAVATION DETAILS

NESCO
Ingenuity At Work

NESCO, Inc.
521 CLEMSON ROAD
COLUMBIA, SOUTH CAROLINA 29229, USA
PHONE: 803.699.1976
FAX: 803.699.9863

FIGURE 2

BAY VIEW VILLAS
COLLETON COUNTY
SC

TANK CLOSURE

PROJ. MGR.:	NRH
DES. BY:	NRH
DRAWN:	NRH
APPR:	BB
SCALE:	GRAPHIC
DATE:	12/19/00

REFERENCES

NOTES

REPORT: 21-989
FILE: FOLDER 21-1056

1,000 gallon UST
12/13/00
BayCreek Villas

Report of Analysis

Nesco
521 Clemson Road
Columbia, SC 29229
Attention : Noal Hudson

Project Name : **Bay Creek Villas**

Lot Number : **BL15002**
Date Completed : **12/27/2000**

Jennifer L. Orr
Project Manager

Total number of pages in report : **7**

This report has been prepared and reviewed in accordance with Shealy's Quality Assurance Management Plan. Any data qualifiers associated with sample analysis are footnoted on the analytical results page(s). 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.

Report of Analysis

SC DHEC No. 32010 NC DEHNR No. 329

Client : **NESCO**
521 Clemson Road
Columbia, SC 29229

Attention : **Noal Hudson**
Project Name : **Bay Creek Villas**

Description : **GW-1 Ground Water**
Lot Number : BL15002-001
Date Received : 12/14/2000
Date Sampled : 12/13/2000 1200
Matrix : Aqueous

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Volatile Organic Compounds by GC/MS									
Benzene	5030B	8260B	**2500**		100	ug/L		12/21/2000 1814	RED
Ethylbenzene	5030B	8260B	**2500**		100	ug/L		12/21/2000 1814	RED
Methyl tertiary butyl ether (MTBE)	5030B	8260B	ND		100	ug/L		12/21/2000 1814	RED
Naphthalene	5030B	8260B	**1500**		100	ug/L		12/21/2000 1814	RED
Toluene	5030B	8260B	**10000**		500	ug/L		12/21/2000 1848	RED
Xylenes (total)	5030B	8260B	**22000**		500	ug/L		12/21/2000 1848	RED
Surrogates									
1,2-Dichloroethane-d4	5030B	8260B	71.2		70.0-130	%		12/21/2000 1814	RED
Toluene-d8	5030B	8260B	80.6		70.0-130	%		12/21/2000 1814	RED
Bromofluorobenzene	5030B	8260B	80.6		70.0-130	%		12/21/2000 1814	RED
Semivolatile Organic Compounds by GC/MS									
Chrysene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Acenaphthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Acenaphthylene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Anthracene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(a)anthracene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(g,h,i)perylene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(k)fluoranthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(a)pyrene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Benzo(b)fluoranthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Dibenzo(a,h)anthracene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Fluoranthene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Fluorene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Indeno(1,2,3-c,d)pyrene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Naphthalene	3520C	8270C	**650**		26	ug/L	12/19/2000 1200	12/21/2000 1235	MWK
Phenanthrene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK
Pyrene	3520C	8270C	ND		5.3	ug/L	12/19/2000 1200	12/21/2000 1141	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **GW-1 Ground Water**	Date Sampled	: 12/13/2000 1200
Lot Number	: BL15002-001	Matrix	: Aqueous
Client	: **NESCO**		
Date Received	: 12/14/2000		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Surrogates									
2-Fluorobiphenyl	3520C	8270C	80.5		30.0-130	%	12/19/2000 1200	12/21/2000 1141	MWK
Nitrobenzene-d5	3520C	8270C	81.8		30.0-130	%	12/19/2000 1200	12/21/2000 1141	MWK
Terphenyl-d14	3520C	8270C	59.5		30.0-130	%	12/19/2000 1200	12/21/2000 1141	MWK

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: S-1 Soil	Date Sampled	: 12/13/2000 1400
Lot Number	: BL15002-002	Matrix	: Solid
Client	: NESCO		
Date Received	: 12/14/2000		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	**72.3**			%		12/18/2000 1115	TES
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	**14000**		8300	ug/kg		12/27/2000 1137	SZY
Ethylbenzene	5035	8260B	**160000**		8300	ug/kg		12/27/2000 1137	SZY
Naphthalene	5035	8260B	**86000**		8300	ug/kg		12/27/2000 1137	SZY
Toluene	5035	8260B	**270000**		8300	ug/kg		12/27/2000 1137	SZY
Xylenes (total)	5035	8260B	**820000**		16000	ug/kg		12/27/2000 1244	SZY
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	0.0	@	70.0-130	%		12/27/2000 1137	SZY
Toluene-d8	5035	8260B	0.0	@	70.0-130	%		12/27/2000 1137	SZY
Bromofluorobenzene	5035	8260B	0.0	@	70.0-130	%		12/27/2000 1137	SZY
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Acenaphthylene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Anthracene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(a)anthracene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(a)pyrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Chrysene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Fluoranthene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Fluorene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Naphthalene	3550B	8270C	**62000**		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Phenanthrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Pyrene	3550B	8270C	ND		4500	ug/kg	12/18/2000 1450	12/21/2000 1046	MWK
Surrogates									
Terphenyl-d14	3550B	8270C	114		30.0-130	%	12/18/2000 1450	12/21/2000 1046	MWK
Nitrobenzene-d5	3550B	8270C	96.6		30.0-130	%	12/18/2000 1450	12/21/2000 1046	MWK
2-Fluorobiphenyl	3550B	8270C	80.6		30.0-130	%	12/18/2000 1450	12/21/2000 1046	MWK

Footnote(s) @ = Surrogate recovery outside acceptance criteria due to sample dilution.

PQL = Practical quantitation limit
ND = Not detected at or above the PQL
B = Detected in the method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description	: **S-2 Soil**	Date Sampled	: 12/13/2000 1430
Lot Number	: BL15002-003	Matrix	: Solid
Client	: **NESCO**		
Date Received	: 12/14/2000		

Parameter	Prep Method	Analytical Method	Result	Q	PQL	Units	Prep Date	Analysis Date	Analyst
Inorganic non-metals									
% Solids		160.3	**80.5**			%		12/18/2000 1115	TES
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		3900	ug/kg		12/26/2000 1933	RZ
Ethylbenzene	5035	8260B	**64000**		3900	ug/kg		12/26/2000 1933	RZ
Naphthalene	5035	8260B	**45000**		3900	ug/kg		12/26/2000 1933	RZ
Toluene	5035	8260B	ND		3900	ug/kg		12/26/2000 1933	RZ
Xylenes (total)	5035	8260B	**50000**		3900	ug/kg		12/26/2000 1933	RZ
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	0.0	@	70.0-130	%		12/26/2000 1933	RZ
Toluene-d8	5035	8260B	56	@	70.0-130	%		12/26/2000 1933	RZ
Bromofluorobenzene	5035	8260B	103		70.0-130	%		12/26/2000 1933	RZ
Semivolatile Organic Compounds by GC/MS									
Acenaphthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Acenaphthylene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Anthracene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(a)anthracene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(a)pyrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(b)fluoranthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(g,h,i)perylene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Benzo(k)fluoranthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Chrysene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Dibenzo(a,h)anthracene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Fluoranthene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Fluorene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Indeno(1,2,3-c,d)pyrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Naphthalene	3550B	8270C	**37000**		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Phenanthrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Pyrene	3550B	8270C	ND		2000	ug/kg	12/20/2000 1415	12/21/2000 1114	MWK
Surrogates									
Terphenyl-d14	3550B	8270C	130		30.0-130	%	12/20/2000 1415	12/21/2000 1114	MWK
Nitrobenzene-d5	3550B	8270C	18.0		30.0-130	%	12/20/2000 1415	12/21/2000 1114	MWK
2-Fluorobiphenyl	3550B	8270C	101		30.0-130	%	12/20/2000 1415	12/21/2000 1114	MWK

Footnote(s) @ = Surrogate recovery outside acceptance criteria due to sample dilution.

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E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

USE BALL POINT PEN ONLY, PRESS HARD

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Pointe Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Page ____ of ____

CHAIN OF CUSTODY #

Client Name

Reporting Address

Attention

Telephone No. P.O. No.

NPDES #

County

Receiving Stream

Outfall No.

CHAIN OF CUSTODY RECORD

SAMPLE ANALYSIS REQUIRED

Sample ID (Location)	Yr. DATE	TIME	WELL	SOLID	COMP	GRAB	# of containers	pH, Conductivity	BOD	Nutrients - Specify	METALS - Specify	TOC/TOX - Specify	BTEX	VOC - Specify Method required	Pesticides/PCBs - Specify	Herbicides	Total Phenol	Oil & Grease	BNAs	Solids - Specify	Cyanide	Coliform - Specify type	Toxicity - Specify				←PRESERVATION (CODE) REMARKS	LAB USE ONLY SESI LAB I.D.
																											CODE: A = None B = HNO3 C = H2SO4 D = NaOH E = ICE F = _____	Program Area (Circle) DW CWA/NPDES RCRA SP/SOL SP/LIQ Other:_____
	Start Finish																											
	Start Finish																											
	Start Finish																											
	Start Finish																											
	Start Finish																											
	Start Finish																											
	Start Finish																											
	Start Finish																											

SAMPLER	Date/Time	Received by (Sig.)	Date/Time	Hazards Associated with Sample	Custody Seal Intact (Circle) YES NO NONE
Print Name: Signature:					Receipt TRC _____ mg/l Receipt pH _____ su Receipt Temp. _____ °C
Relinquished by (Sig.)	Date/Time	Received by (Sig.)	Date/Time		Received on Ice (Circle) YES NO ICE PACK
Relinquished by (Sig.)	Date/Time	Lab Receipt by (Sig.)	Date/Time		

AMERICAN SYSTEMS, COLUMBIA, S.C.

White Copy: Sampler Yellow Copy: Shealy Pink Copy: Report

Technical File

CONSULTECH ENVIRONMENTAL, INC.

Consulting Engineers, Geologists & Scientists

February 3, 2003

RECEIVED

FEB 04 2003

Underground Storage Tank Program

Ms. Kimberly Wilson
Assessment and Corrective Action Branch
South Carolina Department of Health and Environmental Control
Division of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: System Installation Report and Notice of Completion of Construction
Bay Creek Villas
3701 Dock Site Road
Edisto Beach, Colleton County, South Carolina
SCDHEC UST Permit # 18662

Dear Ms. Wilson:

Consultech Environmental, Inc. (Consultech) is pleased to present this System Installation Report and Notice of Completion of Construction for the above referenced facility with UIC Permit # 683. Should you have any questions regarding this report or the project in general, please do not hesitate to contact us at (678) 377-0400.

Sincerely,

CONSULTECH ENVIRONMENTAL, INC.

James R. Wilson, P.G.
Vice-President

cc: File C-1205
Todd Adams, SCDHEC Bureau of Water

1800 MacLeod Drive, Suite F • Lawrenceville, GA 30043-5736
(678) 377-0400 • FAX: (678) 377-0051
www.consultechenv.com

Pocket #1126 tech

System Installation Report

Bay Creek Villas
3701 Dock Site Road
Edisto Beach, Colleton County, South Carolina
SCDHEC UST Permit # 18662

Prepared for:
SCDHEC
2600 bull Street
Columbia, SC 29201-1708

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Underground Storage
Tank Program

Prepared by:
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SOUTH CAROLINA
PROFESSIONAL GEOLOGIST

February 2003

Consultech Project No.: C-1206

System Installation Report

Bay Creek Villas
3701 Dock Site Road
Edisto Beach, Colleton County, South Carolina
SCDHEC UST Permit # 18662

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System Installation Report

Bay Creek Villas
3701 Dock Site Road
Edisto Beach, Colleton County, South Carolina
SCDHEC UST Permit # 18662

1.0 Project Summary

The subject site is located at 3701 Dock Site Road in Edisto Beach, Colleton County, South Carolina (see Figure 1). Upon receipt of analytical data released by the South Carolina Department of Health and Environmental Control (SCDHEC), a Portable Air Sparge system was chosen to remediate the site's subsurface soils and groundwater. This report includes the detailed information regarding the system installation.

On November 20, 2002, Consultech personnel conducted a sampling event. An initial groundwater monitoring report was being sent to SCDHEC on December 9, 2002.

Installation of the Air Sparge remediation wells was completed on January 29, 2003. There is no Air Sparge remediation system, since the wells will be individually sparged with a portable air sparge unit.

2.0 Remediation System Installation

On January 29, 2003, Consultech personnel, with the aid of drilling services provided by Southeastern Geologic Services, Inc., installed five (5) Air Sparge wells, AS-1, AS-2, AS-4, AS-5, and AS-6. All air sparge wells were installed to a depth of 25.0 feet below ground surface (ft/bgs) with 1.0 foot of 0.010 inch slotted screen at the bottom of each well. AS-1 is located approximately 30 feet southeast of MW-1. AS-2 is located approximately 80 feet south of MW-1. AS-3 was not drilled due to underground obstructions. AS-4 is located approximately 120 feet southeast of MW-1. AS-5 is located approximately 100 feet east-southeast of MW-1. AS-6 is located approximately 55 feet east of MW-1. Each of the AS wells were installed identically with a 2.0 foot sand pack, followed by bentonite chips and Portland grout to within one foot of the surface.

All Air Sparge wells were completed with eight-inch well covers. Each well will be connected to a Portable Air Sparge compressor. A model SX-6 Kaeser compressor is being utilized to provide the air to the subsurface media. The SX-6 provides 90 cfm of purified air, at a maximum pressure of 100 psi. Each well will be regulated to provide air flows of 2 to 10 cfm each. The maximum average air flow available would be 15 cfm per well.

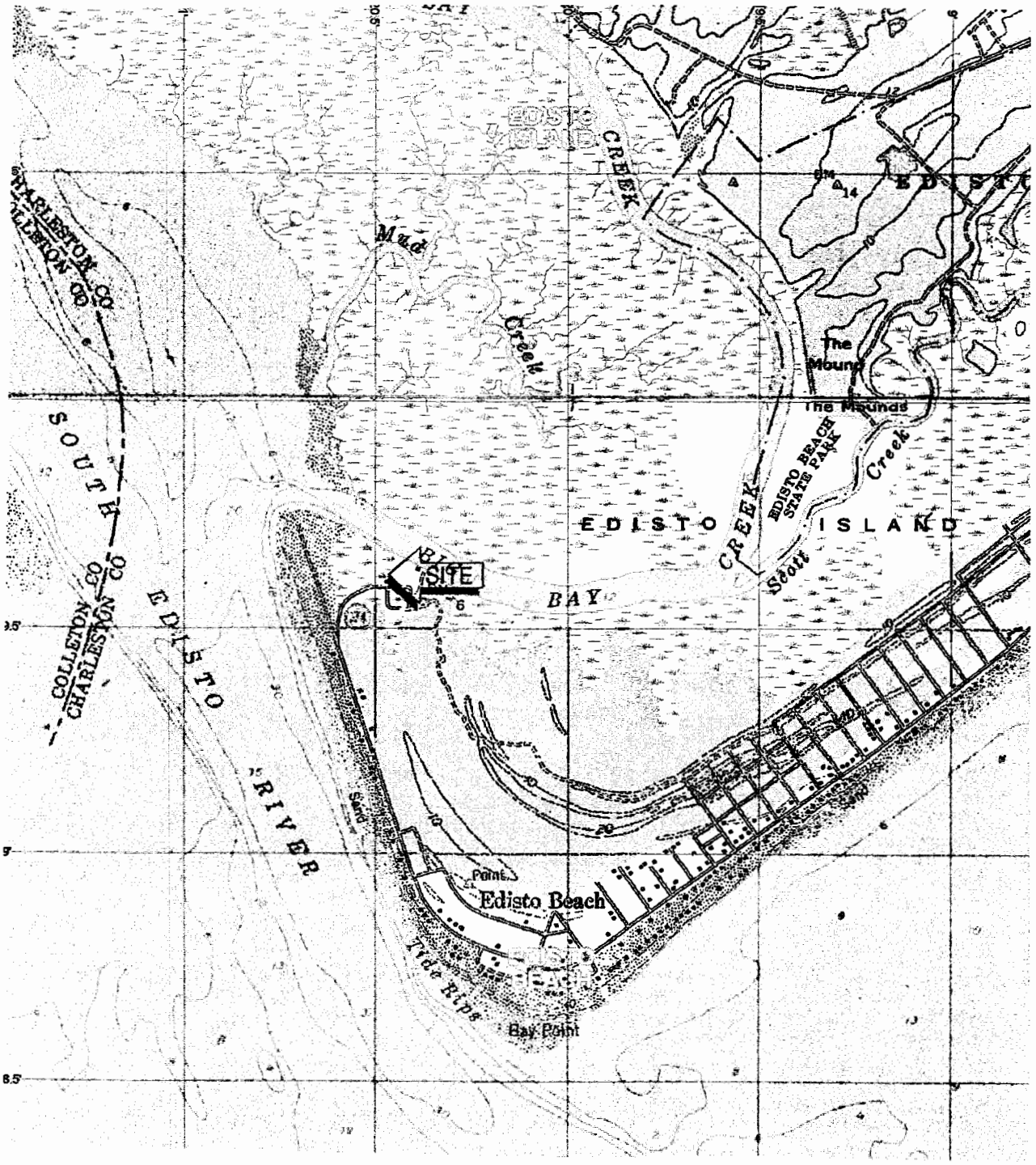
Construction details for the individual Air-Sparge wells installed by Consultech Environmental, Inc. are illustrated on DHEC Forms 1903, and the soil boring logs and well construction details under Appendix 1. This is also the Notice of Completion of Construction for Todd Adams of the Groundwater Management Section of the Bureau of Water and includes a new site map with the system layout of wells, boring logs and as-built well construction details.

3.0 Conclusions and Recommendations

The Air Sparge remediation system is ready to operate. The system will be used with the portable air sparge unit starting on the week of February 24, 2003, pending your approval.

The maximum mass identified at the subject site was 21,000 μg/l in monitoring well MW-3 on November 20, 2002. Assuming the maximum mass was consistent throughout the entire plume dimensions, the maximum air emission rate would be limited to 20.0 lbs/day, with portable air sparging conducted once every two weeks.

The groundwater flow direction is northeasterly. The dissolved petroleum hydrocarbon concentrations have increased by 36% during the past four months due to soil washing due to the water table rising by 1.5 feet to 2.0 feet. The monitoring wells will be checked on a quarterly basis for the evaluation of further BTEX, MTBE, naphthalene, and PAH concentration reduction in the dissolved plume. The report format will be in this general format on all future quarterly reports. The first Quarterly Monitoring Report is scheduled for sampling in early April 2003, or roughly 60 days after system startup.

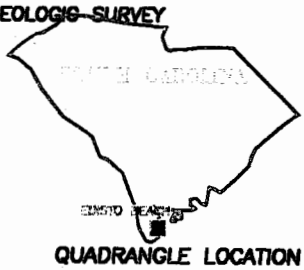


REFERENCE: EDISTO BEACH, SOUTH CAROLINA QUADRANGLE MAP, 7.5 MINUTE SERIES, U.S. GEOLOGIC SURVEY

SCALE 1 : 24,000

0 2,000 4,000

SCALE IN FEET



QUADRANGLE LOCATION

DRAWN: D.J.D.	DATE: 12/09/02
REV.: 0	
PROJECT: BAY CREEK VILLAS	
PROJECT No.: C-1205	
LOCATION: EDISTO BEACH, SOUTH CAROLINA	

FIGURE 1
SITE LOCATION MAP

CONSULTECH ENVIRONMENTAL, INC.

Environmental Consulting and Engineering
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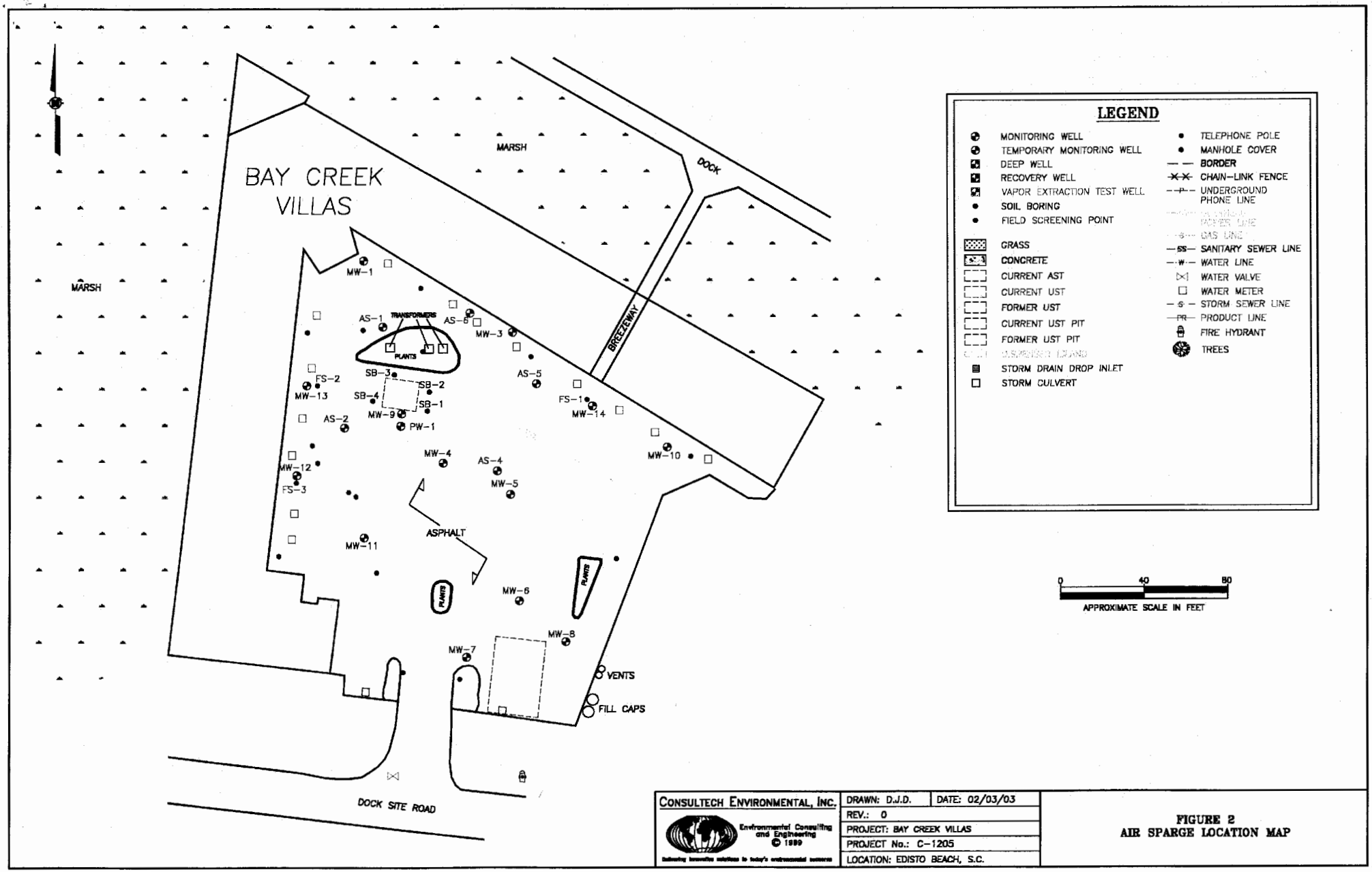

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Delivering innovative solutions to today's environmental concerns

DRAWN: D.J.D.	DATE: 02/03/03
REV.: 0	
PROJECT: BAY CREEK VILLAS	
PROJECT No.: C-1205	
LOCATION: EDISTO BEACH, S.C.	

FIGURE 2
AIR SPARGE LOCATION MAP

D H E C
PROMOTE PROTECT PROSPER

Monitoring Well Record
SCDHEC
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4350

1. LOCATION OF WELL:

County: Colleton Well Name: AS-1

Latitude: 32° 29' 35" N Longitude: 80° 20' 27" W

Note: For well location please see site map attached

ADDRESS OF WELL LOCATION:

Street: 3701 Dock Site Road

City: Edisto Beach

State: SC Zip: _____

2. CUTTING SAMPLES: ___Yes ___No

Geophysical Logs: ___Yes (please enclose) ___No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Tan clayey sand	10	10
Gray silty sand	15	25
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

3. REMARKS:

4. OWNER OF WELL: SCDHEC
Address: 2600 Bull Street
Columbia, SC 29201-1708
Telephone No.: (803) 898-4350

Engineer: Consultech Environmental Inc
Address: 1800 MacLeod Drive Suite F
Lawrenceville, GA 30043
Phone No.: (678) 377-0400

5. WELL DEPTH (completed) Date Completed: 01/29/03
25 ft.

6. __Mud Rotary __Jetted __Bored __Dug
__Air Rotary __Driven X Hollow Stem Auger

10. USE:
__Monitoring Well ___Test Well X Injection Well
___Other_____

8. CASING X Threaded ___Slip
__ other_____
Diam: 2"
Type: X PVC __Galvanized
__ Steel __Other
0 in. to 24 ft. depth
_____in. to _____ft. depth

Height: Above/Below
Surface Flush ft.
Weight_____lb/ft

9. SCREEN

Type: PVC Diam: 2 inches

Slot/Gauge: 0.010 Length: 1.0 foot

Set Between: 24 ft. and 25 ft.

10. STATIC WATER LEVEL

5.0 ft. below land surface after 24 hours

11. ARTIFICIAL FILTER (gravel pack) X yes ___No

Installed from 23 ft. to 25 ft

Effective size 20/30 Uniformity Coefficient_____

12. WELL GROUTED? X Yes ___No
___Neat Cement ___Concrete X Bentonite/Portland Mix
___other_____

Depth: From: 0 ft. to 23 ft.

13. WATER WELL CONTRACTORS CERTIFCATION: This well was drilled under my direction and this report is true and to the best of knowledge and belief.

Registered Business Name: Consultech Date: 02/03/03

Address: 1800 MacLeod Drive Ste F Lawrenceville, GA 30043

Signed: [signature] Cert: 1612

Monitoring Well Record
SCDHEC
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4350

1. LOCATION OF WELL:

County: Colleton Well Name: AS-2

Latitude: 32° 29' 35" N Longitude: 80° 20' 27" W

Note: For well location please see site map attached

ADDRESS OF WELL LOCATION:

Street: 3701 Dock Site Road

City: Edisto Beach

State: SC Zip: _____

2. CUTTING SAMPLES: ___Yes ___No

Geophysical Logs: ___Yes (please enclose) ___No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Gray sandy clay	8	8
Gray sand with shells	17	25
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

3. REMARKS:

4. OWNER OF WELL: SCDHEC
Address: 2600 Bull Street
Columbia, SC 29201-1708
Telephone No.: (803) 898-4350

Engineer: Consultech Environmental Inc
Address: 1800 MacLeod Drive Suite F
Lawrenceville, GA 30043
Phone No.: (678) 377-0400

5. WELL DEPTH (completed) Date Completed: 01/29/03
25 ft.

6. __Mud Rotary __Jetted __Bored __Dug
__Air Rotary __Driven X Hollow Stem Auger

10. USE:
__Monitoring Well ___Test Well X Injection Well
___Other_____

8. CASING X Threaded ___Slip
__ other_____
Diam: 2"
Type: X PVC __Galvanized
__ Steel __Other
0 in. to 24 ft. depth
_____in. to _____ft. depth

Height: Above/Below
Surface Flush ft.
Weight_____lb/ft

9. SCREEN
Type: PVC Diam: 2 inches
Slot/Gauge: 0.010 Length: 1.0 foot
Set Between: 24 ft. and 25 ft.

10. STATIC WATER LEVEL
5.0 ft. below land surface after 24 hours

11. ARTIFICIAL FILTER (gravel pack) X yes ___No
Installed from 23 ft. to 25 ft
Effective size 20/30 Uniformity Coefficient_____

12. WELL GROUTED? X Yes ___No
___Neat Cement ___Concrete X Bentonite/Portland Mix
___other_____
Depth: From: 0 ft. to 23 ft.

13. WATER WELL CONTRACTORS CERTIFCATION: This well was drilled under my direction and this report is true and to the best of knowledge and belief.

Registered Business Name: Consultech Date: 02/03/03

Address: 1800 MacLeod Drive Ste F Lawrenceville, GA 30043

Signed: [signature] Cert: 1612

Monitoring Well Record
SCDHEC
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4350

1. LOCATION OF WELL:

County: Colleton Well Name: AS-4

Latitude: 32° 29' 35" N Longitude: 80° 20' 27" W

Note: For well location please see site map attached

ADDRESS OF WELL LOCATION:

Street: 3701 Dock Site Road

City: Edisto Beach

State: SC Zip: _____

2. CUTTING SAMPLES: ___Yes ____No

Geophysical Logs: ____Yes (please enclose) ____No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Gray sandy clay	10	10
Gray sand with shells	15	25
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

3. REMARKS:

4. OWNER OF WELL: SCDHEC
Address: 2600 Bull Street
Columbia, SC 29201-1708
Telephone No.: (803) 898-4350

Engineer: Consultech Environmental Inc
Address: 1800 MacLeod Drive Suite F
Lawrenceville, GA 30043
Phone No.: (678) 377-0400

5. WELL DEPTH (completed) Date Completed: 01/29/03
25 ft.

6. __Mud Rotary __Jetted __Bored __Dug
__Air Rotary __Driven X Hollow Stem Auger

10. USE:
__Monitoring Well ___Test Well X Injection Well
___Other_____

8. CASING X Threaded ___Slip
__ other_____
Diam: 2"
Type: X PVC __Galvanized
__ Steel __Other
0 in. to 24 ft. depth
_____in. to _____ft. depth

Height: Above/Below
Surface Flush ft.
Weight_____lb/ft

9. SCREEN
Type: PVC Diam: 2 inches
Slot/Gauge: 0.010 Length: 1.0 foot
Set Between: 24 ft. and 25 ft.

10. STATIC WATER LEVEL
5.0 ft. below land surface after 24 hours

11. ARTIFICIAL FILTER (gravel pack) X yes ___No
Installed from 23 ft. to 25 ft
Effective size 20/30 Uniformity Coefficient_____

12. WELL GROUTED? X Yes ____No
___Neat Cement ___Concrete X Bentonite/Portland Mix
___other_____
Depth: From: 0 ft. to 23 ft.

13. WATER WELL CONTRACTORS CERTIFCATION: This well was drilled under my direction and this report is true and to the best of knowledge and belief.

Registered Business Name: Consultech Date: 02/03/03

Address: 1800 MacLeod Drive Ste F Lawrenceville, GA 30043

Signed: Joseph Wilson Cert: 1612

Monitoring Well Record
SCDHEC
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4350

LOCATION OF WELL:

County: Colleton Well Name: AS-5

Latitude: 32° 29' 35" N Longitude: 80° 20' 27" W

Note: For well location please see site map attached

ADDRESS OF WELL LOCATION:

Street: 3701 Dock Site Road

City: Edisto Beach

State: SC Zip: _____

2. CUTTING SAMPLES: ___Yes ____No

Geophysical Logs: ____Yes (please enclose) ____No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Gray sandy clay	10	10
Gray sand with shells	15	25
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

3. REMARKS:

4. OWNER OF WELL: SCDHEC
Address: 2600 Bull Street
Columbia, SC 29201-1708
Telephone No.: (803) 898-4350

Engineer: Consultech Environmental Inc
Address: 1800 MacLeod Drive Suite F
Lawrenceville, GA 30043
Phone No.: (678) 377-0400

5. WELL DEPTH (completed) Date Completed: 01/29/03
25 ft.

6. __Mud Rotary __Jetted __Bored __Dug
__Air Rotary __Driven X Hollow Stem Auger

10. USE:
__Monitoring Well ___Test Well X Injection Well
___Other_____

8. CASING X Threaded ___Slip
__ other_____
Diam: 2"
Type: X PVC __Galvanized
__ Steel __Other
0 in. to 24 ft. depth
_____in. to _____ft. depth

Height: Above/Below
Surface Flush ft.
Weight_____lb/ft

9. SCREEN
Type: PVC Diam: 2 inches
Slot/Gauge: 0.010 Length: 1.0 foot
Set Between: 24 ft. and 25 ft.

10. STATIC WATER LEVEL
5.0 ft. below land surface after 24 hours

11. ARTIFICIAL FILTER (gravel pack) X yes ___No
Installed from 23 ft. to 25 ft
Effective size 20/30 Uniformity Coefficient_____

12. WELL GROUTED? X Yes ____No
___Neat Cement ___Concrete X Bentonite/Portland Mix
___other_____
Depth: From: 0 ft. to 23 ft.

13. WATER WELL CONTRACTORS CERTIFCATION: This well was drilled under my direction and this report is true and to the best of knowledge and belief.

Registered Business Name: Consultech Date: 02/03/03

Address: 1800 MacLeod Drive Ste F Lawrenceville, GA 30043

Signed: [signature] Cert: 1612

Monitoring Well Record
SCDHEC
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4350

1. LOCATION OF WELL:

County: Colleton Well Name: AS-6

Latitude: 32° 29' 35" N Longitude: 80° 20' 27" W

Note: For well location please see site map attached

ADDRESS OF WELL LOCATION:

Street: 3701 Dock Site Road

City: Edisto Beach

State: SC Zip: _____

2. CUTTING SAMPLES: ___Yes ___No

Geophysical Logs: ___Yes (please enclose) ___No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Gray silty sand	10	10
Gray sand with shells	15	25
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

3. REMARKS:

4. OWNER OF WELL: SCDHEC
Address: 2600 Bull Street
Columbia, SC 29201-1708
Telephone No.: (803) 898-4350

Engineer: Consultech Environmental Inc
Address: 1800 MacLeod Drive Suite F
Lawrenceville, GA 30043
Phone No.: (678) 377-0400

5. WELL DEPTH (completed) Date Completed: 01/29/03
25 ft.

6. __Mud Rotary __Jetted __Bored __Dug
__Air Rotary __Driven X Hollow Stem Auger

10. USE:
__Monitoring Well ___Test Well X Injection Well
___Other_____

8. CASING X Threaded ___Slip
__ other_____
Diam: 2"
Type: X PVC __Galvanized
__ Steel __Other
0 in. to 24 ft. depth
_____in. to _____ft. depth

Height: Above/Below
Surface Flush ft.
Weight_____lb/ft

9. SCREEN
Type: PVC Diam: 2 inches
Slot/Gauge: 0.010 Length: 1.0 foot
Set Between: 24 ft. and 25 ft.

10. STATIC WATER LEVEL
5.0 ft. below land surface after 24 hours

11. ARTIFICIAL FILTER (gravel pack) X yes ___No
Installed from 23 ft. to 25 ft
Effective size 20/30 Uniformity Coefficient_____

12. WELL GROUTED? X Yes ___No
___Neat Cement ___Concrete X Bentonite/Portland Mix
___other_____
Depth: From: 0 ft. to 23 ft.

13. WATER WELL CONTRACTORS CERTIFCATION: This well was drilled under my direction and this report is true and to the best of knowledge and belief.

Registered Business Name: Consultech Date: 02/03/03

Address: 1800 MacLeod Drive Ste F Lawrenceville, GA 30043

Signed: [signature] Cert: 1612

CONSULTECH ENVIRONMENTAL, INC.

Consulting Engineers, Geologists & Scientists

October 29, 2002

Mr. Read Miner
Assessment and Corrective Action Branch
South Carolina Department of Health and Environmental Control
Division of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: Corrective Action Plan
Bay Creek Villas
3701 Dock Site Road
Edisto Beach, Colleton County, South Carolina
SCDHEC UST Permit # 18662

Attention Mr. Miner:

Consultech Environmental, Inc. (Consultech) is pleased to present this Corrective Action Plan (CAP) for the above referenced facility. This includes the Underground Injection Control (UIC) Permit Application, Field Gauging and Sampling QA/QC Protocols/Standard Operating Procedures, Site Health & Safety Plan, and the CAP itself. Should you have any questions regarding this information or the project in general, please do not hesitate to contact us at (888) 368-9222.

Sincerely,

CONSULTECH ENVIRONMENTAL, INC.

James R. Wilson, P.G.
Vice-President

cc: File C-1205

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OCT 30 2002
Underground Storage Tank Program

1800 MacLeod Drive, Suite F • Lawrenceville, GA 30043-5736
(678) 377-0400 • FAX: (678) 377-0051
www.consultechenv.com

Corrective Action Plan

Bay Creek Villas
3701 Dock Site Road
Edisto Beach, SC
SCDHEC UST Permit Number : 18662

Prepared For:

South Carolina Dept. Of
Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

Prepared By:

CONSULTECH ENVIRONMENTAL, INC.
1800 MacLeod Drive - Suite F
Lawrenceville, Georgia 30043

James R. Wilson, P.G.
Vice President

Richard M. Goodspeed
President

JAMES R. WILSON
REGISTERED
NO. 2062
SOUTH CAROLINA
PROFESSIONAL GEOLOGIST

October 2002

Consultech Project C-1205

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CORRECTIVE ACTION PLAN

Bay Creek Villas
3701 Dock Site Road
Edisto Beach, SC
SCDHEC UST Permit Number : 18662

Remediation Technologies

Active Air Sparging (AS) combined with augmented bioremediation is the selected technology to remediate the dissolved phase petroleum hydrocarbons and groundwater contaminate plume at this site.

AS is proven groundwater remediation technology for treating residual (adsorbed) and dissolved VOCs existing in the saturated zone. AS at this site involves the injection of ambient air under pressure into **six** wells that are installed into the aquifer and screened below the zone of contamination.

There are numerous DHEC projects that Consultech Environmental, Inc. has worked on, where AS has reduced the contaminant mass in excess of 95 percent within three months. AS has been demonstrated to achieve restoration of VOC-contaminated aquifers in the low part-per-billion range in short time frames.

Augmented Bioremediation at this site will include the injection of chemical compounds that will enhance the existing micorflora and microfauna to digest the dissolved contaminants not easily affected by the AS methods. The selected chemicals are primarily simple sugars, such as lactose, glucose, and fructose, and complex sugars as found in Karo Syrup and molasses.

In addition, other basic elements will be selected to enhance the natural microflora and microfauna to respirate the injected oxygen while digesting the contaminants. Stable chemical compounds which provide elements like potassium, magnesium and phosphorus will be selected based upon the groundwater bacteria counts. Chemicals like urea and pH adjusting agents will also be added to enhance cellular stability of the microfauna and microflora at the site.

The goal of successful AS and augmented Bio at this site is to exponentially enhance the natural biodegradative processes to a point where minimal vapors are discharged to the surface, while still moving sufficient air through the subsurface media to remove dissolved phase hydrocarbons. Based upon the current concentrations of petroleum hydrocarbons present on site, exceeding the maximum air discharge limit of 30 pounds per day will not occur.

The success of AS depends upon the conditions of the contaminant(s) and the subsurface conditions of the soils. There are three specific equilibrium relationships. 1- is the contaminant to air equilibrium described earlier. 2- is the relationship between the dissolved phase in pore water, and the soil vapor movement, described by Henry's Law Constant. 3- is the relationship of the dissolved phase, which is adsorbed to the soil particles, described under the Soil-Sorption Constant (K_{oc}).

Some of the predominant factors in successful, AS operations are vapor pressures and soil-sorption capacity. Hydrocarbons with high vapor pressures, such as gasoline at the subject site, are more likely to be effectively removed by AS than other conventional methods using low vapor pressures. The subsurface media is of key importance. The lithology is described as sandy clay to a depth of 20 ft-. This zone below 20 ft-bgs is the predominant water-bearing zone and will be selected for the AS well placements and injection points. Contaminants can be successfully removed with proper placement of air injection wells. Continued AS operations continually increase dissolved oxygen levels and elevate pH levels, preferential in enhanced aerobic activity.

The augmented Bio compounds will be added to the AS wells periodically. The plan for this site includes biweekly or monthly portable AS with the nutrient additions interspersed between AS events. AS will produce average air temperatures of 100° F into the groundwater. This increase in air temperature will increase the vapor pressure and provide a medium for enhance microbial growth. At the subject site, seasonal vadose temperatures are anticipated to be roughly 65° F.

AS enhances aerobic biodegradation by supplying rate-limiting oxygen to the indigenous microbial population. Aerobic biodegradation is typically an oxygen-limited process (Borden et al., 1986). Successful biorestoration in aquifers depends primarily on the effective transport of dissolved oxygen (DO) to the existing microbial population (Rainwater et al., 1989.) AS can achieve DO concentrations as high as 8 mg/l to 10 mg/l in the saturated zone. Effective transport of DO depends on various conditions, such as the stability of the oxygen source, various oxygen demands in the saturated zone, the permeability of the aquifer, etc.

The Bay Creek Villas dissolved contaminant plume is centered around well MW-3 and MW-9, based upon the May 29, 2002 sampling event. The AS system design is based upon the Nesco Tier II Report, dated February 2002, and assuming a reasonable porosity from standard soil porosity tables (Fetter, et al), and other pertinent information provided in the original Bid Package.

The system will be designed using projected radius of influence based upon air permeability and exponentially changing pressures. For the subject site, an effective radius of influence 50 feet is anticipated. The AS well locations will be placed to surround the contaminant plume and drive the injected air and the added nutrients toward the plume center.

The affect of the AS on the surrounding monitoring wells and recovery wells will be accomplished by measuring both pressures and static water level changes, combined with an analytical determination of the dissolved oxygen (DO) concentrations at the sparging point and at each monitoring well. The radius of sparging influence can then be calculated by plotting the pressures and DO concentrations against distance from the sparging point, and solving for the distance at which DO equals the background DO concentration. DO measurements will be obtained throughout the course of the remedial operation, and each quarter during sampling and reporting intervals.

This Corrective Action Plan assumes the installation of 6 AS wells to a proximal depth of 26 ft-bgs. A portable compressor will deliver roughly 10 to 15 cfm per well for an 8 hour time period, every two to three weeks. Small additions of dissolved nutrients will be added to the AS wells in between the AS events.

Figure 1 provides the location of the 6 planned AS wells and Bio nutrient injection points.

Clean-up Time Frame

The rate of volatilization from the groundwater to the sparged air depends on the Henry's law constant for the chemicals of concern and the ratio of the volume of sparged air to the volume of impacted groundwater.

Henry's law states that the vapor concentration of a compound equals its groundwater concentration times the Henry's Law Constant. Henry's Law Constant equal's vapor pressure (atm.) divided by solubility (mole/m^3). A dimensionless Henry's Constant can be calculated by dividing the Henry's Constant with units by the universal gas constant times the absolute temperature in degrees Kelvin.

For benzene, the dimensionless Henry's Law Constant is 0.24 (Lyman et al., 1990). The highest benzene concentration in the groundwater at the site was 2,720 μg/l, detected in monitoring well MW-3, from the May 29th, 2002 sampling event. Assuming an equal volume of sparged air interfaces with an equal volume of groundwater, then the sparged air vapor concentration near monitoring well MW-3 is as follows:

$$C_V = C_W \times H'$$

where:

C_V = concentration in vapor

C_W = concentration in water

H' = dimensionless Henry's constant

and

$$C_V = 2{,}720\ \mu g/l_{benzene} \times 0.24 = 652.8\ \mu g/l$$

For each volume of sparged air passed through the same volume of groundwater with a benzene concentration of 2,720 μg/l, a total of about 652.8 μg/l will be volatilized. The remaining concentration of benzene in the groundwater then becomes 2,067 μg/l.

The next volume of sparge air passing through the groundwater will further reduce this amount of benzene by Henry's constant, times the groundwater concentration, resulting in the volatilization of 496 μg/l benzene, and leaving 1,571 μg/l benzene in the groundwater. This process is repeated until the groundwater concentration is reduced to below the permitted concentration for benzene (SSTL 5 μg/l). This indicates that on a volume to volume basis, it will take a minimum of 21 volumes of sparged air to each volume of groundwater to reduce the groundwater benzene concentration to less than 5 μg/l.

The time (T_P) required to sparge one pore volume of air (V_p) can be calculated from the following (Johnson et al., 1990):

$T_P = V_P/Q = E_A \pi R^2 H/Q$, where:

Q = sparged airflow (cfm)

E_A = air-filled void fraction

R = radius of sparge influence (ft)

H = vertical thickness of sparged groundwater (ft)

For this site, we assume a cylindrical 20-ft saturated aquifer thickness (32.5 foot depth of the well to a new static water table of 12.5 ft-bgs), 40-ft radius of influence, 2.5 cfm airflow (minimum) and a 24% air-filled void fraction.

The equation then becomes:

$$
\begin{aligned}
TP &= E_A \pi R^2 H/Q \\
&= 0.24\ \pi\ (40)^2\ 20/2.5 \\
&= 9{,}646 \text{ minutes} \\
&= 160.8 \text{ hours} = 6.7 \text{ days}
\end{aligned}
$$

This indicates that it will take approximately 6.7 days to exchange, or sparge, one pore volume of water. The Henry's law calculations show that it will take 21 volumes of air to each volume of groundwater in MW-3 to reduce the benzene concentration from 2,720 μg/l to less than 5μg/l. The time required to accomplish this would then be 6.7 days per pore volume times 21 volumes equals 141 days.

This indicates that the site may be remediated to below the permitted benzene level within 0.39 years, if volatilization from groundwater to sparged air were 100% efficient. However, the volatilization process is not 100% efficient, and the site geology is non-homogeneous. Moreover, the analysis neglects the effects of biodegradation and residual hydrocarbon mass adsorbed to the aquifer matrix.

The net result effect on time to completion for this site is unknown, since the site will include bioaugmentation of nutrients to enhance microbial growth. The rate of remediation may be modified to reflect different efficiencies, e.g., at 75% efficiency, remediation duration would require 190 days. In conclusion, it is anticipated that the SSTLs will be achieved within less than 7-months.

Sampling Plan

The sampling plan will follow that stipulated by SCDHEC in the bid document number **Solicitation 14453-02/01/01-HW** under the section 7 through 10, "Specifications for Corrective Action" in the Bid document. In general, all monitoring wells associated with the release will be sampled on a quarterly basis for the first year. One groundwater sample will be collected from each well for each sampling event and analyzed for the chemicals of concern. An initial sampling event will occur prior to starting any remedial operations. The AS system will be turned-off at least one day prior to each subsequent sampling event to allow the aquifer to equilibrate. Sampling will occur according to protocols established by SCDHEC and those appended to this document (Appendix C, Field Gauging and Sampling Protocols). Results of each sampling event will be prepared and submitted in the SCDHEC Corrective Action Plan Monitoring Plan format (Appendix D).

Remediation System Abandonment

Upon successful completion of this project, and at the direction of SCDHEC, Consultech Environmental, Inc. will properly abandon all wells, borings, trenches, and piping, which it installed as part of this corrective action. The abandonment will be in accordance with South Carolina Well Standards and Regulations R.61-71 and accepted industry standards for abandonment of trenches and piping/utility runs. All remediation system hardware will be removed and the site returned to as near the condition it was in, prior to corrective action plan activities. Consultech will take ownership of all remediation equipment, parts, materials and supplies used in conjunction with the remediation efforts conducted at the site.

References

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Hall, C.W., 1988, Practical Limits to Pump and Treat Technology for Aquifer Remediation. Groundwater Quality Protection Preconference Workshop Proceedings: Water Pollution Control Federation, Dallas, Texas, pp. 7-12.

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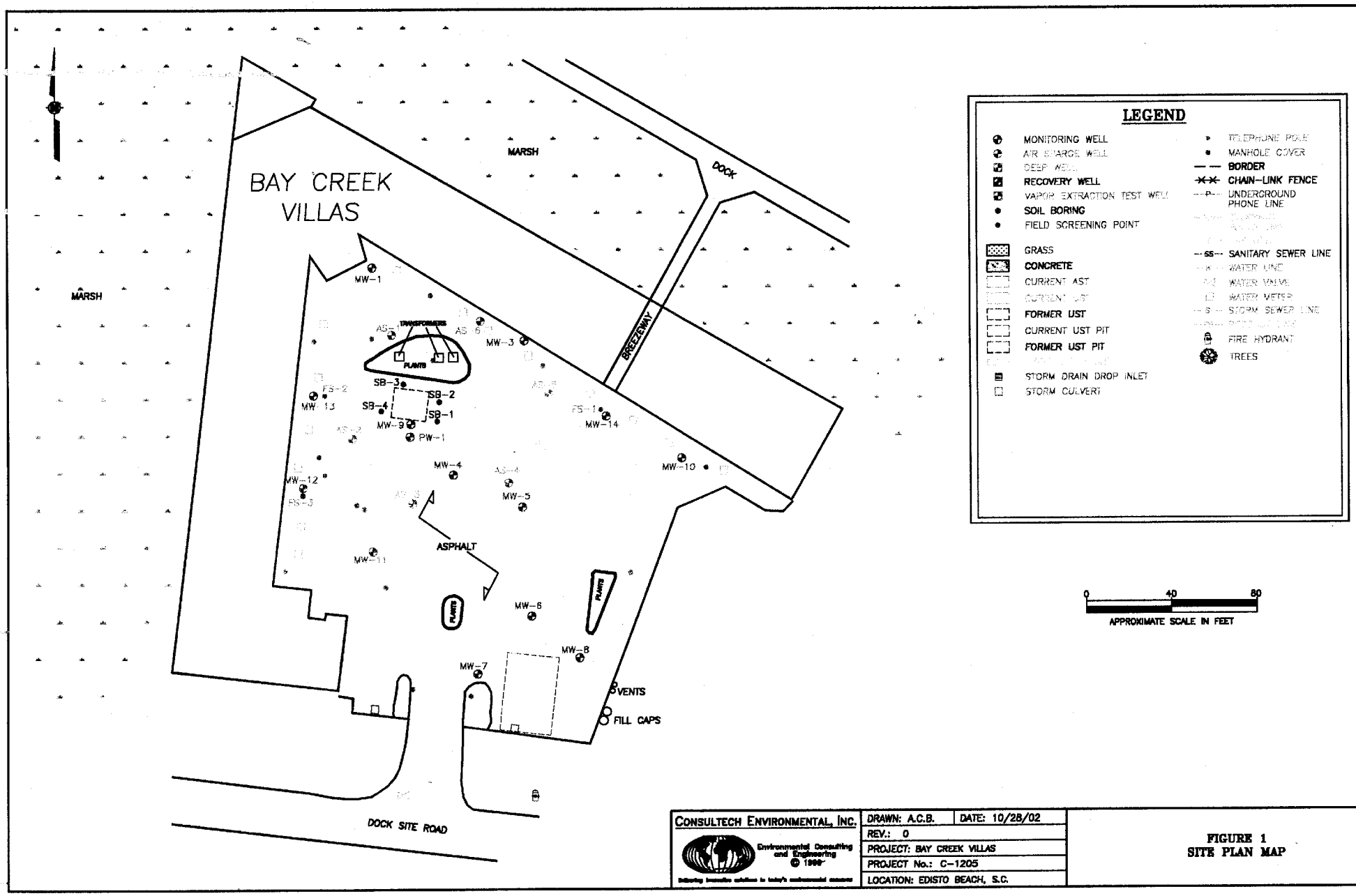
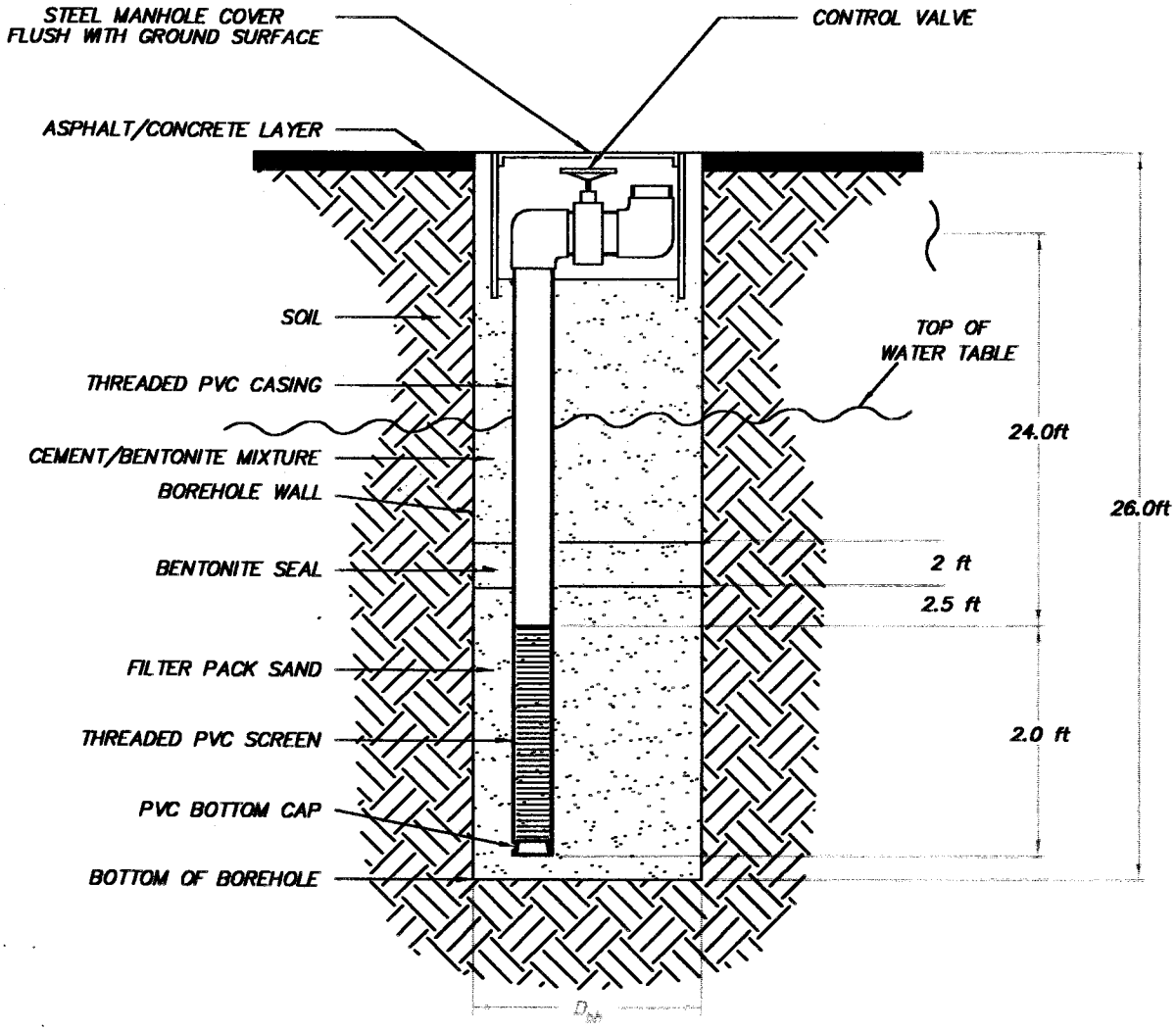
US EPA, Assessing UST Corrective Action Technologies: Site Assessment and Selection of Unsaturated Zone Treatment Technologies; EPA/600/2-90/011; March 1990



CONSULTECH ENVIRONMENTAL, INC.	DRAWN: A.C.B.	DATE: 10/28/02
Environmental Consulting and Engineering © 1988	REV.: 0	
	PROJECT: BAY CREEK VILLAS	
	PROJECT No.: C-1205	
	LOCATION: EDISTO BEACH, S.C.	

FIGURE 1
SITE PLAN MAP



APPROXIMATE DIAMETER OF BOREHOLE D = 10 in.

INSIDE DIAMETER OF PVC CASING = 1.875 in.

SCREEN SLOTS = 0.010 in.

NOTES: 1. LENGTH MEASUREMENTS ARE IN FEET
2. DIAGRAM IS NOT TO SCALE

CAD FILE = C:\...\USERDATA\C-1205\AS1.dwg.

DRAWN: A.C.B.	DATE: 10/28/02	AIR SPARGE WELL CONSTRUCTION DIAGRAM AS-1 THROUGH AS-6
REV.: 0		
PROJECT: BAY CREEK VILLAS		
PROJECT No.: C-1205		
LOCATION: EDISTO BEACH, S.C.		

CONSULTECH ENVIRONMENTAL, INC.

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Delivering innovative solutions to today's environmental concerns

CONSULTECH ENVIRONMENTAL SERVICES, INC.

FIELD GAUGING AND SAMPLING QA/QC PROTOCOLS

AND

STANDARD OPERATING PROCEDURES

FOR

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL TIER II INVESTIGATION OF PETROLEUM RELEASES FROM REGULATED UNDERGROUND STORAGE TANK FACILITIES

SCDHEC CONTRACT NO. SB-20713-10/8/02-EMW

OCTOBER 2002

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Consultech Environmental Services, Inc.

Field Gauging and Sampling QA/QC Protocols

The following QA/QC protocols for field gauging and sampling will be implemented by all Consultech Environmental Services, Inc. personnel in the absence of client specific protocols.

1.0 FIELD MEASUREMENT

Several methods of gauging groundwater and product levels are acceptable. Typically, this work will be done with an electronic oil-water interface probe, however, procedures for alternate methods are also presented.

1.1 Equipment and Supplies

The following is a list of equipment and supplies that are utilized to obtain accurate measurements of 1) the depth to petroleum product, 2) depth to groundwater and 3) the total depth of the site monitoring wells.

- Steel measuring tape graduated in 0.01 foot increments with attached weight or an electronic water level sonde (Oil Recovery Systems Interface Probe or equivalent)
- Non-toxic chalk
- Water finding paste*
- Phosphate-free laboratory soap (Liquinox or equivalent)
- Distilled or deionized water
- Pesticide-grade Isopropanol
- Monitoring Well Gauge Report Form

*Not required if an electronic water level sonde is utilized.

1.2 Well Location and Point of Measurement

The location of the monitoring wells on site will be established from the provided or available site plan and the identification numbers recorded. If a well has been installed below grade inside a water tight manhole, the cover and lock (if applicable) will be removed and surface water run-off that has infiltrated the manhole skirt will be evacuated. The monitoring well cap will be removed only after any standing water is removed from the manhole. Product and/or groundwater level measurements will then be obtained from a surveyed datum point previously marked at the top of monitoring well casing.

1.3 Fluid Level Measurement Procedures - Chalked Tape Method

The depth to the top of the fluid surface (either liquid phase hydrocarbons or groundwater) can be determined using the Chalked Tape Method. This type of measurement is useful if known product thickness in a monitoring well exceeds one foot. Two or three feet of the weighted end of the steel tape are coated with a non-toxic chalk film. The weighted tape is slowly lowered into the well casing until it penetrates the fluid surface. The tape is then held at an appropriate footage mark and placed adjacent to the top of well casing datum point. The mark is recorded as the length of tape ("Tape held") on the monitoring well gauge report. The tape is then withdrawn until the wetted length of the tape that penetrated the fluid surface is visible. The wetted section is recorded as the "cut" length on the monitoring well gauge report. All measurements are recorded to the nearest 0.01 foot. The depth to the fluid surface is calculated by subtracting the chalk "cut" measurement from the "tape held."

To determine the depth to the groundwater surface, the measuring tape is cleaned and a thin film of water finding paste is applied to the bottom two or three feet of the tape. The paste changes color when it comes in contact with water. The tape is slowly lowered into the monitoring well until the groundwater surface is penetrated and the "tape held" value recorded. The tape is then withdrawn

from the monitoring well and the "cut" length is recorded where the paste film has changed color from yellow to red. The depth to the groundwater surface is calculated by subtracting the water-finding-paste "cut" measurement from the "tape held" measurement.

To compute the thickness of liquid phase hydrocarbon, the measured depth to groundwater is subtracted from the measured fluid depth. If the liquid phase hydrocarbon is suspected to be less than one foot thick, one side of the tape can be chalked and water finding paste applied to the opposite side. The liquid phase hydrocarbon thickness is then computed by comparing the "cut" depths on both sides of the tape.

The total depth of the monitoring well, or the depth to the top of sediment within the monitoring well, is determined by lowering the weighted steel tape into the well casing. When the weighted end of tape reaches the bottom of the well the depth is recorded as the combined length of the attached weight and total tape length.

Immediately following fluid level and total well depth measurements, the steel measuring tape will be thoroughly cleaned. A consistent decontamination procedure will be followed to avoid possible cross-contamination between the monitoring wells. The decontamination procedure is as follows:

Step 1. Wash the measuring tape and weight with phosphate-free laboratory grade soap until the tape is visually free of any oily residue or sheen.

Step 2. Rinse the measuring equipment with potable water to remove all laboratory soap.

Step 3. Repeatedly rinse the equipment liberally with deionized or distilled water.

Step 4. Spray the tape and weight with a pesticide-grade isopropanol mist.

Step 5. Wipe the measuring tape with clean paper towels until dry.

In extreme cases, it may be necessary to steam clean the equipment before proceeding with the first step. The equipment will be discarded if it cannot be cleaned by these procedures.

1.4 Fluid Level Measurement Procedures - Interface Probe Method

The principles discussed in Section 6.1.3 also apply to this method. The interface probe is an electronic water level sonde that emits a solid tone when in contact with liquid phase hydrocarbons and an intermittent tone in water. A tape graduated in 0.01 foot increments is attached to the sensing probe. The probe length is calibrated into the tape incremental markings so that depth measurements can be read directly from the tape. To obtain depth to liquid phase hydrocarbon and depth to groundwater measurements, the probe is slowly lowered into the monitoring well casing until a tone is emitted. If no liquid phase hydrocarbons are detected within the monitoring well, the probe will emit only an intermittent tone indicating water. There are no "tape held" and "cut" data when the interface probe is utilized.

The total depth of a monitoring well is determined by lowering the probe to the bottom of the well until the tension on the tape just relaxes. The total well depth measurement is recorded directly from the footage mark placed against the datum elevation mark at the top of the monitoring well casing.

Interface probe cleaning procedures are the same as the decontamination procedures presented for steel measuring tapes.

2.0 SAMPLE COLLECTION

At certain times during the assessment or remediation phases of the project, groundwater samples will be collected and analyzed for certain constituents. If liquid phase hydrocarbons are detected in a groundwater monitoring well, it will be assumed that groundwater contamination has occurred in the well and no samples will be obtained. If free floating liquid phase hydrocarbons are not detected, then a sampling procedure involving removal of a specific minimum volume of well water prior to sample collection will be used. The following sections discuss the specifics of the procedure.

2.1 Equipment and Supplies

The following list of equipment and supplies are utilized to properly purge and sample a monitoring well:

- 1 and 1/4-inch or 2-inch diameter PVC bailer with new polypropylene cord. The bailer shall have a PVC foot value or check ball attached to the bottom*
- Plastic bucket; graduated in 1/4-gallon increments
- Sample containers with labels
- Bagged ice or pre-frozen blue ice packs
- Chain-of-Custody forms
- Sample shippers or coolers
- Pre-cleaned Teflon bailer with new polypropylene cord*
- Distilled or deionized water
- Paper towels
- Phosphate-free laboratory soap (Liquinox or equivalent)
- Field Sampling Report form
- Pesticide-grade isopropanol

* To preclude possible cross-contamination from repeated use of sampling equipment, dedicated PVC bailers will be used during well purging procedures. Teflon bailers will be utilized during well sampling procedures.

2.2 Monitoring Well Purging

The water standing in a well prior to the sampling event may not be representative of the groundwater quality within the saturated zone surrounding the well. Therefore, prior to collecting groundwater samples, all monitoring wells will be purged to bring more representative formation water into the well. If the well is slow to recharge (wells incapable of yielding three casing volumes

of water during an 8-hour work day) the well casing will be purged to dryness prior to sampling. The well water will be sampled as soon as a sufficient volume is available to fill each sample container but in no case later than 24 hours after purging. If the well recharges quickly, approximately three well casing volumes will be removed prior to sampling. To derive the volume of groundwater within the monitoring well casing, the following equation is used:

$$V = 0.041\ d^2h$$

where V = volume of water; in gallons

d = inside diameter of well casing; in inches

h = column height of standing water within the monitoring well; in feet.

The column height of standing water is derived by subtracting the depth to groundwater measurement from the total depth of the monitoring well. All monitoring well purging calculations and notes will be recorded on a Field Sampling Report form (Figure 6.2). Each page will be signed and dated by the representative field personnel and field sampling observations (odors noted, weather conditions, etc.) will also be documented.

Purging operations are performed by lowering the PVC bailer into the monitoring well until the groundwater surface is encountered, penetrating the surface and slowly removing the PVC bailer when the PVC bailer is full. The water is measured to determine the volume removed from the well. Purging operations are repeated until the first to occur of the required volume of groundwater is evacuated from the monitoring well, to dryness when the well is slow to recover, or field measurements of pH, temperature and specific conductance have stabilized.

Dedicated PVC bailers will be utilized during purging operations to avoid possible cross-contamination between the monitoring wells. After each sampling event, the PVC bailers will be rinsed with distilled or deionized water. In extreme cases, the dedicated PVC bailer will be securely wrapped in plastic or aluminum foil, labeled and stored in a protected area. Prior to each subsequent

purging event, the PVC bailers will be thoroughly flushed with potable water and rinsed with distilled water.

Purging operations can be performed using a peristaltic or other suitable pump for large diameter/high yield monitoring wells (greater than four-inch inside diameter). A peristaltic pump is a surface mounted suction pump that delivers fluids through the internal rotational movement of a large cam assembly. Subsurface fluids within the monitoring well are brought to the ground surface through a flexible suction hose inlet. The pump-induced vacuum releases fluids at the ground-surface outlet. This method of monitoring well pumping allows a greater volume of water to be purged in a time efficient manner. Following well purging operations, the pump and hose assemblies will be carefully cleaned using decontamination procedures presented in Section 6.1.3. Cleaning solutions and rinses will be flushed internally through the pump assemblies to insure proper decontamination.

2.3 Obtaining Groundwater Samples

After the required volume of water has been evacuated from the monitoring well or upon recovery from complete evacuation if the well is slow to recover, water quality samples will be obtained with a pre-cleaned Teflon bailer. Pre-cleaning of the Teflon bailer entails the following procedure:

Step 1. Washing with laboratory soap (Liquinox or equivalent)
Step 2. Potable water rinse
Step 3. Rinse with 10% nitric acid solution*
Step 4. Rinse with pesticide-grade isopropanol
Step 5. Deionized water or distilled water rinse
Step 6. Air dry for 24 hours

* Not required for sites with known lead concentrations in the groundwater below detection limits (15 μg/l).

The bailer will then be wrapped in aluminum foil and sealed prior to the next sampling event.

The required type and number of sample containers is dependent on types of liquid-phase hydrocarbons present in the site's groundwater. For the gasoline-based products (motor gasoline, aviation gasoline, gasohol), the following sample containers will be utilized for each well:

- Four 40-ml VOA vials with Teflon sealed caps
- One 1-liter plastic bottle: add nitric acid to pH<2

For the kerosene-based products (kerosene, diesel, JP-4, Jet fuel, Jet A fuel), sample containers include:

- Four 40-ml VOA vials
- One 1-liter plastic bottle: add nitric acid to pH<2
- Two 1-liter amber glass bottles with Teflon caps

Sampling is accomplished by slowly lowering the Teflon bailer into the well until it is completely submerged beneath the groundwater surface. The bailer is then slowly removed from the monitoring well and sample containers are filled as follows:

1. Water samples from the Teflon bailer will be slowly poured into each of the four 40 ml VOA vials. No visible head space (air bubbles) will be permitted within the vials after they are sealed.
2. The remaining water sample from the bailer will be used to fill other sample containers. If the volume within the bailer is insufficient to fill the remaining sample containers, the bailer will be lowered into the monitoring well and more groundwater will be obtained until the required sample containers are completely filled.

All sample containers will be pre-cleaned in the laboratory prior to use, in general accordance with Region IV US EPA protocol. The VOA vials will be purchased "pre-cleaned, EPA-ready" and will be discarded after use.

2.4 Field Methods

After sampling is completed, the pH, temperature and specific conductance are determined from a sample which has been collected and placed in a 250 ml glass jar.

The procedures used to determine pH, temperature and specific conductance are as follows:

A. pH and Temperature Measurement

1. Turn on pH meter (Orion Model SA250 or equivalent)
2. Select two standard buffer solutions; one buffer solution should have a pH of 7.0. Choose a second buffer so that the two buffers bracket the anticipated pH of the sample.
3. Place the pH and temperature electrodes into the pH 7.0 solution.
4. Turn function switch to pH position; depress the "calibrate" button.
5. Adjust the meter until it reads the pH value of the buffer; enter this value by depressing the "enter" button.
6. Remove the electrodes from the pH 7.0 buffer and rinse with deionized water.
7. Place the electrodes into the second buffer solution (pH 4.0 or pH 10.0).
8. Adjust the meter until it reads the pH value of the buffer; enter this value by depressing the "enter" button.
9. Obtain the percent of the theoretical slope by depressing the slope button on the meter. A slope of less than 90 percent may be caused by a defective electrode or contaminated buffer. If a slope of less than 90 percent is obtained, correct problem before proceeding.
10. Remove electrodes from buffer and rinse thoroughly with deionized water.
11. Place the electrodes into the water sample, stir, read and record the pH value to nearest 0.1 standard unit. Switch mode to temperature and record the reading. If temperature mode is not available on the instrument, temperature may be taken by another accurate measuring device.
12. Turn off meter after last reading and rinse electrodes with deionized water.

13. Store the pH electrode in rubber cap with deionized water.

B. Specific Conductance Measurement

1. Turn on specific conductance meter (YSI Model 33 or equivalent).
2. Turn MODE switch to RED LINE and adjust the needle to the RED LINE using the RED LINE ADJUST knob. If the needle cannot be properly adjusted, install new batteries.
3. Switch MODE to CONDUCTIVITY SCALE.
4. Check the meter using standard solutions, one in the range of 150 and another in the range of 1400 μohms/cm KCl. If the meter does not read within 10 percent of the standard, determine the cause of the problem and correct it before proceeding.
5. Place the probe in the sample, agitate, read and record the specific conductance value to the nearest unit of accuracy on the chosen scale.
6. Adjust reading to 25°C by adding 2 percent of the reading for each degree below 25°C or by subtracting 2 percent of the reading for each degree above 25°C.
7. Turn off meter after last reading.
8. Rinse the probe thoroughly between readings and after measurements are complete with deionized water.

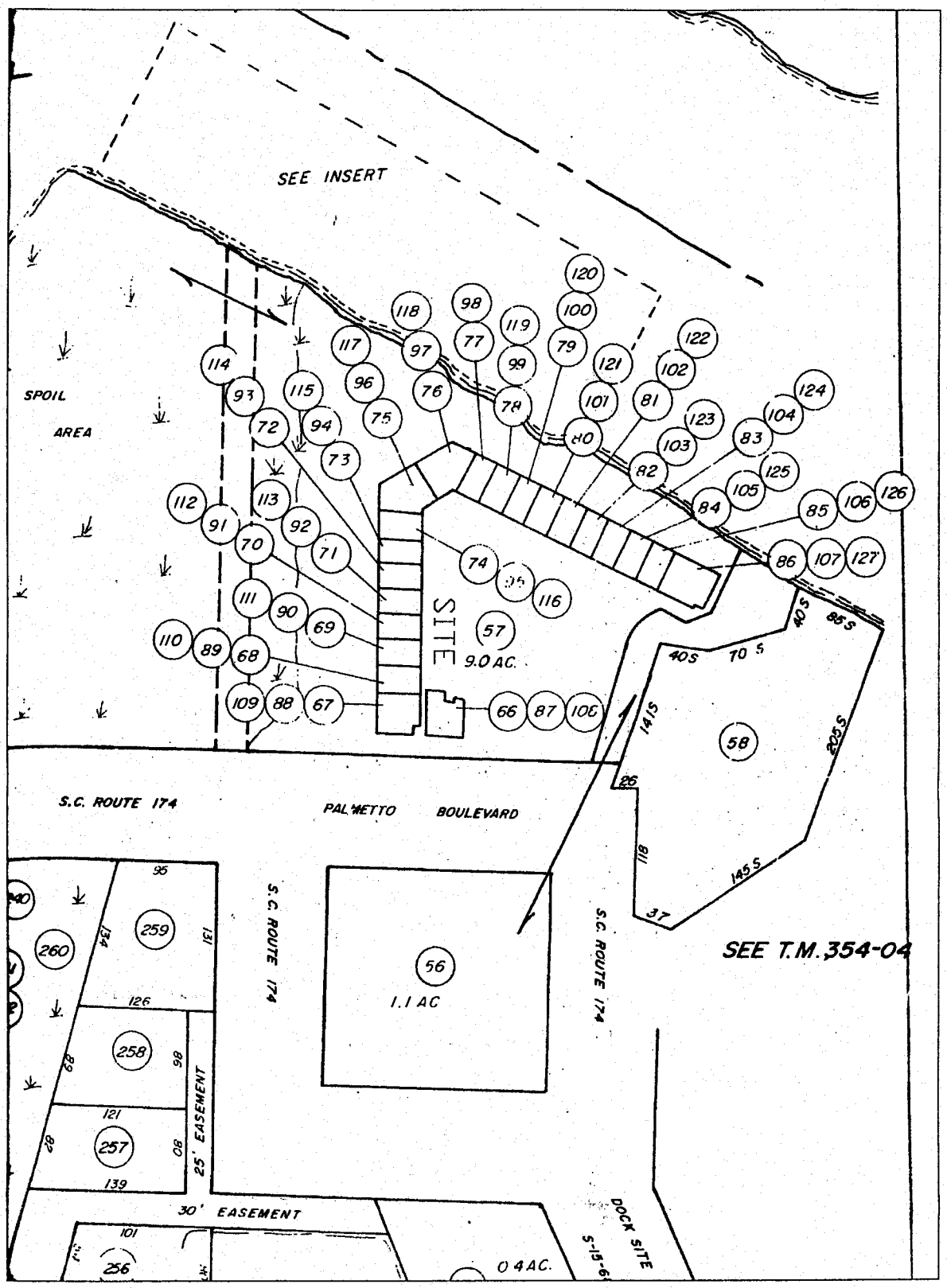
2.5 Sample Identification and Shipping

Each sample container will be identified by affixing a pressure-sensitive adhesive label or standardized tag on the container(s). The label will contain the sample identification number, date and time of sample collection, source of sample, preservative(s) used, and the collector's initials. If a label is not available, the same information will be written directly on the sample container with an indelible, water proof, marking pen. A sample seal will be placed around the lid of the sample container to prevent possible tampering. Appropriate information is also recorded on the Field Sampling Report form. The Field Sampling Report form provides space to indicate whether the

sample is hazardous and any other pertinent information. Chain-of-Custody forms included with the sample shippers or coolers are also completed to establish a tracking record for the samples and provide historical documentation.

After all the groundwater samples are collected and stored in a cooler with ice, the field representative will sign the chain-of-custody form in preparation for shipment to the laboratory.

The samples will be shipped from the sampling site to the laboratory within 24 hours to ensure that the holding times are not exceeded. Table 1 presents the required sampling preservation methods, holding times, etc.



NORTH

TAX MAP NUMBER
354-03
JOB NO: 21-1151c

TAX MAP
APPROXIMATE SCALE
1 INCH = 100 FEET

DRAWN BY: COLLETON COUNTY
TAX YEAR: 2001

BAY CREEK VILLAS
UST PERMIT #18662
3701 DOCK SITE RD.
EDISTO BEACH, SC

NESCO
For Practical Solutions.

CONSULTING ENGINEERS & SCIENTISTS
521 CLEMSON ROAD, COLUMBIA, SOUTH CAROLINA, 29229 USA
PHONE: 803 699 1976 FACSIMILE: 803 699 9863

TAX MAP AND PROPERTY OWNER INFORMATION
FOR SURROUNDING PROPERTIES
BAY CREEK VILLAS
EDISTO BEACH, SC

TAX MAP NUMBER	BLOCK NUMBER	PARCEL NUMBER	OWNER/ ADDRESS
354-03	00	56	Edisto Marina Management Corp. 3702 Dock Site Rd. Edisto Island, SC 29438
354-03	00	58	Weldon Bell 3706 Docksite Rd. Edisto Island, SC 29438
354-03	00	259	Moss Falmily Trust 3535 Heron Cove Edisto Island, SC 29438
354-03	00	260	Fairfield Communities Inc. P.O. Box 3375 Little Rock, AR 72203

CONSULTECH ENVIRONMENTAL, INC.

SITE HEALTH AND SAFETY PLAN

FOR

SOUTH CAROLINA DEPARTMENT OF

HEALTH AND ENVIRONMENTAL CONTROL

BAY CREEK VILLAS, UST PERMIT # 18662
3701 DOCK SITE ROAD
EDISTO BEACH, SOUTH CAROLINA

OCTOBER 2002

POST ON SITE

CLASS III PETROLEUM SITE HEALTH AND SAFETY PLAN

Prior to initiating field activities the Site Safety Officer (SSO) must review the Site Health and Safety Plan (SHSP) with all members of the field crew, including Consultech employees and subcontractors. All field team members shall have completed OSHA 40-hour HAZWOPER training (29 CFR 1910.120), CPR and First Aid training. When required by the local regulatory authority, copies of training certificates, CPR/first aid cards and respirator fit-test documentation shall be maintained on-site. Each team member must review the SHSP and sign and date the Acknowledgement Agreement on page 13 of the Plan. The signed plan is to be kept in the field for the duration of the project and returned to the project file upon completion of the field activities.

SHSP's may be revised, or rewritten for different phases of a project, if site activities are distinctly different, if areas of differing hazard are involved, or as information about contaminants and hazards changes. Changing conditions may justify either increasing or decreasing SHSP restrictions and action levels, depending upon the additional information generated.

CONSULTECH PROJECT NUMBER: C – 1205

I. GENERAL INFORMATION

Client: SCDHEC

Site Owner: Thomas Konitos

Site Name: Bay Creek Villas

BID Number: SB 20713-10/8/02 EMW

Site Address: 3701 Dock Site Road

Project Manager: James R. Wilson

Plan Prepared by: Tasha L. Dunn

Date: October 28, 2002

Approved by: James R. Wilson

Date:

Revised by:

Date:

Revision Approved by:

Date:

Proposed Date of Investigation: December 2002

Objectives: Investigate the extent of on-site soil and groundwater contaminants and take necessary cleanup action.

Phase I - Soil borings and monitoring wells. Samples collected for laboratory analysis will use EPA Method 8015 for Total Petroleum Hydrocarbons (TPH) and EPA Method 602 or 8020 for benzene, toluene, ethylene and xylene (BTEX). Check with local and state agencies for additional requirements.
Phase II – Soil excavation as needed.
Phase III – Site cleanup to include, as needed, recovery well, treatment system, construction and maintenance.

II. EMERGENCY CONTINGENCY PLAN

A. LOCAL EMERGENCY TELEPHONE NUMBERS (provide area code):

Ambulance	911
Hospital Emergency Room	911
Poison Control Center	911
Fire Department	911
Police Department	911
Hazardous Materials Response Unit	911

Note: If you list 911, check to be sure it is activated in the site area and determine whether it is enhanced.

B. EMERGENCY ROUTES

(Give name, address, telephone number, directions, distance and time estimate.)

Hospital Name Beaufort Memorial Hospital Phone Number: (843) 522-5200

Hospital Address: 955 Ribaut Road, Beaufort, South Carolina 29902

Directions to nearest hospital: Right on to Lighthouse Road, turn on to Greenwood Road, turn

Take local roads for two miles. Turn left onto SC-174/Edisto Island Highway for 27 miles. Turn left onto Savannah Highway (US-17) for 23 miles. Turn left onto US-21 south for 15 miles.

Estimated driving distance: 69.3 miles

Estimated driving time: 124 Minutes

Does hospital accept chemically contaminated patients? YES [X] NO [ ]

***Hospital should be notified immediately if an injury occurs which requires medical attention.**

INSERT MAP OF HOSPITAL ROUTES AS LAST PAGE OF SHSP

C. SITE RESOURCES

Water supply available on site:	YES [x]	NO [ ]
Telephone available on site:	YES [x]	NO [ ]
Bathrooms available on site:	YES [x]	NO [ ]
Other resources available on site:	YES [x]	NO [ ]

If "yes", identify: Electricity and Minor First Aid

If "no", identify the closest available facility, and provide directions: _____

D. EMERGENCY CONTACTS:

	PHONE NUMBER (provide area code) Work	Home
1. Project Manager: Richard M. Goodspeed	(678) 377-0400	(770) 365-6778 (cell)
2. District Manager: James R. Wilson	(678) 377-0400	(770) 938-0689
3. District Health & Safety Officer:		
4. Site Contact:		
5. Regulatory Consultant: Read Miner	(803) 896-6584	
6.		
7.		
8.		
9.		

E. SITE SAFETY WORK PLAN

PERSONNEL:

Team Members (list)	Responsibility
Richard M. Goodspeed	Project Manager
James R. Wilson	Site Safety Officer
	Public Information
	Field Team Leader

F. PERIMETER ESTABLISHMENT

Map/Sketch attached: Yes [X] No [ ] Site Secured: Yes [X] No [ ]

Perimeter identified: Yes [X] No [ ] Zone(s) of Contamination identified: Yes [X] No [ ]

Prevailing wind direction, if known: _____

In the event of an emergency incident, the site project team will meet at: _____
Entrance to marina

Evacuation routes & procedures, if applicable: on site

G. WORK ZONES

An exclusion zone, contamination reduction zone and clean zone will be identified for each site or site activity. Zones will be marked with yellow **CAUTION** tape or cones, as needed. No person will be allowed in the exclusion zone or contamination zone without approval from the Consultech Site Safety Officer.

H. SITE SECURITY

When work scheduling requires an excavation will be left open overnight, security fencing will be erected to restrict access to the site or work zones described in Section II. G.

I. SITE MAP: attach in front of Hospital Route Map at end of completed SHSP.

III. SITE CHARACTERIZATION

A. SUMMARY OF AVAILABLE SITE INFORMATION: _____
Project Manager – Corrective Action Plan

B. SOURCES OF BACKGROUND SITE INFORMATION: _____

C. GENERAL FACILITY DESCRIPTION:

Gasoline Service Station [X] Refinery [ ] Bulk Terminal [ ] Other _____

Description: Active [X] Closed/Abandoned [ ]

Site Activities (operations on-site, products, raw materials used, etc.): _____
Convenience Store

How many years has this site been operation: 15 plus

Was the site used by previous owners: Yes [ ] No [x]

Describe previous site activity: _____

Surface cover on-site includes:

[ ] Soil/bare ground	[ ] Clay caps	[ ] Plastic cover
[ ] Grass	[X] Paving/asphalt	[X] Water bodies
[ ] Woods	[X] Swamp	[ ] Brush/scrub
[X] Building(s)	[ ] Unpaved roads	[ ] Other _____

Site surface area estimated at: 20,000 sq. ft.

Percentage of surface area:

paved	60	%
vegetated	20	%
bare soil		%
under water	10	%

Potential for dust generation on-site: High [ ] Medium [ ] Low [X]

Any site access restrictions: Yes [ ] No [X]
Fenced/locked [ ] Posting (signs) [ ] Security guards [ ]

Is there evidence of public access to the site: Yes [X] No [ ]

If "yes", describe: Active Entrances

D. REGULATORY CONTACTS:

Are regulatory agencies involved with the site: Yes [x] No [ ]

If "yes", are they: Federal [ ] State [x] Local [ ]

Name	Agency	Phone
Read miner	SCDHEC	(803) 896-6584

IV. WASTE CHARACTERIZATION

A. WASTE/CONTAMINANT TYPE(S):

Liquid [ ] Soil [ ] Solid [ ] Sludge [ ] Gasoline [X]

Characteristic(s):

[ ] Corrosive	[ ] Ignitable	[ ] Radioactive	[ ] Explosive
[ ] Volatile	[ ] Toxic	[ ] Reactive	[ ] Flammable
[ ] Unknown	[ ] Other (Name):		

B. MAJOR SPILLS/RELEASES

Type	Date	Chemical	Quantity	Contaminated Media*
Gasoline	2001			Soil/Groundwater

* air, surface water, soil, or groundwater

Free Product: Yes [X] No [ ] Dissolved: Yes [ ] No [ ]

Have removal actions occurred: Yes [ ] No [ ]
If "yes", describe: _____

Is there evidence that contaminants present could cause vapor problems in structure on-site?
Yes [ ] No [ ] If "yes", is building mechanically ventilated? Yes [ ] No [ ]

_____ Exhaust Ventilation _____ General Building Ventilation

C. REMEDIATON SYSTEM INFORMATION (Complete when applicable)

Has system been installed? Yes [ ] No [x]
Describe: _____

Enclosed per codes	Yes [ ]	No [ ]
Ventilated	Yes [ ]	No [ ]
If "yes", Explosion-proof	Yes [ ]	No [ ]
On a Timer	Yes [ ]	No [ ]

D. CHEMICALS/WASTE STORED ON-SITE (including petroleum products):

	How many?	Size?	Chemical?
[ ] drums			
[ ] tanks			
[ ] vats			
[ ] surface impoundments			
[ ] pits/landfills			
[ ] other			

Identify all chemical products Consultech will use or store on site:
Well development water

Material Safety Data Sheets (MSDS) are required to be attached to the Site Health & Safety Plan.
Attached? Yes [ ] No [x]

E. HISTORY (worker or non-worker injury; complaints from public; previous agency action):

None

V. HAZARD EVALUATIONS

List all chemicals below that have been identified or are suspected on site and their maximum concentrations in soil/water. Information on hazardous properties is listed in **Appendix A.** For chemicals not shown in **Appendix A,** enter the hazardous property information in the spaces provided and attach a material safety data sheet.

Chemical Name	PEL/TLV	Maximum Concentration in Soil ug/kg (ppb)	Maximum Concentration in Water ug/l (ppb)	Health Hazards/ Comments
Gasoline	300 ppm			
Benzene	0.1 ppm*			Carcinogen
Total Lead	50 ug/m^3			
Tetraethyl Lead	75 ug/m^3			Absorbed thru skin
Tetramethyl Lead	75 ug/m^3			Absorbed thru skin
Kerosene	none est.			
Diesel Fuel	none est.			

(Refer to Appendix A for detailed Hazardous Property Information. Attach extended Appendix A-la if other contaminants in addition to petroleum products are present.)

P = results pending
* = proposed '92 TLV

Potential Hazards (check boxes that apply to site):

[ ] corroded containers
[ ] confined spaces
[x] observed free product
[ ] open pits
[ ] air stack emissions
[ ] visible on-site releases
[ ] visible off-site releases
[ ] visible on-site erosion

[ ] visible leachate
[ ] odors
[ ] dust
[ ] visible soil contamination
[ ] on-site surface water contamination
[ ] off-site surface water contamination
[ ] interior building contamination
[ ] no obvious hazards

[x] underground tanks
[ ] surface tanks
[ ] observed tanks

[x] overhead electric line
[x] underground utilities
[ ] open lagoons

VI. PERSONAL PROTECTION & MONITORING EQUIPMENT GUIDELINES

A. PERSONAL PROTECTION

Level of Protection: B [x] C [ ] D [ ] (with modifications)

Modifications:

1. All personnel working in the exclusion zone must wear hard hat, safety shoes, safety glasses and/or face shield.

2. Nitrile gloves and tyvek/saranax suit should be worn if contact with contaminated water or soil is likely.

3. Hearing protection must be worn if noise levels prevent normal conversation at a distance of three feet. **No smoking, eating, or drinking is allowed in the exclusion or contamination reduction zones.**

4. No personnel are to enter or approach any excavation area where there is a danger of wall collapse or confined space entry.

5. Respiratory protection is dependent on conditions listed in Section VI. B. 3.

B. SURVEILLANCE EQUIPMENTAND MATERIALS

1. CALIBRATION: The photoionization detector (PID) or flame ionization detector (FID) will be calibrated before and after field activities by a qualified individual.

2. FREQUENCY: The breathing zone of Consultech employees on-site will be monitored every hour (at a minimum) and recorded in the Consultech field book.

3. INSTRUMENTATION:

Instrument	Action Level	Action
Photoionization Detector (hNu)	5 units*	Level C, air purifying respirator (APR) with organic vapor canister.
Flame ionization Detector (OVA)	5 units*	Level C, air purifying respirator (APR) with organic vapor canister.
Benzene Colorimetric Detector Tubes	0.5 ppm	Level C, air purifying respirator (APR) with organic vapor canister.
Hydrogen Sulfide (H_2S) Colorimetric Detector Tubes	5.0 ppm	Level C, air purifying respirator (APR) with acid gas cartridge. LEAVE AREA.

Instrument	Action Level	Action
Oxygen Meter	<19.5% oxygen	Do not enter area or confined space
Explosimeter	>10% LEL >20% LEL	Eliminate all ignition sources and reduce levels immediately or leave site

* Method of calculation:	Chemical known:	1/2 x TLV = Level C, air purifying respirator (APR) with appropriate canisters
		5 x TLV = Level B, supplied air respirator (SAR) or evacuate site
	Unknowns:	5 x background or 5 units = Level C, air vapor/dust purifying respirator with organic combination canisters
		10 x background or 10 units = Level B, supplied air respirator (SAR) or evacuate site

C. FIRST AID EQUIPMENT AND PROCEDURES

1. FIRST AID EQUIPMENT:

Standard first aid kit (sized for number of individuals on-site).

Portable eye wash (sized for number of individuals on-site).

2. FIRST AID PROCEDURES

Ingestion: **DO NOT** induce vomiting, summon medical help immediately.

Inhalation: Move victim to fresh air, seek medical attention if needed.

Dermal Exposure: **DO NOT RUB!** Remove contaminated clothing, flush with water.

A first aid kit will be provided on-site for use in case of minor injuries. A portable eye wash will also be provided and if a worker suffers a chemical splash in the eye, the field team will be instructed to flush the eye for 15 minutes and arrange for off-site medical treatment immediately. Workers will also be instructed to thoroughly wash with soap and water any unprotected skin which comes in direct contact with contaminated soil or water.

Report all CPR or First Aid assistance to the District Health & Safety Officer immediately.

3. SITE EMERGENCIES:

In the event of a fire or explosion, evacuate the site immediately and call the appropriate emergency phone numbers listed in Section II. A., page 2

In case of a spill, try to contain with clean dirt, if feasible, and call the local fire department or hazardous materials response (HAZMAT) unit. Phone numbers are listed in Section II. A., page 2.

Have procedures for remediation system shutdown or emergency procedures been provided to site owner or manager? Yes [ ] No [x] (Applies to sites with remediation systems in place.) After system is installed.

VII. SAFETY STANDARD OERATING PROCEDURES

A. CHEMICAL HAZARDS:

A photoionization detector (PID) or flame ionization detector (FID) will be used to measure the relative concentration of hydrocarbon vapors. Monitoring for exposure to benzene vapors may be done using activated charcoal tubes and vacuum pumps, vapor badges, or benzene colorimetric tubes in the breathing zone when working with heavily contaminated soil or water. Action limits for use of respiratory protective equipment are outlined in Section VI. B. 3. All respiratory protection equipment shall be NIOSHA/MSHA-approved and use shall conform to OSHA 29 CFR 1910.134. A written Respiratory Protection detailing selection, use, cleaning, storage, medical monitoring, training and fit-testing of respiratory protective equipment shall be kept.

In addition to inhalation hazards, hydrocarbon compounds can also be absorbed through the skin. Skin contact with liquid hydrocarbons or fuel hydrocarbon-bearing soil should be prevented. In situations where sampling would result in direct skin contact with hydrocarbon liquids, saturated soil or contaminated equipment, nitrile gloves will be worn.

Drilling or digging may also liberate pockets of hydrogen sulfide (H_2S). While the characteristic "rotten egg" odor of H_2S is detectable at levels as low as 0.0005 ppm, prolonged detection is unreliable due to its olfactory fatigue properties. In open air on a typical petroleum remediation site, risk from exposure to H_2S is minimal. However, should H_2S be encountered, workers shall be instructed to stop drilling/digging and move to an upwind location until the vapors have dissipated, as measured by Drager H_2S detector tubes. The bore hole or excavation will be immediately backfilled.

A combination explosimeter/oxygen (O_2) meter will be available on-site to monitor the levels of flammable gases, such as petroleum vapors and methane. An explosimeter should also be used by the subcontractor to verify that the atmosphere inside the underground storage tank has been inerted prior to allowing the tank to be removed.

B. PHYSICAL HAZARDS:

1. Mechanical Hazards: cuts, abrasions, contusions; slips, trips, falls; being struck or entrapped by moving parts of heavy equipment or falling objects. Such hazards will be minimized by keeping the work area free of equipment and debris that could cause slips, trips or falls and maintaining a safe distance from heavy equipment and moving machinery parts.

2. Electrical Hazards: possible excavation of unanticipated electrical cables and potential contact by heavy equipment with overhead power lines during drilling and excavation. Maintain at least 20 feet clearance from overhead power lines. If unavoidably close to overhead or buried power lines, turn power off and lock out circuit breaker. All equipment will be properly locked/tagged out when required by the Consultech Electrical Safety Program. Avoid standing in water when operating electrical equipment.

3. Traffic Hazards: Petroleum site work frequently necessitates working in parking lots, streets or other areas with vehicular traffic. In such instances, the work team will be issued neon traffic safety vests and will use traffic cones and/or barricades as necessary to prevent collision between pedestrians and motor vehicles.

4. Open Excavations: When scheduling or work conditions necessitate leaving excavations open overnight, security fencing will be erected to restrict access to the site or work zones described in Section II. G. will be erected.

C. UTILITIES

List utilities ownership (Electrical, Gas, Sewer, Water, Telephone, Cable TV): _____
All _____

_____

A minimum of 48 hours prior to starting excavation, Underground Service Alert or (the state equivalent (Palmetto Utility Protection and Individuals) will be contacted and informed of the scheduled field activities. Underground Service Alert identifies which underground utilities are present and notifies their respective owners. The utilities will be located by their respective owner. Prior to drilling, post holes or probing to a depth of 5 feet will be done to ensure no utilities, lines, tanks are in the way.

Consultech does not assume responsibility or liability for identification, location and notification of underground utilities.

D. WORK LIMITATIONS (time of day, weather, heat/cold stress):

In high ambient temperatures (especially in conjunction with high humidity), follow heat-stress precautions: Provide plenty of cool water and electrolytes (e.g. Gatorade). Provide frequent breaks in areas out of direct sunlight and remove protective clothing during breaks. Check resting pulse and increase number of breaks if pulse does not return to normal during work breaks. If possible, alter work schedules so work may be conducted during cooler parts of the early morning or evening. Work may only progress during daylight hours or under conditions of adequate lighting.

MAPQUEST.

< Back

SEND TO

FROM:

3701 Docksite Rd
Edisto Island, SC
29438-3649 US

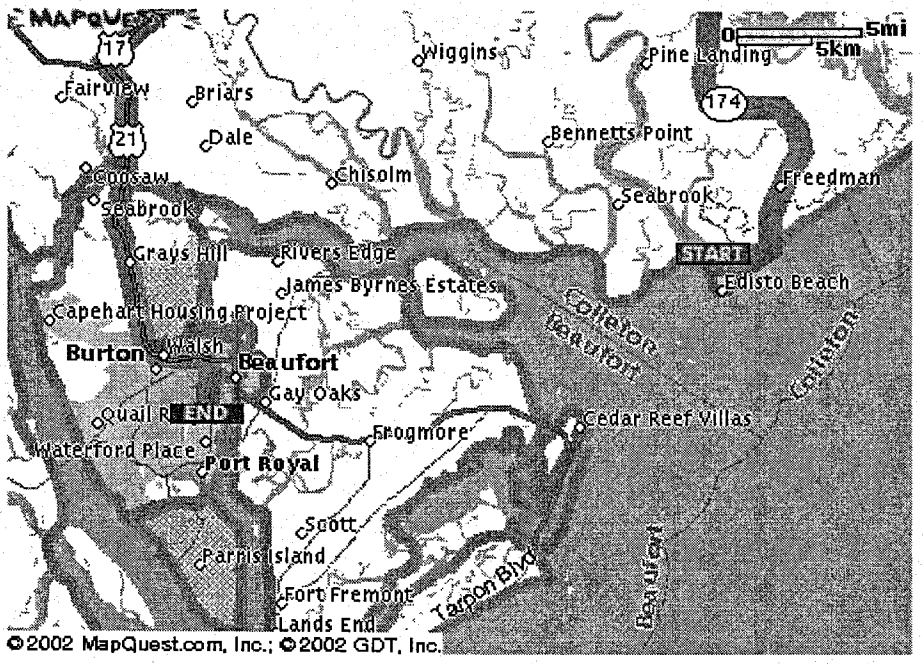
TO:

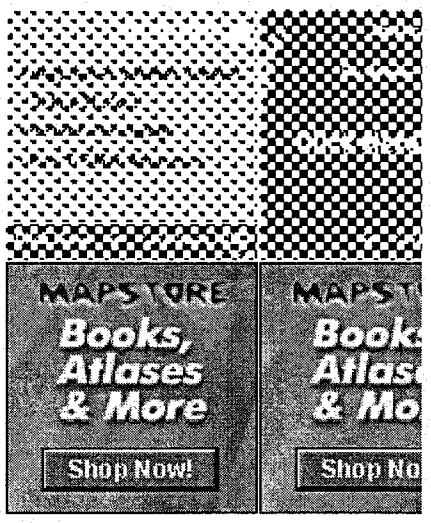
Beaufort Memorial Hospital
955 Ribaut Rd
Beaufort, SC
29902-5441 US

Total Distance: 69.30 miles

Total Estimated Time: 2 hours, 4 minutes

DIRECTIONS	DISTANCE
1: Start out going East on DOCK SITE RD towards BOUY RD by turning left.	0.82 miles
2: DOCK SITE RD becomes LYBRAND ST.	0.29 miles
3: Turn LEFT onto JUNGLE RD.	1.95 miles
4: Turn LEFT onto SC-174/EDISTO ISLAND HWY.	0.05 miles
5: SC-174/EDISTO ISLAND HWY becomes SC-174.	21.44 miles
6: Turn LEFT onto SAVANNAH HWY.	5.91 miles
7: SAVANNAH HWY becomes US-17.	23.13 miles
8: Turn LEFT onto US-21 S.	15.70 miles
Total Estimated Time: **2 hours, 4 minutes**	**Total Distanc** **69.30 miles**





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ORIGIN:
3701 Docksite Rd
Edisto Island, SC
29438-3649 US

DESTINATION:
Beaufort Memorial Hospital
955 Ribaut Rd
Beaufort, SC
29902-5441 US

These directions are informational only. No representation is made or warranty given as to their content, road conditions or route usability or expeditiousness. User assumes all risk of use. MapQuest and its suppliers assume no responsibility for any loss or delay resulting from such use.

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EMERGENCY ROUTES & MAP TO HOSPITAL

(Give name, address, telephone number, directions, distance and time estimate, and map)

HOSPITAL: See page 2

DIRECTIONS:

OTHER:

MAP:

CLASS III PETROLEUM SITE HEALTH AND SAFETY PLAN
ACKNOWLEDGEMENT AGREEMENT

By signing below, I acknowledge I have read and agree to abide with all of Consultech's health and safety requirements as described in this Plan.

Signature	Date
Signature	Date
Signature	Date
Signature	Date
Signature	Date
Signature	Date
Signature	Date
Signature	Date
Signature	Date

Form 1 UIC	D H E C PROMOTE PROTECT PROSPER **Underground Injection Control Permit Application Ground-Water Protection Division** (Collected under the Authority of Title 48 Chapter 1 of the 1976 South Carolina Code of Laws)	**I. EPA ID NUMBER**			
				T/A	C
		U			

Read attached instructions before starting.

For Offical Use Only

Application Approved month	day	year	Date Received month	day	year	Permit/Well Number

Comments

II. Facility Name and Address	**III. Owner/Operator and Address**
Facility Name Bay Creek Villas	Owner/Operator Name SCDHEC
Street Address 3701 Dock Site Road	Street Address 2600 Bull Street
City State Zip Code Edisto Beach, SC	City State Zip Code Columbia, SC 29201

IV. Ownership Status (Mark "x")

☐ A. Federal ☒ B. State ☐ C. Private

☐ D. Public ☐ E. Other (Explain)

V. SIC Codes

VI. Well Status (Mark "x")

☐ A. Operating | Date Started month day year | ☐ B. Modification/Conversion ☒ C. Proposed

VII. Type of Permit Requested - Class and Type of Well (see reverse)

A. Class(es) enter code(s)	B. Type(s) enter code(s)	C. If class is "other" or type is code "x", explain	D. Number of Wells per type
V.A.	I		6

VIII. Location of Wells or Approximate Center of field or Project

C	A. Latitude				B. Longitude			
I		Deg 32	Min 29	Sec 35		Deg 80	Min 20	Sec 27

IX. Attachments

Complete the following questions on a separate sheet(s) and number accordingly; see instructions for Classes II, III, and V, complete and submit on a separate sheet(s) attachments A-U as appropriate. Attach maps where required. List attachments by letter which are applicable and include with your application. A,B,C,D,E,F

X. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

A. Name and Title (Type or Print)	B. Phone No.
James R. Wilson/Vice President	(678)377-0400
C. Signature James R. Wilson	D. Date Signed 10/29/02

DHEC 2602 (08/1997)

ATTACHMENT A

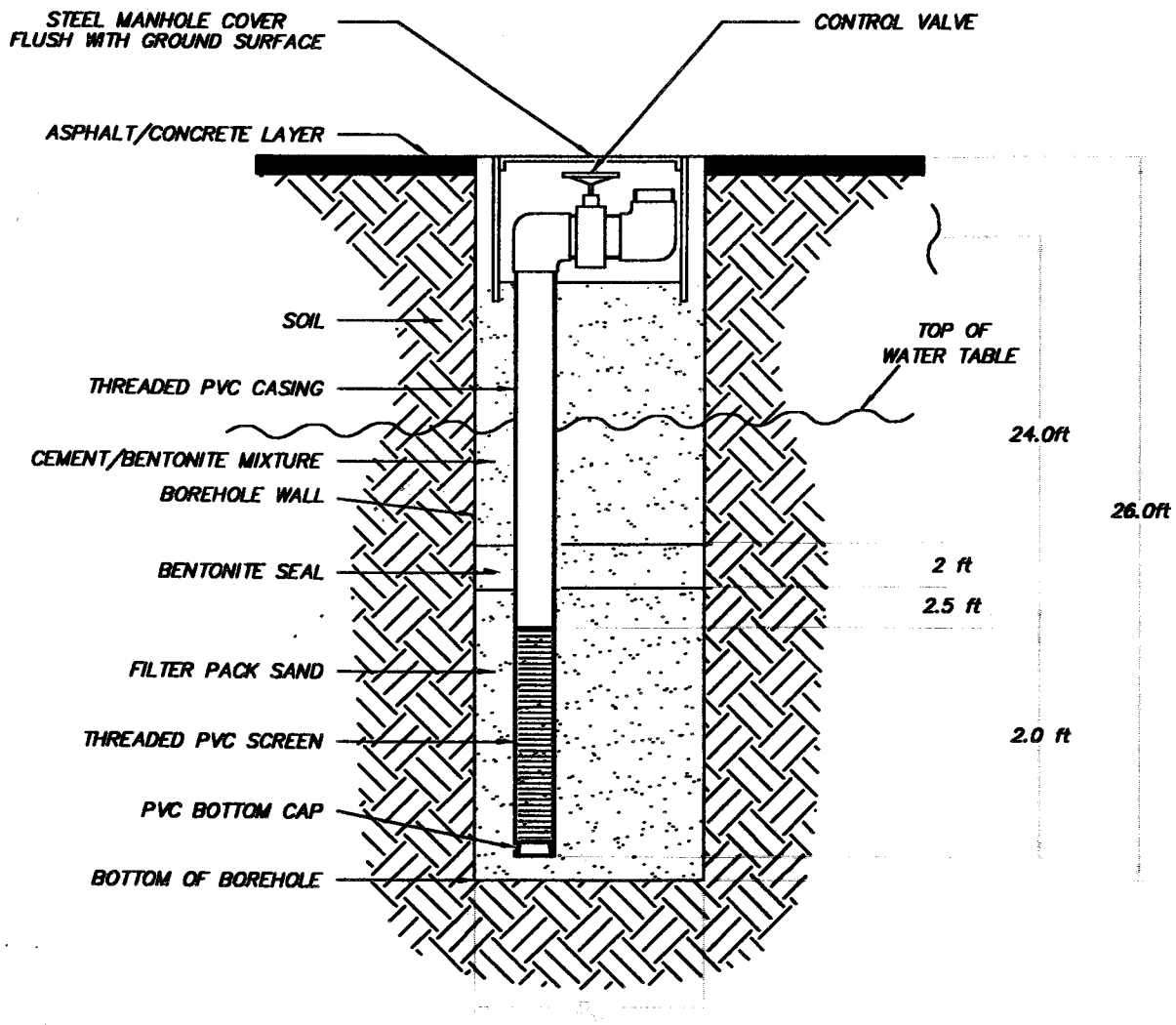
Activity for Review

Air sparging (AS) combined with augmented bioremediation utilizing air injection wells is the proposed remediation technology. The installation of six, new, air injection wells is proposed. The proposed wells will each be equipped, at the surface end, with an air-tight manifold valve assembly through which the compressed air will be injected. Ambient air will be the injected fluid as is defined by the Underground Injection Control Regulations (R.61-87).

ATTACHMENT B

Well Construction Details

Schematics for the proposed air injection installations are attached (AS-1 through AS-6).



APPROXIMATE DIAMETER OF BOREHOLE D = 10 in.

INSIDE DIAMETER OF PVC CASING = 1.875 in.

SCREEN SLOTS = 0.010 in.

NOTES: 1. LENGTH MEASUREMENTS ARE IN FEET
2. DIAGRAM IS NOT TO SCALE

CAD FILE = C:\...\USERDATA\C-1205\AS1.dwg.

DRAWN: A.C.B.	DATE: 10/28/02	AIR SPARGE WELL CONSTRUCTION DIAGRAM AS-1 THROUGH AS-6
REV.: 0		
PROJECT: BAY CREEK VILLAS		
PROJECT No.: C-1205		
LOCATION: EDISTO BEACH, S.C.		

CONSULTECH ENVIRONMENTAL, INC.

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Delivering innovative solutions to today's environmental concerns

ATTACHMENT C

Operating Data

The amount of air being injected into each well can be independently controlled through a ball-valve at the well-head manifold that will serve to vent air to the atmosphere. By regulating the ball-valve the volume of air injected into each well can be controlled. The volume of air injected into each well will be regulated from a minimum of 0 cubic feet per day to a maximum of 144,000 cubic feet per day (100 scfm). The injected pressure can be controlled at the compressor through a pressure regulator valve. The injection pressure will be regulated to achieve the radius of air sparge influence desired about each injection well. Injection pressure will not exceed 20 psi at any time. Augmented bioremediation at this site will include the injection of chemical compounds that will enhance the existing microflora and microfauna to digest the dissolved contaminants not easily affected by the AS methods. The selected chemicals are primarily simple sugars, such as lactose, glucose, and fructose, and complex sugars such as karo syrup and molasses. In addition, other basic elements will be selected to enhance the natural microflora and microfauna to respirate the injected oxygen while digesting the contaminants. Stable chemical compounds which provide elements like potassium, magnesium, and phosphorus will be selected based upon the groundwater bacteria counts. Chemicals like urea pH adjusting agents will also be added to enhance cellular stability of the microflora and microfauna at the site.

No contaminate concentrations of ambient air or the chemical compounds at the site will be released. It is assumed the injected fluid, ambient air, will be free of any contaminants.

ATTACHMENT D

Monitoring Program

Influent ambient air will be sampled with a portable, organic vapor analyzer immediately prior to system start-up, and subsequently, on quarterly intervals. Each air injection well manifold will include a port fitted with a pressure gauge and a port to allow access for a thermal anemometer. Pressure and flow readings will be recorded at each well upon system start-up, and subsequently, on quarterly intervals.

ATTACHMENT E

Existing or Pending State/Federal Permits

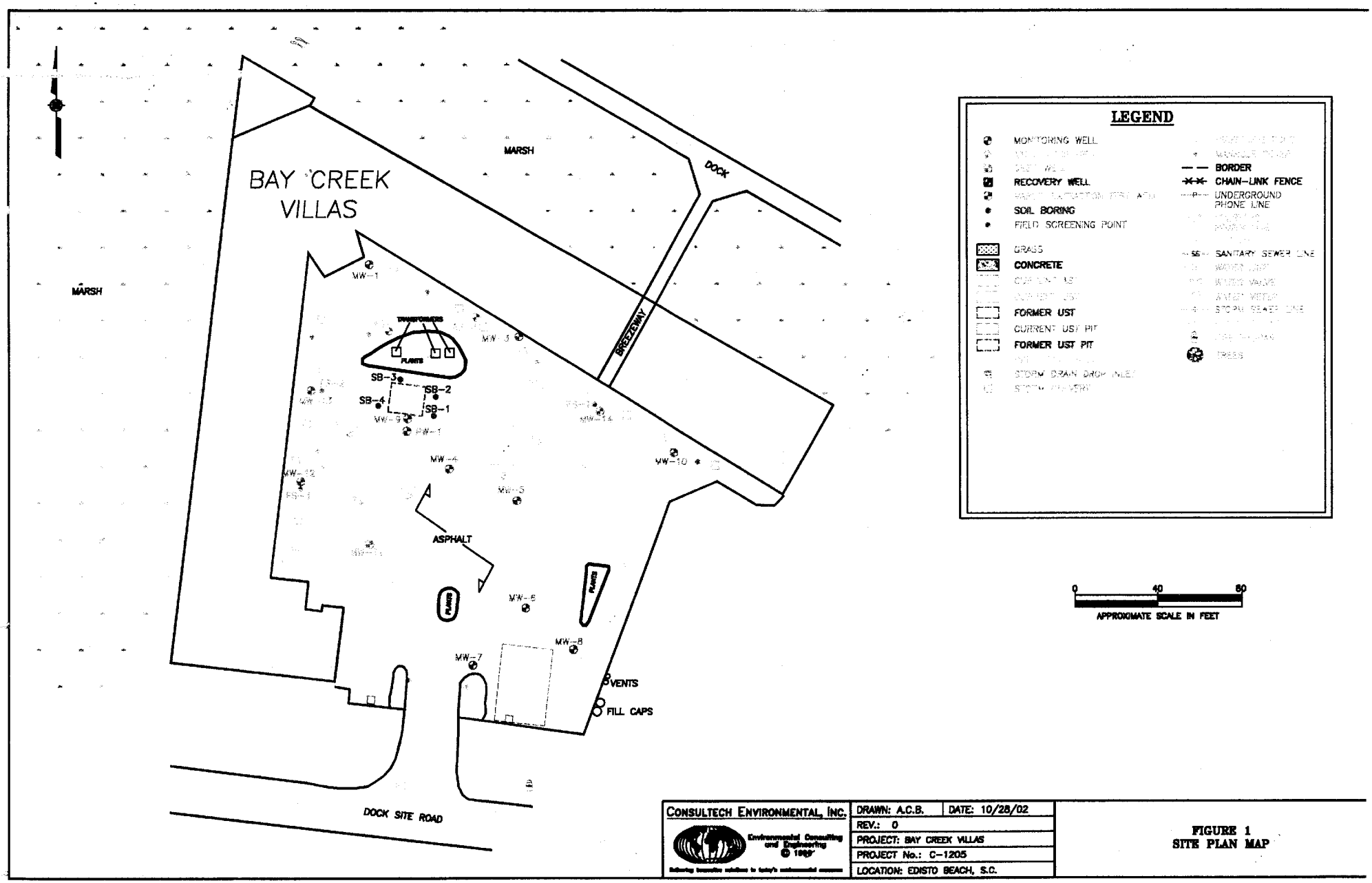
There is no existing Underground Injection Control State of South Carolina permits previously issued for this site.

ATTACHMENT F

Description of Business

The Bay Creek Villas Site is located in a mixed commercial and residential area in Edisto Beach, South Carolina. A leaking underground storage tank was formerly leaking at the subject site. Dissolved hydrocarbon contamination originating from the storage tanks has mostly remained in the former tank pit area.

The location of the proposed air injection wells is shown on the attached Figure 1.



CONSULTECH ENVIRONMENTAL, INC.	DRAWN: A.C.B.	DATE: 10/28/02
Environmental Consulting and Engineering © 1989	REV.: 0	
	PROJECT: BAY CREEK VILLAS	
	PROJECT No.: C-1205	
	LOCATION: EDISTO BEACH, S.C.	

FIGURE 1
SITE PLAN MAP

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

August 09, 2002

RECEIVED
AUG 1 2 2002
Underground Storage
Tank Program

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on August 8, 2002. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Sherri Howard
Sherri.Howard@pacelabs.com
Project Manager

Enclosures

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

Lab Sample No: 922440870 | Project Sample Number: 9235393-001 | Date Collected: 08/07/02 12:00
Client Sample ID: UNIT-116 | Matrix: Water | Date Received: 08/08/02 16:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260, low level	Method: EPA 8260								
Benzene	ND	ug/l	1.0	1.0	08/08/02 21:50	DLK	71-43-2		
Ethylbenzene	11.	ug/l	1.0	1.0	08/08/02 21:50	DLK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	1.0	1.0	08/08/02 21:50	DLK	1634-04-4		
Naphthalene	1.8	ug/l	1.0	1.0	08/08/02 21:50	DLK	91-20-3		
Toluene	ND	ug/l	1.0	1.0	08/08/02 21:50	DLK	108-88-3		
m&p-Xylene	13.	ug/l	2.0	1.0	08/08/02 21:50	DLK			
o-Xylene	ND	ug/l	1.0	1.0	08/08/02 21:50	DLK	95-47-6		
Toluene-d8 (S)	100	%		1.0	08/08/02 21:50	DLK	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	08/08/02 21:50	DLK	460-00-4		
Dibromofluoromethane (S)	95	%		1.0	08/08/02 21:50	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	97	%		1.0	08/08/02 21:50	DLK	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Laboratory Certification IDs
LA Wastewater 04034
VA Drinking Water 213
FL NELAP E87627

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

Lab Sample No: 922440888 | Project Sample Number: 9235393-002 | Date Collected: 08/07/02 12:15
Client Sample ID: UNIT-118 | Matrix: Water | Date Received: 08/08/02 16:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260, low level	Method: EPA 8260								
Benzene	ND	ug/l	1.0	1.0	08/08/02 21:17	DLK	71-43-2		
Ethylbenzene	ND	ug/l	1.0	1.0	08/08/02 21:17	DLK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	1.0	1.0	08/08/02 21:17	DLK	1634-04-4		
Naphthalene	ND	ug/l	1.0	1.0	08/08/02 21:17	DLK	91-20-3		
Toluene	ND	ug/l	1.0	1.0	08/08/02 21:17	DLK	108-88-3		
m&p-Xylene	ND	ug/l	2.0	1.0	08/08/02 21:17	DLK			
o-Xylene	ND	ug/l	1.0	1.0	08/08/02 21:17	DLK	95-47-6		
Toluene-d8 (S)	101	%		1.0	08/08/02 21:17	DLK	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	08/08/02 21:17	DLK	460-00-4		
Dibromofluoromethane (S)	100	%		1.0	08/08/02 21:17	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	97	%		1.0	08/08/02 21:17	DLK	17060-07-0		

Laboratory Certification IDs
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NC Drinking Water 37706
SC 99006

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Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

Lab Sample No: 922440896 | Project Sample Number: 9235393-003 | Date Collected: 08/07/02 12:30
Client Sample ID: UNIT-314 | Matrix: Water | Date Received: 08/08/02 16:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260, low level	Method: EPA 8260								
Benzene	ND	ug/l	1.0	1.0	08/08/02 22:56	DLK	71-43-2		
Ethylbenzene	ND	ug/l	1.0	1.0	08/08/02 22:56	DLK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	1.0	1.0	08/08/02 22:56	DLK	1634-04-4		
Naphthalene	ND	ug/l	1.0	1.0	08/08/02 22:56	DLK	91-20-3		
Toluene	ND	ug/l	1.0	1.0	08/08/02 22:56	DLK	108-88-3		
m&p-Xylene	ND	ug/l	2.0	1.0	08/08/02 22:56	DLK			
o-Xylene	ND	ug/l	1.0	1.0	08/08/02 22:56	DLK	95-47-6		
Toluene-d8 (S)	101	%		1.0	08/08/02 22:56	DLK	2037-26-5		
4-Bromofluorobenzene (S)	94	%		1.0	08/08/02 22:56	DLK	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	08/08/02 22:56	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	94	%		1.0	08/08/02 22:56	DLK	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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LA Wastewater 04034
VA Drinking Water 213
FL NELAP E87627

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

Lab Sample No: 922440904 | Project Sample Number: 9235393-004 | Date Collected: 08/07/02 12:45
Client Sample ID: UNIT-316 | Matrix: Water | Date Received: 08/08/02 16:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260, low level	Method: EPA 8260								
Benzene	ND	ug/l	1.0	1.0	08/09/02 00:36	DLK	71-43-2		
Ethylbenzene	8.0	ug/l	1.0	1.0	08/09/02 00:36	DLK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	1.0	1.0	08/09/02 00:36	DLK	1634-04-4		
Naphthalene	ND	ug/l	1.0	1.0	08/09/02 00:36	DLK	91-20-3		
Toluene	ND	ug/l	1.0	1.0	08/09/02 00:36	DLK	108-88-3		
m&p-Xylene	7.6	ug/l	2.0	1.0	08/09/02 00:36	DLK			
o-Xylene	ND	ug/l	1.0	1.0	08/09/02 00:36	DLK	95-47-6		
Toluene-d8 (S)	100	%		1.0	08/09/02 00:36	DLK	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	08/09/02 00:36	DLK	460-00-4		
Dibromofluoromethane (S)	100	%		1.0	08/09/02 00:36	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	94	%		1.0	08/09/02 00:36	DLK	17060-07-0		

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Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

Lab Sample No: 922440912 | Project Sample Number: 9235393-005 | Date Collected: 08/07/02 13:15
Client Sample ID: UNIT-320 | Matrix: Water | Date Received: 08/08/02 16:00

GC/MS Volatiles

GC/MS VOCs by 8260, low level — Method: EPA 8260

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Benzene	ND	ug/l	1.0	1.0	08/08/02 22:23	DLK	71-43-2		
Ethylbenzene	ND	ug/l	1.0	1.0	08/08/02 22:23	DLK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	1.0	1.0	08/08/02 22:23	DLK	1634-04-4		
Naphthalene	ND	ug/l	1.0	1.0	08/08/02 22:23	DLK	91-20-3		
Toluene	ND	ug/l	1.0	1.0	08/08/02 22:23	DLK	108-88-3		
m&p-Xylene	ND	ug/l	2.0	1.0	08/08/02 22:23	DLK			
o-Xylene	ND	ug/l	1.0	1.0	08/08/02 22:23	DLK	95-47-6		
Toluene-d8 (S)	101	%		1.0	08/08/02 22:23	DLK	2037-26-5		
4-Bromofluorobenzene (S)	95	%		1.0	08/08/02 22:23	DLK	460-00-4		
Dibromofluoromethane (S)	100	%		1.0	08/08/02 22:23	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	95	%		1.0	08/08/02 22:23	DLK	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

Lab Sample No: 922440920 | Project Sample Number: 9235393-006 | Date Collected: 08/07/02 13:30
Client Sample ID: UNIT-216 | Matrix: Water | Date Received: 08/08/02 16:00

GC/MS Volatiles

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS VOCs by 8260, low level	Method: EPA 8260								
Benzene	ND	ug/l	1.0	1.0	08/09/02 00:03	DLK	71-43-2		
Ethylbenzene	2.5	ug/l	1.0	1.0	08/09/02 00:03	DLK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	1.0	1.0	08/09/02 00:03	DLK	1634-04-4		
Naphthalene	ND	ug/l	1.0	1.0	08/09/02 00:03	DLK	91-20-3		
Toluene	ND	ug/l	1.0	1.0	08/09/02 00:03	DLK	108-88-3		
m&p-Xylene	3.0	ug/l	2.0	1.0	08/09/02 00:03	DLK			
o-Xylene	ND	ug/l	1.0	1.0	08/09/02 00:03	DLK	95-47-6		
Toluene-d8 (S)	99	%		1.0	08/09/02 00:03	DLK	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	08/09/02 00:03	DLK	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	08/09/02 00:03	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	98	%		1.0	08/09/02 00:03	DLK	17060-07-0		

Laboratory Certification IDs
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Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

Lab Sample No: 922440938 | Project Sample Number: 9235393-007 | Date Collected: 08/07/02 13:45
Client Sample ID: UNIT-114 | Matrix: Water | Date Received: 08/08/02 16:00

GC/MS Volatiles

GC/MS VOCs by 8260, low level — Method: EPA 8260

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Benzene	ND	ug/l	1.0	1.0	08/08/02 23:30	DLK	71-43-2		
Ethylbenzene	ND	ug/l	1.0	1.0	08/08/02 23:30	DLK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	1.0	1.0	08/08/02 23:30	DLK	1634-04-4		
Naphthalene	ND	ug/l	1.0	1.0	08/08/02 23:30	DLK	91-20-3		
Toluene	ND	ug/l	1.0	1.0	08/08/02 23:30	DLK	108-88-3		
m&p-Xylene	ND	ug/l	2.0	1.0	08/08/02 23:30	DLK			
o-Xylene	ND	ug/l	1.0	1.0	08/08/02 23:30	DLK	95-47-6		
Toluene-d8 (S)	101	%		1.0	08/08/02 23:30	DLK	2037-26-5		
4-Bromofluorobenzene (S)	103	%		1.0	08/08/02 23:30	DLK	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	08/08/02 23:30	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	95	%		1.0	08/08/02 23:30	DLK	17060-07-0		

Laboratory Certification IDs
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Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate

Laboratory Certification IDs

NC Wastewater	12
NC Drinking Water	37706
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QUALITY CONTROL DATA

Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

QC Batch: 61401 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: GC/MS VOCs by 8260, low level
Associated Lab Samples: 922440870 922440888 922440896 922440904 922440912 922440920 922440938

METHOD BLANK: 922440953
Associated Lab Samples: 922440870 922440888 922440896 922440904 922440912 922440920 922440938

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	1.0	
Ethylbenzene	ug/l	ND	1.0	
Methyl-tert-butyl ether	ug/l	ND	1.0	
Naphthalene	ug/l	ND	1.0	
Toluene	ug/l	ND	1.0	
m&p-Xylene	ug/l	ND	2.0	
o-Xylene	ug/l	ND	1.0	
Toluene-d8 (S)	%	101		
4-Bromofluorobenzene (S)	%	95		
Dibromofluoromethane (S)	%	95		
1,2-Dichloroethane-d4 (S)	%	92		

LABORATORY CONTROL SAMPLE: 922440961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	10.00	8.084	81	
Ethylbenzene	ug/l	10.00	8.029	80	
Methyl-tert-butyl ether	ug/l	10.00	7.487	75	
Naphthalene	ug/l	10.00	7.879	79	
Toluene	ug/l	10.00	7.961	80	
m&p-Xylene	ug/l	20.00	16.01	80	
o-Xylene	ug/l	10.00	7.482	75	
Toluene-d8 (S)				103	
4-Bromofluorobenzene (S)				99	
Dibromofluoromethane (S)				95	
1,2-Dichloroethane-d4 (S)				94	

Laboratory Certification IDs
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QUALITY CONTROL DATA

Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/18662/17038:P

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922440979 922440987

Parameter	Units	922425418 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	10.00	8.927	8.860	89	89	1	
Toluene	ug/l	0	10.00	8.608	8.538	86	85	1	
Toluene-d8 (S)						102	102		
4-Bromofluorobenzene (S)						98	97		
Dibromofluoromethane (S)						101	103		
1,2-Dichloroethane-d4 (S)						100	97		

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Phone: 704.875.9092
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Lab Project Number: 9235393
Client Project ID: Bay Creek Villas/1c

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

661605

Page: 1 of 1

Required Client Information: **Section A**

Company: SCDHEC UST Program
Address: 2600 Bull St.
Cola., S.C. 29201
Phone: 803-896-6240 Fax: 803 896-6245

Required Client Information: **Section B**

Report To: D. THOMA
Copy To:
Invoice To: D. THOMA
P.O. 416276
Project Name: Bay Creek Villas
Project Number: 18662/17038.P

Client Information (Check quote/contract):
Requested Due Date: *TAT: 24 hrs

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: JSJ9J
Profile #:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

Requested Analysis: 8260B BTEX, Naph, MTBE

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED mm / dd / yy	TIME COLLECTED hh:mm a/p	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX, Naph, MTBE	Remarks / Lab ID
1	UNIT-116	VT	08/07/02	1200	4				X					X	2440870
2	UNIT-118			1215	4				X					X	2440888
3	UNIT-314			1230	4				X					X	2440896
4	UNIT-316			1245	4				X					X	2440904
5	UNIT-320			1315	4				X					X	2440912
6	UNIT-216			1330	4				X					X	2440920
7	UNIT-114			1345	4				X					X	2440938
8															
9															
10															
11															
12															

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS	ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
			1	1	Robert G. Faller / UST	8/8/02	0730	[signature] / UST	8-8-02	0730
					[signature] / UST	8-8-02	1331	[signature]	8-8-02	13:31
					[signature]	8/8/02	1510	[signature]	8/8/02	1510
					[signature]	8/8/02	1600	[signature]	8/8/02	1600

SAMPLE CONDITION

Temp in °C	2.1
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

Additional Comments:

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Robert G. Faller
SIGNATURE of SAMPLER: [signature]
DATE Signed: (MM / DD / YY) 08/08/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0601

TestAmerica
INCORPORATED

6/ 4/02

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project 18662 BAY CREEK VILLAS. The Laboratory Project number is 286605. An executed copy of the chain of custody and the sample receipt form are also included as an addendum to this report.

Sample Identification	Lab Number	Collection Date
MW-1	02-A87756	5/29/02
MW-3	02-A87757	5/29/02
MW-4	02-A87758	5/29/02
MW-5	02-A87759	5/29/02
MW-6	02-A87760	5/29/02
MW-7	02-A87761	5/29/02
MW-8	02-A87762	5/29/02
MW-9	02-A87763	5/29/02
MW-10	02-A87764	5/29/02
MW-11	02-A87765	5/29/02
MW-12	02-A87766	5/29/02
MW-13	02-A87767	5/29/02
MW-14	02-A87768	5/29/02
PW-1	02-A87769	5/29/02
MARSH-N	02-A87770	5/29/02
MARSH-W	02-A87771	5/29/02

2960 Foster Creighton Drive / Nashville,TN 37204 / 615-726-0177 / Fax: 615-726-0954 / 800-765-0980

TestAmerica
INCORPORATED

Sample Identification	Lab Number	Collection Date

These results relate only to the items tested.
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Report Approved By: _____ Report Date: 6/ 4/02

Paul E. Lane, Jr., Lab Director
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Jennifer P. Flynn, Technical Services
Gail A. Lage, Technical Serv.
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 84009

TestAmerica
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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87757
Sample ID: MW-3
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:16
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	2720	ug/L	100.	100.	5/31/02	23:43	J.Haley	8260B	9395
Toluene	2170	ug/L	100.	100.	5/31/02	23:43	J.Haley	8260B	9395
Ethylbenzene	1880	ug/L	10.0	10.0	5/31/02	23:12	J.Haley	8260B	9389
Xylenes (Total)	4090	ug/L	10.0	10.0	5/31/02	23:12	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	50.0	10.0	5/31/02	23:12	J.Haley	8260B	9389
Naphthalene	580.	ug/L	50.0	10.0	5/31/02	23:12	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	125.	60. - 158.
VOA Surr Toluene-d8	100.	82. - 127.
VOA Surr, 4-BFB	110.	72. - 136.
VOA Surr, DBFM	107.	81. - 137.

LABORATORY COMMENTS:

ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87760
Sample ID: MW-6
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 10:59
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	1:47	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	124.	60. - 158.
VOA Surr Toluene-d8	99.	82. - 127.
VOA Surr, 4-BFB	109.	72. - 136.
VOA Surr, DBFM	109.	81. - 137.

LABORATORY COMMENTS:

ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87762
Sample ID: MW-8
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 10:38
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	2:49	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	126.	60. - 158.
VOA Surr Toluene-d8	100.	82. - 127.
VOA Surr, 4-BFB	111.	72. - 136.
VOA Surr, DBFM	110.	81. - 137.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87763
Sample ID: MW-9
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 11:44
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	1140	ug/L	10.0	10.0	6/ 1/02	3:20	J.Haley	8260B	9389
Toluene	5400	ug/L	100.	100.	6/ 1/02	3:51	J.Haley	8260B	9395
Ethylbenzene	1520	ug/L	10.0	10.0	6/ 1/02	3:20	J.Haley	8260B	9389
Xylenes (Total)	5580	ug/L	10.0	10.0	6/ 1/02	3:20	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	50.0	10.0	6/ 1/02	3:20	J.Haley	8260B	9389
Naphthalene	412.	ug/L	50.0	10.0	6/ 1/02	3:20	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	125.	60. - 158.
VOA Surr Toluene-d8	100.	82. - 127.
VOA Surr, 4-BFB	109.	72. - 136.
VOA Surr, DBFM	107.	81. - 137.

LABORATORY COMMENTS:

ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87764
Sample ID: MW-10
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 11:55
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	4:22	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	125.	60. - 158.
VOA Surr Toluene-d8	100.	82. - 127.
VOA Surr, 4-BFB	109.	72. - 136.
VOA Surr, DBFM	110.	81. - 137.

LABORATORY COMMENTS:

ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Lab Number: 02-A87765
Sample ID: MW-11
Sample Type: Water
Site ID: COLLETON

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Date Collected: 5/29/02
Time Collected: 12:54
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	4:53	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	121.	60. - 158.
VOA Surr Toluene-d8	101.	82. - 127.
VOA Surr, 4-BFB	110.	72. - 136.
VOA Surr, DBFM	109.	81. - 137.

LABORATORY COMMENTS:

ND - Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# - Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87766
Sample ID: MW-12
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:13
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	5:24	J.Haley	8260B	9389

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	125.	60. - 158.
VOA Surr Toluene-d8	101.	82. - 127.
VOA Surr, 4-BFB	109.	72. - 136.
VOA Surr, DBFM	111.	81. - 137.

LABORATORY COMMENTS:

ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87767
Sample ID: MW-13
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:34
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867
Ethylbenzene	30.5	ug/L	1.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867
Xylenes (Total)	1.8	ug/L	1.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867
Naphthalene	30.1	ug/L	5.0	1.0	6/ 1/02	15:24	J.Haley	8260B	9867

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	117.	60. - 158.
VOA Surr Toluene-d8	98.	82. - 127.
VOA Surr, 4-BFB	96.	72. - 136.
VOA Surr, DBFM	105.	81. - 137.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87768
Sample ID: MW-14
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:05
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	15:55	J.Haley	8260B	9867

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	109.	60. - 158.
VOA Surr Toluene-d8	93.	82. - 127.
VOA Surr, 4-BFB	100.	72. - 136.
VOA Surr, DBFM	101.	81. - 137.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
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ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87769
Sample ID: PW-1
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 11:33
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867
Toluene	ND	ug/L	1.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867
Ethylbenzene	ND	ug/L	1.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867
Xylenes (Total)	ND	ug/L	1.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867
Naphthalene	ND	ug/L	5.0	1.0	6/ 1/02	16:26	J.Haley	8260B	9867

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	124.	60. - 158.
VOA Surr Toluene-d8	95.	82. - 127.
VOA Surr, 4-BFB	100.	72. - 136.
VOA Surr, DBFM	107.	81. - 137.

LABORATORY COMMENTS:

ND - Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87770
Sample ID: MARSH-N
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:56
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	11:35	J.Haley	8260B	9383
Toluene	ND	ug/L	1.0	1.0	5/31/02	11:35	J.Haley	8260B	9383
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	11:35	J.Haley	8260B	9383
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	11:35	J.Haley	8260B	9383
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	11:35	J.Haley	8260B	9383
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	11:35	J.Haley	8260B	9383

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	111.	60. - 158.
VOA Surr Toluene-d8	102.	82. - 127.
VOA Surr, 4-BFB	104.	72. - 136.
VOA Surr, DBFM	98.	81. - 137.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B - Analyte was detected in the method blank.
J - Estimated Value below Report Limit.
- Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

ANALYTICAL REPORT

SCDHEC 2200
UNDERGRD STOR TANK-DEBRA THOMA
2600 BULL STREET
COLUMBIA, SC 29201

Project: 18662
Project Name: BAY CREEK VILLAS
Sampler: JOEL LENK

Lab Number: 02-A87771
Sample ID: MARSH-W
Sample Type: Water
Site ID: COLLETON

Date Collected: 5/29/02
Time Collected: 12:59
Date Received: 5/30/02
Time Received: 9:00
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/L	1.0	1.0	5/31/02	12:06	J.Haley	8260B	9383
Toluene	ND	ug/L	1.0	1.0	5/31/02	12:06	J.Haley	8260B	9383
Ethylbenzene	ND	ug/L	1.0	1.0	5/31/02	12:06	J.Haley	8260B	9383
Xylenes (Total)	ND	ug/L	1.0	1.0	5/31/02	12:06	J.Haley	8260B	9383
Methyl-t-butyl ether	ND	ug/L	5.0	1.0	5/31/02	12:06	J.Haley	8260B	9383
Naphthalene	ND	ug/L	5.0	1.0	5/31/02	12:06	J.Haley	8260B	9383

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	130.	60. - 158.
VOA Surr Toluene-d8	101.	82. - 127.
VOA Surr, 4-BFB	108.	72. - 136.
VOA Surr, DBFM	105.	81. - 137.

LABORATORY COMMENTS:

ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

TestAmerica
INCORPORATED

PROJECT QUALITY CONTROL DATA
Project Number: 18662
Page: 1

Matrix Spike Recovery

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
VOA PARAMETERS								
Benzene	mg/l	< 0.0010	0.0452	0.0500	90	70. - 136.	1121	blank
Benzene	mg/l	< 0.0010	0.0530	0.0500	106	70. - 136.	9383	blank
Benzene	mg/l	< 0.0010	0.0508	0.0500	102	70. - 136.	9389	blank
Benzene	mg/l	< 0.0010	0.0492	0.0500	98	70. - 136.	9867	blank
Toluene	mg/l	< 0.0010	0.0459	0.0500	92	69. - 137.	1121	blank
Toluene	mg/l	< 0.0010	0.0551	0.0500	110	69. - 137.	9383	blank
Toluene	mg/l	< 0.0010	0.0500	0.0500	100	69. - 137.	9389	blank
Toluene	mg/l	< 0.0010	0.0495	0.0500	99	69. - 137.	9867	blank

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.0452	0.0305	38.84#	21.	1121
Benzene	mg/l	0.0530	0.0515	2.87	21.	9383
Benzene	mg/l	0.0508	0.0522	2.72	21.	9389
Benzene	mg/l	0.0492	0.0528	7.06	21.	9867
Toluene	mg/l	0.0459	0.0296	43.18#	22.	1121
Toluene	mg/l	0.0551	0.0542	1.65	22.	9383
Toluene	mg/l	0.0500	0.0507	1.39	22.	9389
Toluene	mg/l	0.0495	0.0534	7.58	22.	9867

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: 18662
Page: 2

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.100	0.104	104	79 - 124	9383
Benzene	mg/l	0.100	0.104	104	79 - 124	9389
Benzene	mg/l	0.100	0.104	104	79 - 124	9395
Benzene	mg/l	0.100	0.103	103	79 - 124	9867
Ethylbenzene	mg/l	0.100	0.107	107	77 - 126	9383
Ethylbenzene	mg/l	0.100	0.107	107	77 - 126	9389
Ethylbenzene	mg/l	0.100	0.112	112	77 - 126	9867
Naphthalene	mg/l	0.100	0.0994	99	57 - 143	9383
Naphthalene	mg/l	0.100	0.104	104	57 - 143	9389
Naphthalene	mg/l	0.100	0.0992	99	57 - 143	9867
Toluene	mg/l	0.100	0.102	102	78 - 124	9383
Toluene	mg/l	0.100	0.100	100	78 - 124	9389
Toluene	mg/l	0.100	0.100	100	78 - 124	9395
Toluene	mg/l	0.100	0.102	102	78 - 124	9867
Xylenes (Total)	mg/l	0.300	0.332	111	76 - 127	9383
Xylenes (Total)	mg/l	0.300	0.337	112	76 - 127	9389
Xylenes (Total)	mg/l	0.300	0.348	116	76 - 127	9867
Methyl-t-butyl ether	mg/l	0.100	0.110	110	68 - 131	9383
Methyl-t-butyl ether	mg/l	0.100	0.119	119	68 - 131	9389
Methyl-t-butyl ether	mg/l	0.100	0.116	116	68 - 131	9867

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: 18662
Page: 3

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
VOA PARAMETERS					
Benzene	< 0.0010	mg/l	9383	5/31/02	7:03
Benzene	< 0.0010	mg/l	9389	5/31/02	21:38
Benzene	< 0.0010	mg/l	9395	5/31/02	21:38
Benzene	< 0.0010	mg/l	9867	6/ 1/02	11:16
Ethylbenzene	< 0.0010	mg/l	9383	5/31/02	7:03
Ethylbenzene	< 0.0010	mg/l	9389	5/31/02	21:38
Ethylbenzene	< 0.0010	mg/l	9867	6/ 1/02	11:16
Naphthalene	< 0.0050	mg/l	9383	5/31/02	7:03
Naphthalene	< 0.0050	mg/l	9389	5/31/02	21:38
Naphthalene	< 0.0050	mg/l	9867	6/ 1/02	11:16
Toluene	< 0.0010	mg/l	9383	5/31/02	7:03
Toluene	< 0.0010	mg/l	9389	5/31/02	21:38
Toluene	< 0.0010	mg/l	9395	5/31/02	21:38
Toluene	< 0.0010	mg/l	9867	6/ 1/02	11:16
Xylenes (Total)	< 0.0010	mg/l	9383	5/31/02	7:03
Xylenes (Total)	< 0.0010	mg/l	9389	5/31/02	21:38
Xylenes (Total)	< 0.0010	mg/l	9867	6/ 1/02	11:16
Methyl-t-butyl ether	< 0.0050	mg/l	9383	5/31/02	7:03
Methyl-t-butyl ether	< 0.0050	mg/l	9389	5/31/02	21:38
Methyl-t-butyl ether	< 0.0050	mg/l	9867	6/ 1/02	11:16
VOA Surr 1,2-DCA-d4	122.	% Rec	9383	5/31/02	7:03
VOA Surr 1,2-DCA-d4	123.	% Rec	9389	5/31/02	21:38
VOA Surr 1,2-DCA-d4	123.	% Rec	9395	5/31/02	21:38
VOA Surr 1,2-DCA-d4	114.	% Rec	9867	6/ 1/02	11:16
VOA Surr Toluene-d8	100.	% Rec	9383	5/31/02	7:03
VOA Surr Toluene-d8	99.	% Rec	9389	5/31/02	21:38

Project QC continued . . .

TestAmerica
INCORPORATED

PROJECT QUALITY CONTROL DATA
Project Number: 18662
Page: 4

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
VOA Surr Toluene-d8	99.	% Rec	9395	5/31/02	21:38
VOA Surr Toluene-d8	92.	% Rec	9867	6/ 1/02	11:16
VOA Surr, 4-BFB	108.	% Rec	9383	5/31/02	7:03
VOA Surr, 4-BFB	110.	% Rec	9389	5/31/02	21:38
VOA Surr, 4-BFB	110.	% Rec	9395	5/31/02	21:38
VOA Surr, 4-BFB	103.	% Rec	9867	6/ 1/02	11:16
VOA Surr, DBFM	110.	% Rec	9383	5/31/02	7:03
VOA Surr, DBFM	109.	% Rec	9389	5/31/02	21:38
VOA Surr, DBFM	109.	% Rec	9395	5/31/02	21:38
VOA Surr, DBFM	105.	% Rec	9867	6/ 1/02	11:16

- Value outside Laboratory historical or method prescribed QC limits.

End of Report for Project 286605

TESTAMERICA,INC.-NASHVILLE

COOLER RECEIPT FORM

Client: SCDHEC BC# 286605

Cooler Received On: 5/30/02 And Opened On: 5/30/02 By: *Ben Wright*

B. W.
(Signature)

1. Temperature of Cooler when opened 2.0 Degrees Celsius
2. Were custody seals on outside of cooler?.....YES...NO
   a. If yes, how many, what kind and where: 1-TAPE-FRONT
3. Were custody seals on containers and intact?.....NO...YES
4. Were the seals intact, signed, and dated correctly?.....~~YES...NO~~ NA
5. Were custody papers inside cooler?.....YES...NO
6. Were custody papers properly filled out (ink,signed,etc)?.....YES...NO
7. Did you sign the custody papers in the appropriate place?.....YES...NO
8. What kind of packing material used? Bubblewrap Peanuts Vermiculite Other None
9. Was sufficient ice used (if appropriate)?.....YES...NO
10. Did all bottles arrive in good condition(unbroken)?.....YES...NO
11. Were all bottle labels complete (#,date,signed,pres,etc)?.....YES...NO
12. Did all bottle labels and tags agree with custody papers?.....YES...NO
13. Were correct bottles used for the analysis requested?.....YES...NO
14. a. Were VOA vials received?.....YES...NO
    b. Was there any observable head space present in any VOA vial?.....NO...YES
15. Was sufficient amount of sample sent in each bottle?.....YES...NO
16. Were correct preservatives used?.....YES...NO
17. Was residual chlorine present?.....~~NO...YES~~ NA
18. Corrective action taken, if necessary:

    See attached for resolution

FAX CHAIN
TO COLUMBIA
1 803 865-5503

2866605

TestAmerica INCORPORATED

RECEIVED
JUN 0 5 2002
Underground Storage Tank Program

Division/Laboratory Name:

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring

Client Name: SC DHEC
Client #: 2200
Address: 2600 Bull Street
City/State/Zip Code: Columbia, SC 29201
Project Manager: R. Miner
Telephone Number: 803-898-4330
Fax: 803-8984330
Sampler Name: (Print Name) JOE LENK
Sampler Signature:

Project Name: Bay Creek Villas
Project #: 18662
Site/Location ID: Colleton
State: SC
Report To: R. miner
Invoice To: Pat Holland
Quote #: —
PO#: 404342

TAT: ✓ Standard
___ Rush (surcharges may apply)
Date Needed: 6-5-02
Fax Results: (Y) N

QC Deliverables: ___ None ___ Level 2 (Batch QC) ___ Level 3 ___ Level 4 Other: ___

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix (SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other)	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: BTEX, naph, MTBE									REMARKS
MW-1 87756	5-29-02	1225	G		GW		3						X									877 56
MW-3 57		1216											X									57
MW-4 58		1118											X									58
MW-5 59		1108											X									59
MW-6 60		1059											X									60
MW-7 61		1047											X									61
MW-8 62		1038											X									62
MW-9 63		1144											X									63
MW-10 64		1155											X									64
MW-11 65		1254											X									65

Special Instructions:
TA CP# 16446

	Date:	Time:		Date:	Time:
Relinquished By:	5-29-02	1512	Received By:	5/30/02	0900
Relinquished By:			Received By:		
Relinquished By:			Received By:		

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

FAX CHAIN
TO COLUMBIA
1 803 865-5503

2866605

TestAmerica INCORPORATED

Division/Laboratory Name:

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring

Client Name: SCDHEC
Client #:
Address: 2600 Bull Street
City/State/Zip Code: Columbia, SC 29201
Project Manager: R. Miner
Telephone Number: 803-898-4330
Fax: 803-898-4850
Sampler Name: (Print Name) [illegible]
Sampler Signature:

Project Name: Bay Creek Villas
Project #: 18662
Site/Location ID: Colleton
State: SC
Report To: R. Miner
Invoice To: Pat Holland
Quote #:
PO#: 404342

TAT: ✓ Standard
___ Rush (surcharges may apply)
Date Needed: 6-5-02
Fax Results: (Y) N

QC Deliverables: ___ None ___ Level 2 (Batch QC) ___ Level 3 ___ Level 4 Other: ___

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix (SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other)	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: BTEX, MADH, MTBE	REMARKS
MW-12 877666	5-29-02	1243	G		GW		3						X	877 666
MW-13 67		1234											X	67
MW-14 68		1205											X	68
PW-1 69		1133											X	69
Marsh-N 70		1256											X	70
Marsh-W 71		1259											X	71

Special Instructions:
TACH# 16446

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	5-29-02	1516	[signature]	5/30/02	0900
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

GEOLOGICAL RESOURCES, INC.

4913 Albemarle Road, Suite 101 • Charlotte, NC 28205 • 704-563-1663 • Fax: 704-563-1662

June 7, 2002

Mr. Robert Faller
Environmental Health Manager
Bureau of Underground Storage Tank Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

Re: Bay Creek Villas
Site ID# 18662
CP # 16447; PO # 247174

Dear Mr. Faller:

Please find enclosed the **original report** for the above referenced site.

The original invoice has been submitted to Ms. Pat Holland of the Finance Section as specified in the contract.

Sincerely,

Shawn L. Judd
Administrative Manager

RECEIVED
JUN 10 2002
Underground Storage Tank Program

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: SUN
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: BAY Creek Villas
Site ID # 18662 Monitoring Well # MARSH W
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness:
Depth to Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = _____ X _____ = _____ gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
0 Total Purged

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								
pH (s.u.)								1259
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: SUN
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 18662 Monitoring Well # MARSA N
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness:
Depth to Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = _____ X _____ = _____ gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
0 Total Purged

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								
pH (s.u.)								1256
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: Sun
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter serial no. 809061
pH=4.0 ✓
pH=7.0
pH=10.0

Conductivity Meter serial no.
Standard
Standard
Standard

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 18662 Monitoring Well # MW-1
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness:
Depth to Ground Water (DGW) 4.90 feet
Total Well Depth (TWD) 11.94 feet
Length of the water column (LWC = TWD-DGW) 7.04 feet

1 casing volume (CV = LWC X C) = 7.04 X .163 = 1.15 gals
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling gals
Total volume of Water Purged for Post Sampling gals
2.75 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.50	2.75					
Time (military)	1220	1222	1224					1225
pH (s.u.)	7.30	7.34	7.38					
Specific Cond. (umhos/cm)	4.71	5.32	5.22					
Water Temperature (degrees C)	24.8	24.2	24.0					
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloy	Cloy	Cloy					
Dissolved Oxygen (mg/l)	.95	1.10	1.49					
PID readings, if required								
Remarks:								

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: Sun
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter serial no. 509061
pH=4.0 ✓
pH=7.0 _____
pH=10.0 _____

Conductivity Meter serial no. _____
Standard _____
Standard _____
Standard _____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 186662 Monitoring Well # MW-3
Well Diameter (D): 1.67 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness: _____ feet
Depth to Ground Water (DGW) 5.30 feet
Total Well Depth (TWD) 11.04 feet
Length of the water column (LWC = TWD-DGW) 5.74 feet

1 casing volume (CV = LWC X C) = 5.74 x .163 = .94 gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
2.25 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.25	2.25					
Time (military)	1211	1213	1215					1216
pH (s.u.)	7.59	7.50	7.50					
Specific Cond. (umhos/cm)	2.74	2.78	2.84					
Water Temperature (degrees C)	26.7	25.9	25.6					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloy	cloy	cloy					
Dissolved Oxygen (mg/l)	1.17	1.35	1.49					
PID readings, if required								
Remarks:								

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: Sun
Ambient Air Temperature: 20 C

Quality Assurance

pH Meter
serial no. 89061
pH=4.0 ✓
pH=7.0 _____
pH=10.0 _____

Conductivity Meter
serial no. _____
Standard _____
Standard _____
Standard _____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 186662 Monitoring Well # MW4
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness: _____ feet
Depth to Ground Water (DGW) 5.09 feet
Total Well Depth (TWD) 11.06 feet
Length of the water column (LWC = TWD-DGW) 5.97 feet

1 casing volume (CV = LWC X C) = 5.97 x .163 = .97 gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
2.25 Total Purged

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.25	2.25					
Time (military)	1113	1115	1117					1118
pH (s.u.)	7.09	7.19	7.33					
Specific Cond. (umhos/cm)	2.40	2.40	2.39					
Water Temperature (degrees C)	26.4	26.2	25.9					
Turbidity (subjective: clear, slightly cloudy, cloudy)	CLDY	CLDY	CLDY					
Dissolved Oxygen (mg/l)	1.15	1.24	1.90					
PID readings, if required								
Remarks:								

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: SUN
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter serial no. 809061
Conductivity Meter serial no.
pH=4.0 ✓ Standard
pH=7.0 Standard
pH=10.0 Standard

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 186662
Monitoring Well # MW-5
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness:
Depth to Ground Water (DGW) 5.15 feet
Total Well Depth (TWD) 10.64 feet
Length of the water column (LWC = TWD-DGW) 5.49 feet

1 casing volume (CV = LWC X C) = 5.49 x .163 = .89 gals
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling gals
Total volume of Water Purged for Post Sampling gals
2.25 Total Purged

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.25	2.25					
Time (military)	1103	1105	1107					1108
pH (s.u.)	7.06	6.98	6.98					
Specific Cond. (umhos/cm)	2.24	2.25	2.24					
Water Temperature (degrees C)	27.3	26.9	26.8					
Turbidity (subjective: clear, slightly cloudy, cloudy)	CLDY	CLDY	CLDY					
Dissolved Oxygen (mg/l)	2.99	1.53	0.61					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: SUN
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter serial no. 809061
pH=4.0
pH=7.0
pH=10.0

Conductivity Meter serial no.
Standard
Standard
Standard

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 186662
Monitoring Well # MW-6
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness:
Depth to Ground Water (DGW) 4.25 feet
Total Well Depth (TWD) 10.20 feet
Length of the water column (LWC = TWD-DGW) 5.95 feet

1 casing volume (CV = LWC X C) = 5.95 x .163 = .97 gals
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling gals
Total volume of Water Purged for Post Sampling gals
2.25 Total Purged

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.25	2.25					
Time (military)	1054	1056	1059					1059
pH (s.u.)	6.87	6.87	6.97					
Specific Cond. (umhos/cm)	2.33	2.37	2.38					
Water Temperature (degrees C)	27.3	27.2	27.2					
Turbidity (subjective: clear, slightly cloudy, cloudy)	CLDY	CLDY	CLDY					
Dissolved Oxygen (mg/l)	1.54	1.47	1.80					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: SUN
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter
serial no. 809061
pH=4.0 ✓
pH=7.0 _____
pH=10.0 _____

Conductivity Meter
serial no. _____
Standard _____
Standard _____
Standard _____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 18662
Monitoring Well # MW-7
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness: _____ feet
Depth to Ground Water (DGW) 4.30 feet
Total Well Depth (TWD) 10.31 feet
Length of the water column (LWC = TWD-DGW) 6.01 feet
1 casing volume (CV = LWC X C) = 6.01 x .163 = .98 gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
2.25 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.25	2.25					
Time (military)	1042	1044	1046					1047
pH (s.u.)	5.92	6.39	6.58					
Specific Cond. (umhos/cm)	0.37	0.43	0.42					
Water Temperature (degrees C)	27.2	27.1	26.8					
Turbidity (subjective: clear, slightly cloudy, cloudy)	CLR	CLDY	CLDY					
Dissolved Oxygen (mg/l)	1.77	2.00	1.23					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5.29-02
Field Personnel: JDL
General Weather Conditions: SUN
Ambient Air Temperature: 70° C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 186662 Monitoring Well # MW-8
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness: _____ feet
Depth to Ground Water (DGW) 4.28 feet
Total Well Depth (TWD) 9.69 feet
Length of the water column (LWC = TWD-DGW) 5.41 feet

1 casing volume (CV = LWC X C) = 5.41 x .163 = .88 gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
2.25 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.25	2.25					
Time (military)	1033	1035	1037					1038
pH (s.u.)	7.09	6.89	6.96					
Specific Cond. (umhos/cm)	.669	.626	.613					
Water Temperature (degrees C)	26.1	25.8	25.7					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cldy	cldy	cldy					
Dissolved Oxygen (mg/l)	1.90	2.27	1.72					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: SUN
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 18662 Monitoring Well # MW-9
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness: feet
Depth to Ground Water (DGW) 4.78 feet
Total Well Depth (TWD) 11.89 feet
Length of the water column (LWC = TWD-DGW) 7.11 feet

1 casing volume (CV = LWC X C) = 7.11 x .163 = 1.16 gals
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling gals
Total volume of Water Purged for Post Sampling gals
2.75 Total Purged

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	125	1.50	2.75					
Time (military)	1139	1141	1143					1144
pH (s.u.)	8.25	7.87	7.74					
Specific Cond. (umhos/cm)	3.46	2.62	2.54					
Water Temperature (degrees C)	26.4	25.7	25.6					
Turbidity (subjective: clear, slightly cloudy, cloudy)	S CLDY	SCLDY	SCLDY					
Dissolved Oxygen (mg/l)	.57	.79	.78					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: Sunny
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter serial no. 809061
pH=4.0 _____ Standard
pH=7.0 _____ Standard
pH=10.0 _____ Standard

Conductivity Meter serial no. _____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 186662
Monitoring Well # MW-10
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness: _____ feet
Depth to Ground Water (DGW) 5.07 feet
Total Well Depth (TWD) 11.88 feet
Length of the water column (LWC = TWD-DGW) 6.81 feet
1 casing volume (CV = LWC X C) = 6.81 x .163 = 1.11 gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
2.75 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.50	2.75					
Time (military)	1150	1152	1154					
pH (s.u.)	7.48	7.49	7.54					1155
Specific Cond. (umhos/cm)	2.28	2.24	2.24					
Water Temperature (degrees C)	25.7	26.4	26.7					
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	Cloudy	Cloudy					
Dissolved Oxygen (mg/l)	1.01	1.14	.52					
PID readings, if required								
Remarks:								

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: Sun
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter serial no. 809061
pH=4.0 ✓
pH=7.0 _____ Standard
pH=10.0 _____ Standard

Conductivity Meter serial no. _____
_____ Standard
_____ Standard

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 186662 Monitoring Well # MW-11
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness: _____ feet
Depth to Ground Water (DGW) 4.20 feet
Total Well Depth (TWD) 11.86 feet
Length of the water column (LWC = TWD-DGW) 7.34 feet

1 casing volume (CV = LWC X C) = 7.34 x .163 = .38 gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
1.25 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	.75	1.25					
Time (military)	1249	1251	1253					1254
pH (s.u.)	7.50	7.52	7.50					
Specific Cond. (umhos/cm)	2.20	2.03	2.23					
Water Temperature (degrees C)	24.6	25.3	25.4					
Turbidity (subjective: clear, slightly cloudy, cloudy)	CLDY	CLDY	CLDY					
Dissolved Oxygen (mg/l)	.93	1.12	1.26					
PID readings, if required								
Remarks:								

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: SUN
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 186662 Monitoring Well # MW-12
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness: _____ feet
Depth to Ground Water (DGW) 4.44 feet
Total Well Depth (TWD) 12.05 feet
Length of the water column (LWC = TWD-DGW) 7.61 feet

1 casing volume (CV = LWC X C) = 7.61 x .163 = 1.24 gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
2.75 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.50	2.75					
Time (military)	1230	1240	1242					~~1245~~
pH (s.u.)	7.50	7.45	7.46					1243
Specific Cond. (umhos/cm)	1.70	1.75	1.83					
Water Temperature (degrees C)	24.5	24.9	24.7					
Turbidity (subjective: clear, slightly cloudy, cloudy)	CLDY	CLDY	CLDY					
Dissolved Oxygen (mg/l)	1.20	1.84	1.94					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: Sunl
Ambient Air Temperature: 70° C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 186662 Monitoring Well # MW-13
Well Diameter (D): .16* feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness: feet
Depth to Ground Water (DGW) 4.17 feet
Total Well Depth (TWD) 8.43 feet
Length of the water column (LWC = TWD-DGW) 4.26 feet

1 casing volume (CV = LWC X C) = 4.26 x .163 = .69 gals
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling gals
Total volume of Water Purged for Post Sampling gals
1.75 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.00	1.75					
Time (military)	1229	1231	1233					1234
pH (s.u.)	7.54	7.44	7.43					
Specific Cond. (umhos/cm)	1.89	1.89	1.92					
Water Temperature (degrees C)	25.2	25.5	25.7					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloy	cloy	cloy					
Dissolved Oxygen (mg/l)	1.07	1.65	.50					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: SUN
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: BAY Creek Villas
Site ID # 18662 Monitoring Well # MW14
Well Diameter (D): .167 feet
Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness:
Depth to Ground Water (DGW) _____ feet
Total Well Depth (TWD) 4.82 feet
Length of the water column (LWC = TWD-DGW) 11.64 feet
6.82 feet

1 casing volume (CV = LWC X C) = 6.82 x .163 = 1.11 gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
2.75 Total Purged

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.50	2.75					
Time (military)	1200	1202	1204					1205
pH (s.u.)	7.64	7.64	7.76					
Specific Cond. (umhos/cm)	2.75	2.77	2.75					
Water Temperature (degrees C)	26.9	28.1	27.5					
Turbidity (subjective: clear, slightly cloudy, cloudy)	CLDY	CLDY	CLDY					
Dissolved Oxygen (mg/l)	.75	2.25	2.02					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 5-29-02
Field Personnel: JDL
General Weather Conditions: Sunl
Ambient Air Temperature: 20° C

Quality Assurance

pH Meter serial no. 809061
pH=4.0 ✓
pH=7.0
pH=10.0

Conductivity Meter serial no.
Standard
Standard
Standard

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas
Site ID # 186662
Monitoring Well # PW-1
Well Diameter (D): 0.167 feet

Conversion factor (C): 3.14 X (D/2)2 for a 2 inch well C = 0.163
for a 4 inch well C = 0.652

* Free Product Thickness:
Depth to Ground Water (DGW) 5.04 feet
Total Well Depth (TWD) 38.75 feet
Length of the water column (LWC = TWD-DGW) 33.71 feet

1 casing volume (CV = LWC X C) = 33.71 x .163 = 5.50 gals
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling gals
Total volume of Water Purged for Post Sampling gals
12.25 Total Purged

*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	6.75	12.25					
Time (military)	1123	1128	1132					1133
pH (s.u.)	7.42	7.72	7.71					
Specific Cond. (umhos/cm)	38.3	39.3	38.9					
Water Temperature (degrees C)	24.9	24.2	23.9					
Turbidity (subjective: clear, slightly cloudy, cloudy)	SCLDY	SCLDY	SCLDY					
Dissolved Oxygen (mg/l)	.25	.59	.70					
PID readings, if required								
Remarks:								

TestAmerica INCORPORATED

Division/Laboratory Name: _____

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

Client Name: SCDHEC Client #: _____
Address: 2600 Bull Street
City/State/Zip Code: Columbia, SC 29201
Project Manager: R. Mixer
Telephone Number: 803-898-4330 Fax: 803-898-4350
Sampler Name: (Print Name) Joel Link
Sampler Signature: [signature]

Project Name: Bay Creek Villas
Project #: 18662
Site/Location ID: Colleton State: SC
Report To: R. Mixer
Invoice To: Pat Holland
Quote #: — PO#: 404342

TAT: ✓ Standard
___ Rush (surcharges may apply)
Date Needed: 6-5-02
Fax Results: (Y) N

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: _____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge DW - Drinking Water GW - Groundwater S - Soil/Solid WW - Wastewater Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: B TEX NAPH MTBE									REMARKS
MW-12	5-29-02	1243	G		GW		3						X									
MW-13		1234											X									
MW-14		1205											X									
PW-1		1133											X									
Marsh-N		1256											X									
Marsh-W		1259											X									

Special Instructions:
TACR# 16446

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	5-29-02	1516			
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

TestAmerica INCORPORATED

Division/Laboratory Name: _____

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

Client Name: SC DHEC Client #: 2200
Address: 2600 Bull Street
City/State/Zip Code: Columbia, SC 29201
Project Manager: R. Miner
Telephone Number: 803-898-4330 Fax: 803-8984350
Sampler Name: (Print Name) [illegible]
Sampler Signature: [signature]

Project Name: Bay Creek Villas
Project #: 18662
Site/Location ID: Colleton State: SC
Report To: R. Miner
Invoice To: Pat Holland
Quote #: — PO#: 404342

TAT: ✓ Standard
___ Rush (surcharges may apply)
Date Needed: 6-5-02
Fax Results: (Y) N

QC Deliverables: ___ None ___ Level 2 (Batch QC) ___ Level 3 ___ Level 4 Other: _____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: BTEX, MTBE										REMARKS
MW-1	5-21-02	1225	G		GW		3						X										
MW-3		1216											X										
MW-4		1118											X										
MW-5		1108											X										
MW-6		1059											X										
MW-7		1047											X										
MW-8		1038											X										
MW-9		1144											X										
MW-10		1155											X										
MW-11		1254											X										

Special Instructions:
TA CP# 16446

Relinquished By:	Date: 5-21-02	Time: 1512	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

FOUR SEASONS® environmental

37460

P.O. BOX 16590 • GREENSBORO, NC 27416-0590 • (336) 273-2718

MATERIAL MANIFEST

MANIFEST# 37460 F.S.E. JOB #

Date: 5-29-02

Generator: Bay Creek Villas
3701 Dock Site Road
Edisto Beach, SC

Phone No:

EPA ID No:

Process which generated material:

I certify that the materials described below are properly classified, packaged, marked & labeled, and are in the proper condition to be transported as specified by the Department of Transportation. I certify that the material described below is not a hazardous waste in accordance with the Environmental Protection Agency. I certify that the specific material was delivered to the carrier named below for transport to the facility indicated.

Date 5-29-02 Signature

HM	PROPER SHIPPING NAME AS LISTED ON 172.101 TABLE	HAZ CLASS	DOT I.D. NUMBER	PG GROUP	QUANTITY	CIRCLE UNIT	CONTAINER NO.	CONTAINER TYPE	ERG. NO.
	Non-Regulated NON-RCRA Haz purge water	NA	UN 0000	I	42.50	Gals. Pounds Tons Cu. Yds.	1	TT DT CM DM DF	

FOUR SEASONS ENVIRONMENTAL USE ONLY

DESCRIPTION OF MATERIAL		CIRCLE FORM	AMOUNT SOLIDS		AMOUNT LIQUIDS	
purge water		SOLID	GALLONS	TONS	NO. DRUMS	GALLONS
CONTAINER	NUMBER	LIQUID				42.50
Drum	1	SLUDGE				

FACILITY USE ONLY

Transporter: Geological Resources, Inc
4913 Albemarle Road
Charlotte, NC 28205

Unit Number (s)

Phone No.:

EPA ID No:

Vehicle License Tag Number (s) PHH-9590

Container:

Transporter Certification:

I certify that the specified material was transferred in a registered (licensed) vehicle to the facility named and was accepted.

Pick-up Driver's Signature Date 5-29-02

Delivering Driver's Signature Date 5-30-02

Facility: Four Seasons
4920 Old Pineville Road
Charlotte NC 28217

Phone No.: 704-527-1893

Contact: Sally Johnson

Handling Method: pt5032

Facility Certification:

I certify that the transporter above delivered the specified material to this facility and was handled in the above listed handling method. We authorize and qualified by the State of NC to handle this material.

Date 5-30-02 Signature: Esther Check

DESTINATION RETAIN

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

SCANNED

October 14, 2004

RECEIVED
OCT 20 2004
UNDERGROUND STORAGE
TANK PROGRAM

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on October 6, 2004. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Sherri Stabel
Sherri.Stabel@pacelabs.com
Project Manager

Enclosures

Docket #112c tech

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Asheville Certification IDs	
NC Wastewater	40
NC Drinking Water	37712
SC Environmental	99030
FL NELAP	E87648

Charlotte Certification IDs	
NC Wastewater	12
NC Drinking Water	37706
SC	99006
FL NELAP	E87627

ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

Lab Sample No: 924804024 | Project Sample Number: 9278336-001 | Date Collected: 10/05/04 12:44
Client Sample ID: MW-1 | Matrix: Water | Date Received: 10/06/04 11:50

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 504.1								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	10/08/04 08:56	JEM	106-93-4		
1-Chloro-2-bromopropane (S)	96	%		1.0	10/08/04 08:56	JEM	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
tert-Amylmethyl ether	ND	ug/l	10.	1.0	10/12/04 16:50	DLK	994-05-8		
tert-Amyl Alcohol	ND	ug/l	10.	1.0	10/12/04 16:50	DLK	75-85-4		
Benzene	ND	ug/l	5.0	1.0	10/12/04 16:50	DLK	71-43-2		
3,3-Dimethyl-1-Butanol	ND	ug/l	10.	1.0	10/12/04 16:50	DLK	625-95-3		
tert-Butyl Formate	ND	ug/l	20.	1.0	10/12/04 16:50	DLK	762-75-4		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	10/12/04 16:50	DLK	107-06-2		
Diisopropyl ether	ND	ug/l	5.0	1.0	10/12/04 16:50	DLK	108-20-3		
Ethanol	ND	ug/l	20.	1.0	10/12/04 16:50	DLK	64-17-5		
Ethylbenzene	ND	ug/l	5.0	1.0	10/12/04 16:50	DLK	100-41-4		
Ethyl-tert-butyl ether	ND	ug/l	10.	1.0	10/12/04 16:50	DLK	637-92-3		
2-Methyl-2-propanol	ND	ug/l	10.	1.0	10/12/04 16:50	DLK	75-65-0		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/12/04 16:50	DLK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/12/04 16:50	DLK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/12/04 16:50	DLK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/12/04 16:50	DLK			
o-Xylene	ND	ug/l	5.0	1.0	10/12/04 16:50	DLK	95-47-6		
Toluene-d8 (S)	92	%		1.0	10/12/04 16:50	DLK	2037-26-5		
4-Bromofluorobenzene (S)	106	%		1.0	10/12/04 16:50	DLK	460-00-4		
Dibromofluoromethane (S)	93	%		1.0	10/12/04 16:50	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	84	%		1.0	10/12/04 16:50	DLK	17060-07-0		

REPORT OF LABORATORY ANALYSIS

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Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC Environmental 99030
FL NELAP E87648

Accredited in accordance with nelac

Charlotte Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006
FL NELAP E87627

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www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

Lab Sample No: 924804032 | Project Sample Number: 9278336-002 | Date Collected: 10/05/04 12:54
Client Sample ID: MW-3 | Matrix: Water | Date Received: 10/06/04 11:50

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 504.1								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	10/08/04 09:13	JEM	106-93-4		
1-Chloro-2-bromopropane (S)	86	%		1.0	10/08/04 09:13	JEM	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
tert-Amylmethyl ether	ND	ug/l	1000	100	10/12/04 20:15	DLK	994-05-8		
tert-Amyl Alcohol	ND	ug/l	1000	100	10/12/04 20:15	DLK	75-85-4		
Benzene	5700	ug/l	500	100	10/12/04 20:15	DLK	71-43-2		
3,3-Dimethyl-1-Butanol	ND	ug/l	1000	100	10/12/04 20:15	DLK	625-95-3		
tert-Butyl Formate	ND	ug/l	2000	100	10/12/04 20:15	DLK	762-75-4		
1,2-Dichloroethane	ND	ug/l	500	100	10/12/04 20:15	DLK	107-06-2		
Diisopropyl ether	ND	ug/l	500	100	10/12/04 20:15	DLK	108-20-3		
Ethanol	ND	ug/l	2000	100	10/12/04 20:15	DLK	64-17-5		
Ethylbenzene	3200	ug/l	500	100	10/12/04 20:15	DLK	100-41-4		
Ethyl-tert-butyl ether	ND	ug/l	1000	100	10/12/04 20:15	DLK	637-92-3		
2-Methyl-2-propanol	ND	ug/l	1000	100	10/12/04 20:15	DLK	75-65-0		
Methyl-tert-butyl ether	ND	ug/l	500	100	10/12/04 20:15	DLK	1634-04-4		
Naphthalene	1000	ug/l	500	100	10/12/04 20:15	DLK	91-20-3		
Toluene	3700	ug/l	500	100	10/12/04 20:15	DLK	108-88-3		
m&p-Xylene	7000	ug/l	1000	100	10/12/04 20:15	DLK			
o-Xylene	2400	ug/l	500	100	10/12/04 20:15	DLK	95-47-6		
Toluene-d8 (S)	91	%		1.0	10/12/04 20:15	DLK	2037-26-5		
4-Bromofluorobenzene (S)	108	%		1.0	10/12/04 20:15	DLK	460-00-4		
Dibromofluoromethane (S)	87	%		1.0	10/12/04 20:15	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	87	%		1.0	10/12/04 20:15	DLK	17060-07-0		

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Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

Lab Sample No: 924804057 | Project Sample Number: 9278336-003 | Date Collected: 10/05/04 13:08
Client Sample ID: MW-4 | Matrix: Water | Date Received: 10/06/04 11:50

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 504.1								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	10/08/04 10:02	JEM	106-93-4		
1-Chloro-2-bromopropane (S)	95	%		1.0	10/08/04 10:02	JEM	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
tert-Amylmethyl ether	ND	ug/l	100	10.0	10/12/04 20:44	DLK	994-05-8		
tert-Amyl Alcohol	ND	ug/l	100	10.0	10/12/04 20:44	DLK	75-85-4		
Benzene	280	ug/l	50.	10.0	10/12/04 20:44	DLK	71-43-2		
3,3-Dimethyl-1-Butanol	ND	ug/l	100	10.0	10/12/04 20:44	DLK	625-95-3		
tert-Butyl Formate	ND	ug/l	200	10.0	10/12/04 20:44	DLK	762-75-4		
1,2-Dichloroethane	ND	ug/l	50.	10.0	10/12/04 20:44	DLK	107-06-2		
Diisopropyl ether	ND	ug/l	50.	10.0	10/12/04 20:44	DLK	108-20-3		
Ethanol	ND	ug/l	200	10.0	10/12/04 20:44	DLK	64-17-5		
Ethylbenzene	900	ug/l	50.	10.0	10/12/04 20:44	DLK	100-41-4		
Ethyl-tert-butyl ether	ND	ug/l	100	10.0	10/12/04 20:44	DLK	637-92-3		
2-Methyl-2-propanol	ND	ug/l	100	10.0	10/12/04 20:44	DLK	75-65-0		
Methyl-tert-butyl ether	ND	ug/l	50.	10.0	10/12/04 20:44	DLK	1634-04-4		
Naphthalene	580	ug/l	50.	10.0	10/12/04 20:44	DLK	91-20-3		
Toluene	120	ug/l	50.	10.0	10/12/04 20:44	DLK	108-88-3		
m&p-Xylene	210	ug/l	100	10.0	10/12/04 20:44	DLK			
o-Xylene	37.	J ug/l	50.	10.0	10/12/04 20:44	DLK	95-47-6		
Toluene-d8 (S)	97	%		1.0	10/12/04 20:44	DLK	2037-26-5		
4-Bromofluorobenzene (S)	102	%		1.0	10/12/04 20:44	DLK	460-00-4		
Dibromofluoromethane (S)	88	%		1.0	10/12/04 20:44	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	85	%		1.0	10/12/04 20:44	DLK	17060-07-0		

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Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

Lab Sample No: 924804065 | Project Sample Number: 9278336-004 | Date Collected: 10/05/04 13:18
Client Sample ID: MW-5 | Matrix: Water | Date Received: 10/06/04 11:50

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 504.1								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	10/08/04 10:18	JEM	106-93-4		
1-Chloro-2-bromopropane (S)	96	%		1.0	10/08/04 10:18	JEM	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
tert-Amylmethyl ether	ND	ug/l	10.	1.0	10/12/04 17:20	DLK	994-05-8		
tert-Amyl Alcohol	ND	ug/l	10.	1.0	10/12/04 17:20	DLK	75-85-4		
Benzene	ND	ug/l	5.0	1.0	10/12/04 17:20	DLK	71-43-2		
3,3-Dimethyl-1-Butanol	ND	ug/l	10.	1.0	10/12/04 17:20	DLK	625-95-3		
tert-Butyl Formate	ND	ug/l	20.	1.0	10/12/04 17:20	DLK	762-75-4		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	10/12/04 17:20	DLK	107-06-2		
Diisopropyl ether	ND	ug/l	5.0	1.0	10/12/04 17:20	DLK	108-20-3		
Ethanol	ND	ug/l	20.	1.0	10/12/04 17:20	DLK	64-17-5		
Ethylbenzene	ND	ug/l	5.0	1.0	10/12/04 17:20	DLK	100-41-4		
Ethyl-tert-butyl ether	ND	ug/l	10.	1.0	10/12/04 17:20	DLK	637-92-3		
2-Methyl-2-propanol	ND	ug/l	10.	1.0	10/12/04 17:20	DLK	75-65-0		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/12/04 17:20	DLK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/12/04 17:20	DLK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/12/04 17:20	DLK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/12/04 17:20	DLK			
o-Xylene	ND	ug/l	5.0	1.0	10/12/04 17:20	DLK	95-47-6		
Toluene-d8 (S)	95	%		1.0	10/12/04 17:20	DLK	2037-26-5		
4-Bromofluorobenzene (S)	112	%		1.0	10/12/04 17:20	DLK	460-00-4		
Dibromofluoromethane (S)	87	%		1.0	10/12/04 17:20	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	86	%		1.0	10/12/04 17:20	DLK	17060-07-0		

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Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

Lab Sample No: 924804081 | Project Sample Number: 9278336-005 | Date Collected: 10/05/04 13:28
Client Sample ID: MW-9 | Matrix: Water | Date Received: 10/06/04 11:50

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 504.1								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	10/08/04 10:35	JEM	106-93-4		
1-Chloro-2-bromopropane (S)	116	%		1.0	10/08/04 10:35	JEM	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
tert-Amylmethyl ether	ND	ug/l	100	10.0	10/12/04 21:13	DLK	994-05-8		
tert-Amyl Alcohol	470	ug/l	100	10.0	10/12/04 21:13	DLK	75-85-4		
Benzene	720	ug/l	50.	10.0	10/12/04 21:13	DLK	71-43-2		
3,3-Dimethyl-1-Butanol	ND	ug/l	100	10.0	10/12/04 21:13	DLK	625-95-3		
tert-Butyl Formate	ND	ug/l	200	10.0	10/12/04 21:13	DLK	762-75-4		
1,2-Dichloroethane	ND	ug/l	50.	10.0	10/12/04 21:13	DLK	107-06-2		
Diisopropyl ether	ND	ug/l	50.	10.0	10/12/04 21:13	DLK	108-20-3		
Ethanol	ND	ug/l	200	10.0	10/12/04 21:13	DLK	64-17-5		
Ethylbenzene	980	ug/l	50.	10.0	10/12/04 21:13	DLK	100-41-4		
Ethyl-tert-butyl ether	ND	ug/l	100	10.0	10/12/04 21:13	DLK	637-92-3		
2-Methyl-2-propanol	ND	ug/l	100	10.0	10/12/04 21:13	DLK	75-65-0		
Methyl-tert-butyl ether	ND	ug/l	50.	10.0	10/12/04 21:13	DLK	1634-04-4		
Naphthalene	610	ug/l	50.	10.0	10/12/04 21:13	DLK	91-20-3		
Toluene	100	ug/l	50.	10.0	10/12/04 21:13	DLK	108-88-3		
m&p-Xylene	1400	ug/l	100	10.0	10/12/04 21:13	DLK			
o-Xylene	73.	ug/l	50.	10.0	10/12/04 21:13	DLK	95-47-6		
Toluene-d8 (S)	95	%		1.0	10/12/04 21:13	DLK	2037-26-5		
4-Bromofluorobenzene (S)	106	%		1.0	10/12/04 21:13	DLK	460-00-4		
Dibromofluoromethane (S)	87	%		1.0	10/12/04 21:13	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	91	%		1.0	10/12/04 21:13	DLK	17060-07-0		

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Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

Lab Sample No: 924804115 | Project Sample Number: 9278336-006 | Date Collected: 10/05/04 13:43
Client Sample ID: MW-13 | Matrix: Water | Date Received: 10/06/04 11:50

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 504.1								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	10/08/04 10:51	JEM	106-93-4		
1-Chloro-2-bromopropane (S)	92	%		1.0	10/08/04 10:51	JEM	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
tert-Amylmethyl ether	ND	ug/l	10.	1.0	10/12/04 18:18	DLK	994-05-8		
tert-Amyl Alcohol	ND	ug/l	10.	1.0	10/12/04 18:18	DLK	75-85-4		
Benzene	12.	ug/l	5.0	1.0	10/12/04 18:18	DLK	71-43-2		
3,3-Dimethyl-1-Butanol	ND	ug/l	10.	1.0	10/12/04 18:18	DLK	625-95-3		
tert-Butyl Formate	ND	ug/l	20.	1.0	10/12/04 18:18	DLK	762-75-4		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	10/12/04 18:18	DLK	107-06-2		
Diisopropyl ether	ND	ug/l	5.0	1.0	10/12/04 18:18	DLK	108-20-3		
Ethanol	ND	ug/l	20.	1.0	10/12/04 18:18	DLK	64-17-5		
Ethylbenzene	88.	ug/l	5.0	1.0	10/12/04 18:18	DLK	100-41-4		
Ethyl-tert-butyl ether	ND	ug/l	10.	1.0	10/12/04 18:18	DLK	637-92-3		
2-Methyl-2-propanol	ND	ug/l	10.	1.0	10/12/04 18:18	DLK	75-65-0		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/12/04 18:18	DLK	1634-04-4		
Naphthalene	73.	ug/l	5.0	1.0	10/12/04 18:18	DLK	91-20-3		
Toluene	3.8	J ug/l	5.0	1.0	10/12/04 18:18	DLK	108-88-3		
m&p-Xylene	40.	ug/l	10.	1.0	10/12/04 18:18	DLK			
o-Xylene	2.7	J ug/l	5.0	1.0	10/12/04 18:18	DLK	95-47-6		
Toluene-d8 (S)	94	%		1.0	10/12/04 18:18	DLK	2037-26-5		
4-Bromofluorobenzene (S)	106	%		1.0	10/12/04 18:18	DLK	460-00-4		
Dibromofluoromethane (S)	88	%		1.0	10/12/04 18:18	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	88	%		1.0	10/12/04 18:18	DLK	17060-07-0		

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Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

Lab Sample No: 924804131 | Project Sample Number: 9278336-007 | Date Collected: 10/05/04 13:55
Client Sample ID: MARSH | Matrix: Water | Date Received: 10/06/04 11:50

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/12/04 17:49	DLK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	10/12/04 17:49	DLK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/12/04 17:49	DLK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/12/04 17:49	DLK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/12/04 17:49	DLK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/12/04 17:49	DLK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/12/04 17:49	DLK			
o-Xylene	ND	ug/l	5.0	1.0	10/12/04 17:49	DLK	95-47-6		
Toluene-d8 (S)	93	%		1.0	10/12/04 17:49	DLK	2037-26-5		
4-Bromofluorobenzene (S)	108	%		1.0	10/12/04 17:49	DLK	460-00-4		
Dibromofluoromethane (S)	89	%		1.0	10/12/04 17:49	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	90	%		1.0	10/12/04 17:49	DLK	17060-07-0		

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Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

Method 9071B modified to use ASE.

All pH, Free Chlorine, Total Chlorine and Ferrous Iron analyses conducted outside of EPA recommended immediate hold time.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate

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QUALITY CONTROL DATA

Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

QC Batch: 111540 Analysis Method: EPA 504.1
QC Batch Method: EPA 504.1 Analysis Description: EDB and DBCP in Water
Associated Lab Samples: 924804024 924804032 924804057 924804065 924804081 924804115

METHOD BLANK: 924812753
Associated Lab Samples: 924804024 924804032 924804057 924804065 924804081 924804115

Parameter	Units	Blank Result	Reporting Limit	Footnotes
1,2-Dibromoethane (EDB)	ug/l	ND	0.020	
1-Chloro-2-bromopropane (S)	%	97		

LABORATORY CONTROL SAMPLE & LCSD: 924812761 924812779

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
1,2-Dibromoethane (EDB)	ug/l	0.2500	0.2901	0.3300	116	132	13	
1-Chloro-2-bromopropane (S)					96	103		

MATRIX SPIKE: 924812787

Parameter	Units	924802382 Result	Spike Conc.	MS Result	MS % Rec	Footnotes
1,2-Dibromoethane (EDB)	ug/l	2.005	0.2500	1.999	0	1
1-Chloro-2-bromopropane (S)					84	

SAMPLE DUPLICATE: 924812795

Parameter	Units	924802390 Result	DUP Result	RPD	Footnotes
1,2-Dibromoethane (EDB)	ug/l	ND	ND	NC	
1-Chloro-2-bromopropane (S)	%	94	96		

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QUALITY CONTROL DATA

Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

QC Batch: 111901 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 924804024 924804032 924804057 924804065 924804081 924804115 924804131

METHOD BLANK: 924830003
Associated Lab Samples: 924804024 924804032 924804057 924804065 924804081 924804115 924804131

Parameter	Units	Blank Result	Reporting Limit	Footnotes
tert-Amylmethyl ether	ug/l	ND	10.	
tert-Amyl Alcohol	ug/l	ND	10.	
Benzene	ug/l	ND	5.0	
3,3-Dimethyl-1-Butanol	ug/l	ND	10.	
tert-Butyl Formate	ug/l	ND	20.	
1,2-Dichloroethane	ug/l	ND	5.0	
Diisopropyl ether	ug/l	ND	5.0	
Ethanol	ug/l	ND	20.	
Ethylbenzene	ug/l	ND	5.0	
Ethyl-tert-butyl ether	ug/l	ND	10.	
2-Methyl-2-propanol	ug/l	ND	10.	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	94		
4-Bromofluorobenzene (S)	%	105		
Dibromofluoromethane (S)	%	88		
1,2-Dichloroethane-d4 (S)	%	86		

LABORATORY CONTROL SAMPLE: 924830011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	39.69	79	
1,2-Dichloroethane	ug/l	50.00	33.07	66	
Diisopropyl ether	ug/l	50.00	31.67	63	
Ethylbenzene	ug/l	50.00	41.63	83	

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NC Drinking Water 37712
SC Environmental 99030
FL NELAP E87648

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Charlotte Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006
FL NELAP E87627

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

LABORATORY CONTROL SAMPLE: 924830011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Methyl-tert-butyl ether	ug/l	50.00	30.88	62	
Naphthalene	ug/l	50.00	36.21	72	
Toluene	ug/l	50.00	35.88	72	
m&p-Xylene	ug/l	100.00	83.82	84	
o-Xylene	ug/l	50.00	38.99	78	
Toluene-d8 (S)				94	
4-Bromofluorobenzene (S)				108	
Dibromofluoromethane (S)				87	
1,2-Dichloroethane-d4 (S)				88	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 924830029 924830037

Parameter	Units	924804131 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	45.45	46.65	91	93	3	
Toluene	ug/l	0	50.00	41.51	42.28	83	85	2	
Toluene-d8 (S)						94	92		
4-Bromofluorobenzene (S)						107	107		
Dibromofluoromethane (S)						88	88		
1,2-Dichloroethane-d4 (S)						93	95		

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Lab Project Number: 9278336
Client Project ID: Bay Creek Villas/18662/22369:p

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	The spike recovery was outside acceptance limits for the MS and/or MSD due to an analyte concentration in the sample at four times greater than the spike concentration. The QC batch was accepted based upon LCS and/or LCSD recoveries within acceptance limits.

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Asheville Certification IDs

NC Wastewater	40
NC Drinking Water	37712
SC Environmental	99030
FL NELAP	E87648

Charlotte Certification IDs

NC Wastewater	12
NC Drinking Water	37706
SC	99006
FL NELAP	E87627

CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 2

Required Client Information: **Section A**

Company	SCDHEC UST Program
Address	2600 Bull St
	Columbia, SC 29201
Phone	803-896-6240
Fax	803-896-6245

Required Client Information: **Section B**

Report To:	Debra Thoma
Copy To:	Debra Thoma
Invoice To:	Debra Thoma
P.O.	416276
Project Name:	Bay Creek villas
Project Number:	18662/22369:P

Client Information (Check quote/contract):

Requested Due Date: *TAT: 7 days

*Turn around time less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:	
Project Manager:	
Project #:	9278336
Profile #:	1700-10

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A-Z, 0-9 / .-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
GROUNDWATER	GW
SURFACE WATER	SW
WASTE WATER	WW
PRODUCT	P
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT

Requested Analysis: BTEX, Naph, MTBE, 1,2 DCA, Oxygenates, EDB (8011)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP.	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	BTEX	Naph	MTBE	1,2 DCA	Oxygenates	EDB (8011)			Remarks / Lab ID
1	MW-1	WT	G	10-5-04	1244	10-5	1244					4					X	X	X						924804024
2	MW-1	WT	G	10-5	1244	10-5	1244							3						X					↓
3	MW-3 924804032	WT	G	10-5	1254	10-5	1254					4					X	X	X						HOT
4	MW-3 ↓	WT	G	10-5	1254	10-5	1254							3						X					HOT
5	MW-4 924804057	WT	G	10-5	1308	10-5	1308					4					X	X	X						HOT
6	MW-4 ↓	WT	G	10-5	1308	10-5	1308							3						X					HOT
7	MW-5	WT	C	10-5	1318	10-5	1318					4					X	X	X						924804065
8	MW-5	WT	G	10-5	1318	10-5	1318					[illegible]		3						X					↓
9	MW-9	WT	G	10-5	1328	10-5	1328					4					X	X	X						924804081
10	MW-9	WT	G	10-5	1328	10-5	1328							3						X					↓
11	MW-13	WT	G	10-5	1343	10-5	1343					4					X	X	X						924804115
12	MW-13	WT	G	10-5	1343	10-5	1343							3						X					↓

SITE LOCATION
☐ NC ☒ SC ☐ GA
☐ Other

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ Other

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Read S Miner	10-5-04	1800	R.A. Snyder	10/6/4	8:55
R.A. Snyder	10-6-4	11:50	[signature]	10/6	1150

SAMPLE CONDITION

Temp in °C	
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES
1.2

Additional Comments:
3

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: READ S MINER

SIGNATURE of SAMPLER: Read S Miner

DATE Signed: (MM / DD / YY) 10/05/04

SEE REVERSE SIDE FOR INSTRUCTIONS

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Page: 2 of 2

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Company: SCDHEC UST Program
Address: 2600 Bull St
Columbia SC 29201
Phone: 803-896-6240
Fax: 803-896-6245

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Report To: Debra Thoma
Copy To: Debra Thoma
Invoice To: Debra Thoma
P.O.: 416276
Project Name: Bay Creek Villas
Project Number: 18662 / 22369:P

Client Information (Check quote/contract):
Requested Due Date:
*TAT: 7 days

*Turn around time less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 9278336
Profile #:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0-9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
GROUNDWATER	GW
SURFACE WATER	SW
WASTE WATER	WW
PRODUCT	P
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP.	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX	Naph	MTBE	1,2 DCA	Remarks / Lab ID
1	MARSH	WT	G	10-5-04	1355	10-5	1355					3					X	X			924804131
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

SITE LOCATION
☐ NC ☒ SC ☐ GA
☐ Other _____

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ Other _____

SAMPLE CONDITION

Temp in °C	1.2
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Read S Miner	10-5-04	1800	RA. Snyder	10-6-4	8:55
RA. Snyder	10-6-4	11:50	[signature]	10/6	1150

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: READ S MINER
SIGNATURE of SAMPLER: Read S Miner
DATE Signed: (MM / DD / YY) 10/05/04

Additional Comments:

3

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CONSULTECH ENVIRONMENTAL, INC.

Consulting Engineers, Geologists & Scientists

January 27, 2005

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UNDERGROUND STORAGE TANK PROGRAM

Mr. Read Miner, P.G.
Assessment and Corrective Action Branch
South Carolina Department of Health and Environmental Control
Division of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: Quarterly Monitoring Report # 9
Bay Creek Villas
3701 Dock Site Road
Edisto Beach, Colleton County, South Carolina
SCDHEC UST Permit # 18662

Contains well Record forms
Do Not Purge

Attention Mr. Miner:

Consultech Environmental, Inc. (Consultech) is pleased to present this Quarterly Groundwater Monitoring Report for the above referenced facility. Included with this report are the total fluid recovery well logs to remove free product and high dissolved hydrocarbons. Should you have any questions regarding this report or the project in general, please do not hesitate to contact us at (678) 377-0400.

Sincerely,

CONSULTECH ENVIRONMENTAL, INC.

James R. Wilson, P.G.
Senior Project Manager

cc: File C-1205

1800 MacLeod Drive, Suite F • Lawrenceville, GA 30043-5736
(678) 377-0400 • FAX: (678) 377-0051
www.consultechenv.com

Quarterly Monitoring Report # 9

Bay Creek Villas
3701 Dock Site Road
Edisto Beach, Colleton County, South Carolina
SCDHEC UST Permit # 18662

Prepared for:
SCDHEC
2600 Bull Street
Columbia, SC 29201-1708

Prepared by:
Consultech Environmental, Inc.
1800 MacLeod Drive, Suite F
Lawrenceville, Georgia 30043-5736

Kenneth L. Brooke
Project Manager

James R. Wilson, P.G.
Senior Project Manger

JAMES R. WILSON
REGISTERED
NO. 2062
SOUTH CAROLINA
PROFESSIONAL GEOLOGIST

January 2005

Consultech Project No.: C-1205

Quarterly Monitoring Report # 9

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Appendix 2 Groundwater Sampling Disposal Letter

Quarterly Monitoring Report # 9

1.0 Project Summary

Bay Creek Villas are located at 3701 Dock Site Road in Edisto Beach, Colleton County, South Carolina (see Figure 1). Upon receipt of the analytical data released by the South Carolina Department of Health and Environmental Control (SCDHEC), a portable Air-Sparge system combined with augmented bioremediation was chosen to remediate the site's subsurface soils and groundwater. Two total fluid recovery (TFR) wells were installed to a depth of twelve (12) ft-bgs on January 19, 2005 to remove free product and high dissolved hydrocarbons and are shown on the figures in this report. This report details the groundwater monitoring results for the sampling event conducted on January 19, 2005.

2.0 Groundwater Monitoring Results

Consultech personnel gauged monitoring wells MW-1, MW-3 through MW-14, and PW-1 for groundwater elevations and for any liquid phase hydrocarbons (LPH) at the subject site (see Figure 2). LPH was detected in monitoring well MW-3 at a thickness of 0.02 feet.

The groundwater elevations for the monitoring wells ranged between 93.84 feet in monitoring well MW-10 and 95.13 feet in monitoring well MW-13. Table 1 provides a summary of the historical groundwater elevations taken from the past sampling events.

Fluid level measurements were taken to create a groundwater elevation contour map for the shallow wells as presented in Figure 2. This data illustrates the static groundwater surface, direction of groundwater flow, and hydraulic gradient across the site. According to Figure 2, the groundwater flows toward the east at an average hydraulic gradient of 0.0076 ft/ft between shallow wells MW-13 and MW-10.

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3.0 Groundwater Sampling Results

Groundwater samples were collected from monitoring wells MW-1, MW-4 through MW-14, PW-1 and the marsh located north of the site. Monitoring well MW-3 was not sampled since it contained 0.02 feet of product. Please reference Consultech's Standard Operating Procedures document dated October 2002 for detailed sampling protocol. The raw field data and groundwater analytical results for the monitoring wells are shown on Tables 1 and 2, respectively. Laboratory data sheets and chain-of-custody forms are included under Appendix 1 of this report.

A comparison was made between the groundwater analytical results from the recent sampling event and the sampling event conducted on November 30, 2004. The following paragraphs discuss this comparison for the chemicals of concern.

Benzene

The comparison of results indicates a decrease in the dissolved benzene concentration in monitoring wells MW-4, MW-9, and MW-13. A decrease was observed in the thickness of LPH in monitoring well MW-3 from 0.04 ft to 0.02 ft. Monitoring well MW-14 increased slightly and monitoring wells MW-1, MW-5, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, PW-1, and the marsh remained below the laboratory detection limit. Currently monitoring wells MW-3, MW-4, MW-9, and MW-13 are above the SSTLs for benzene.

MTBE

The comparison of results indicates a decrease in the dissolved MTBE concentration in monitoring wells MW-4 and MW-14. Monitoring wells MW-5 and MW-6 increased slightly and MW-1, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, PW-1, and the marsh remained below the laboratory detection limit. Currently monitoring wells MW-3 and MW-4 are above the SSTLs for MTBE.

Naphthalene

The comparison of results indicates a decrease in the dissolved naphthalenes concentration for monitoring well MW-4 and MW-13. The results indicated an increase in naphthalene concentrations in monitoring wells MW-9, MW-10, and MW-14. Naphthalene concentrations in monitoring wells MW-1, MW-5, MW-6, MW-7, MW-8, MW-11, MW-12, PW-1, and the marsh sample have less than detection levels of naphthalene. Currently monitoring wells MW-3, MW-4, and MW-9 are above the SSTLs for naphthalene.

Total Mass Concentration

The comparison of results indicates a decrease in the dissolved Total Mass concentration since the November 2004 sampling event (see Tables 2 and 3). A "Chemicals of Concern in Groundwater" map is presented as Figure 3, and the "Total Mass versus Time" is presented graphically as Figure 5.

4.0 Conclusions and Recommendations

The Total Mass concentration at the site has decreased from 1,516,623 µg/l in November 2004 to 1,514,401 µg/l in January 2005 (see Table 2), which correlates to a decrease in the total mass as compared with SSTLs of -10,899 % in November 2004 to –10,889 % in January 2005 (see Table 3) since the initial sampling event that was conducted in May 2002. Two 4-inch diameter total fluid recovery (TFR) wells were installed to a depth of twelve (12) ft-bgs on January 19, 2005, therefore, Consultech was unable to conduct an Advanced Fluid Vapor Recovery (AFVR) event before this sampling event. The air sparge wells have been ineffective in reducing the free product and high dissolved concentrations in monitoring wells MW-3, MW-4, and MW-9 and fluids will be removed from these two new TFR wells during the next month to accelerate the remediation efforts and the results will be indicated in the next quarterly sampling event.

Consultech will sample monitoring wells MW-1, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, PW-1, and the Marsh on the next quarterly monitoring event. These monitoring wells will continue to be checked on a quarterly basis for the evaluation of further BTEX, MTBE, and naphthalene concentration reductions in the dissolved plume. The next quarterly sampling event is scheduled for April 2005 after two TFR events.

TABLE 1

Raw field data and Groundwater Elevations

Bay Creek Villas, Edisto Beach South Carolina, Facility # 18662

Consultech Project No. C-1205

Monitoring Well	Date	TOC Elevation	Depth to Product from TOC	Depth to Water from TOC	Groundwater Elevation	Do	Temp	Cond	pH
MW-1	1/10/2002	100.01	NA	6.61	93.40	NA	NA	NA	NA
	11/20/02	100.01	NA	3.74	96.27	0.5	23.6	1985	8.8
	06/24/03	100.01	NA	4.34	95.67	1.2	29.3	655	6.5
	09/04/03	100.01	NA	4.63	95.38	1.4	29.4	13	7.0
	12/03/03	100.01	NA	6.09	93.92	2.2	20.8	1998	6.9
	03/16/04	100.01	NA	4.72	95.29	2	20.4	1	7.1
	06/17/04	100.01	NA	5.89	94.12	2.6	18.7	1843	7.2
	10/05/04	100.01	NA	4.12	95.89	3.4	21.4	82	6.2
	11/30/04	100.01	NA	4.78	95.23	3.0	18.4	43	6.4
	01/19/05	100.01	NA	5.18	94.83	3.5	14	571	6.4
MW-3	1/10/2002	99.93	NA	6.97	92.96	NA	NA	NA	NA
	11/20/02	99.93	NA	4.14	95.79	0.5	25.7	1358	8.0
	06/24/03	99.93	6.74	6.80	93.13	1.1	29	1052	6.5
	09/04/03	99.93	NA	5.26	94.67	1.6	29.6	7	7.6
	12/03/03	99.93	NA	6.69	93.24	1.9	20.4	1218	7.6
	03/16/04	99.93	Sheen	6.72	93.21	1.6	20.5	1	6.9
	06/17/04	99.93	NA	6.47	93.46	2.4	19.2	1720	6.8
	10/05/04	99.93	NA	5.93	94.00	1.2	21.3	647	5.6
	11/30/04	99.93	4.94	4.98	94.95	NM	NM	NM	NM
	01/19/05	99.93	5.26	5.28	94.65	NM	NM	NM	NM
MW-4	1/10/2002	99.95	NA	6.33	93.62	NA	NA	NA	NA
	11/20/02	99.95	NA	4.06	95.89	0.1	22.6	1328	6.2
	06/24/03	99.95	NA	5.94	94.01	1.2	29.5	951	6.5
	09/04/03	99.95	NA	4.98	94.97	1.3	29.9	164	8.0
	12/03/03	99.95	NA	4.98	94.97	1.3	29.9	164	8.0
	03/16/04	99.95	NA	5.87	94.08	1.6	20.8	1	6.8
	06/17/04	99.95	NA	5.90	94.05	2.7	18.6	1631	7.1
	10/05/04	99.95	NA	5.59	94.36	1.9	21.1	559	5.2
	11/30/04	99.95	NA	5.07	94.88	2	17.2	623	5.0
	01/19/05	99.95	NA	5.28	94.67	2.2	13.8	492	5.8
MW-5	1/10/2002	99.92	NA	5.86	94.06	NA	NA	NA	NA
	11/20/02	99.92	NA	4.03	95.89	0.6	26.1	1952	8.3
	06/24/03	99.92	NA	5.72	94.20	1.2	31.2	1118	6.6
	09/04/03	99.92	NA	6.04	93.88	0.5	30	79	7.0
	12/03/03	99.92	NA	5.94	93.98	2.1	19.9	1519	7.1
	03/16/04	99.92	NA	5.97	93.95	2.2	20.5	1998	6.8
	06/17/04	99.92	NA	5.71	94.21	2.7	18.4	1537	6.9
	10/05/04	99.92	NA	5.45	94.47	2.5	22	96	5.1
	11/30/04	99.92	NA	5.07	94.85	2.4	17.9	143	5.3
	01/19/05	99.92	NA	5.49	94.43	2.6	13.6	426	7.1
MW-6	1/10/2002	99.06	NA	5	94.06	NA	NA	NA	NA
	11/20/02	99.06	NA	3.09	95.97	0.4	25.2	1460	8.6
	06/24/03	99.06	NA	4.29	94.77	2.4	31	988	6.5
	09/04/03	99.06	NA	4.26	94.80	1.9	31.7	39	7.6
	12/03/03	99.06	NA	4.75	94.31	2.4	21.3	1434	7.0
	03/16/04	99.06	NA	4.56	94.50	1.7	20.3	1	6.9
	06/17/04	99.06	NA	4.62	94.44	2.6	17.9	1510	6.8
	10/05/04	99.06	NA	4.30	94.76	1.6	21.2	74	6.4
	11/30/04	99.06	NA	4.28	94.78	3.3	18.2	94	6.1
	01/19/05	99.06	NA	4.39	94.67	3.7	15.7	990	6.7

TABLE 1

Raw field data and Groundwater Elevations

Bay Creek Villas, Edisto Beach South Carolina, Facility # 18662

Consultech Project No. C-1205

Monitoring Well	Date	TOC Elevation	Depth to Product from TOC	Depth to Water from TOC	Groundwater Elevation	Do	Temp	Cond	pH
MW-7	1/10/2002	99.48	NA	5.26	94.22	NA	NA	NA	NA
	11/20/02	99.48	NA	3.37	96.11	0.4	22.7	1491	8.9
	06/24/03	99.48	NA	4.32	95.16	2.6	30.8	952	6.5
	09/04/03	99.48	NA	4.35	95.13	1.8	31.9	36	8.2
	12/03/03	99.48	NA	5.12	94.36	1.7	19.8	1522	7.6
	03/16/04	99.48	NA	4.53	94.95	2.2	19.7	1783	6.8
	06/18/04	99.48	NA	5.01	94.47	2.3	18.7	1468	6.7
	10/05/04	99.48	NA	4.45	95.03	3.6	20.8	124	6.7
	11/30/04	99.48	NA	4.42	95.06	3.1	18.1	85	6.2
	01/19/05	99.48	NA	4.35	95.13	3.7	13.2	833	7.4
MW-8	1/10/2002	99.27	NA	5.09	94.18	NA	NA	NA	NA
	11/20/02	99.27	NA	3.18	96.09	0.6	24.5	1112	9.1
	06/24/03	99.27	NA	4.43	94.84	1.9	31.3	630	6.5
	09/04/03	99.27	NA	4.46	94.81	1.4	30.5	32	7.9
	12/03/03	99.27	NA	4.93	94.34	2.3	18.1	426	7.6
	03/16/04	99.27	NA	4.79	94.48	1.9	18.2	686	6.7
	06/17/04	99.27	NA	4.80	94.47	2.1	19.3	631	7.0
	10/05/04	99.27	NA	4.50	94.77	3.8	21.6	102	6.2
	11/30/04	99.27	NA	4.46	94.81	3	18.5	77	6.1
	01/19/05	99.27	NA	4.63	94.64	3.4	14.7	273	7.2
MW-9	1/10/2002	99.59	NA	6.01	93.58	NA	NA	NA	NA
	11/20/02	99.59	NA	3.82	95.77	0.6	24.4	1983	8.8
	06/24/03	99.59	NA	5.73	93.86	0.6	30.4	813	6.6
	09/04/03	99.59	NA	6.00	93.59	1.2	28.2	67	7.1
	12/03/03	99.59	NA	5.74	93.85	1.9	21.3	1615	6.9
	03/16/04	99.59	NA	5.69	93.90	1.7	19.3	1721	6.6
	06/17/04	99.59	NA	5.47	94.12	2.7	19	1628	7.2
	10/05/04	99.59	NA	5.09	94.50	3.2	20.9	216	5.9
	11/30/04	99.59	NA	4.69	94.90	1.4	18	743	4.9
	01/19/05	99.59	NA	4.73	94.86	1.6	14.3	654	5.8
MW-10	1/10/2002	99.89	NA	6.78	93.11	NA	NA	NA	NA
	11/20/02	99.89	NA	4.06	95.83	0.4	23.3	1992	8.2
	06/24/03	99.89	NA	6.43	93.46	2.2	28.1	786	6.3
	09/04/03	99.89	NA	5.05	94.84	1.6	28.9	15	7.4
	12/03/03	99.89	NA	6.54	93.35	2.3	20.3	1173	7.1
	03/16/04	99.89	NA	6.62	93.27	2.4	19.6	1786	6.6
	06/17/04	99.89	NA	6.03	93.86	2.1	17.9	1237	7.1
	10/05/04	99.89	NA	5.66	94.23	3.6	20.4	194	6.1
	11/30/04	99.89	NA	5.08	94.81	2.5	18	252	5.6
	01/19/05	99.89	NA	6.05	93.84	3.7	14.8	169	6.2
MW-11	1/10/2002	99.17	NA	5.3	93.87	NA	NA	NA	NA
	11/20/02	99.17	NA	3.26	95.91	0.1	21.5	1036	7.4
	06/24/03	99.17	NA	4.93	94.24	1.5	29.0	561	6.5
	09/04/03	99.17	NA	4.24	94.93	1.6	30.4	29	6.7
	12/03/03	99.17	NA	5.14	94.03	2.5	20.1	1382	7.0
	03/16/04	99.17	NA	5.00	94.17	2.4	18.7	1956	6.7
	06/17/04	99.17	NA	5.07	94.10	2.3	18.4	1294	7.0
	10/05/04	99.17	NA	4.54	94.63	3.3	20.8	228	6.5
	11/30/04	99.17	NA	4.23	94.94	3.7	17.4	62	6.2
	01/19/05	99.17	NA	4.36	94.81	3.5	13.5	206	8.2

TABLE 1

Raw field data and Groundwater Elevations

Bay Creek Villas, Edisto Beach South Carolina, Facility # 18662

Consultech Project No. C-1205

Monitoring Well	Date	TOC Elevation	Depth to Product from TOC	Depth to Water from TOC	Groundwater Elevation	Do	Temp	Cond	pH
MW-12	1/10/2002	99.91	NA	5.84	94.07	NA	NA	NA	NA
	11/20/02	99.91	NA	3.79	96.12	0.3	22.8	1928	7.6
	06/24/03	99.91	NA	4.45	95.46	2.8	29.3	935	6.5
	09/04/03	99.91	NA	4.72	95.19	2.1	30.1	14	7.4
	12/03/03	99.91	NA	5.03	94.88	1.9	19.1	1294	7.1
	03/16/04	99.91	NA	4.81	95.10	3	10.1	1	6.7
	06/17/04	99.91	NA	4.89	95.02	2.7	19.6	1664	6.8
	10/05/04	99.91	NA	4.69	95.22	3.4	20.1	342	6.4
	11/30/04	99.91	NA	4.83	95.08	3	16.8	119	6.5
	01/19/05	99.91	NA	4.96	94.95	3.4	13.7	63	6.1
MW-13	1/10/2002	99.82	NA	5.08	94.74	NA	NA	NA	NA
	11/20/02	99.82	NA	3.72	96.10	0.3	23	1187	8.1
	06/24/03	99.82	NA	4.26	95.56	0.3	29.4	532	6.5
	09/04/03	99.82	NA	4.64	95.18	1.8	30.7	18	7.5
	12/03/03	99.82	NA	4.82	95.00	2	21	1721	6.9
	03/16/04	99.82	NA	4.55	95.27	2.3	17.7	1603	6.6
	06/17/04	99.82	NA	4.78	95.04	1.9	18.4	1722	6.9
	10/05/04	99.82	NA	4.19	95.63	3	20.9	188	6.9
	11/30/04	99.82	NA	4.73	95.09	2.3	18.4	424	5.5
	01/19/05	99.82	NA	4.69	95.13	2.4	14.9	370	6.1
MW-14	1/10/2002	99.69	NA	6.41	93.28	NA	NA	NA	NA
	11/20/02	99.69	NA	3.58	96.11	0.5	24.9	1987	8.6
	06/24/03	99.69	NA	4.59	95.10	2.1	29.4	1369	6.5
	09/04/03	99.69	NA	5.07	94.62	1.5	29.4	33	7.6
	12/03/03	99.69	NA	5.98	93.71	2.1	19.8	1118	7.0
	03/16/04	99.69	NA	6.25	93.44	2.2	20.1	1	6.7
	06/17/04	99.69	NA	5.76	93.93	2.7	18.8	1097	6.8
	10/05/04	99.69	NA	5.58	94.11	2.6	21.8	96	6.4
	11/30/04	99.69	NA	4.97	94.72	3	17.2	206	5.9
	01/19/05	99.69	NA	5.61	94.08	2.8	13.2	577	7.9
PW-1	1/10/2002	99.69	NA	6.62	93.07	NA	NA	NA	NA
	11/20/02	99.69	NA	4.62	95.07	0.4	22.4	1958	7.2
	06/24/03	99.69	NA	6.47	93.22	0.8	28.4	Max	6.8
	09/04/03	99.69	NA	6.53	93.16	3.4	28.7	55	7.6
	12/03/03	99.69	NA	6.69	93.00	3	20.4	1382	7.6
	3/16/2004	99.69	NA	6.65	93.04	1.5	18.2	1	7.5
	06/17/04	99.69	NA	6.62	93.07	3.2	19.0	1381	7.0
	10/05/04	99.69	NA	5.42	94.27	2.1	20.4	68	6.3
	11/30/04	99.69	NA	5.11	94.58	NM	NM	NM	NM
	01/19/05	99.69	NA	6.19	93.50	5.5	14.7	1300	8.9

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
MW-1	**SSTL**	3	1	4	1	5	5	
	05/29/02	2.9	<1	3.5	<1	<5	<5	18.4
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	2.3	**13.3**	**24.4**	**104**	<1.0	<5.0	216
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
MW-3	**SSTL**	5	1000	700	4090	40	25	
	05/29/02	**2720**	**2170**	**1880**	**4090**	<50	**580**	11490
	11/20/02	**3900**	**6200**	**2200**	**7700**	**500**	**500**	21000
	06/24/03	**7400**	**6600**	**3800**	**11000**	**<500**	**1000**	30300
	09/04/03	**7580**	**18400**	**4580**	**20700**	<1	**2880**	54141
	12/03/03	**3300**	**8960**	**7000**	**22900**	9.1	1930	44099
	03/16/04	**4700**	**8000**	**4200**	**16000**	<1	<5	32900
	06/17/04	**5.0**	3.8	12	52	5.9	14	93
	10/05/04	**4100**	**3500**	**3200**	**9600**	**100.0**	**3,700**	24200
	11/30/04	**72000**	**260000**	**40000**	**180000**	**940,000.0**	**20,000**	1512000
	01/19/05	**72000**	**260000**	**40000**	**180000**	**940,000.0**	**20,000**	1512000
MW-4	**SSTL**	5	935	700	3230	40	25	
	05/29/02	196	935	**1370**	3230	**<50**	**479**	6260
	11/20/02	220	100	**2000**	**4300**	**500**	**2400**	9520
	06/24/03	**440**	900	**2900**	**4100**	**<500**	**1200**	10040
	09/04/03	**294**	453	**1030**	852	**45.8**	**513**	3188
	12/03/03	**447**	529	**1470**	1430	**184**	**983**	5043
	03/16/04	**520**	**1300**	**1400**	2300	**270**	**870**	6660
	06/17/04	**5.6**	4.0	14	58	5.2	16	103
	10/05/04	**270**	**150**	**880**	230	16.0	**630**	2176
	11/30/04	**209**	51	**1280**	424	**47.0**	**501**	2512
	01/19/05	**41.9**	5.2	127.0	51.1	12.4	**153.0**	391
MW-5	**SSTL**	1.0	1.0	1.0	1.0	5.0	5.0	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	2.7	<5	12
	12/03/03	<1	**4.5**	**16.6**	**114**	**5.3**	**158**	298
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	**1.2**	1.8	<5	11

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
MW-6	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	1.7	1.5	<5	11
	12/03/03	<1	1.6	1.9	10.5	1.3	27.6	43
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	1.0	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	1.7	<5	11
MW-7	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<,1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	4.0	<1	<5	13
	12/03/03	<1	3.4	5.4	33	<1	52.5	94
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
MW-8	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	**1.4**	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	1.5	2	11.7	<1	16.5	32
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
MW-9	**SSTL**	5	1000	700	5580	40	25	
	05/29/02	**1140**	**5400**	**1520**	5580	**<50**	**412**	14102
	11/20/02	**1600**	**2900**	**1800**	**6000**	**250**	**360**	12910
	06/24/03	**1500**	**410**	**2900**	**4900**	**<50**	**820**	10580
	09/04/03	**2050**	**4820**	**1610**	3600	<1.0	**1010**	13091
	12/03/03	**2380**	**4700**	**1800**	4770	<1.0	**626**	14276
	03/16/04	**1800**	**3200**	**880**	1900	<1.0	**350**	8130
	06/17/04	**7.4**	5.5	19	80	6.3	24	142
	10/05/04	**670**	100	**860**	530	<1	**460**	2620
	11/30/04	**553**	83.9	**823**	340	<1	**50**	1850
	01/19/05	**404**	119	468	404	<1	**175**	1570
MW-10	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	<1	<1	4.8	<1	16	21
	03/16/04	<1	<1	<1	<1	1.8	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	6.4	30.9	<1	18.0	58

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
MW-11	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	<1	1	5	<1	15	21
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	2.2	<1	<5	11
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
MW-12	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<2	<5	<5	15
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	1.7	2.1	13	<1	23.7	41
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	1.1	<1	<1	2.0	<1	<5	11
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
MW-13	**SSTL**	1	1	31	2	5	25	
	05/29/02	<1	<1	30.5	1.8	<5	**30.1**	69
	11/20/02	<1	<1	5.3	<3	<5	<5	20
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	**2.9**	4.6	**16.8**	<1	**41.8**	66
	03/16/04	<1	<1	<1	<1	4.5	<5	15
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	**13.0**	**5.3**	**79.0**	**36.0**	<1	**58.0**	191
	11/30/04	**6.0**	**1.5**	**66.0**	**7.1**	<1	**29.0**	110
	01/19/05	**5.6**	**1.2**	**36.3**	**3.2**	<1	<5	46
MW-14	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	42	<1	38	3.9	<5	<5	95
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	4.1	<5	13
	12/03/03	<1	<1	<1	4.2	6.7	13.5	24
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	1.2	<1	<5	10
	11/30/04	<1	<1	<1	<1	44.5	5.4	50
	01/19/05	1.4	5.1	30.5	143.0	18.8	53.4	252
PW-1	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	1.6	<1	<1	<3	<5	<5	17
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	NA	NA	NA	NA	NA	NA	NA
	03/16/04	<1	1.3	1.8	7.2	<1	<1	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	2.0	1.8	7.5	<1	<5	11
	11/30/04	<1	<1	<1	2.9	<1	<5	12
	01/19/05	<1	<1	<1	<1	<1	<5	12

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
Marsh	**SSTL**	1	1	1	1	5	5	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	<1	<1	**3.5**	<1	**9.8**	13
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
Initial Mass	05/29/02	4,070	8,517	4,814	12,913	210	1,556	32,080
	11/20/02	5,774	9,212	6,053	18,037	1,310	3,320	43,706
	06/24/03	9,352	7,922	9,612	20,024	1,110	3,080	51,100
	09/04/03	9,936	23,685	7,232	25,168	65	4,463	70,549
	12/03/03	6,129	14,218	10,327	29,418	2,199	45,430	107,721
	03/16/04	7,020	12,501	6,482	20,207	276	1,220	47,901
	06/17/04	18	13	45	190	17	54	458
	10/05/04	5,040	3,757	5,021	10,410	116	4,848	29,301
	11/30/04	72,762	260,136	42,169	180,774	940,092	20,585	1,516,623
Total Cur Mass	01/19/05	72,446	260,131	40,668	180,633	940,035	20,399	1,514,401
SSTL Mass		**21**	**2,939**	**2,137**	**12,905**	**140**	**115**	**18,257**
Current Mass		**72,446**	**260,131**	**40,668**	**180,633**	**940,035**	**20,399**	**1,514,401**
% Decrease	5/02 to 11/02	-41.86%	-8.16%	-25.74%	-39.68%	-523.81%	-113.35%	-36.24%
% Decrease	5/02 to 06/03	-129.78%	6.99%	-99.67%	-55.07%	-428.57%	-97.93%	-59.29%
% Decrease	5/02 to 09/03	-144.13%	-178.09%	-50.23%	-94.91%	69.00%	-186.81%	-119.92%
% Decrease	5/02 to12/03	-50.60%	-66.94%	-114.52%	-127.82%	-947.14%	-2819.49%	-235.79%
% Decrease	5/02 to 3/04	-72.49%	-46.78%	-34.64%	-56.49%	-31.57%	21.60%	-49.32%
% Decrease	5/02 to 6/04	99.56%	99.84%	99.07%	98.53%	91.71%	96.53%	98.57%
% Decrease	5/02 to 10/04	-23.84%	55.88%	-4.30%	19.38%	44.76%	-211.55%	8.66%
% Decrease	5/02 to 11/04	-1687.81%	-2954.32%	-775.97%	-1299.96%	-447562.62%	-1222.88%	-4627.66%
% Decrease	5/02 to 1/05	-1680.04%	-2954.25%	-744.79%	-1298.87%	-447535.57%	-1210.93%	-4620.73%

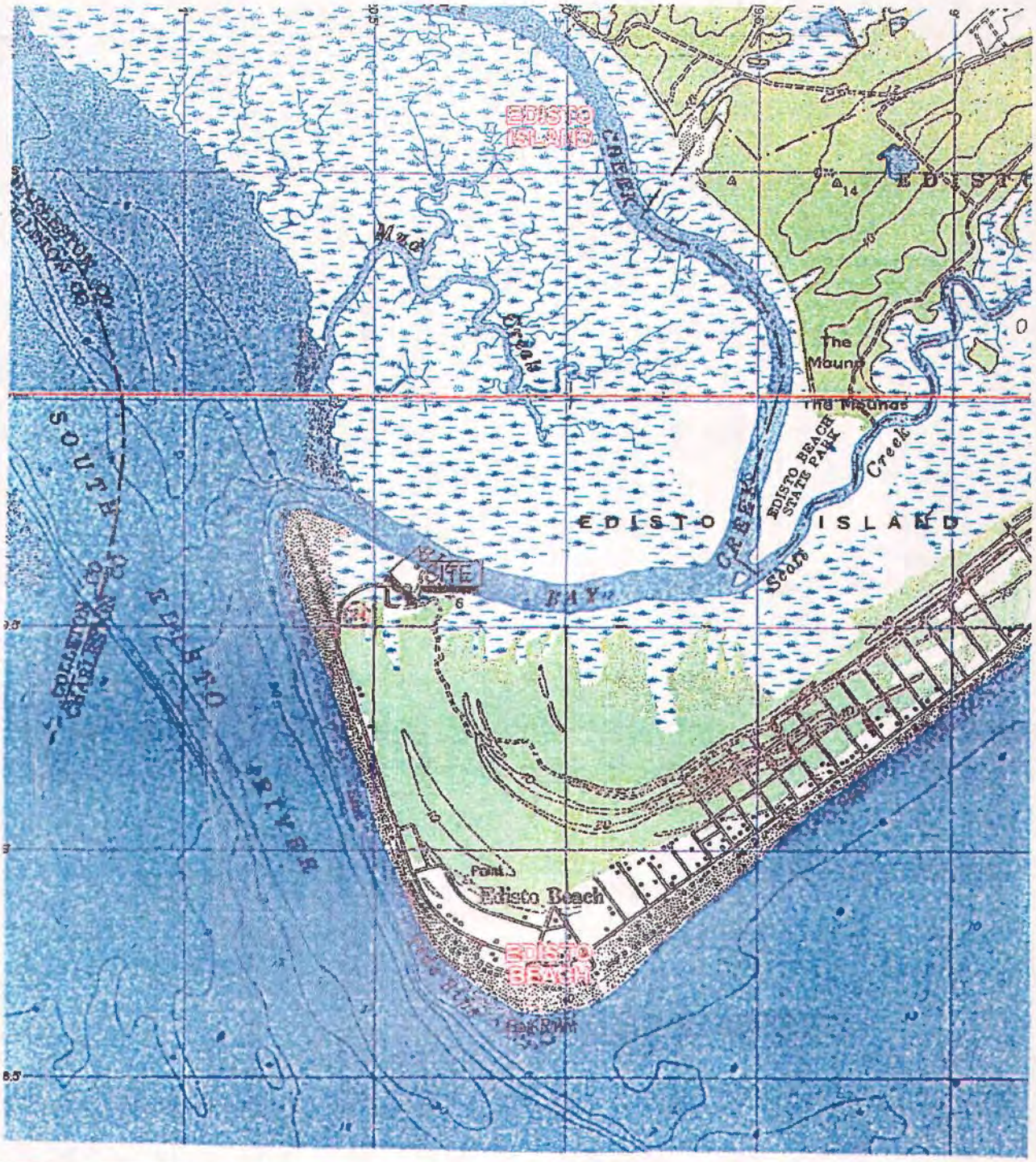
N/S - Not Sampled
Values Presented in Bold exceed SSTL

Table 3
Bay Creek Villas, Edisto Beach South Carolina, Consultech Project No. C-1205
UST Permit Number #18662
Mass Reduction Calculations Through January 19, 2005

		Benzene	Toluene	Ethylbenze	Xylenes	MTBE	Naphthaler	Mass>SSTL
MW-1	SSTL	3	1	4	1	5	5	
	Initial	2.9	1.0	3.5	1.0	5.0	5.0	
01/01/05	Subsequent	1.0	1.0	1.0	1.0	1.0	5.0	
	Initial > SSTL	0	0	0	0	0	0	0
	Subsequent > SSTL	0	0	0	0	0	0	0
MW-3	SSTL	5	1000	700	4090	40	25	
	Initial	2720	2170	1880	4090	50.0	580	
01/01/05	Subsequent	72,000.0	260,000.0	40,000.0	180,000.0	940,000.0	20,000.0	
	Initial > SSTL	2715	1170	1180	0	10	555	5,630
	Subsequent > SSTL	71995	259000	39300	175910	939960	19975	1,506,140
MW-4	SSTL	5	935	700	3230	40	25	
	Initial	196	935	1370	3230	50.0	479	
01/01/05	Subsequent	41.9	5.2	127.0	51	12.4	153	
	Initial > SSTL	191	0	670	0	10	454	1,325
	Subsequent > SSTL	36.9	0	0	0	0	128	165
MW-5	SSTL	1.0	1.0	1.0	1.0	5.0	5.0	
	Initial	1.0	1.0	1.0	1.0	5.0	5.0	
01/01/05	Subsequent	1.0	1.0	1.0	1.2	1.0	5.0	
	Initial > SSTL	0	0	0	0	0	0	0
	Subsequent > SSTL	0	0	0	0.2	0	0	0.2
MW-9	SSTL	5	1000	700	5580	40	25	
	Initial	1140	5400	1520	5580	50.0	412	
01/01/05	Subsequent	404.0	119.0	468	404	1.0	175	
	Initial > SSTL	1135	4400	820	0	10	387	6,752
	Subsequent > SSTL	399	0	0	0	0	150	549
MW-13	SSTL	1	1	31	2	5	25	
	Initial	1.0	1.0	30.5	1.8	5.0	30.1	
01/01/05	Subsequent	5.6	1.2	36.3	3.2	1.0	5.0	
	Initial > SSTL	0	0	0	0	0	5.1	5.1
	Subsequent > SSTL	4.6	0.2	5.3	1.2	0	0	11.3
Marsh	SSTL	1	1	1	1	5	5	
	Initial	1.0	1.0	1.0	1.0	5.0	5.0	
01/01/05	Subsequent	1.0	1.0	1.0	1.0	1.0	5.0	
	Initial > SSTL	0	0	0	0	0	0	0
	Subsequent > SSTL	0	0	0	0	0	0	0

13,712.1
1,506,865

Percent Mass Reduction= $\frac{\text{(Initial>STTL)-(Subsequent>SSTL)}}{\text{(Initial>SSTL)}}$ **-10889 %**

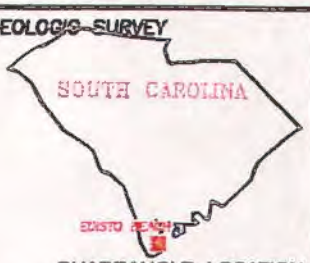


REFERENCE: EDISTO BEACH, SOUTH CAROLINA QUADRANGLE MAP, 7.5 MINUTE SERIES, U.S. GEOLOGICAL SURVEY

SCALE 1 : 24,000

0 2,000 4,000

SCALE IN FEET



QUADRANGLE LOCATION

DRAWN: D.J.D.	DATE: 12/09/02
REV.: 0	
PROJECT: BAY CREEK VILLAS	
PROJECT No.: C-1205	
LOCATION: EDISTO BEACH, SOUTH CAROLINA	

FIGURE 1
SITE LOCATION MAP

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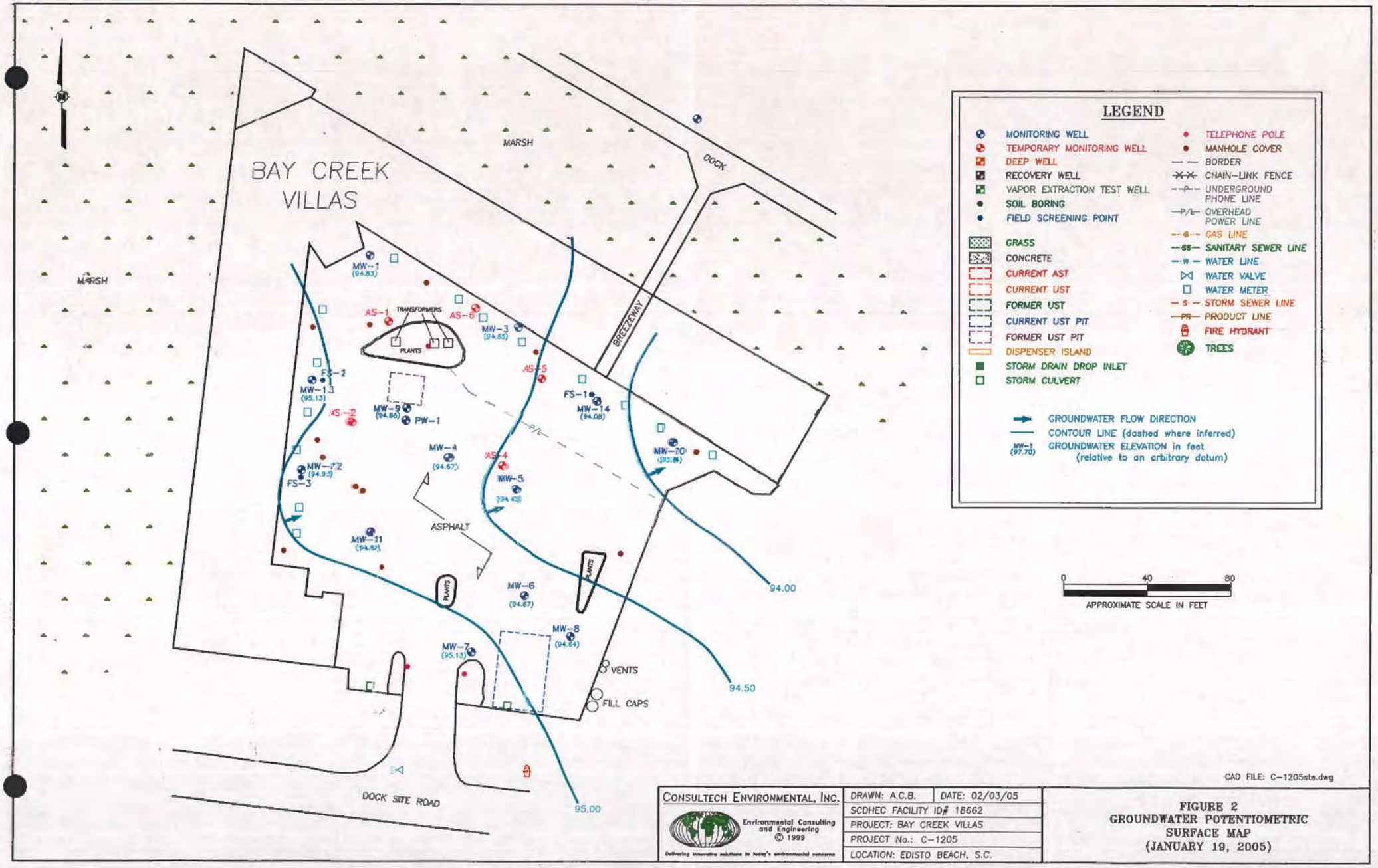
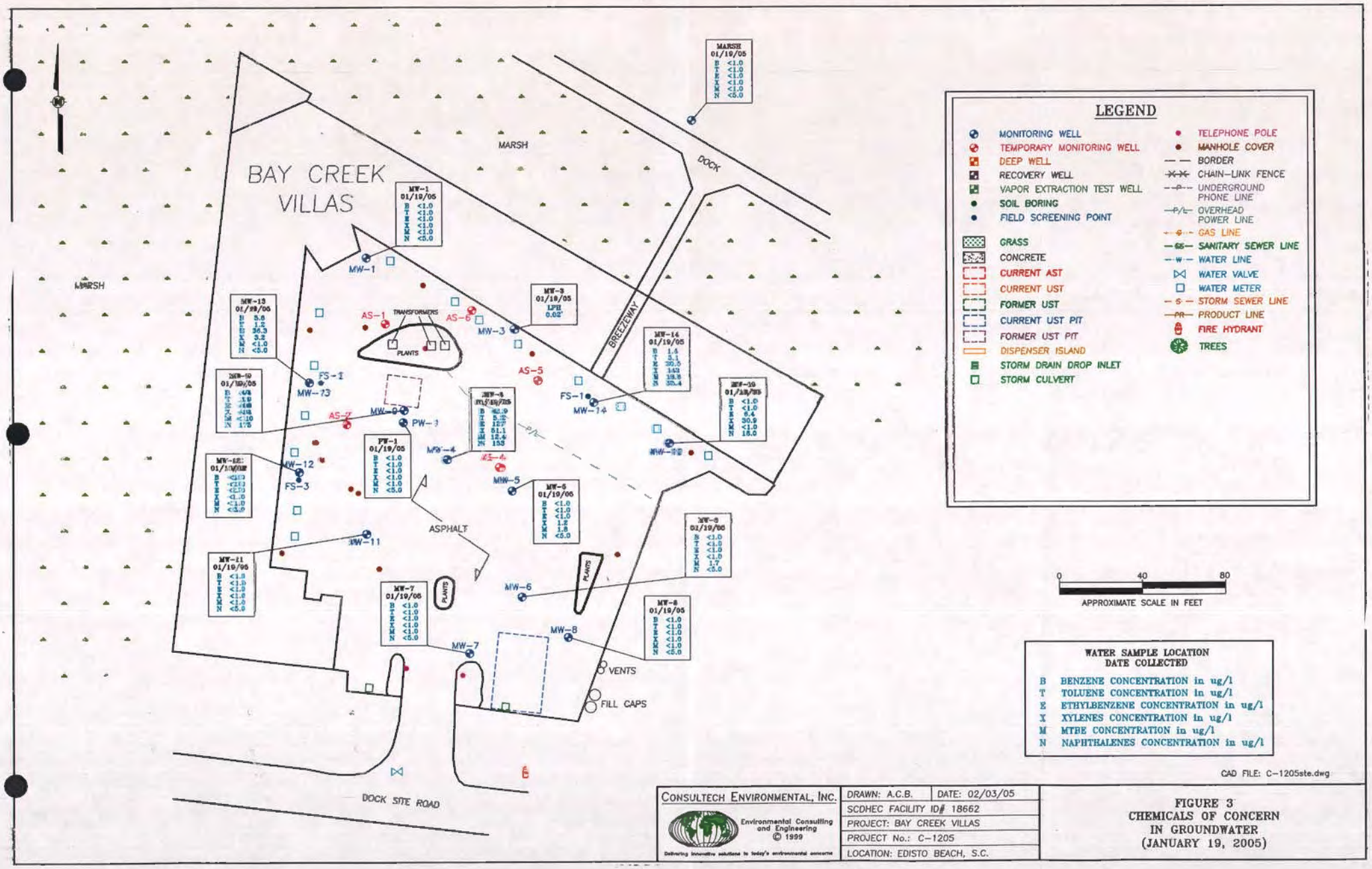


CONSULTECH ENVIRONMENTAL, INC. Environmental Consulting and Engineering © 1999 Delivering innovative solutions to today's environmental concerns	DRAWN: A.C.B.	DATE: 02/03/05
	SCDHEC FACILITY ID# 18662	
	PROJECT: BAY CREEK VILLAS	
	PROJECT No.: C-1205	
	LOCATION: EDISTO BEACH, S.C.	

FIGURE 2
GROUNDWATER POTENTIOMETRIC SURFACE MAP
(JANUARY 19, 2005)


BAY CREEK VILLAS
MARSH
DOCK
BREEZEWAY
TRANSFORMERS
PLANTS
ASPHALT
VENTS
FILL CAPS
DOCK SITE ROAD
MW-1 01/19/05 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
MW-3 01/19/05 LPH 0.02'
MW-14 01/19/05 B 1.6 T 3.1 E 20.5 X 142 M 19.8 N 35.4
MW-10 01/19/05 B <1.0 T <1.0 E 6.4 X 30.9 M <1.0 N 18.0
PW-1 01/19/05 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
MW-6 01/19/05 B <1.0 T <1.0 E <1.0 X 1.2 M 1.8 N <5.0
MW-9 01/19/05 B <1.0 T <1.0 E <1.0 X <1.0 M 1.7 N <5.0
MW-8 01/19/05 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
MW-7 01/19/05 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
MW-21 01/19/05 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
MW-13 01/19/05 B 5.6 T 1.2 E 36.3 X 3.2 M <1.0 N <5.0
MARSH 01/19/05 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
LEGEND
MONITORING WELL
TEMPORARY MONITORING WELL
DEEP WELL
RECOVERY WELL
VAPOR EXTRACTION TEST WELL
SOIL BORING
FIELD SCREENING POINT
GRASS
CONCRETE
CURRENT AST
CURRENT UST
FORMER UST
CURRENT UST PIT
FORMER UST PIT
DISPENSER ISLAND
STORM DRAIN DROP INLET
STORM CULVERT
TELEPHONE POLE
MANHOLE COVER
BORDER
CHAIN-LINK FENCE
UNDERGROUND PHONE LINE
OVERHEAD POWER LINE
GAS LINE
SANITARY SEWER LINE
WATER LINE
WATER VALVE
WATER METER
STORM SEWER LINE
PRODUCT LINE
FIRE HYDRANT
TREES
0 40 80
APPROXIMATE SCALE IN FEET
WATER SAMPLE LOCATION DATE COLLECTED
B BENZENE CONCENTRATION in ug/l
T TOLUENE CONCENTRATION in ug/l
E ETHYLBENZENE CONCENTRATION in ug/l
X XYLENES CONCENTRATION in ug/l
M MTBE CONCENTRATION in ug/l
N NAPHTHALENES CONCENTRATION in ug/l
CAD FILE: C-1205ste.dwg
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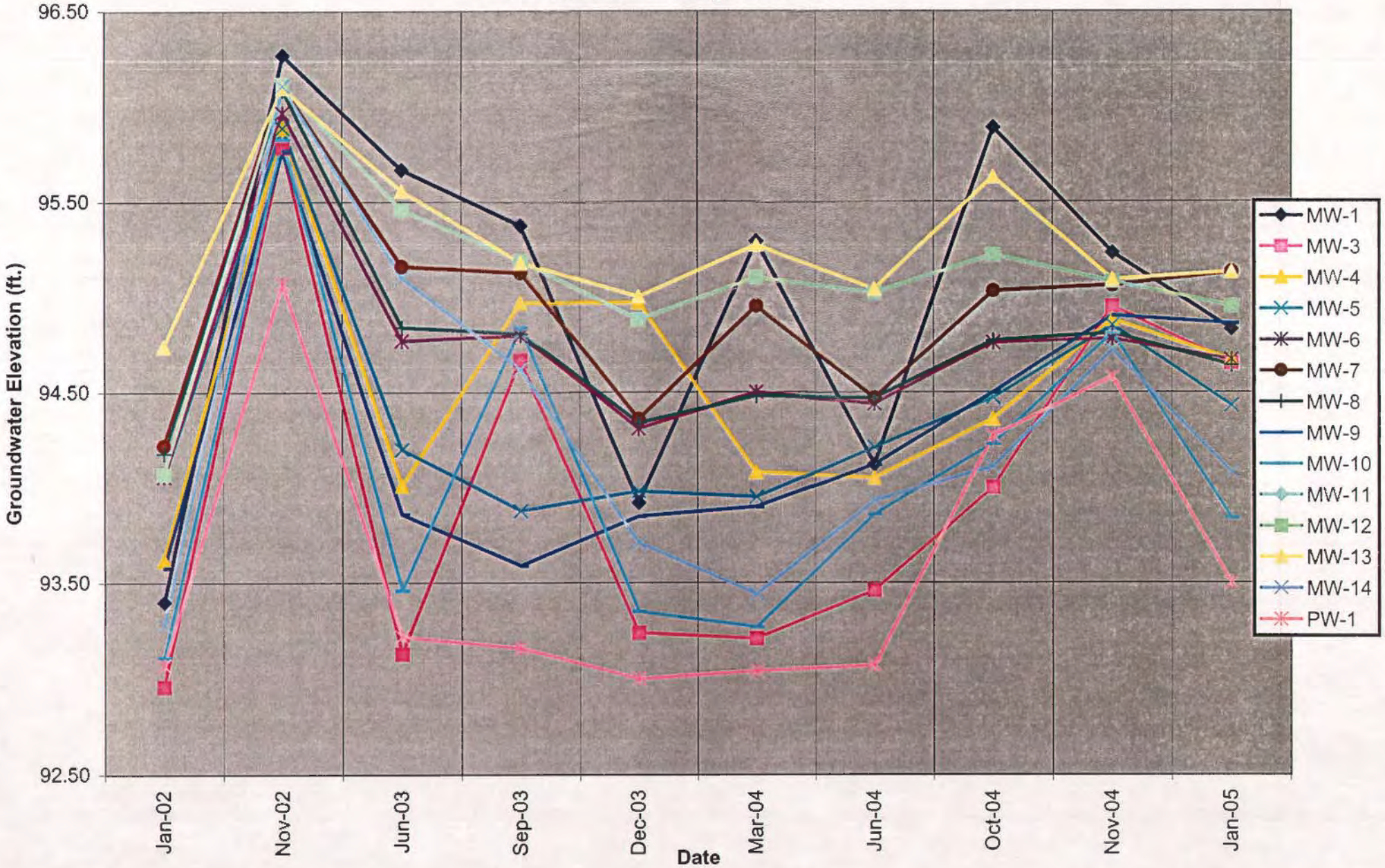
DRAWN: A.C.B. DATE: 02/03/05
SCDHEC FACILITY ID# 18662
PROJECT: BAY CREEK VILLAS
PROJECT No.: C-1205
LOCATION: EDISTO BEACH, S.C.
FIGURE 3
CHEMICALS OF CONCERN
IN GROUNDWATER
(JANUARY 19, 2005)

Groundwater Elevation vs. Time

Bay Creek Villas, Edisto Beach, SC Facilities # 18662

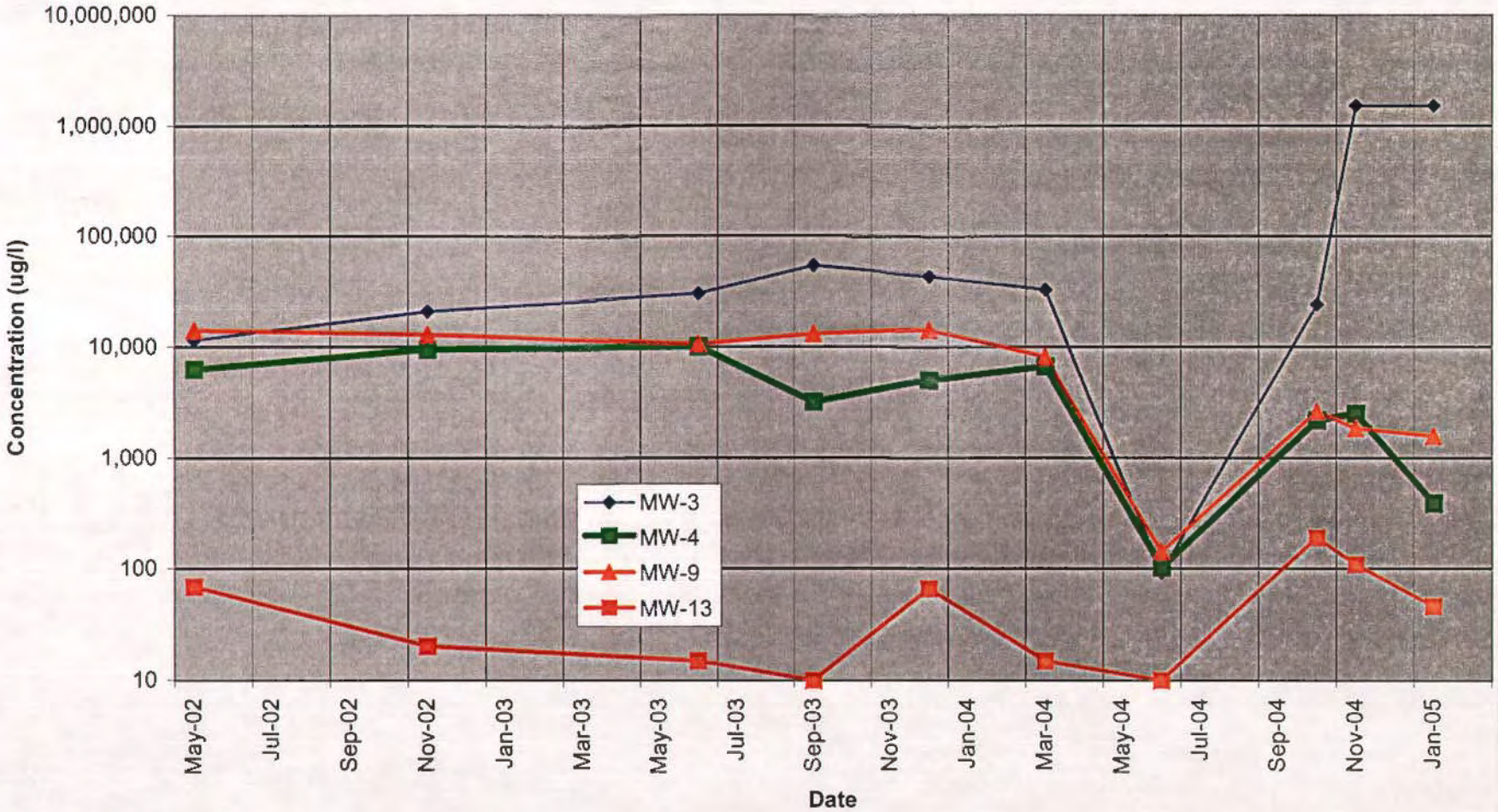
Consultech Project C-1205

Figure 4



Total Mass vs. Time
Bay Creek Villas, Edisto Beach, SC. Facility #18662
Consultech project C-1205

Figure 5



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403657

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

Client Name: Consultech Environmental Client #: _____
Address: 1800 Macleod Dr, St. F
State/Zip Code: Lawrenceville Ga 30043
Project Manager: Jim Wilson
Telephone Number: 678-377-0400 Fax: _____
Sampler Name: (Print Name) Van Chisholm
Sampler Signature: Van T Chisholm

Project Name: Bay Creek Villas
Project #: C-1205
Site/Location ID: Edisto Beach State: SC
Report To: Jim Wilson
Invoice To: _____
Quote #: _____ PO#: _____

TAT: + Standard; ___ Rush (surcharges may apply)
Date Needed: _____
Fax Results: (Y) N

Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other
Preservation & # of Containers: HNO_3, HCl, NaOH, H_2SO_4, Methanol, None, Other (Specify)
Analyze For: BTEX, MAPH, MTBE 8260B

QC Deliverables: ___ None; ___ Level 2 (Batch QC); ___ Level 3; ___ Level 4; Other: _____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix	HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	BTEX, MAPH, MTBE 8260B	REMARKS
MW-1	1-29-05	1400	G	No	GW		X						3	7853
4		1230												54
5		1125												55
6		1045												56
7		1115												57
8		1100												58
9		1245												59
10		1215												60
11		1315												61
12		1330												62

Special Instructions:

Relinquished By	Date	Time	Received By	Date	Time
Van T Chisholm	1-29-05	1600			

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by Test America: Y N
Method of Shipment:

TestAmerica
ANALYTICAL TESTING CORPORATION

403657

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

Client Name: Consultech Eng. Client #: _____
Address: 1800 Medical Dr. St. F
City/State/Zip Code: Lawrenceville Ga 30043
Project Manager: Jim Wilson
Telephone Number: 678-377-0400 Fax: _____
Sampler Name: (Print Name) Van T. Chisholm
Sampler Signature: Van T Chisholm

Project Name: Bay Creek Villas
Project #: C-1205
Site/Location ID: Edisto Beach State: SC
Report To: Jim Wilson
Invoice To: _____
Quote #: _____ PO#: _____

TAT: X Standard; ___ Rush (surcharges may apply)
Date Needed: _____
Fax Results: (Y) N

QC Deliverables: ___ None; ___ Level 2 (Batch QC); ___ Level 3; ___ Level 4; Other: _____

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix (SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other)	HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	BTEX, MTBE, NAPH 8260B										REMARKS
MW-13	1-19-05	1345	G	NO	GW		X						3							7863			
MW-14		1200					X						3							64			
PW-1		1300					X						3							65			
Marsh-1		1400			O		X						3							66			Marsh landing area

Special Instructions:

Relinquished By	Date	Time	Received By	Date	Time
Van T Chisholm	1-19-05	1600			

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp:
Custody Seals: Y N N/A
Bottles Supplied by Test America: Y N
Method of Shipment:

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800-765-0980 • 615-726-3404 Fax

1/25/05

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

This report includes the analytical certificates of analysis for all samples listed below. These samples relate to your project identified below:

Project Name: BAY CREEK VILLAS
Project Number: C-1205.
Laboratory Project Number: 403657.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. Any QC recoveries outside laboratory control limits are flagged individually with an #. Sample specific comments and quality control statements are included in the Laboratory notes section of the analytical report for each sample report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-800-765-0980. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

Sample Identification	Lab Number	Collection Date
MW-1	05-A7853	1/19/05
MW-4	05-A7854	1/19/05
MW-5	05-A7855	1/19/05
MW-6	05-A7856	1/19/05
MW-7	05-A7857	1/19/05
MW-8	05-A7858	1/19/05
MW-9	05-A7859	1/19/05
MW-10	05-A7860	1/19/05
MW-11	05-A7861	1/19/05
MW-12	05-A7862	1/19/05
MW-13	05-A7863	1/19/05
MW-14	05-A7864	1/19/05
PW-1	05-A7865	1/19/05
MARSH-1	05-A7866	1/19/05

A2LA certification number 0453.07 for analysis of wastewater and solid/hazardous

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Sample Identification	Lab Number	Collection Date

waste.

NELAC/Florida certification number E87358 for analysis of environmental water, soil/hazardous waste, and drinking water effective 07/01/99-06/30/05.

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: _____ Report Date: 1/25/05

Johnny A. Mitchell, Lab Director
Michael H. Dunn, M.S., Technical Director
Pamela A. Langford, Technical Services
Eric S. Smith, QA/QC Director
Sandra McMillin, Technical Services
Gail A. Lage, Technical Services
Glenn L. Norton, Technical Services
Kelly S. Comstock, Technical Services
Roxanne L. Connor, Technical Services

Laboratory Certification Number: 84009

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Lab Number: 05-A7853
Sample ID: MW-1
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 14:00
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1.0	1/21/05	17:38	B.Herford	8260B	7408
Toluene	ND	ug/l	1.0	1.0	1/21/05	17:38	B.Herford	8260B	7408
Ethylbenzene	ND	ug/l	1.0	1.0	1/21/05	17:38	B.Herford	8260B	7408
Xylenes (Total)	ND	ug/l	1.0	1.0	1/21/05	17:38	B.Herford	8260B	7408
Methyl-t-butyl ether	ND	ug/l	1.0	1.0	1/21/05	17:38	B.Herford	8260B	7408
Naphthalene	ND	ug/l	5.00	1.0	1/21/05	17:38	B.Herford	8260B	7408

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	107.	73. - 127.
VOA Surr Toluene-d8	107.	79. - 113.
VOA Surr, 4-BFB	112.	79. - 125.
VOA Surr, DBFM	102.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Lab Number: 05-A7854
Sample ID: MW-4
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 12:30
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	41.9	ug/l	1.0	1.0	1/21/05	18:09	B.Herford	8260B	7408
Toluene	5.2	ug/l	1.0	1.0	1/21/05	18:09	B.Herford	8260B	7408
Ethylbenzene	127.	ug/l	1.0	1.0	1/21/05	18:09	B.Herford	8260B	7408
Xylenes (Total)	51.1	ug/l	1.0	1.0	1/21/05	18:09	B.Herford	8260B	7408
Methyl-t-butyl ether	12.4	ug/l	1.0	1.0	1/21/05	18:09	B.Herford	8260B	7408
Naphthalene	153.	ug/l	5.00	1.0	1/21/05	18:09	B.Herford	8260B	7408

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	100.	73. - 127.
VOA Surr Toluene-d8	107.	79. - 113.
VOA Surr, 4-BFB	109.	79. - 125.
VOA Surr, DBFM	97.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Lab Number: 05-A7855
Sample ID: MW-5
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 11:25
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1.0	1/22/05	14:04	B.Herford	8260B	9254
Toluene	ND	ug/l	1.0	1.0	1/22/05	14:04	B.Herford	8260B	9254
Ethylbenzene	ND	ug/l	1.0	1.0	1/22/05	14:04	B.Herford	8260B	9254
Xylenes (Total)	1.2	ug/l	1.0	1.0	1/22/05	14:04	B.Herford	8260B	9254
Methyl-t-butyl ether	1.8	ug/l	1.0	1.0	1/22/05	14:04	B.Herford	8260B	9254
Naphthalene	ND	ug/l	5.00	1.0	1/22/05	14:04	B.Herford	8260B	9254

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	105.	73. - 127.
VOA Surr Toluene-d8	108.	79. - 113.
VOA Surr, 4-BFB	122.	79. - 125.
VOA Surr, DBFM	101.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Lab Number: 05-A7856
Sample ID: MW-6
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 10:45
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1.0	1/21/05	19:13	B.Herford	8260B	7408
Toluene	ND	ug/l	1.0	1.0	1/21/05	19:13	B.Herford	8260B	7408
Ethylbenzene	ND	ug/l	1.0	1.0	1/21/05	19:13	B.Herford	8260B	7408
Xylenes (Total)	ND	ug/l	1.0	1.0	1/21/05	19:13	B.Herford	8260B	7408
Methyl-t-butyl ether	1.7	ug/l	1.0	1.0	1/21/05	19:13	B.Herford	8260B	7408
Naphthalene	ND	ug/l	5.00	1.0	1/21/05	19:13	B.Herford	8260B	7408

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	105.	73. - 127.
VOA Surr Toluene-d8	106.	79. - 113.
VOA Surr, 4-BFB	112.	79. - 125.
VOA Surr, DBFM	103.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Lab Number: 05-A7857
Sample ID: MW-7
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 11:15
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1.0	1/21/05	19:45	B.Herford	8260B	7408
Toluene	ND	ug/l	1.0	1.0	1/21/05	19:45	B.Herford	8260B	7408
Ethylbenzene	ND	ug/l	1.0	1.0	1/21/05	19:45	B.Herford	8260B	7408
Xylenes (Total)	ND	ug/l	1.0	1.0	1/21/05	19:45	B.Herford	8260B	7408
Methyl-t-butyl ether	ND	ug/l	1.0	1.0	1/21/05	19:45	B.Herford	8260B	7408
Naphthalene	ND	ug/l	5.00	1.0	1/21/05	19:45	B.Herford	8260B	7408

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	104.	73. - 127.
VOA Surr Toluene-d8	105.	79. - 113.
VOA Surr, 4-BFB	111.	79. - 125.
VOA Surr, DBFM	103.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Lab Number: 05-A7858
Sample ID: MW-8
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 11:00
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1.0	1/21/05	20:17	B.Herford	8260B	7408
Toluene	ND	ug/l	1.0	1.0	1/21/05	20:17	B.Herford	8260B	7408
Ethylbenzene	ND	ug/l	1.0	1.0	1/21/05	20:17	B.Herford	8260B	7408
Xylenes (Total)	ND	ug/l	1.0	1.0	1/21/05	20:17	B.Herford	8260B	7408
Methyl-t-butyl ether	ND	ug/l	1.0	1.0	1/21/05	20:17	B.Herford	8260B	7408
Naphthalene	ND	ug/l	5.00	1.0	1/21/05	20:17	B.Herford	8260B	7408

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	105.	73. - 127.
VOA Surr Toluene-d8	99.	79. - 113.
VOA Surr, 4-BFB	112.	79. - 125.
VOA Surr, DBFM	102.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Lab Number: 05-A7859
Sample ID: MW-9
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 12:45
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	404.	ug/l	20.0	20.0	1/22/05	19:53	B.Herford	8260B	9254
Toluene	119.	ug/l	1.0	1.0	1/21/05	20:48	B.Herford	8260B	7408
Ethylbenzene	468.	ug/l	20.0	20.0	1/22/05	19:53	B.Herford	8260B	9254
Xylenes (Total)	404.	ug/l	1.0	1.0	1/21/05	20:48	B.Herford	8260B	7408
Methyl-t-butyl ether	ND	ug/l	1.0	1.0	1/21/05	20:48	B.Herford	8260B	7408
Naphthalene	175.	ug/l	5.00	1.0	1/21/05	20:48	B.Herford	8260B	7408

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	103.	73. - 127.
VOA Surr Toluene-d8	108.	79. - 113.
VOA Surr, 4-BFB	116.	79. - 125.
VOA Surr, DBFM	101.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Lab Number: 05-A7860
Sample ID: MW-10
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 12:15
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1.0	1/22/05	1:33	B.Herford	8260B	7415
Toluene	ND	ug/l	1.0	1.0	1/22/05	1:33	B.Herford	8260B	7415
Ethylbenzene	6.4	ug/l	1.0	1.0	1/22/05	1:33	B.Herford	8260B	7415
Xylenes (Total)	30.9	ug/l	1.0	1.0	1/22/05	1:33	B.Herford	8260B	7415
Methyl-t-butyl ether	ND	ug/l	1.0	1.0	1/22/05	1:33	B.Herford	8260B	7415
Naphthalene	18.0	ug/l	5.00	1.0	1/22/05	1:33	B.Herford	8260B	7415

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	105.	73. - 127.
VOA Surr Toluene-d8	104.	79. - 113.
VOA Surr, 4-BFB	111.	79. - 125.
VOA Surr, DBFM	103.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Lab Number: 05-A7861
Sample ID: MW-11
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 13:15
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1.0	1/22/05	2:05	B.Herford	8260B	7415
Toluene	ND	ug/l	1.0	1.0	1/22/05	2:05	B.Herford	8260B	7415
Ethylbenzene	ND	ug/l	1.0	1.0	1/22/05	2:05	B.Herford	8260B	7415
Xylenes (Total)	ND	ug/l	1.0	1.0	1/22/05	2:05	B.Herford	8260B	7415
Methyl-t-butyl ether	ND	ug/l	1.0	1.0	1/22/05	2:05	B.Herford	8260B	7415
Naphthalene	ND	ug/l	5.00	1.0	1/22/05	2:05	B.Herford	8260B	7415

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	105.	73. - 127.
VOA Surr Toluene-d8	107.	79. - 113.
VOA Surr, 4-BFB	113.	79. - 125.
VOA Surr, DBFM	101.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Lab Number: 05-A7862
Sample ID: MW-12
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 13:30
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1.0	1/22/05	2:37	B.Herford	8260B	7415
Toluene	ND	ug/l	1.0	1.0	1/22/05	2:37	B.Herford	8260B	7415
Ethylbenzene	ND	ug/l	1.0	1.0	1/22/05	2:37	B.Herford	8260B	7415
Xylenes (Total)	ND	ug/l	1.0	1.0	1/22/05	2:37	B.Herford	8260B	7415
Methyl-t-butyl ether	ND	ug/l	1.0	1.0	1/22/05	2:37	B.Herford	8260B	7415
Naphthalene	ND	ug/l	5.00	1.0	1/22/05	2:37	B.Herford	8260B	7415

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	105.	73. - 127.
VOA Surr Toluene-d8	104.	79. - 113.
VOA Surr, 4-BFB	113.	79. - 125.
VOA Surr, DBFM	101.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Lab Number: 05-A7863
Sample ID: MW-13
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 13:45
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	5.6	ug/l	1.0	1.0	1/22/05	3:08	B.Herford	8260B	7415
Toluene	1.2	ug/l	1.0	1.0	1/22/05	3:08	B.Herford	8260B	7415
Ethylbenzene	36.3	ug/l	1.0	1.0	1/22/05	3:08	B.Herford	8260B	7415
Xylenes (Total)	3.2	ug/l	1.0	1.0	1/22/05	3:08	B.Herford	8260B	7415
Methyl-t-butyl ether	ND	ug/l	1.0	1.0	1/22/05	3:08	B.Herford	8260B	7415
Naphthalene	ND	ug/l	5.00	1.0	1/22/05	3:08	B.Herford	8260B	7415

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	106.	73. - 127.
VOA Surr Toluene-d8	103.	79. - 113.
VOA Surr, 4-BFB	107.	79. - 125.
VOA Surr, DBFM	103.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

End of Sample Report.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Lab Number: 05-A7864
Sample ID: MW-14
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 12:00
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	1.4	ug/l	1.0	1.0	1/22/05	3:40	B.Herford	8260B	7415
Toluene	5.1	ug/l	1.0	1.0	1/22/05	3:40	B.Herford	8260B	7415
Ethylbenzene	30.5	ug/l	1.0	1.0	1/22/05	3:40	B.Herford	8260B	7415
Xylenes (Total)	143.	ug/l	1.0	1.0	1/22/05	3:40	B.Herford	8260B	7415
Methyl-t-butyl ether	18.8	ug/l	1.0	1.0	1/22/05	3:40	B.Herford	8260B	7415
Naphthalene	53.4	ug/l	5.00	1.0	1/22/05	3:40	B.Herford	8260B	7415

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	106.	73. - 127.
VOA Surr Toluene-d8	106.	79. - 113.
VOA Surr, 4-BFB	103.	79. - 125.
VOA Surr, DBFM	105.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Lab Number: 05-A7865
Sample ID: PW-1
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 13:00
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1.0	1/22/05	4:12	B.Herford	8260B	7415
Toluene	ND	ug/l	1.0	1.0	1/22/05	4:12	B.Herford	8260B	7415
Ethylbenzene	ND	ug/l	1.0	1.0	1/22/05	4:12	B.Herford	8260B	7415
Xylenes (Total)	ND	ug/l	1.0	1.0	1/22/05	4:12	B.Herford	8260B	7415
Methyl-t-butyl ether	ND	ug/l	1.0	1.0	1/22/05	4:12	B.Herford	8260B	7415
Naphthalene	ND	ug/l	5.00	1.0	1/22/05	4:12	B.Herford	8260B	7415

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	110.	73. - 127.
VOA Surr Toluene-d8	107.	79. - 113.
VOA Surr, 4-BFB	111.	79. - 125.
VOA Surr, DBFM	102.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

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ANALYTICAL REPORT

CONSULTECH ENVIRONMENTAL 2628
JIM WILSON
1800 MACLEOD DR, STE 150
LAWRENCEVILLE, GA 30043-5736

Lab Number: 05-A7866
Sample ID: MARSH-1
Sample Type: Water
Site ID:

Date Collected: 1/19/05
Time Collected: 14:10
Date Received: 1/20/05
Time Received: 7:55
Page: 1

Project: C-1205
Project Name: BAY CREEK VILLAS
Sampler: VAN CHISOLM

Analyte	Result	Units	Report Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS									
Benzene	ND	ug/l	1.0	1.0	1/22/05	4:43	B.Herford	8260B	7415
Toluene	ND	ug/l	1.0	1.0	1/22/05	4:43	B.Herford	8260B	7415
Ethylbenzene	ND	ug/l	1.0	1.0	1/22/05	4:43	B.Herford	8260B	7415
Xylenes (Total)	ND	ug/l	1.0	1.0	1/22/05	4:43	B.Herford	8260B	7415
Methyl-t-butyl ether	ND	ug/l	1.0	1.0	1/22/05	4:43	B.Herford	8260B	7415
Naphthalene	ND	ug/l	5.00	1.0	1/22/05	4:43	B.Herford	8260B	7415

Surrogate	% Recovery	Target Range
VOA Surr 1,2-DCA-d4	110.	73. - 127.
VOA Surr Toluene-d8	107.	79. - 113.
VOA Surr, 4-BFB	115.	79. - 125.
VOA Surr, DBFM	100.	75. - 134.

LABORATORY COMMENTS:
ND = Not detected at the report limit.
B = Analyte was detected in the method blank.
J = Estimated Value below Report Limit.
E = Estimated Value above the calibration limit of the instrument.
# = Recovery outside Laboratory historical or method prescribed limits.

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ANALYTICAL TESTING CORPORATION

2960 Foster Creighton Drive • Nashville, Tennessee 37204
800-765-0980 • 615-726-3404 Fax

PROJECT QUALITY CONTROL DATA
Project Number: C-1205
Project Name: BAY CREEK VILLAS
Page: 1
Laboratory Receipt Date: 1/21/05

Matrix Spike Recovery

Note: If Blank is referenced as the sample spiked, insufficient volume was received for the defined analytical batch for MS/MSD analysis on an true sample matrix. Laboratory reagent water was used for QC purposes.

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
VOA PARAMETERS								
Benzene	mg/l	0.0031	0.0591	0.0500	112	62 - 146	7408	7775
Benzene	mg/l	0.0007	0.0563	0.0500	111	62 - 146	7415	7776
Benzene	mg/l	< 0.0010	0.0556	0.0500	111	62 - 146	9254	7781
Toluene	mg/l	< 0.0010	0.0552	0.0500	110	68 - 141	7408	7775
Toluene	mg/l	< 0.0010	0.0553	0.0500	111	68 - 141	7415	7776
Toluene	mg/l	< 0.0010	0.0552	0.0500	110	68 - 141	9254	7781
VOA Surr 1,2-DCA-d4	% Rec				101	73 - 127	7408	
VOA Surr 1,2-DCA-d4	% Rec				102	73 - 127	7415	
VOA Surr 1,2-DCA-d4	% Rec				100	73 - 127	9254	
VOA Surr Toluene-d8	% Rec				107	79 - 113	7408	
VOA Surr Toluene-d8	% Rec				108	79 - 113	7415	
VOA Surr Toluene-d8	% Rec				108	79 - 113	9254	
VOA Surr, 4-BFB	% Rec				105	79 - 125	7408	
VOA Surr, 4-BFB	% Rec				104	79 - 125	7415	
VOA Surr, 4-BFB	% Rec				107	79 - 125	9254	
VOA Surr, DBFM	% Rec				102	75 - 134	7408	
VOA Surr, DBFM	% Rec				100	75 - 134	7415	
VOA Surr, DBFM	% Rec				102	75 - 134	9254	

Matrix Spike Duplicate

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: C-1205
Project Name: BAY CREEK VILLAS
Page: 2
Laboratory Receipt Date: 1/21/05

VOA PARAMETERS						
Benzene	mg/l	0.0591	0.0587	0.68	25.	7408
Benzene	mg/l	0.0563	0.0570	1.24	25.	7415
Benzene	mg/l	0.0556	0.0560	0.72	25.	9254
Toluene	mg/l	0.0552	0.0547	0.91	29.	7408
Toluene	mg/l	0.0553	0.0546	1.27	29.	7415
Toluene	mg/l	0.0552	0.0556	0.72	29.	9254
VOA Surr 1,2-DCA-d4	% Rec		100.			7408
VOA Surr 1,2-DCA-d4	% Rec		101.			7415
VOA Surr 1,2-DCA-d4	% Rec		100.			9254
VOA Surr Toluene-d8	% Rec		108.			7408
VOA Surr Toluene-d8	% Rec		105.			7415
VOA Surr Toluene-d8	% Rec		108.			9254
VOA Surr, 4-BFB	% Rec		106.			7408
VOA Surr, 4-BFB	% Rec		103.			7415
VOA Surr, 4-BFB	% Rec		108.			9254
VOA Surr, DBFM	% Rec		102.			7408
VOA Surr, DBFM	% Rec		101.			7415
VOA Surr, DBFM	% Rec		102.			9254

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
VOA PARAMETERS						
Benzene	mg/l	0.0500	0.0551	110	76 - 127	7408
Benzene	mg/l	0.0500	0.0515	103	76 - 127	7415
Benzene	mg/l	0.0500	0.0548	110	76 - 127	9254
Ethylbenzene	mg/l	0.0500	0.0558	112	80 - 124	7408
Ethylbenzene	mg/l	0.0500	0.0520	104	80 - 124	7415
Ethylbenzene	mg/l	0.0500	0.0564	113	80 - 124	9254
Naphthalene	mg/l	0.0500	0.0587	117	61 - 143	7408
Naphthalene	mg/l	0.0500	0.0593	119	61 - 143	7415

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: C-1205
Project Name: BAY CREEK VILLAS
Page: 3
Laboratory Receipt Date: 1/21/05

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Naphthalene	mg/l	0.0500	0.0596	119	61 - 143	9254
Toluene	mg/l	0.0500	0.0544	109	79 - 124	7408
Toluene	mg/l	0.0500	0.0506	101	79 - 124	7415
Toluene	mg/l	0.0500	0.0541	108	79 - 124	9254
Xylenes (Total)	mg/l	0.150	0.168	112	80 - 125	7408
Xylenes (Total)	mg/l	0.150	0.156	104	80 - 125	7415
Xylenes (Total)	mg/l	0.150	0.170	113	80 - 125	9254
Methyl-t-butyl ether	mg/l	0.0500	0.0559	112	66 - 136	7408
Methyl-t-butyl ether	mg/l	0.0500	0.0547	109	66 - 136	7415
Methyl-t-butyl ether	mg/l	0.0500	0.0546	109	66 - 136	9254
VOA Surr 1,2-DCA-d4	% Rec			105	73 - 127	7408
VOA Surr 1,2-DCA-d4	% Rec			103	73 - 127	7415
VOA Surr 1,2-DCA-d4	% Rec			102	73 - 127	9254
VOA Surr Toluene-d8	% Rec			107	79 - 113	7408
VOA Surr Toluene-d8	% Rec			106	79 - 113	7415
VOA Surr Toluene-d8	% Rec			106	79 - 113	9254
VOA Surr, 4-BFB	% Rec			101	79 - 125	7408
VOA Surr, 4-BFB	% Rec			104	79 - 125	7415
VOA Surr, 4-BFB	% Rec			104	79 - 125	9254
VOA Surr, DBFM	% Rec			104	75 - 134	7408
VOA Surr, DBFM	% Rec			102	75 - 134	7415
VOA Surr, DBFM	% Rec			102	75 - 134	9254

Duplicates

Analyte	units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	Sample Dup'd

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: C-1205
Project Name: BAY CREEK VILLAS
Page: 4
Laboratory Receipt Date: 1/21/05

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Date Analyzed	Time Analyzed
VOA PARAMETERS					
Benzene	< 0.0003	mg/l	7408	1/21/05	13:24
Benzene	< 0.0003	mg/l	7415	1/22/05	0:30
Benzene	< 0.0003	mg/l	9254	1/22/05	13:33
Ethylbenzene	< 0.0002	mg/l	7408	1/21/05	13:24
Ethylbenzene	< 0.0002	mg/l	7415	1/22/05	0:30
Ethylbenzene	< 0.0002	mg/l	9254	1/22/05	13:33
Naphthalene	< 0.00120	mg/l	7408	1/21/05	13:24
Naphthalene	< 0.00120	mg/l	7415	1/22/05	0:30
Naphthalene	< 0.00120	mg/l	9254	1/22/05	13:33
Toluene	< 0.0002	mg/l	7408	1/21/05	13:24
Toluene	< 0.0002	mg/l	7415	1/22/05	0:30
Toluene	< 0.0002	mg/l	9254	1/22/05	13:33
Xylenes (Total)	< 0.0006	mg/l	7408	1/21/05	13:24
Xylenes (Total)	< 0.0006	mg/l	7415	1/22/05	0:30
Xylenes (Total)	< 0.0006	mg/l	9254	1/22/05	13:33
Methyl-t-butyl ether	< 0.0002	mg/l	7408	1/21/05	13:24
Methyl-t-butyl ether	< 0.0002	mg/l	7415	1/22/05	0:30
Methyl-t-butyl ether	< 0.0002	mg/l	9254	1/22/05	13:33
VOA Surr 1,2-DCA-d4	107.	% Rec	7408	1/21/05	13:24
VOA Surr 1,2-DCA-d4	105.	% Rec	7415	1/22/05	0:30
VOA Surr 1,2-DCA-d4	106.	% Rec	9254	1/22/05	13:33
VOA Surr Toluene-d8	108.	% Rec	7408	1/21/05	13:24
VOA Surr Toluene-d8	108.	% Rec	7415	1/22/05	0:30
VOA Surr Toluene-d8	108.	% Rec	9254	1/22/05	13:33
VOA Surr, 4-BFB	110.	% Rec	7408	1/21/05	13:24
VOA Surr, 4-BFB	111.	% Rec	7415	1/22/05	0:30
VOA Surr, 4-BFB	110.	% Rec	9254	1/22/05	13:33

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA
Project Number: C-1205
Project Name: BAY CREEK VILLAS
Page: 5
Laboratory Receipt Date: 1/21/05

Blank Data

Analyte	Blank Value	Units	Q.C. Batch	Analysis Date	Analysis Time
VOA Surr, DBFM	101.	% Rec	7408	1/21/05	13:24
VOA Surr, DBFM	102.	% Rec	7415	1/22/05	0:30
VOA Surr, DBFM	101.	% Rec	9254	1/22/05	13:33

= Value outside Laboratory historical or method prescribed QC limits.

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TestAmerica Analytical Testing Corporation | TestAmerica Drilling Corporation | TestAmerica Air Emission Corporation

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: SCDHEC

Address: 2600 Bull Street

City: Columbia State: SC Zip: 29201-1708

Telephone: Work: (803) 898-4300 Home:

2. LOCATION OF WELL: TFR-1 **COUNTY: Colleton**
Name: Bay Creek Villas

Street Address: 3701 Dock Site Road
City: Edisto Beach,SC Zip:

Latitude: 32° 29' 35" Longitude: : 80° 20' 27" W

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: [ ] Yes [ ] No

Grouted Depth: from_____ft. to _____ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Tan clayey sand	12	12
* Indicate Water Bearing Zones Use a 2nd sheet if needed		

5. REMARKS:

6. PERMIT NUMBER: UMW-18908 TFR-1

7. USE:
[ ] Residential [ ] Public Supply [X] Process
[ ] Irrigation [ ] Air Conditioning [ ] Emergency
[ ] Test Well [ ] Monitor Well [ ] Replacement

8. WELL DEPTH (completed) Date Started: 1/19/05

12 ft Date Completed: 1/19/05

9. TYPE [ ] Mud Rotary [ ] Jetted [ ] Bored
[ ] Dug [ ] Air Rotary [ ] Driven
[ ] Cable Tool [X] H.S.A. [ ] Other

10. CASING: [ ]Threaded [ ] Welded
Diam.: 4.0"
Type: [X] PVC [ ] Galvanized
[ ] Steel [ ] Other
0 in. to 2 ft depth
____ in. to ____ ft depth

Height: Above/Below
Surface flush ft
Weight____ lb/ft
Drive Shoe? [ ] Yes [ ] No

11. SCREEN
Type PVC Diam.: 4.0 in
Slot/Gauge: 0.010 Length: 10 ft
Set Between: 2 ft and 12 ft **NOTE: MULTIPLE SCREENS**
____ ft and ____ ft **USE SECOND SHEET**

Sieve Analysis [ ] Yes (please enclose) [ ] No

12. STATIC WATER LEVEL 5 ft below land surface after 24 hrs

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 [X] Yes [ ] No Bacterial Analysis [ ] Yes [ ] No
Please enclose lab results

15. ARTIFICAL FILTER (filter pack) [ ] Yes [ ] No
Installed from 1 ft. to 12 ft
Effective size 20/30 Uniformity Coefficient ____

16. WELL GROUTED? [X] Yes [ ] No
[ ] Neat Cement [ ] Bentonite [X] Bentonite/Cement [ ] Other ____
Depth: From .5 ft to 1 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: 1648**
Address: 1800 4850 Sugarloaf Pkwy, Ste 209, #329, Lawrenceville, GA 30044 Telephone No.: 678-377-5336 Fax No.: 678-377-5336

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: ____ Date: 1/25/05
Authorized Representative

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: SCDHEC
Address: 2600 Bull Street
City: Columbia State: SC Zip: 29201-1708
Telephone: Work: (803) 898-4300 Home:

2. LOCATION OF WELL: TFR-2 **COUNTY: Colleton**
Name: Bay Creek Villas
Street Address: 3701 Dock Site Road
City: Edisto Beach,SC Zip:
Latitude: 32° 29' 35" Longitude: : 80° 20' 27" W

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: [ ] Yes [ ] No
Grouted Depth: from ______ ft. to ______ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Tan clayey sand	12	12

* Indicate Water Bearing Zones
Use a 2nd sheet if needed

5. REMARKS:

6. PERMIT NUMBER: UMW-18908 TFR-2

7. USE:
[ ] Residential [ ] Public Supply [X] Process
[ ] Irrigation [ ] Air Conditioning [ ] Emergency
[ ] Test Well [ ] Monitor Well [ ] Replacement

8. WELL DEPTH (completed) Date Started: 1/19/05
12 ft Date Completed: 1/19/05

9. TYPE [ ] Mud Rotary [ ] Jetted [ ] Bored
[ ] Dug [ ] Air Rotary [ ] Driven
[ ] Cable Tool [X] H.S.A. [ ] Other

10. CASING: [ ]Threaded [ ] Welded
Diam.: 4.0"
Type: [X] PVC [ ] Galvanized
[ ] Steel [ ] Other
0 in. to 2 ft depth
______ in. to ______ ft depth

Height: Above/Below
Surface flush ft
Weight ______ lb/ft
Drive Shoe? [ ] Yes [ ] No

11. SCREEN
Type PVC Diam.: 4.0 in
Slot/Gauge: 0.010 Length: 10 ft
Set Between: 2 ft and 12 ft **NOTE: MULTIPLE SCREENS**
______ ft and ______ ft **USE SECOND SHEET**
Sieve Analysis [ ] Yes (please enclose) [ ] No

12. STATIC WATER LEVEL 5 ft below land surface after 24 hrs

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 [X] Yes [ ] No Bacterial Analysis [ ] Yes [ ] No
Please enclose lab results

15. ARTIFICAL FILTER (filter pack) [ ] Yes [ ] No
Installed from 1 ft. to 12 ft
Effective size 20/30 Uniformity Coefficient ______

16. WELL GROUTED? [X] Yes [ ] No
[ ] Neat Cement [ ] Bentonite [X] Bentonite/Cement [ ] Other ______
Depth: From .5 ft to 1 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: 1648**
Address: 1800 4850 Sugarloaf Pkwy, Ste 209, #329, Lawrenceville, GA 30044 Telephone No.: 678-377-5336 Fax No.: 678-377-5336

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: ______ Date: 1/25/05
Authorized Representative

NON-HAZARDOUS WASTE MANIFEST

GDST
5 Picadilly Court NE
Conyers, GA 30013
Office (770) 918-8956
Fax (770) 860-8893

No. 001160

Section 1 GENERATOR (Generator completes all of Section 1)

a. Generator Name: SC DHEC
b. Address: 2600 Bull Street, Columbia, SC 29201
c. Phone No.:
If owner generating facility differs from the generator, provide:
d. Owners Name:
e. Description of Waste: 2 Drums - Hydrocarbon Soil

g. Generating Location: Bay Creek Villas
h. Address: 2901 Dock Site Road, Easton Beach, South Carolina
i. Phone No.:
j. Owners Phone No.:

k. Quantity: 25 Units: G No.: 02 Type: DM

TYPE	
DM	-METAL DRUM
DP	-PLASTIC DRUM
B	-BAG
BA	-6MIL. PLASTIC BAG or WRAP
T	-TRUCK
O	-OTHER

I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

UNITS	
T	-TONS
G	-GALLONS
M^3	-CUBIC METERS
Y^3	-CUBIC YARDS
O	-OTHER

Consultech Environmental — Generator Authorized Agent Name
[signature] — Signature
Ship Date

Section II TRANSPORTER (Generator completes a-d; Transporter I completes e-g; Transporter II completes h-n)

a. Name: GDST
b. Address
c. Driver Name/Title: Joe Smith
d. Phone No.: 770 [illegible] e. Truck No.: 02
f. Vehicle License No./State: 8956
Acknowledgement of Receipt of Materials.
g. [signature] — Driver Signature — Shipment Date

h. Name:
i. Address
j. Driver Name/Title:
k. Phone No.: l. Truck No.:
m. Vehicle License No./State:
Acknowledgement of Receipt of Materials.
n. Driver Signature — Shipment Date

Section III DESTINATION (Destination site completes e-f)

a. Site Name: Eagle Point Landfill
b. Physical Address: 2880 Old Fed Road, Bell Ground Ga 30107
c. Phone No.:
d. Mailing Address:
e. Discrepancy Indication Space:

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

f. Joseph Smith — Name of Authorized Agent
[signature] — Signature
Receipt Date

TFM801GDST

Pace Analytical®
www.pacelabs.com

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Pace Analytical Services, Inc.
2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

RECEIVED
DEC 29 2006
UNDERGROUND STORAGE
TANK PROGRAM

December 27, 2006

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2006. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Richard Swartz
richard.swartz@pacelabs.com
(704) 875-9092 ext. 237
Project Manager

Enclosures

Pace Analytical®
www.pacelabs.com

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Pace Analytical Services, Inc.
2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814343 | Project Sample Number: 92134494-001 | Date Collected: 12/15/06 12:35
Client Sample ID: MW-1 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/26/06 18:30	MSF	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/26/06 18:30	MSF	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/26/06 18:30	MSF	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/26/06 18:30	MSF	1634-04-4		
Naphthalene	9.7	ug/l	5.0	1.0	12/26/06 18:30	MSF	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/26/06 18:30	MSF	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/26/06 18:30	MSF			
o-Xylene	ND	ug/l	5.0	1.0	12/26/06 18:30	MSF	95-47-6		
Toluene-d8 (S)	98	%		1.0	12/26/06 18:30	MSF	2037-26-5		
4-Bromofluorobenzene (S)	102	%		1.0	12/26/06 18:30	MSF	460-00-4		
Dibromofluoromethane (S)	96	%		1.0	12/26/06 18:30	MSF	1868-53-7		
1,2-Dichloroethane-d4 (S)	99	%		1.0	12/26/06 18:30	MSF	17060-07-0		

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC 99030
FL NELAP E87648

REPORT OF LABORATORY ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

Charlotte Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006
FL NELAP E87627

Pace Analytical®
www.pacelabs.com

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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Pace Analytical Services, Inc.
2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814350 | Project Sample Number: 92134494-002 | Date Collected: 12/15/06 12:30
Client Sample ID: MW-3 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	3600	ug/l	120	25.0	12/21/06 17:38	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	120	25.0	12/21/06 17:38	ALH	107-06-2		
Ethylbenzene	880	ug/l	120	25.0	12/21/06 17:38	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	120	25.0	12/21/06 17:38	ALH	1634-04-4		
Naphthalene	660	ug/l	120	25.0	12/21/06 17:38	ALH	91-20-3		
Toluene	110	J ug/l	120	25.0	12/21/06 17:38	ALH	108-88-3		
m&p-Xylene	670	ug/l	250	25.0	12/21/06 17:38	ALH			
o-Xylene	140	ug/l	120	25.0	12/21/06 17:38	ALH	95-47-6		
Toluene-d8 (S)	100	%		1.0	12/21/06 17:38	ALH	2037-26-5		
4-Bromofluorobenzene (S)	99	%		1.0	12/21/06 17:38	ALH	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	12/21/06 17:38	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	109	%		1.0	12/21/06 17:38	ALH	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814376 | Project Sample Number: 92134494-003 | Date Collected: 12/15/06 12:05
Client Sample ID: MW-4 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	97.	ug/l	10.	2.0	12/21/06 17:57	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	10.	2.0	12/21/06 17:57	ALH	107-06-2		
Ethylbenzene	240	ug/l	10.	2.0	12/21/06 17:57	ALH	100-41-4		
Methyl-tert-butyl ether	15.	ug/l	10.	2.0	12/21/06 17:57	ALH	1634-04-4		
Naphthalene	230	ug/l	10.	2.0	12/21/06 17:57	ALH	91-20-3		
Toluene	8.1	J ug/l	10.	2.0	12/21/06 17:57	ALH	108-88-3		
m&p-Xylene	52.	ug/l	20.	2.0	12/21/06 17:57	ALH			
o-Xylene	12.	ug/l	10.	2.0	12/21/06 17:57	ALH	95-47-6		
Toluene-d8 (S)	101	%		1.0	12/21/06 17:57	ALH	2037-26-5		
4-Bromofluorobenzene (S)	100	%		1.0	12/21/06 17:57	ALH	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	12/21/06 17:57	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	107	%		1.0	12/21/06 17:57	ALH	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814384 | Project Sample Number: 92134494-004 | Date Collected: 12/15/06 12:10
Client Sample ID: MW-5 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/21/06 18:14	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/21/06 18:14	ALH	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/21/06 18:14	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/21/06 18:14	ALH	1634-04-4		
Naphthalene	160	ug/l	5.0	1.0	12/21/06 18:14	ALH	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/21/06 18:14	ALH	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/21/06 18:14	ALH			
o-Xylene	ND	ug/l	5.0	1.0	12/21/06 18:14	ALH	95-47-6		
Toluene-d8 (S)	101	%		1.0	12/21/06 18:14	ALH	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	12/21/06 18:14	ALH	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	12/21/06 18:14	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	105	%		1.0	12/21/06 18:14	ALH	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814392 | Project Sample Number: 92134494-005 | Date Collected: 12/15/06 11:40
Client Sample ID: MW-6 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/26/06 18:46	MSF	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/26/06 18:46	MSF	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/26/06 18:46	MSF	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/26/06 18:46	MSF	1634-04-4		
Naphthalene	11.	ug/l	5.0	1.0	12/26/06 18:46	MSF	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/26/06 18:46	MSF	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/26/06 18:46	MSF			
o-Xylene	ND	ug/l	5.0	1.0	12/26/06 18:46	MSF	95-47-6		
Toluene-d8 (S)	98	%		1.0	12/26/06 18:46	MSF	2037-26-5		
4-Bromofluorobenzene (S)	99	%		1.0	12/26/06 18:46	MSF	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	12/26/06 18:46	MSF	1868-53-7		
1,2-Dichloroethane-d4 (S)	101	%		1.0	12/26/06 18:46	MSF	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814400 | Project Sample Number: 92134494-006 | Date Collected: 12/15/06 11:30
Client Sample ID: MW-7 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/21/06 18:45	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/21/06 18:45	ALH	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/21/06 18:45	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/21/06 18:45	ALH	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/21/06 18:45	ALH	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/21/06 18:45	ALH	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/21/06 18:45	ALH			
o-Xylene	ND	ug/l	5.0	1.0	12/21/06 18:45	ALH	95-47-6		
Toluene-d8 (S)	100	%		1.0	12/21/06 18:45	ALH	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	12/21/06 18:45	ALH	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	12/21/06 18:45	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	107	%		1.0	12/21/06 18:45	ALH	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814418 | Project Sample Number: 92134494-007 | Date Collected: 12/15/06 11:35
Client Sample ID: MW-8 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/21/06 19:01	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/21/06 19:01	ALH	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/21/06 19:01	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/21/06 19:01	ALH	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/21/06 19:01	ALH	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/21/06 19:01	ALH	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/21/06 19:01	ALH			
o-Xylene	ND	ug/l	5.0	1.0	12/21/06 19:01	ALH	95-47-6		
Toluene-d8 (S)	100	%		1.0	12/21/06 19:01	ALH	2037-26-5		
4-Bromofluorobenzene (S)	92	%		1.0	12/21/06 19:01	ALH	460-00-4		
Dibromofluoromethane (S)	100	%		1.0	12/21/06 19:01	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	101	%		1.0	12/21/06 19:01	ALH	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814426 | Project Sample Number: 92134494-008 | Date Collected: 12/15/06 12:00
Client Sample ID: MW-9 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	820	ug/l	25.	5.0	12/21/06 19:20	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	25.	5.0	12/21/06 19:20	ALH	107-06-2		
Ethylbenzene	2000	ug/l	100	20.0	12/21/06 19:20	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	25.	5.0	12/21/06 19:20	ALH	1634-04-4		
Naphthalene	710	ug/l	25.	5.0	12/21/06 19:20	ALH	91-20-3		
Toluene	150	ug/l	25.	5.0	12/21/06 19:20	ALH	108-88-3		
m&p-Xylene	1600	ug/l	50.	5.0	12/21/06 19:20	ALH			
o-Xylene	51.	ug/l	25.	5.0	12/21/06 19:20	ALH	95-47-6		
Toluene-d8 (S)	101	%		1.0	12/21/06 19:20	ALH	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	12/21/06 19:20	ALH	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	12/21/06 19:20	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	99	%		1.0	12/21/06 19:20	ALH	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814434 | Project Sample Number: 92134494-009 | Date Collected: 12/15/06 12:15
Client Sample ID: MW-10 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/21/06 19:36	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/21/06 19:36	ALH	107-06-2		
Ethylbenzene	3.6	J ug/l	5.0	1.0	12/21/06 19:36	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/21/06 19:36	ALH	1634-04-4		
Naphthalene	190	ug/l	5.0	1.0	12/21/06 19:36	ALH	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/21/06 19:36	ALH	108-88-3		
m&p-Xylene	6.9	J ug/l	10.	1.0	12/21/06 19:36	ALH			
o-Xylene	ND	ug/l	5.0	1.0	12/21/06 19:36	ALH	95-47-6		
Toluene-d8 (S)	101	%		1.0	12/21/06 19:36	ALH	2037-26-5		
4-Bromofluorobenzene (S)	101	%		1.0	12/21/06 19:36	ALH	460-00-4		
Dibromofluoromethane (S)	104	%		1.0	12/21/06 19:36	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	107	%		1.0	12/21/06 19:36	ALH	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814442 | Project Sample Number: 92134494-010 | Date Collected: 12/15/06 11:45
Client Sample ID: MW-11 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/26/06 19:02	MSF	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/26/06 19:02	MSF	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/26/06 19:02	MSF	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/26/06 19:02	MSF	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/26/06 19:02	MSF	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/26/06 19:02	MSF	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/26/06 19:02	MSF			
o-Xylene	ND	ug/l	5.0	1.0	12/26/06 19:02	MSF	95-47-6		
Toluene-d8 (S)	99	%		1.0	12/26/06 19:02	MSF	2037-26-5		
4-Bromofluorobenzene (S)	100	%		1.0	12/26/06 19:02	MSF	460-00-4		
Dibromofluoromethane (S)	100	%		1.0	12/26/06 19:02	MSF	1868-53-7		
1,2-Dichloroethane-d4 (S)	101	%		1.0	12/26/06 19:02	MSF	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814459 | Project Sample Number: 92134494-011 | Date Collected: 12/15/06 11:50
Client Sample ID: MW-12 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/21/06 20:08	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/21/06 20:08	ALH	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/21/06 20:08	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/21/06 20:08	ALH	1634-04-4		
Naphthalene	3.1	J ug/l	5.0	1.0	12/21/06 20:08	ALH	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/21/06 20:08	ALH	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/21/06 20:08	ALH			
o-Xylene	ND	ug/l	5.0	1.0	12/21/06 20:08	ALH	95-47-6		
Toluene-d8 (S)	101	%		1.0	12/21/06 20:08	ALH	2037-26-5		
4-Bromofluorobenzene (S)	98	%		1.0	12/21/06 20:08	ALH	460-00-4		
Dibromofluoromethane (S)	103	%		1.0	12/21/06 20:08	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	104	%		1.0	12/21/06 20:08	ALH	17060-07-0		

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Fax: 704.875.9091

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2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814467 | Project Sample Number: 92134494-012 | Date Collected: 12/15/06 11:55
Client Sample ID: MW-13 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/21/06 20:24	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/21/06 20:24	ALH	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/21/06 20:24	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/21/06 20:24	ALH	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/21/06 20:24	ALH	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/21/06 20:24	ALH	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/21/06 20:24	ALH			
o-Xylene	ND	ug/l	5.0	1.0	12/21/06 20:24	ALH	95-47-6		
Toluene-d8 (S)	100	%		1.0	12/21/06 20:24	ALH	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	12/21/06 20:24	ALH	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	12/21/06 20:24	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	107	%		1.0	12/21/06 20:24	ALH	17060-07-0		

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC 99030
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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814475 | Project Sample Number: 92134494-013 | Date Collected: 12/15/06 12:25
Client Sample ID: MW-14 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/21/06 20:40	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/21/06 20:40	ALH	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/21/06 20:40	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/21/06 20:40	ALH	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/21/06 20:40	ALH	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/21/06 20:40	ALH	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/21/06 20:40	ALH			
o-Xylene	ND	ug/l	5.0	1.0	12/21/06 20:40	ALH	95-47-6		
Toluene-d8 (S)	100	%		1.0	12/21/06 20:40	ALH	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	12/21/06 20:40	ALH	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	12/21/06 20:40	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	100	%		1.0	12/21/06 20:40	ALH	17060-07-0		

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Fax: 828.252.4618

Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814483 | Project Sample Number: 92134494-014 | Date Collected: 12/15/06 12:55
Client Sample ID: MW-15 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	3500	ug/l	250	50.0	12/21/06 20:59	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	50.	10.0	12/21/06 20:59	ALH	107-06-2		
Ethylbenzene	510	ug/l	50.	10.0	12/21/06 20:59	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	50.	10.0	12/21/06 20:59	ALH	1634-04-4		
Naphthalene	110	ug/l	50.	10.0	12/21/06 20:59	ALH	91-20-3		
Toluene	27.	J ug/l	50.	10.0	12/21/06 20:59	ALH	108-88-3		
m&p-Xylene	170	ug/l	100	10.0	12/21/06 20:59	ALH			
o-Xylene	18.	J ug/l	50.	10.0	12/21/06 20:59	ALH	95-47-6		
Toluene-d8 (S)	100	%		1.0	12/21/06 20:59	ALH	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	12/21/06 20:59	ALH	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	12/21/06 20:59	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	103	%		1.0	12/21/06 20:59	ALH	17060-07-0		

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Fax: 828.252.4618

Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814509 | Project Sample Number: 92134494-015 | Date Collected: 12/15/06 13:05
Client Sample ID: MW-16 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	1700	ug/l	100	20.0	12/21/06 21:17	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	100	20.0	12/21/06 21:17	ALH	107-06-2		
Ethylbenzene	600	ug/l	100	20.0	12/21/06 21:17	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	100	20.0	12/21/06 21:17	ALH	1634-04-4		
Naphthalene	740	ug/l	100	20.0	12/21/06 21:17	ALH	91-20-3		
Toluene	1600	ug/l	100	20.0	12/21/06 21:17	ALH	108-88-3		
m&p-Xylene	4900	ug/l	200	20.0	12/21/06 21:17	ALH			
o-Xylene	3000	ug/l	100	20.0	12/21/06 21:17	ALH	95-47-6		
Toluene-d8 (S)	99	%		1.0	12/21/06 21:17	ALH	2037-26-5		
4-Bromofluorobenzene (S)	100	%		1.0	12/21/06 21:17	ALH	460-00-4		
Dibromofluoromethane (S)	103	%		1.0	12/21/06 21:17	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	103	%		1.0	12/21/06 21:17	ALH	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

Lab Sample No: 927814517 | Project Sample Number: 92134494-016 | Date Collected: 12/15/06 12:40
Client Sample ID: MW-17 | Matrix: Water | Date Received: 12/19/06 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	150	ug/l	5.0	1.0	12/21/06 21:34	ALH	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	12/21/06 21:34	ALH	107-06-2		
Ethylbenzene	54.	ug/l	5.0	1.0	12/21/06 21:34	ALH	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/21/06 21:34	ALH	1634-04-4		
Naphthalene	38.	ug/l	5.0	1.0	12/21/06 21:34	ALH	91-20-3		
Toluene	6.4	ug/l	5.0	1.0	12/21/06 21:34	ALH	108-88-3		
m&p-Xylene	81.	ug/l	10.	1.0	12/21/06 21:34	ALH			
o-Xylene	27.	ug/l	5.0	1.0	12/21/06 21:34	ALH	95-47-6		
Toluene-d8 (S)	100	%		1.0	12/21/06 21:34	ALH	2037-26-5		
4-Bromofluorobenzene (S)	98	%		1.0	12/21/06 21:34	ALH	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	12/21/06 21:34	ALH	1868-53-7		
1,2-Dichloroethane-d4 (S)	110	%		1.0	12/21/06 21:34	ALH	17060-07-0		

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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

Method 9071B modified to use ASE.

All pH, Free Chlorine, Total Chlorine and Ferrous Iron analyses conducted outside of EPA recommended immediate hold time.

Depending on the moisture content the PRLs can be elevated for all soil samples reported on a dry weight basis.

2-Chloroethyl vinyl ether has been shown to degrade in the presence of acid.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate

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QUALITY CONTROL DATA

Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

QC Batch: 176197 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 927814343 927814350 927814376 927814384 927814392 927814400 927814418 927814426 927814434 927814442 927814459 927814467 927814475 927814483 927814509 927814517

METHOD BLANK: 927824110
Associated Lab Samples: 927814343 927814350 927814376 927814384 927814392 927814400 927814418 927814426 927814434 927814442 927814459 927814467 927814475 927814483 927814509 927814517

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
1,2-Dichloroethane	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	101		
4-Bromofluorobenzene (S)	%	101		
Dibromofluoromethane (S)	%	104		
1,2-Dichloroethane-d4 (S)	%	106		

LABORATORY CONTROL SAMPLE: 927824128

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	54.59	109	
1,2-Dichloroethane	ug/l	50.00	49.54	99	
Ethylbenzene	ug/l	50.00	53.32	107	
Methyl-tert-butyl ether	ug/l	50.00	46.90	94	
Naphthalene	ug/l	50.00	27.27	54	
Toluene	ug/l	50.00	52.39	105	
m&p-Xylene	ug/l	100.00	108.1	108	
o-Xylene	ug/l	50.00	53.08	106	
Toluene-d8 (S)				102	
4-Bromofluorobenzene (S)				103	
Dibromofluoromethane (S)				99	
1,2-Dichloroethane-d4 (S)				100	

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QUALITY CONTROL DATA

Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 927825141 927825158

Parameter	Units	927814400 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	47.32	52.92	95	106	11	
Toluene	ug/l	0	50.00	45.37	50.56	91	101	11	
Toluene-d8 (S)						102	100		
4-Bromofluorobenzene (S)						98	94		
Dibromofluoromethane (S)						104	98		
1,2-Dichloroethane-d4 (S)						105	101		

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Phone: 828.254.7176
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Lab Project Number: 92134494
Client Project ID: Bay Creek 18662/CA:28332

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

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1047768

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC-UST	Report To: D. Thoma	Attention: Finance
Address: 2600 Bull St	Copy To:	Company Name:
Columbia SC 29201		Address:
Email To:	Purchase Order No.: 574989	Pace Quote Reference:
Phone: 803.896.6240 Fax: 803.896.6245	Project Name: Bay Creek Villas	Pace Project Manager:
Requested Due Date/TAT: 7 day	Project Number: 18662/CA:28332	Pace Profile #: 1700-9

REGULATORY AGENCY

- ☐ NPDES
- ☒ UST
- ☐ GROUND WATER
- ☐ RCRA
- ☐ DRINKING WATER
- ☐ Other

SITE LOCATION: ☐GA ☐IL ☐IN ☐MI ☐MN ☐NC ☐OH ☒SC ☐WI ☐OTHER

Section D Required Client Information

SAMPLE ID

One Character per box. (A-Z, 0-9 / .-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

Filtered (Y/N): N N

Requested Analysis: BTEXMN (8260B) 1,2-DCA (8260B)

Pace Project Number: 92134494

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEXMN (8260B)	1,2-DCA (8260B)	Residual Chlorine (Y/N)	Lab I.D
1	MW-1	WT	G	12/15/06	1235	—	—	—	3				3					X	X		Mild odor
2	MW-3	WT	G		1230	—	—	—	3				3					X	X		Strong Odor
3	MW-4	WT	G		1205	—	—	—	3				3					X	X		Strong Odor
4	MW-5	WT	G		1210	—	—	—	3				3					X	X		Slight odor
5	MW-6	WT	G		1140	—	—	—	3				3					X	X		—
6	MW-7	WT	G		1130	—	—	—	3				3					X	X		Slight Odor
7	MW-8	WT	G		1135	—	—	—	3				3					X	X		—
8	MW-9	WT	G		1200	—	—	—	3				3					X	X		Strong Odor
9	MW-10	WT	G		1215	—	—	—	3				3					X	X		Mild odor
10	MW-11	WT	G		1145	—	—	—	3				3					X	X		—
11	MW-12	WT	G		1150	—	—	—	3				3					X	X		—
12	MW-13	WT	G		1155	—	—	—	3				3					X	X		—

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Dalton Reames	12/18/06	1830	[illegible]	12/19/06	9:30

SAMPLE CONDITION

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames

SIGNATURE of SAMPLER: Dalton Reames

DATE Signed (MM / DD / YY): 12/18/06

SEE REVERSE SIDE FOR INSTRUCTIONS

ALLQ020rev.3,31Mar05

CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull St
Columbia SC 29201
Email To:
Phone: 803.896.6240 Fax: 803.896.6245
Requested Due Date/TAT: 7 day

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 574989
Project Name: Bay Creek Villas
Project Number: 18662/CA 28332

Section C Invoice Information:

Attention: Finance
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☒ UST ☐ RCRA ☐ Other

SITE LOCATION: ☐ GA ☐ IL ☐ IN ☐ MI ☐ MN ☐ NC ☐ OH ☒ SC ☐ WI ☐ OTHER

Section D Required Client Information

Valid Matrix Codes: DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / .-) Samples IDs MUST BE UNIQUE)	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEXMN (8260B)	1,2-DCA (8260B)	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D
1	MW-14	WT	G	12/15/06	1225	—	—	—	3				3					X	X		Slight odor
2	MW-15	WT	G		1255	—	—	—	3				3					X	X		Mild odor
3	MW-16	WT	G		1305	—	—	—	3				3					X	X		Strong odor
4	MW-17	WT	G		1240	—	—	—	3				3					X	X		Strong odor
5	MW-18	WT	G						3				3					X	X		
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Dalton Reames	12/18/06	1830	[illegible]	12/19/06	9:30

SAMPLE CONDITION

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames.

SIGNATURE of SAMPLER: Dalton Reames

DATE Signed (MM / DD / YY): 12/18/06

SEE REVERSE SIDE FOR INSTRUCTIONS

ALLQ020rev.3,31Mar05

SITE ACTIVITY SUMMARY

UST PERMIT # 18662
FACILITY NAME Bay Creek Villas
COUNTY COLLETON
NAME OF SAMPLER DALTON REAMES

Sample ID	sampled?	Date	Time	Depth of Well	Depth to Water	Depth to Product	FP Thickness	# gal purged	comments
MW-1	Y	12/15/06	1235	15.00	4.80	—	—	—	Mild odor
MW-3	Y		1230	15.00	6.38	—	—	—	Strong odor
MW-4	Y		1205	15.00	5.81	—	—	—	Strong odor
MW-5	Y		1210	15.00	5.59	—	—	—	Slight odor
MW-6	Y		~~1135~~ 1140	15.00	~~4.88~~ 4.63	—	—	—	No odor; WL = 4.63
MW-7	Y		1130	10.00	5.00	—	—	—	Slight odor ?
MW-8	Y		1135	10.00	4.88	—	—	—	—
MW-9	Y		1200	10.00	5.60	—	—	—	Strong Odor
MW-10	Y		1215	12.00	6.16	—	—	—	Mild odor; See Below
MW-11	Y		1145	12.00	5.00	—	—	—	—
MW-12	Y		1150	12.00	4.98	—	—	—	—
MW-13	Y		1155	12.00	4.71	—	—	—	—
MW-14	Y		1225	12.00	5.97	—	—	—	Slight odor
MW-15	Y		1255	10.00	4.88	—	—	—	Mild odor
MW-16	Y		1305	10.00	6.65	—	—	—	Strong odor
MW-17	Y		1240	10.00	4.69	—	—	—	Strong Odor
MW-18	N	—	—	10.00	6.95	6.33	—	—	* See Below; Strong Odor

* MW-10: well cap will not fill between riser & cover; uncapped

* MW-18: Interface probe registered H_2O level @ 6.95 & gave no product indication; however, I observed ≈ 6" of product in bailer: retried probe & still no product signal

** A 3rd attempt yielded a PL of 6.75 & WL of 6.92: PT = 0.17

Midlands
Environmental
Consultants, Inc.

November 6, 2006

Mr. Read Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
NOV 8 2006
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID #18662; CA #27725
MECI Project Number 06-998

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Reports for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted eight 8-hour Aggressive Fluid Vapor Recovery (AFVR) events at Bay Creek Villas from October 3, 2006 through November 1, 2006. These events were conducted on monitoring wells MW-15, MW-16, and MW-18 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-18 at a maximum thickness of 1.60 feet prior to the AFVR events. The events were conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected monitoring well MW-18 immediately following the completion of the eighth event.

MECI treated the off gas produced during the AFVR events using an activated carbon filter system. Calculated total petroleum hydrocarbons removed for all events from the well were 623.06 pounds or approximately 107.63 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 9.16 pounds per hour. Concentrations of off gas produced during the event were recorded from 80 parts per million by volume (PPM) to 10,000 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 8.0 to 22.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Tables 1A through Table 1H.

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

A total of 1,058 gallons of liquid was removed from monitoring wells MW-15, MW-16, and MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the events. The fluids produced were transported to Midlands Environmental Consultants Inc. in Lexington, SC to await disposal at Crandall Corporation of Lexington, S.C. A disposal manifest for these fluids is attached at the end of this report.

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A through Table 2H. Monitoring well locations are depicted on attached Figure 1.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Brandon T. Guiles
Project Scientist

William C. McClary, P.G.
Seniorl Geologist

Attachments:

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-15	10/03/06	11:30	0.50	9.0	4,000	2440	219.60	10.54	5.27
MW-16	10/03/06	12:00	0.50	10.0	10,000	2410	216.90	26.03	13.01
MW-18	10/03/06	12:30	0.50	9.0	4,000	2540	228.60	10.97	5.49
	10/03/06	13:00	0.50	11.0	2,000	2270	204.30	4.90	2.45
	10/03/06	13:30	0.50	9.0	800	2550	229.50	2.20	1.10
	10/03/06	14:00	0.50	9.0	300	2570	231.30	0.83	0.42
	10/03/06	14:30	0.50	9.0	200	2540	228.60	0.55	0.27
	10/03/06	15:00	0.50	9.0	175	2560	230.40	0.48	0.24
	10/03/06	15:30	0.50	10.0	250	2520	226.80	0.68	0.34
	10/03/06	16:00	0.50	9.0	400	2590	233.10	1.12	0.56
	10/03/06	16:30	0.50	9.0	2,000	2570	231.30	5.55	2.78
	10/03/06	17:00	0.50	9.0	1,500	2600	234.00	4.21	2.11
	10/03/06	17:30	0.50	9.0	3,500	2580	232.20	9.75	4.88
	10/03/06	18:00	0.50	9.0	4,000	2550	229.50	11.02	5.51
	10/03/06	18:30	0.50	9.0	4,500	2610	234.90	12.68	6.34
	10/03/06	19:00	0.50	9.0	4,000	2600	234.00	11.23	5.62
	10/03/06	19:30	0.50	9.0	5,000	2590	233.10	13.99	6.99
									TOTAL 63.37

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product ickness	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-15	2"	10	**	4.65	**	***	5.25	***	0.60
MW-16	2"	10	**	6.62	**	**	3.80	**	-2.82
MW-18	2"	10	6.34	6.48	0.14	3.95	4.00	0.05	-2.36

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-15	6.00
Truck Operator:	B.Guiles	MW-16	6.00
Stack I.D. (feet)	0.33 feet	MW-18	6.00
Corrected depth to water before AFVR Event in MW-15			4.65
Corrected depth to water before AFVR Event in MW-16			6.62
Corrected depth to water before AFVR Event in MW-18			6.36

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	63.37	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	10.95	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	MECI	
Total Liquids Removed:	160	Gallons

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UNDERGROUND STORAGE TANK PROGRAM

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-15	10/04/06	5:30	0.50	9.0	2,500	2500	225.00	6.75	3.38
MW-16	10/04/06	6:00	0.50	9.0	3,000	2460	221.40	7.97	3.99
MW-18	10/04/06	6:30	0.50	9.0	4,500	2480	223.20	12.05	6.03
	10/04/06	7:00	0.50	9.0	6,000	2510	225.90	16.26	8.13
	10/04/06	7:30	0.50	11.0	10,000	2340	210.60	25.27	12.64
	10/04/06	8:00	0.50	12.0	10,000	2180	196.20	23.54	11.77
	10/04/06	8:30	0.50	12.0	10,000	2200	198.00	23.76	11.88
	10/04/06	9:00	0.50	12.0	10,000	2210	198.90	23.87	11.93
	10/04/06	9:30	0.50	12.0	10,000	2230	200.70	24.08	12.04
	10/04/06	10:00	0.50	12.0	10,000	2250	202.50	24.30	12.15
	10/04/06	10:30	0.50	12.0	10,000	2220	199.80	23.98	11.99
	10/04/06	11:00	0.50	12.0	10,000	2240	201.60	24.19	12.10
	10/04/06	11:30	0.50	12.0	10,000	2230	200.70	24.08	12.04
	10/04/06	12:00	0.50	12.0	8,000	2190	197.10	18.92	9.46
	10/04/06	12:30	0.50	12.0	9,000	2250	202.50	21.87	10.94
	10/04/06	13:00	0.50	12.0	2,500	2200	198.00	5.94	2.97
	10/04/06	13:30	0.50	12.0	2,000	2200	198.00	4.75	2.38
									TOTAL 155.80

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-15	2"	10	**	4.88	**	***	5.04	***	0.16
MW-16	2"	10	**	4.78	**	**	6.45	**	1.67
MW-18	2"	10	4.63	6.23	1.60	6.80	6.99	0.19	2.12

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-15	6.00
Truck Operator:	B.Guiles	MW-16	6.00
Stack I.D. (feet)	0.33 feet	MW-18	6.00
Corrected depth to water before AFVR Event in MW-15			4.88
Corrected depth to water before AFVR Event in MW-16			4.78
Corrected depth to water before AFVR Event in MW-18			4.87

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	155.80	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	26.91	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	MECI	
Total Liquids Removed:	80	Gallons

TABLE 1C
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	10/09/06	11:30	0.50	13.0	6,000	1960	176.40	12.70	6.35
	10/09/06	12:00	0.50	13.0	8,000	1980	178.20	17.11	8.55
	10/09/06	12:30	0.50	13.0	6,000	1970	177.30	12.77	6.38
	10/09/06	13:00	0.50	14.0	5,000	1890	170.10	10.21	5.10
	10/09/06	13:30	0.50	16.0	10,000	1530	137.70	16.52	8.26
	10/09/06	14:00	0.50	16.0	10,000	1550	139.50	16.74	8.37
	10/09/06	14:30	0.50	16.0	10,000	1550	139.50	16.74	8.37
	10/09/06	15:00	0.50	16.0	10,000	1530	137.70	16.52	8.26
	10/09/06	15:30	0.50	16.0	10,000	1570	141.30	16.96	8.48
	10/09/06	16:00	0.50	16.0	10,000	1580	142.20	17.06	8.53
	10/09/06	16:30	0.50	16.0	10,000	1610	144.90	17.39	8.69
	10/09/06	17:00	0.50	16.0	10,000	1610	144.90	17.39	8.69
	10/09/06	17:30	0.50	16.0	10,000	1600	144.00	17.28	8.64
	10/09/06	18:00	0.50	16.0	10,000	1590	143.10	17.17	8.59
	10/09/06	18:30	0.50	16.0	10,000	1560	140.40	16.85	8.42
	10/09/06	19:00	0.50	16.0	10,000	1580	142.20	17.06	8.53
	10/09/06	19:30	0.50	16.0	9,000	1560	140.40	15.16	7.58
									TOTAL 135.82

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product ickness	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	3.58	4.33	0.75	6.10	6.15	0.05	2.46

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	2.00
Truck Operator:	B.Guiles		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18			6.36

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	135.82	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	23.46	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	MECI	
Total Liquids Removed:	70	Gallons

TABLE 1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-15	10/10/06	4:30	0.50	16.0	10,000	1610	144.90	17.39	8.69
MW-16	10/10/06	5:00	0.50	16.0	9,000	1590	143.10	15.45	7.73
MW-18	10/10/06	5:30	0.50	9.0	80	2550	229.50	0.22	0.11
	10/10/06	6:00	0.50	9.0	750	2550	229.50	2.07	1.03
	10/10/06	6:30	0.50	9.0	1,000	2560	230.40	2.76	1.38
	10/10/06	7:00	0.50	9.0	850	2530	227.70	2.32	1.16
	10/10/06	7:30	0.50	9.0	800	2500	225.00	2.16	1.08
	10/10/06	8:00	0.50	10.0	900	2420	217.80	2.35	1.18
	10/10/06	8:30	0.50	10.0	900	2430	218.70	2.36	1.18
	10/10/06	9:00	0.50	10.0	600	2430	218.70	1.57	0.79
	10/10/06	9:30	0.50	12.0	200	2100	189.00	0.45	0.23
	10/10/06	10:00	0.50	12.0	175	2110	189.90	0.40	0.20
	10/10/06	10:30	0.50	12.0	175	2200	198.00	0.42	0.21
	10/10/06	11:00	0.50	12.0	900	2200	198.00	2.14	1.07
	10/10/06	11:30	0.50	12.0	400	2230	200.70	0.96	0.48
	10/10/06	12:00	0.50	12.0	200	2220	199.80	0.48	0.24
	10/10/06	12:30	0.50	12.0	90	2240	201.60	0.22	0.11
									TOTAL 26.87

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-15	2"	10	**	4.82	**	***	5.01	***	0.19
MW-16	2"	10	**	6.53	**	**	3.80	**	-2.73
MW-18	2"	10	6.83	7.56	0.73	4.13	4.16	0.03	-2.78

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-15	2.50
Truck Operator:	B.Guiles	MW-16	3.00
Stack I.D. (feet)	0.33 feet	MW-18	2.00

Corrected depth to water before AFVR Event in MW-15	4.82
Corrected depth to water before AFVR Event in MW-16	6.53
Corrected depth to water before AFVR Event in MW-18	7.50

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	26.87	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	4.64	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	MECI	
Total Liquids Removed:	175	Gallons

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	10/24/06	11:30	0.50	18.0	4,500	1370	123.30	6.66	3.33
	10/24/06	12:00	0.50	18.0	4,500	1440	129.60	7.00	3.50
	10/24/06	12:30	0.50	18.0	4,500	1440	129.60	7.00	3.50
	10/24/06	13:00	0.50	15.0	1,500	1740	156.60	2.82	1.41
	10/24/06	13:30	0.50	15.0	1,750	1790	161.10	3.38	1.69
	10/24/06	14:00	0.50	15.0	3,000	1740	156.60	5.64	2.82
	10/24/06	14:30	0.50	15.0	2,250	1730	155.70	4.20	2.10
	10/24/06	15:00	0.50	15.0	4,000	1740	156.60	7.52	3.76
	10/24/06	15:30	0.50	15.0	2,000	1740	156.60	3.76	1.88
	10/24/06	16:00	0.50	15.0	1,500	1710	153.90	2.77	1.39
	10/24/06	16:30	0.50	18.0	5,000	1540	138.60	8.32	4.16
	10/24/06	17:00	0.50	18.0	3,500	1560	140.40	5.90	2.95
	10/24/06	17:30	0.50	18.0	3,500	1540	138.60	5.82	2.91
	10/24/06	18:00	0.50	18.0	3,000	1500	135.00	4.86	2.43
	10/24/06	18:30	0.50	17.0	2,750	1480	133.20	4.40	2.20
	10/24/06	19:00	0.50	17.0	2,000	1470	132.30	3.18	1.59
	10/24/06	19:30	0.50	17.0	1,000	1510	135.90	1.63	0.82
									TOTAL 42.42

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product ickness	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	4.98	5.91	0.93	6.60	6.62	0.02	1.50

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	3.00
Truck Operator:	B.Guiles		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18			5.12

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	42.42	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	7.33	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	MECI	
Total Liquids Removed:	110	Gallons

TABLE 1F
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-15	10/25/06	4:30	0.50	17.0	3,000	1540	138.60	4.99	2.49
MW-16	10/25/06	5:00	0.50	8.0	2,250	2680	241.20	6.51	3.26
MW-18	10/25/06	5:30	0.50	8.0	1,750	2700	243.00	5.10	2.55
	10/25/06	6:00	0.50	8.0	600	2800	252.00	1.81	0.91
	10/25/06	6:30	0.50	8.0	2,000	2860	257.40	6.18	3.09
	10/25/06	7:00	0.50	8.0	1,500	2860	257.40	4.63	2.32
	10/25/06	7:30	0.50	9.0	10,000	2760	248.40	29.81	14.90
	10/25/06	8:00	0.50	9.0	10,000	2790	251.10	30.13	15.07
	10/25/06	8:30	0.50	9.0	10,000	2780	250.20	30.02	15.01
	10/25/06	9:00	0.50	9.0	1,500	2760	248.40	4.47	2.24
	10/25/06	9:30	0.50	9.0	10,000	2800	252.00	30.24	15.12
	10/25/06	10:00	0.50	8.0	1,500	2750	247.50	4.46	2.23
	10/25/06	10:30	0.50	8.0	850	2810	252.90	2.58	1.29
	10/25/06	11:00	0.50	8.0	2,250	2810	252.90	6.83	3.41
	10/25/06	11:30	0.50	8.0	2,500	2840	255.60	7.67	3.83
	10/25/06	12:00	0.50	8.0	6,000	2790	251.10	18.08	9.04
	10/25/06	12:30	0.50	8.0	10,000	2780	250.20	30.02	15.01
									TOTAL 111.77

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-15	2"	10	**	4.82	**	***	5.01	***	0.19
MW-16	2"	10	**	6.53	**	**	3.80	**	-2.73
MW-18	2"	10	7.50	8.22	0.72	5.31	5.40	0.09	-2.21

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-15	2.50
Truck Operator:	B.Guiles	MW-16	3.00
Stack I.D. (feet)	0.33 feet	MW-18	2.00
Corrected depth to water before AFVR Event in MW-15			4.82
Corrected depth to water before AFVR Event in MW-16			6.53
Corrected depth to water before AFVR Event in MW-18			8.16

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	111.77	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	19.31	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	MECI	
Total Liquids Removed:	135	Gallons

TABLE 1G
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	10/31/06	11:30	0.50	18.0	2,500	12	1.09	0.03	0.02
	10/31/06	12:00	0.50	18.0	6,000	12.30	1.11	0.08	0.04
	10/31/06	12:30	0.50	18.0	10,000	12.80	1.15	0.14	0.07
	10/31/06	13:00	0.50	18.0	4,750	12.80	1.15	0.07	0.03
	10/31/06	13:30	0.50	18.0	2,750	1300	117.00	3.86	1.93
	10/31/06	14:00	0.50	18.0	1,500	1280	115.20	2.07	1.04
	10/31/06	14:30	0.50	18.0	1,500	1300	117.00	2.11	1.05
	10/31/06	15:00	0.50	18.0	1,500	1330	119.70	2.15	1.08
	10/31/06	15:30	0.50	18.0	1,750	1270	114.30	2.40	1.20
	10/31/06	16:00	0.50	18.0	1,000	1260	113.40	1.36	0.68
	10/31/06	16:30	0.50	18.0	2,250	1350	121.50	3.28	1.64
	10/31/06	17:00	0.50	18.0	1,500	1360	122.40	2.20	1.10
	10/31/06	17:30	0.50	18.0	500	1290	116.10	0.70	0.35
	10/31/06	18:00	0.50	18.0	1,250	1310	117.90	1.77	0.88
	10/31/06	18:30	0.50	18.0	1,000	1370	123.30	1.48	0.74
	10/31/06	19:00	0.50	18.0	1,250	1310	117.90	1.77	0.88
	10/31/06	19:30	0.50	18.0	1,250	1350	121.50	1.82	0.91
									TOTAL 13.65

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	6.78	6.79	0.01	7	7.01	0.01	0.23

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	6.80
Truck Operator:	B.Guiles		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18			6.79

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	13.65	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	2.36	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	MECI	
Total Liquids Removed:	150	Gallons

TABLE 1H
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	11/01/06	4:00	0.50	18.0	3,500	1240	111.60	4.69	2.34
	11/01/06	4:30	0.50	18.0	3,000	1260	113.40	4.08	2.04
	11/01/06	5:00	0.50	18.0	2,750	1210	108.90	3.59	1.80
	11/01/06	5:30	0.50	18.0	1,500	1220	109.80	1.98	0.99
	11/01/06	6:00	0.50	18.0	1,250	1230	110.70	1.66	0.83
	11/01/06	6:30	0.50	18.0	1,500	1250	112.50	2.03	1.01
	11/01/06	7:00	0.50	18.0	4,000	1260	113.40	5.44	2.72
	11/01/06	7:30	0.50	22.0	10,000	720	64.80	7.78	3.89
	11/01/06	8:00	0.50	21.0	10,000	930	83.70	10.04	5.02
	11/01/06	8:30	0.50	21.0	10,000	890	80.10	9.61	4.81
	11/01/06	9:00	0.50	21.0	10,000	900	81.00	9.72	4.86
	11/01/06	9:30	0.50	20.0	1,500	1080	97.20	1.75	0.87
	11/01/06	10:00	0.50	17.0	10,000	1530	137.70	16.52	8.26
	11/01/06	10:30	0.50	17.0	10,000	1560	140.40	16.85	8.42
	11/01/06	11:00	0.50	17.0	10,000	1550	139.50	16.74	8.37
	11/01/06	11:30	0.50	16.0	10,000	1590	143.10	17.17	8.59
	11/01/06	12:00	0.50	16.0	10,000	1580	142.20	17.06	8.53
									TOTAL 73.36

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	**	5.31	**	**	6.81	**	1.50

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	5.33
Truck Operator:	B.Guiles		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18			5.31

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	73.36	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	12.67	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	MECI	
Total Liquids Removed:	178	Gallons

TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:30	0.0	0	0	0
12:00	0.5	0	0	0
12:30	1.0	0	0	0
13:00	1.5	0	0	0
13:30	2.0	0	0	0
14:00	2.5	0	0	0
14:30	3.0	0	0	0
15:00	3.5	0	0	0
15:30	4.0	0	0	0
16:00	4.5	0	0	0
16:30	5.0	0	0	0
17:00	5.5	0	0	0
17:30	6.0	0	0	0
18:00	6.5	0	0	0
18:30	7.0	0	0	0
19:00	7.5	0	0	0
19:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.92	5.59	4.41
15:30	4 hours	5.05	5.65	4.60
19:30	8 hours	4.93	4.59	4.76
Maximum Change:		-0.13	1.00	-0.35

TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
5:30	0.0	0	0	0
6:00	0.5	0	0	0
6:30	1.0	0	0	0
7:00	1.5	0	0	0
7:30	2.0	0	0	0
8:00	2.5	0	0	0
8:30	3.0	0	0	0
9:00	3.5	0	0	0
9:30	4.0	0	0	0
10:00	4.5	0	0	0
10:30	5.0	0	0	0
11:00	5.5	0	0	0
11:30	6.0	0	0	0
12:00	6.5	0	0	0
12:30	7.0	0	0	0
13:00	7.5	0	0	0
13:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.93	4.98	4.55
9:30	4 hours	4.78	4.78	4.66
13:30	8 hours	4.83	5.72	4.62
Maximum Change:		0.15	-0.74	-0.07

TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		75 ft	85 ft	30 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:30	0.0	0	0	0
12:00	0.5	0	0	0
12:30	1.0	0	0	0
13:00	1.5	0	0	0
13:30	2.0	0	0	0
14:00	2.5	0	0	0
14:30	3.0	0	0	0
15:00	3.5	0	0	0
15:30	4.0	0	0	0
16:00	4.5	0	0	0
16:30	5.0	0	0	0
17:00	5.5	0	0	0
17:30	6.0	0	0	0
18:00	6.5	0	0	0
18:30	7.0	0	0	0
19:00	7.5	0	0	0
19:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		75 ft	85 ft	30 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.20	3.59	4.47
15:30	4 hours	4.47	5.49	4.44
19:30	8 hours	5.45	6.28	4.46
Maximum Change:		-1.25	-2.69	0.03

TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
4:30	0.0	0	0	0
5:00	0.5	0	0	0
5:30	1.0	0	0	0
6:00	1.5	0	0	0
6:30	2.0	0	0	0
7:00	2.5	0	0	0
7:30	3.0	0	0	0
8:00	3.5	0	0	0
8:30	4.0	0	0	0
9:00	4.5	0	0	0
9:30	5.0	0	0	0
10:00	5.5	0	0	0
10:30	6.0	0	0	0
11:00	6.5	0	0	0
11:30	7.0	0	0	0
12:00	7.5	0	0	0
12:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		2.80	5.21	4.45
8:30	4 hours	3.66	5.52	4.48
12:30	8 hours	4.05	4.56	4.83
Maximum Change:		-0.86	0.65	-0.38

TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:30	0.0	0	0	0
12:00	0.5	0	0	0
12:30	1.0	0	0	0
13:00	1.5	0	0	0
13:30	2.0	0	0	0
14:00	2.5	0	0	0
14:30	3.0	0	0	0
15:00	3.5	0	0	0
15:30	4.0	0	0	0
16:00	4.5	0	0	0
16:30	5.0	0	0	0
17:00	5.5	0	0	0
17:30	6.0	0	0	0
18:00	6.5	0	0	0
18:30	7.0	0	0	0
19:00	7.5	0	0	0
19:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.06	5.06	4.67
15:30	4 hours	5.43	5.06	4.60
19:30	8 hours	6.09	5.13	4.67
Maximum Change:		-1.03	-0.07	0.07

TABLE 2F
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
4:30	0.0	0	0	0
5:00	0.5	0	0	0
5:30	1.0	0	0	0
6:00	1.5	0	0	0
6:30	2.0	0	0	0
7:00	2.5	0	0	0
7:30	3.0	0	0	0
8:00	3.5	0	0	0
8:30	4.0	0	0	0
9:00	4.5	0	0	0
9:30	5.0	0	0	0
10:00	5.5	0	0	0
10:30	6.0	0	0	0
11:00	6.5	0	0	0
11:30	7.0	0	0	0
12:00	7.5	0	0	0
12:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.23	6.08	4.71
8:30	4 hours	5.31	6.01	4.94
12:30	8 hours	5.30	5.11	5.00
Maximum Change:		-0.08	0.97	-0.29

TABLE 2G
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:30	0.0	0	0	0
12:00	0.5	0	0	0
12:30	1.0	0	0	0
13:00	1.5	0	0	0
13:30	2.0	0	0	0
14:00	2.5	0	0	0
14:30	3.0	0	0	0
15:00	3.5	0	0	0
15:30	4.0	0	0	0
16:00	4.5	0	0	0
16:30	5.0	0	0	0
17:00	5.5	0	0	0
17:30	6.0	0	0	0
18:00	6.5	0	0	0
18:30	7.0	0	0	0
19:00	7.5	0	0	0
19:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.09	6.80	4.67
15:30	4 hours	4.95	5.26	4.66
19:30	8 hours	5.00	6.09	4.70
Maximum Change:		0.14	1.54	0.01

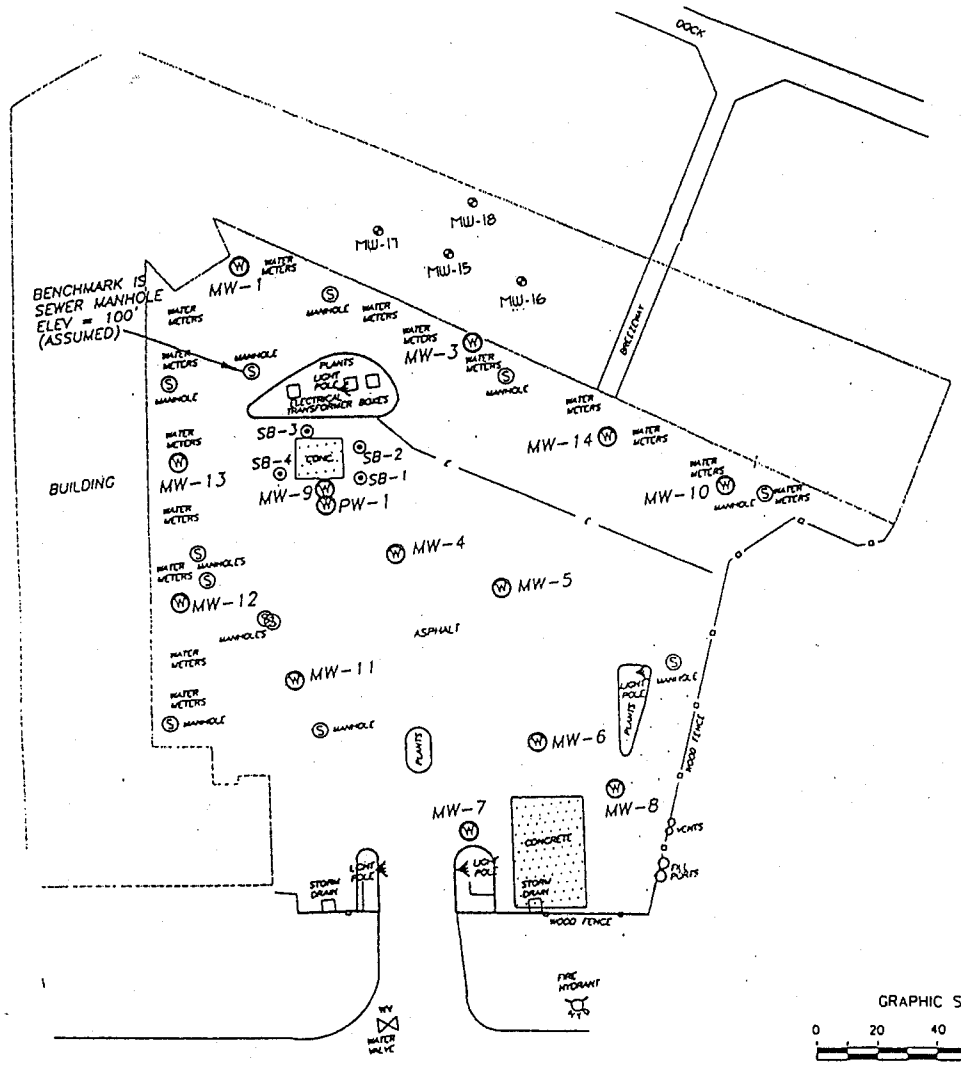
TABLE 2H
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-998
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
4:00	0.0	0	0	0
4:30	0.5	0	0	0
5:00	1.0	0	0	0
5:30	1.5	0	0	0
6:00	2.0	0	0	0
6:30	2.5	0	0	0
7:00	3.0	0	0	0
7:30	3.5	0	0	0
8:00	4.0	0	0	0
8:30	4.5	0	0	0
9:00	5.0	0	0	0
9:30	5.5	0	0	0
10:00	6.0	0	0	0
10:30	6.5	0	0	0
11:00	7.0	0	0	0
11:30	7.5	0	0	0
12:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-17**
Nearest Extraction Well:		MW-15	MW-16	MW-15
Approximate Distance:		65 ft	55 ft	35 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.94	5.19	4.67
8:00	4 hours	5.04	6.37	4.70
12:00	8 hours	5.08	6.93	4.66
Maximum Change:		-0.14	-1.74	-0.03



Explanation:

⊗ Location of Waterlable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

Midlands
Environmental
Consultants, Inc.

November 6, 2006

Re: Disposal Manifest for Petroleum Tainted Waste Water
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 06-998

To Whom it May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced water was completed in general accordance with SCDHEC guidelines.

Applicability:

Waste water generated as a result of UST related assessment and remedial activities.

Conditions:

Waste water generated is temporarily stored in bulk at MECI location 1144 Old Two Notch Rd in Lexington, S.C., until manifested to a SC licensed facility for appropriate disposal; Waste water is limited to petroleum impacted groundwater and is contained in a 1500 gallon polyurethane storage tank until tank nears capacity; Crandall Corporation removes contaminated water to be appropriately disposed of; Record of usage is maintained by Contractor; and, All recommendations and conditions issued by the SCDHEC must be adhered to.

A total of 1058 gallons was deposited from MW-15, MW-16, and MW- 18 from October 3, 2006 until November 1, 2006 . MECI personnel signed and dated time of deposit from the referenced site.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Brandon T. Guiles
Project Scientist

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • Fax: (803) 808-2048

Crandall

C 111252

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 98037	2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address
Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone ((803)) 808-2043

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	1600	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0098037
Amaco (00978) 35gal
Saluda Wood (03109) 15gal
Hncuums Grocery (00814) 100gal
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

York County Det. (09152) 5 gal, Columbia maintenance facility (07[illegible]) [illegible]
Hughes (00858) 120gal, Kmo (00493), Corner Pantry (07686) 100g
Lugoff Bait's Tackle (15642) 175g, Johnnie's Market & More (08986) RL
Williams Grocery (00409) 17gal, Home Tel. Comp. (11451) 25gal
Herman Warehouse (18621) 25gal, Pack a Snack II (15664) 19.5gal
Friendly marks (11693) 15gal, Weed's Landing (0615[illegible])
Former Binswinger Glass Comp → City of Cola Fire Dept. (07526) 18.5gal
Orangeburg UST (19006) 11gal Former Gulf Station (18447) 5[illegible]gal

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
X [illegible]	[signature]	11	[illegible]	06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	[signature]	11	03	06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

INVOICE COPY

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Fax: 828.252.4618

August 25, 2006

RECEIVED
AUG 29 2006
UNDERGROUND STORAGE TANK PROGRAM

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on August 16, 2006. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Teresa Adams
teresa.adams@pacelabs.com
(704) 875-9092 ext. 241
Project Manager

Enclosures

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Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

Lab Sample No: 927314740 | Project Sample Number: 92125478-001 | Date Collected: 08/15/06 13:30
Client Sample ID: MW-3 | Matrix: Water | Date Received: 08/16/06 09:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	08/24/06 17:45	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	08/24/06 17:45	MCK	107-06-2		
Ethylbenzene	ND	ug/l	5.0	1.0	08/24/06 17:45	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	08/24/06 17:45	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	08/24/06 17:45	MCK	91-20-3		
Toluene	ND	ug/l	5.0	1.0	08/24/06 17:45	MCK	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	08/24/06 17:45	MCK			
o-Xylene	ND	ug/l	5.0	1.0	08/24/06 17:45	MCK	95-47-6		
Toluene-d8 (S)	102	%		1.0	08/24/06 17:45	MCK	2037-26-5		
4-Bromofluorobenzene (S)	99	%		1.0	08/24/06 17:45	MCK	460-00-4		
Dibromofluoromethane (S)	113	%		1.0	08/24/06 17:45	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	121	%		1.0	08/24/06 17:45	MCK	17060-07-0		

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC 99030
FL NELAP E87648

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Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

Lab Sample No: 927314757 | Project Sample Number: 92125478-002 | Date Collected: 08/15/06 12:15
Client Sample ID: MW-4 | Matrix: Water | Date Received: 08/16/06 09:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	110	ug/l	5.0	1.0	08/24/06 20:08	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	08/24/06 20:08	MCK	107-06-2		
Ethylbenzene	170	ug/l	5.0	1.0	08/24/06 20:08	MCK	100-41-4		
Methyl-tert-butyl ether	13.	ug/l	5.0	1.0	08/24/06 20:08	MCK	1634-04-4		
Naphthalene	120	ug/l	5.0	1.0	08/24/06 20:08	MCK	91-20-3		
Toluene	3.6	J ug/l	5.0	1.0	08/24/06 20:08	MCK	108-88-3		
m&p-Xylene	34.	ug/l	10.	1.0	08/24/06 20:08	MCK			
o-Xylene	10.	ug/l	5.0	1.0	08/24/06 20:08	MCK	95-47-6		
Toluene-d8 (S)	102	%		1.0	08/24/06 20:08	MCK	2037-26-5		
4-Bromofluorobenzene (S)	99	%		1.0	08/24/06 20:08	MCK	460-00-4		
Dibromofluoromethane (S)	109	%		1.0	08/24/06 20:08	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	119	%		1.0	08/24/06 20:08	MCK	17060-07-0		

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Fax: 828.252.4618

Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

Lab Sample No: 927314765 | Project Sample Number: 92125478-003 | Date Collected: 08/15/06 12:41
Client Sample ID: MW-9 | Matrix: Water | Date Received: 08/16/06 09:40

GC/MS Volatiles

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	300	ug/l	12.	2.5	08/23/06 14:19	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	12.	2.5	08/23/06 14:19	MCK	107-06-2		
Ethylbenzene	350	ug/l	12.	2.5	08/23/06 14:19	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	12.	2.5	08/23/06 14:19	MCK	1634-04-4		
Naphthalene	110	ug/l	12.	2.5	08/23/06 14:19	MCK	91-20-3		
Toluene	25.	ug/l	12.	2.5	08/23/06 14:19	MCK	108-88-3		
m&p-Xylene	140	ug/l	25.	2.5	08/23/06 14:19	MCK			
o-Xylene	13.	ug/l	12.	2.5	08/23/06 14:19	MCK	95-47-6		
Toluene-d8 (S)	100	%		1.0	08/23/06 14:19	MCK	2037-26-5		
4-Bromofluorobenzene (S)	101	%		1.0	08/23/06 14:19	MCK	460-00-4		
Dibromofluoromethane (S)	97	%		1.0	08/23/06 14:19	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	92	%		1.0	08/23/06 14:19	MCK	17060-07-0		

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Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

Lab Sample No: 927314773
Client Sample ID: MW-15

Project Sample Number: 92125478-004
Matrix: Water

Date Collected: 08/15/06 13:21
Date Received: 08/16/06 09:40

GC/MS Volatiles

Parameters	Results		Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS VOCs by 8260	Method: EPA 8260									
Benzene	1300		ug/l	50.	10.0	08/23/06 13:31	MCK	71-43-2		
1,2-Dichloroethane	ND		ug/l	50.	10.0	08/23/06 13:31	MCK	107-06-2		
Ethylbenzene	170		ug/l	50.	10.0	08/23/06 13:31	MCK	100-41-4		
Methyl-tert-butyl ether	ND		ug/l	50.	10.0	08/23/06 13:31	MCK	1634-04-4		
Naphthalene	52.		ug/l	50.	10.0	08/23/06 13:31	MCK	91-20-3		
Toluene	ND		ug/l	50.	10.0	08/23/06 13:31	MCK	108-88-3		
m&p-Xylene	38.	J	ug/l	100	10.0	08/23/06 13:31	MCK			
o-Xylene	ND		ug/l	50.	10.0	08/23/06 13:31	MCK	95-47-6		
Toluene-d8 (S)	102		%		1.0	08/23/06 13:31	MCK	2037-26-5		
4-Bromofluorobenzene (S)	97		%		1.0	08/23/06 13:31	MCK	460-00-4		
Dibromofluoromethane (S)	101		%		1.0	08/23/06 13:31	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	104		%		1.0	08/23/06 13:31	MCK	17060-07-0		

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Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

Lab Sample No: 927314781 | Project Sample Number: 92125478-005 | Date Collected: 08/15/06 12:51
Client Sample ID: MW-16 | Matrix: Water | Date Received: 08/16/06 09:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	3700	ug/l	500	100	08/23/06 13:47	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	120	25.0	08/23/06 13:47	MCK	107-06-2		
Ethylbenzene	1400	ug/l	500	100	08/23/06 13:47	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	120	25.0	08/23/06 13:47	MCK	1634-04-4		
Naphthalene	720	ug/l	500	100	08/23/06 13:47	MCK	91-20-3		
Toluene	4900	ug/l	500	100	08/23/06 13:47	MCK	108-88-3		
m&p-Xylene	6100	ug/l	1000	100	08/23/06 13:47	MCK			
o-Xylene	3400	ug/l	500	100	08/23/06 13:47	MCK	95-47-6		
Toluene-d8 (S)	101	%		1.0	08/23/06 13:47	MCK	2037-26-5		
4-Bromofluorobenzene (S)	102	%		1.0	08/23/06 13:47	MCK	460-00-4		
Dibromofluoromethane (S)	101	%		1.0	08/23/06 13:47	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	117	%		1.0	08/23/06 13:47	MCK	17060-07-0		

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Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

Lab Sample No: 927314799 | Project Sample Number: 92125478-006 | Date Collected: 08/15/06 12:29
Client Sample ID: MW-17 | Matrix: Water | Date Received: 08/16/06 09:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	60.	ug/l	5.0	1.0	08/24/06 18:01	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	08/24/06 18:01	MCK	107-06-2		
Ethylbenzene	26.	ug/l	5.0	1.0	08/24/06 18:01	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	08/24/06 18:01	MCK	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	08/24/06 18:01	MCK	91-20-3		
Toluene	5.4	ug/l	5.0	1.0	08/24/06 18:01	MCK	108-88-3		
m&p-Xylene	35.	ug/l	10.	1.0	08/24/06 18:01	MCK			
o-Xylene	16.	ug/l	5.0	1.0	08/24/06 18:01	MCK	95-47-6		
Toluene-d8 (S)	104	%		1.0	08/24/06 18:01	MCK	2037-26-5		
4-Bromofluorobenzene (S)	98	%		1.0	08/24/06 18:01	MCK	460-00-4		
Dibromofluoromethane (S)	114	%		1.0	08/24/06 18:01	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	123	%		1.0	08/24/06 18:01	MCK	17060-07-0		

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Fax: 828.252.4618

Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

Lab Sample No: 927314807 | Project Sample Number: 92125478-007 | Date Collected: 08/15/06 13:04
Client Sample ID: MW-18 | Matrix: Water | Date Received: 08/16/06 09:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	9500	ug/l	500	100	08/23/06 12:59	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	250	50.0	08/23/06 12:59	MCK	107-06-2		
Ethylbenzene	2200	ug/l	250	50.0	08/23/06 12:59	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	250	50.0	08/23/06 12:59	MCK	1634-04-4		
Naphthalene	1000	ug/l	250	50.0	08/23/06 12:59	MCK	91-20-3		
Toluene	8700	ug/l	250	50.0	08/23/06 12:59	MCK	108-88-3		
m&p-Xylene	7600	ug/l	500	50.0	08/23/06 12:59	MCK			
o-Xylene	4000	ug/l	250	50.0	08/23/06 12:59	MCK	95-47-6		
Toluene-d8 (S)	101	%		1.0	08/23/06 12:59	MCK	2037-26-5		
4-Bromofluorobenzene (S)	100	%		1.0	08/23/06 12:59	MCK	460-00-4		
Dibromofluoromethane (S)	97	%		1.0	08/23/06 12:59	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	102	%		1.0	08/23/06 12:59	MCK	17060-07-0		

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2225 Riverside Drive
Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

Method 9071B modified to use ASE.

All pH, Free Chlorine, Total Chlorine and Ferrous Iron analyses conducted outside of EPA recommended immediate hold time.

Depending on the moisture content the PRLs can be elevated for all soil samples reported on a dry weight basis.

2-Chloroethyl vinyl ether has been shown to degrade in the presence of acid.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC 99030
FL NELAP E87648

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QUALITY CONTROL DATA

Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

QC Batch: 165580 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 927314740 927314757 927314765 927314773 927314781 927314799 927314807

METHOD BLANK: 927335729
Associated Lab Samples: 927314740 927314757 927314765 927314773 927314781 927314799 927314807

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
1,2-Dichloroethane	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	102		
4-Bromofluorobenzene (S)	%	95		
Dibromofluoromethane (S)	%	102		
1,2-Dichloroethane-d4 (S)	%	103		

LABORATORY CONTROL SAMPLE: 927335737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	51.50	103	
1,2-Dichloroethane	ug/l	50.00	46.36	93	
Ethylbenzene	ug/l	50.00	52.42	105	
Methyl-tert-butyl ether	ug/l	50.00	49.78	100	
Naphthalene	ug/l	50.00	47.03	94	
Toluene	ug/l	50.00	51.64	103	
m&p-Xylene	ug/l	100.00	103.8	104	
o-Xylene	ug/l	50.00	50.78	102	
Toluene-d8 (S)				99	
4-Bromofluorobenzene (S)				101	
Dibromofluoromethane (S)				98	
1,2-Dichloroethane-d4 (S)				101	

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QUALITY CONTROL DATA

Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 927342998 927343004

Parameter	Units	927321976 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	61.13	61.47	122	123	1	
Toluene	ug/l	0	50.00	58.99	59.68	118	119	1	
Toluene-d8 (S)						100	101		
4-Bromofluorobenzene (S)						99	96		
Dibromofluoromethane (S)						107	108		
1,2-Dichloroethane-d4 (S)						109	110		

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Lab Project Number: 92125478
Client Project ID: Bay Crk Village/18662/CA:27447

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1004938

Section A
Required Client Information:

Company: SCDHEC - UST	
Address: 2600 Bull St Sumter SC 29201	
Email To:	
Phone: 8038966240	Fax: 8038966245
Requested Due Date/TAT: 7 day	

Section B
Required Project Information:

Report To: D. Thoma	
Copy To:	
Purchase Order No.: 574989	
Project Name: Bay Creek Villas	
Project Number: 186062/CA:27447	

Section C
Invoice Information:

Attention: Finance	
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #: 1400, 9	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ Other_____

SITE LOCATION: ☐GA ☐IL ☐IN ☐MI ☐MN ☐NC ☐OH ☑SC ☐WI ☐OTHER_____

Section D
Required Client Information

SAMPLE ID

One Character per box. (A-Z, 0-9 / .-)
Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D
1	MW-3	WT	G	8/15/06	1330	—	—	—	3				3					N	N	Mild Odor
2	MW-4	WT	G		1215	—	—	—	3				3					N	N	Strong Odor
3	MW-9	WT	G		1241	—	—	—	3				3					N	N	Strong Odor
4	MW-15	WT	G		1321	—	—	—	3				3					N	N	Strong Odor
5	MW-16	WT	G		1251	—	—	—	3				3					N	N	Sampled Under Sheen
6	MW-17	WT	G		1229	—	—	—	3				3					N	N	Strong Odor
7	MW-18	WT	G		1304	—	—	—	3				3					N	N	See Below
8																				
9																				
10																				
11																				
12																				

Requested Analysis: BTEX/MNP/EDB/NP 1,2-DCA (8260B)

Additional Comments:

* MW-18: Sampled under 0.64' of product.
* MW-16: Sampled under Sheen

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Dalton Reames	8/15/06	1830	[illegible]	8/16	1110

SAMPLE CONDITION

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM / DD / YY): 8/15/06

SEE REVERSE SIDE FOR INSTRUCTIONS

ALL0020rev.3.31Mar05

SITE ACTIVITY SUMMARY

UST PERMIT # 18662
FACILITY NAME BAY CREEK VILLAS
COUNTY COLLETON
NAME OF SAMPLER DALTON REAMES

Sample ID	sampled?	Date	Time	Depth of Well	Depth to Water	Depth to Product	FP Thickness	# gal purged	comments
MW-3	Y	8/15/06	1330	15.00	6.45	—	—	—	Mild odor
MW-4			1215	15.00	5.44	—	—	—	Strong odor
MW-9			1241	10.00	5.00	—	—	—	Strong odor
MW-15			1321	10.00	4.97	—	—	—	Strong odor
* MW-16			1251	10.00	5.21	5.21	Sheen	—	Thick Sheen Present: Strong Odor *
MW-17			~~1206~~ 1229	10.00	4.63	—	—	—	Strong Odor
MW-18			1304	10.00	5.84	5.20	0.64	—	Sampled under Prod.: Strong Odor

* MW-16 had sheen < 0.01' of product; sampled below sheen.
* MW-18 Sampled below 0.64' of product.

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May 16, 2006

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on May 10, 2006. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Teresa Adams
Teresa.Adams@pacelabs.com
Project Manager

Enclosures

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Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

Lab Sample No: 926962788 | Project Sample Number: 92119010-001 | Date Collected: 05/08/06 11:45
Client Sample ID: MW-3 | Matrix: Water | Date Received: 05/10/06 10:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	05/13/06 01:24	RCS1	106-93-4		
1-Chloro-2-bromopropane (S)	104	%		1.0	05/13/06 01:24	RCS1	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	3600	ug/l	250	50.0	05/12/06 09:33	DLK	71-43-2		
1,2-Dichloroethane	ND	ug/l	250	50.0	05/12/06 09:33	DLK	107-06-2		
Ethylbenzene	670	ug/l	250	50.0	05/12/06 09:33	DLK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	250	50.0	05/12/06 09:33	DLK	1634-04-4		
Naphthalene	1400	ug/l	250	50.0	05/12/06 09:33	DLK	91-20-3		
Toluene	ND	ug/l	250	50.0	05/12/06 09:33	DLK	108-88-3		
m&p-Xylene	370	J ug/l	500	50.0	05/12/06 09:33	DLK			
o-Xylene	120	J ug/l	250	50.0	05/12/06 09:33	DLK	95-47-6		
Toluene-d8 (S)	107	%		1.0	05/12/06 09:33	DLK	2037-26-5		
4-Bromofluorobenzene (S)	95	%		1.0	05/12/06 09:33	DLK	460-00-4		
Dibromofluoromethane (S)	112	%		1.0	05/12/06 09:33	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	108	%		1.0	05/12/06 09:33	DLK	17060-07-0		

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Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

Lab Sample No: 926962796 | Project Sample Number: 92119010-002 | Date Collected: 05/08/06 12:05
Client Sample ID: MW-4 | Matrix: Water | Date Received: 05/10/06 10:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	05/13/06 01:45	RCS1	106-93-4		
1-Chloro-2-bromopropane (S)	98	%		1.0	05/13/06 01:45	RCS1	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	130	ug/l	10.	2.0	05/12/06 19:59	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	10.	2.0	05/12/06 19:59	MCK	107-06-2		
Ethylbenzene	190	ug/l	10.	2.0	05/12/06 19:59	MCK	100-41-4		
Methyl-tert-butyl ether	17.	ug/l	10.	2.0	05/12/06 19:59	MCK	1634-04-4		
Naphthalene	260	ug/l	10.	2.0	05/12/06 19:59	MCK	91-20-3		
Toluene	8.0	J ug/l	10.	2.0	05/12/06 19:59	MCK	108-88-3		
m&p-Xylene	40.	ug/l	20.	2.0	05/12/06 19:59	MCK			
o-Xylene	26.	ug/l	10.	2.0	05/12/06 19:59	MCK	95-47-6		
Toluene-d8 (S)	99	%		1.0	05/12/06 19:59	MCK	2037-26-5		
4-Bromofluorobenzene (S)	92	%		1.0	05/12/06 19:59	MCK	460-00-4		
Dibromofluoromethane (S)	100	%		1.0	05/12/06 19:59	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	103	%		1.0	05/12/06 19:59	MCK	17060-07-0		

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Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

Lab Sample No: 926962804 | Project Sample Number: 92119010-003 | Date Collected: 05/08/06 11:35
Client Sample ID: MW-9 | Matrix: Water | Date Received: 05/10/06 10:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	05/13/06 02:06	RCS1	106-93-4		
1-Chloro-2-bromopropane (S)	99	%		1.0	05/13/06 02:06	RCS1	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	430	ug/l	250	50.0	05/12/06 19:43	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	10.	2.0	05/12/06 19:43	MCK	107-06-2		
Ethylbenzene	320	ug/l	10.	2.0	05/12/06 19:43	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	10.	2.0	05/12/06 19:43	MCK	1634-04-4		
Naphthalene	220	ug/l	10.	2.0	05/12/06 19:43	MCK	91-20-3		
Toluene	220	ug/l	10.	2.0	05/12/06 19:43	MCK	108-88-3		
m&p-Xylene	520	ug/l	20.	2.0	05/12/06 19:43	MCK			
o-Xylene	110	ug/l	10.	2.0	05/12/06 19:43	MCK	95-47-6		
Toluene-d8 (S)	100	%		1.0	05/12/06 19:43	MCK	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	05/12/06 19:43	MCK	460-00-4		
Dibromofluoromethane (S)	98	%		1.0	05/12/06 19:43	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	102	%		1.0	05/12/06 19:43	MCK	17060-07-0		

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Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

Lab Sample No: 926962812 | Project Sample Number: 92119010-004 | Date Collected: 05/08/06 12:20
Client Sample ID: MW-15 | Matrix: Water | Date Received: 05/10/06 10:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	05/13/06 02:27	RCS1	106-93-4		
1-Chloro-2-bromopropane (S)	98	%		1.0	05/13/06 02:27	RCS1	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	1700	ug/l	50.	10.0	05/13/06 03:09	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	50.	10.0	05/13/06 03:09	MCK	107-06-2		
Ethylbenzene	440	ug/l	50.	10.0	05/13/06 03:09	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	50.	10.0	05/13/06 03:09	MCK	1634-04-4		
Naphthalene	190	ug/l	50.	10.0	05/13/06 03:09	MCK	91-20-3		
Toluene	160	ug/l	50.	10.0	05/13/06 03:09	MCK	108-88-3		
m&p-Xylene	800	ug/l	100	10.0	05/13/06 03:09	MCK			
o-Xylene	300	ug/l	50.	10.0	05/13/06 03:09	MCK	95-47-6		
Toluene-d8 (S)	98	%		1.0	05/13/06 03:09	MCK	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	05/13/06 03:09	MCK	460-00-4		
Dibromofluoromethane (S)	104	%		1.0	05/13/06 03:09	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	106	%		1.0	05/13/06 03:09	MCK	17060-07-0		

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Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

Lab Sample No: 926962820 | Project Sample Number: 92119010-005 | Date Collected: 05/08/06 12:10
Client Sample ID: MW-16 | Matrix: Water | Date Received: 05/10/06 10:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	05/13/06 02:48	RCS1	106-93-4		
1-Chloro-2-bromopropane (S)	98	%		1.0	05/13/06 02:48	RCS1	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	1000	ug/l	250	50.0	05/13/06 03:25	MCK	71-43-2		
1,2-Dichloroethane	ND	ug/l	250	50.0	05/13/06 03:25	MCK	107-06-2		
Ethylbenzene	610	ug/l	250	50.0	05/13/06 03:25	MCK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	250	50.0	05/13/06 03:25	MCK	1634-04-4		
Naphthalene	1000	ug/l	250	50.0	05/13/06 03:25	MCK	91-20-3		
Toluene	1700	ug/l	250	50.0	05/13/06 03:25	MCK	108-88-3		
m&p-Xylene	5000	ug/l	500	50.0	05/13/06 03:25	MCK			
o-Xylene	3100	ug/l	250	50.0	05/13/06 03:25	MCK	95-47-6		
Toluene-d8 (S)	99	%		1.0	05/13/06 03:25	MCK	2037-26-5		
4-Bromofluorobenzene (S)	95	%		1.0	05/13/06 03:25	MCK	460-00-4		
Dibromofluoromethane (S)	104	%		1.0	05/13/06 03:25	MCK	1868-53-7		
1,2-Dichloroethane-d4 (S)	107	%		1.0	05/13/06 03:25	MCK	17060-07-0		

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Asheville, NC 28804
Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

Lab Sample No: 926962838 | Project Sample Number: 92119010-006 | Date Collected: 05/08/06 12:40
Client Sample ID: MW-17 | Matrix: Water | Date Received: 05/10/06 10:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Semivolatiles									
EDB and DBCP in Water	Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/l	0.020	1.0	05/13/06 03:09	RCS1	106-93-4		
1-Chloro-2-bromopropane (S)	99	%		1.0	05/13/06 03:09	RCS1	301-79-56		
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	96.	ug/l	5.0	1.0	05/12/06 08:18	DLK	71-43-2		
1,2-Dichloroethane	ND	ug/l	5.0	1.0	05/12/06 08:18	DLK	107-06-2		
Ethylbenzene	77.	ug/l	5.0	1.0	05/12/06 08:18	DLK	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	05/12/06 08:18	DLK	1634-04-4		
Naphthalene	60.	ug/l	5.0	1.0	05/12/06 08:18	DLK	91-20-3		
Toluene	54.	ug/l	5.0	1.0	05/12/06 08:18	DLK	108-88-3		
m&p-Xylene	230	ug/l	10.	1.0	05/12/06 08:18	DLK			
o-Xylene	100	ug/l	5.0	1.0	05/12/06 08:18	DLK	95-47-6		
Toluene-d8 (S)	102	%		1.0	05/12/06 08:18	DLK	2037-26-5		
4-Bromofluorobenzene (S)	101	%		1.0	05/12/06 08:18	DLK	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	05/12/06 08:18	DLK	1868-53-7		
1,2-Dichloroethane-d4 (S)	96	%		1.0	05/12/06 08:18	DLK	17060-07-0		

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Phone: 828.254.7176
Fax: 828.252.4618

Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

Method 9071B modified to use ASE.

All pH, Free Chlorine, Total Chlorine and Ferrous Iron analyses conducted outside of EPA recommended immediate hold time.

Depending on the moisture content the PRLs can be elevated for all soil samples reported on a dry weight basis.

2-Chloroethyl vinyl ether has been shown to degrade in the presence of acid.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate

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QUALITY CONTROL DATA

Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

QC Batch: 156954 — Analysis Method: EPA 8011
QC Batch Method: EPA 504.1 — Analysis Description: EDB and DBCP in Water
Associated Lab Samples: 926962788 926962796 926962804 926962812 926962820 926962838

METHOD BLANK: 926969478
Associated Lab Samples: 926962788 926962796 926962804 926962812 926962820 926962838

Parameter	Units	Blank Result	Reporting Limit	Footnotes
1,2-Dibromoethane (EDB)	ug/l	ND	0.020	
1-Chloro-2-bromopropane (S)	%	107		

LABORATORY CONTROL SAMPLE & LCSD: 926969486 926969494

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	RPD	Footnotes
1,2-Dibromoethane (EDB)	ug/l	0.2500	0.2646	0.2677	106	107	1	
1-Chloro-2-bromopropane (S)					110	110		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 926969502 926969510

Parameter	Units	926965765 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
1,2-Dibromoethane (EDB)	ug/l	0	0.2500	0.2663	0.2703	106	108	1	
1-Chloro-2-bromopropane (S)						108	108		

SAMPLE DUPLICATE: 926969528

Parameter	Units	926965781 Result	DUP Result	RPD	Footnotes
1,2-Dibromoethane (EDB)	ug/l	110.0	150.0	31	1
1-Chloro-2-bromopropane (S)	%	103	107		

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QUALITY CONTROL DATA

Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

QC Batch: 156964 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 926962788 926962796 926962804 926962812 926962820 926962838

METHOD BLANK: 926970245
Associated Lab Samples: 926962788 926962796 926962804 926962812 926962820 926962838

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
1,2-Dichloroethane	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	99		
4-Bromofluorobenzene (S)	%	98		
Dibromofluoromethane (S)	%	104		
1,2-Dichloroethane-d4 (S)	%	104		

LABORATORY CONTROL SAMPLE: 926970252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	46.20	92	
1,2-Dichloroethane	ug/l	50.00	45.39	91	
Ethylbenzene	ug/l	50.00	46.07	92	
Methyl-tert-butyl ether	ug/l	50.00	43.37	87	
Naphthalene	ug/l	50.00	43.61	87	
Toluene	ug/l	50.00	44.78	90	
m&p-Xylene	ug/l	100.00	92.03	92	
o-Xylene	ug/l	50.00	46.11	92	
Toluene-d8 (S)				97	
4-Bromofluorobenzene (S)				97	
Dibromofluoromethane (S)				102	
1,2-Dichloroethane-d4 (S)				101	

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QUALITY CONTROL DATA

Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 926970260 926970278

Parameter	Units	926965864 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	56.68	55.95	113	112	1	
Toluene	ug/l	0	50.00	54.94	55.70	110	111	1	
Toluene-d8 (S)						99	103		
4-Bromofluorobenzene (S)						102	101		
Dibromofluoromethane (S)						103	107		
1,2-Dichloroethane-d4 (S)						102	107		

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Fax: 828.252.4618

Lab Project Number: 92119010
Client Project ID: Bay Creek Villas/18662/CA26885

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	RPD value was outside of control limits, however % Recoveries were acceptable. Samples for QC batch accepted based on % recoveries and completeness of QC data.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

0987246

Section A Required Client Information:

Company	SCDHEC-UST
Address	2600 Bull St Columbia SC 29201
Email To:	
Phone	8038966240
Fax	8038966245
Requested Due Date/TAT:	7 day

Section B Required Project Information:

Report To:	D. Thoma
Copy To:	
Purchase Order No.:	574989
Project Name:	Bay Creek Villas
Project Number:	18662 KA: 26885

Section C Invoice Information:

Attention:	Finance
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	1700 9

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ Other_____

SITE LOCATION ☐GA ☐IL ☐IN ☐MI ☐MN ☐NC ☐OH ☒SC ☐WI ☐OTHER_____

Section D Required Client Information

SAMPLE ID

One Character per box. (A-Z, 0-9 / .-) Samples IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Filtered (Y/N) / Requested Analysis: BTEXMN (B260B)	12-DIA (B260B)	EDB (B011)	Residual Chlorine (Y/N)	Pace Project Number / Lab I.D
1	MW-3	WT	G	5/8	1145	—	—		6				6					X	X	X		Hot
2	MW-4	WT	G		1205	—	—		6				6					X	X	X		Hot
3	MW-9	WT	G		1135	—	—		6				6					X	X	X		Hot
4	MW-15	WT	G		1220	—	—		6				6					X	X	X		Hot
5	MW-16	WT	G		1210	—	—		6				6					X	X	X		Hot
6	MW-17	WT	G		1240	—	—		6				6					X	X	X		Hot
7	MW-18	WT	G		1230	—	—		6				6					X	X	X		FP-.40'
8																						
9																						
10																						
11																						
12																						

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITION
[signature]	5/8	1800	[signature]	3/10	1800	4 Y/N Y/N Y/N Y/N
						Y/N Y/N Y/N Y/N
						Y/N Y/N Y/N Y/N
						Y/N Y/N Y/N Y/N
						Temp in °C / Received on Ice / Custody Sealed Cooler / Samples Intact

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Jamie Bateman

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM / DD / YY): 5/8/06

SEE REVERSE SIDE FOR INSTRUCTIONS

ALLQ020rev.3 31Mar05

SITE ACTIVITY SUMMARY

UST PERMIT # 18662
FACILITY NAME Bay Creek Villas
COUNTY Colleton
NAME OF SAMPLER JAMIE BATEMAN

Sample ID	sampled?	Date	Time	Depth of Well	Depth to Water	Depth to Product	FP Thickness	# gal purged	comments
MW-3	Y	5/8/06	1142	15.00	6.12	—	—	—	Strong Odor
MW-4	Y		1201	15.00	5.48	—	—	—	Strong Odor
MW-9	Y		1131	10.00	5.21	—	—	—	Strong Odor
MW-15	Y		1216	10.00	6.71	—	—	—	Strong Odor
MW-16	Y		1208	10.00	6.77	—	—	—	Strong Odor
MW-17	Y		1237	10.00	4.44	—	—	—	Strong Odor
MW-18	N	—	1226	10.00	7.33	6.99	.40'	—	FP — .40

Midlands
Environmental
Consultants, Inc.

April 19, 2006

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19
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UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID #18662; CA #26739
MECI Project Number 06-864

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

Prior to initiation of the Aggressive Fluid Vapor Recovery (AFVR) event conducted by MECI, free phase petroleum product was detected in monitoring well MW-3 at a thickness of 0.01 feet, 0.05 feet in MW-15, 0.21 feet in MW-16, 0.01 feet MW-17 and 1.71 feet in MW-18 on April 10, 2006. Due to the tidal influence on the groundwater elevation, a stinger depth of 7.5 feet was determined to be optimal. This was based on the gauging of monitoring wells through the progression of a tide and determining the upper and lower extents of the influence. A variance of up to three feet was observed, with an elevation of 7 feet below ground surface (BGS) being the average lower extent. A stinger length of 7.5 feet maintained a consistent level of interception with the water table. An individual 8 hour aggressive fluid vapor recovery event was conducted on each of the five monitoring wells to reduce free phase product concentrations. After the initial individual AFVR events, five AFVR events were conducted on all five monitoring wells concurrently. The events were conducted by MECI personnel utilizing a MECI vacuum extraction unit. The AFVR events were conducted continually beginning April 10 and ending April 13, 2006. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the wells were 820.69 pounds or approximately 141.76 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 10.26

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Telephone: (803) 808-2043 • fax: (803) 808-2048

pounds per hour. Concentrations of off gas produced during the event were recorded from 21,000 parts per million by volume (PPM) to 350 PPM during the event. These readings were taken before vapors entered the off gas treatment system. Vacuum readings were recorded from 24.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded are presented in attached Table 1A through Table 1J.

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A through Table 2J. Monitoring well locations are depicted on Figure 1.

A total of 7,257 gallons of liquid were removed from wells MW-3, MW-15, MW-16, MW-17 and MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event, however noticeable petroleum sheen was present on top of the fluids removed from the monitoring wells. The fluids produced were transported to Sani-Tech Environment, LLC, of Goose Creek, SC and Crandall Corporation of Lexington, SC for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Theodore E. Raymond, Jr.
Staff Scientist

Bryan T. Shane, P.G.
Principal Geologist

Attachments:

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APR 1 8 2006

UNDERGROUND STORAGE
TANK PROGRAM

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-15	04/10/06	10:30	0.50	20.0	350	950	85.50	0.36	0.18
	04/10/06	11:00	0.50	15.0	690	1800	162.00	1.34	0.67
	04/10/06	11:30	0.50	15.0	1,100	1890	170.10	2.25	1.12
	04/10/06	12:00	0.50	15.0	1,000	1880	169.20	2.03	1.02
	04/10/06	12:30	0.50	15.0	1,000	1830	164.70	1.98	0.99
	04/10/06	13:00	0.50	15.0	1,000	1710	153.90	1.85	0.92
	04/10/06	13:30	0.50	15.0	1,000	1770	159.30	1.91	0.96
	04/10/06	14:00	0.50	15.0	1,000	1680	151.20	1.81	0.91
	04/10/06	14:30	0.50	15.0	1,000	2020	181.80	2.18	1.09
	04/10/06	15:00	0.50	15.0	1,000	1850	166.50	2.00	1.00
	04/10/06	15:30	0.50	15.0	1,000	1920	172.80	2.07	1.04
	04/10/06	16:00	0.50	15.0	1,000	1990	179.10	2.15	1.07
	04/10/06	16:30	0.50	15.0	1,000	1970	177.30	2.13	1.06
	04/10/06	17:00	0.50	15.0	1,000	1870	168.30	2.02	1.01
	04/10/06	17:30	0.50	15.0	1,000	1940	174.60	2.10	1.05
	04/10/06	18:00	0.50	15.0	1,000	1750	157.50	1.89	0.95
	04/10/06	18:30	0.50	15.0	1,000	1870	168.30	2.02	1.01
									TOTAL 16.04

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-15	2"	10	5.00	5.05	0.05	***	5.68	***	0.67

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-15	5.50
Truck Operator:	T. Raymond		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-15			5.01

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	16.04	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	2.77	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sni-Tech	
Total Liquids Removed:	725.7	Gallons

TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-16	**MW-17**	**MW-18**
Nearest Extraction Well:		MW-15	MW-15	MW-15
Approximate Distance:		15 ft	30 ft	15 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-16	**MW-17**	**MW-18**
Nearest Extraction Well:		MW-15	MW-15	MW-15
Approximate Distance:		15 ft	30 ft	15 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		6.11	4.89	7.01
14:30	4 hours	7.07	4.92	9.20
18:30	8 hours	5.65	4.95	6.83
Maximum Change:		1.42	-0.03	2.37

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	04/10/06	18:30	0.50	24.0	21,000	650	58.50	14.74	7.37
	04/10/06	19:00	0.50	18.0	19,600	1570	141.30	33.23	16.62
	04/10/06	19:30	0.50	18.0	18,400	1530	137.70	30.40	15.20
	04/10/06	20:00	0.50	18.0	16,300	1650	148.50	29.05	14.52
	04/10/06	20:30	0.50	18.0	17,100	1430	128.70	26.41	13.20
	04/10/06	21:00	0.50	18.0	18,400	1380	124.20	27.42	13.71
	04/10/06	21:30	0.50	24.0	17,700	760	68.40	14.53	7.26
	04/10/06	22:00	0.50	24.0	16,500	840	75.60	14.97	7.48
	04/10/06	22:30	0.50	24.0	16,700	910	81.90	16.41	8.21
	04/10/06	23:00	0.50	24.0	17,300	1020	91.80	19.06	9.53
	04/10/06	23:30	0.50	24.0	18,200	770	69.30	15.14	7.57
	04/10/06	0:00	0.50	24.0	17,600	820	73.80	15.59	7.79
	04/11/06	0:30	0.50	24.0	19,100	930	83.70	19.18	9.59
	04/11/06	1:00	0.50	24.0	16,800	690	62.10	12.52	6.26
	04/11/06	1:30	0.50	24.0	18,200	730	65.70	14.35	7.17
	04/11/06	2:00	0.50	24.0	17,100	700	63.00	12.93	6.46
	04/11/06	2:30	0.50	24.0	18,000	810	72.90	15.75	7.87
									TOTAL 165.84

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	5.13	6.84	1.71	***	7.94	***	2.55

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	7.50
Truck Operator:	T. Raymond		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18			5.39

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	165.84	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	28.65	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sani-Tech	
Total Liquids Removed:	725.7	Gallons

TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		15 ft	15 ft	15 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
18:30	0.0	0	0	0
19:00	0.5	0	0	0
19:30	1.0	0	0	0
20:00	1.5	0	0	0
20:30	2.0	0	0	0
21:00	2.5	0	0	0
21:30	3.0	0	0	0
22:00	3.5	0	0	0
22:30	4.0	0	0	0
23:00	4.5	0	0	0
23:30	5.0	0	0	0
0:00	5.5	0	0	0
0:30	6.0	0	0	0
1:00	6.5	0	0	0
1:30	7.0	0	0	0
2:00	7.5	0	0	0
2:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		15 ft	15 ft	15 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.57	6.31	4.94
22:30	4 hours	5.73	5.83	4.95
2:30	8 hours	7.33	7.32	4.92
Maximum Change:		-1.60	-1.49	0.03

TABLE 1C
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-16	04/11/06	2:30	0.50	24.0	13,000	1400	126.00	19.66	9.83
	04/11/06	3:00	0.50	24.0	12,600	1410	126.90	19.19	9.59
	04/11/06	3:30	0.50	24.0	12,150	1390	125.10	18.24	9.12
	04/11/06	4:00	0.50	24.0	11,310	1430	128.70	17.47	8.73
	04/11/06	4:30	0.50	24.0	9,560	1420	127.80	14.66	7.33
	04/11/06	5:00	0.50	24.0	9,030	1210	108.90	11.80	5.90
	04/11/06	5:30	0.50	24.0	9,805	1130	101.70	11.97	5.98
	04/11/06	6:00	0.50	24.0	9,615	1080	97.20	11.21	5.61
	04/11/06	6:30	0.50	24.0	8,950	1040	93.60	10.05	5.03
	04/11/06	7:00	0.50	24.0	8,630	1230	110.70	11.46	5.73
	04/11/06	7:30	0.50	24.0	9,010	1310	117.90	12.75	6.37
	04/11/06	8:00	0.50	24.0	9,100	1330	119.70	13.07	6.54
	04/11/06	8:30	0.50	24.0	9,510	1280	115.20	13.15	6.57
	04/11/06	9:00	0.50	24.0	9,210	1410	126.90	14.02	7.01
	04/11/06	9:30	0.50	24.0	8,910	1440	129.60	13.86	6.93
	04/11/06	10:00	0.50	24.0	8,300	1030	92.70	9.23	4.62
	04/11/06	10:30	0.50	24.0	8,500	960	86.40	8.81	4.41
									TOTAL 115.30

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-16	2"	10	7.11	7.32	0.21	***	7.51	***	0.37

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-16	7.50
Truck Operator:	T. Raymond		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-16			7.14

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	115.30	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	19.92	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sani-Tech	
Total Liquids Removed:	725.7	Gallons

TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-17**	**MW-18**
Nearest Extraction Well:		MW-16	MW-16	MW-16
Approximate Distance:		15 ft	15 ft	15 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
2:30	0.0	0	0	0
3:00	0.5	0	0	0
3:30	1.0	0	0	0
4:00	1.5	0	0	0
4:30	2.0	0	0	0
5:00	2.5	0	0	0
5:30	3.0	0	0	0
6:00	3.5	0	0	0
6:30	4.0	0	0	0
7:00	4.5	0	0	0
7:30	5.0	0	0	0
8:00	5.5	0	0	0
8:30	6.0	0	0	0
9:00	6.5	0	0	0
9:30	7.0	0	0	0
10:00	7.5	0	0	0
10:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-17**	**MW-18**
Nearest Extraction Well:		MW-16	MW-16	MW-16
Approximate Distance:		15 ft	15 ft	15 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		7.33	4.99	9.13
6:30	4 hours	6.10	4.93	7.65
10:30	8 hours	5.95	4.89	6.31
Maximum Change:		1.23	0.06	1.48

TABLE 1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-17	04/11/06	10:30	0.50	24.0	6,110	830	74.70	5.48	2.74
	04/11/06	11:00	0.50	24.0	6,200	890	80.10	5.96	2.98
	04/11/06	11:30	0.50	24.0	5,630	930	83.70	5.65	2.83
	04/11/06	12:00	0.50	24.0	5,610	960	86.40	5.82	2.91
	04/11/06	12:30	0.50	24.0	5,510	1040	93.60	6.19	3.09
	04/11/06	13:00	0.50	24.0	5,500	1000	90.00	5.94	2.97
	04/11/06	13:30	0.50	24.0	5,480	1100	99.00	6.51	3.26
	04/11/06	14:00	0.50	24.0	5,630	990	89.10	6.02	3.01
	04/11/06	14:30	0.50	24.0	5,370	1020	91.80	5.92	2.96
	04/11/06	15:00	0.50	24.0	5,780	980	88.20	6.12	3.06
	04/11/06	15:30	0.50	24.0	5,560	1140	102.60	6.85	3.42
	04/11/06	16:00	0.50	24.0	5,580	870	78.30	5.24	2.62
	04/11/06	16:30	0.50	24.0	5,740	1080	97.20	6.70	3.35
	04/11/06	17:00	0.50	24.0	5,130	970	87.30	5.37	2.69
	04/11/06	17:30	0.50	24.0	5,610	920	82.80	5.57	2.79
	04/11/06	18:00	0.50	24.0	5,320	860	77.40	4.94	2.47
	04/11/06	18:30	0.50	24.0	5,520	760	68.40	4.53	2.27
									TOTAL 49.40

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-17	2"	10	5.22	5.23	0.01	***	7.51	***	2.29

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-17	7.50
Truck Operator:	T. Raymond		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-17			5.22

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	49.40	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	8.53	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sani-Tech	
Total Liquids Removed:	725.7	Gallons

TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	MW-16	MW-18
Nearest Extraction Well:		MW-17	MW-17	MW-17
Approximate Distance:		15 ft	15 ft	15 ft
Time	Elapsed Time	Differential Pressure Readings (inches of water)		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	MW-16	MW-18
Nearest Extraction Well:		MW-17	MW-17	MW-17
Approximate Distance:		15 ft	15 ft	15 ft
Time	Elapsed Time	Depth to Liquid (feet below of casing):		
Prior toAFVR		5.96	7.40	6.31
14:30	4 hours	6.99	7.01	7.78
18:30	8 hours	6.94	6.06	6.30
Maximum Change:		-1.03	0.95	1.48

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-3	04/11/06	18:30	0.50	24.0	4,310	630	56.70	2.93	1.47
	04/11/06	19:00	0.50	24.0	4,290	650	58.50	3.01	1.51
	04/11/06	19:30	0.50	24.0	4,000	700	63.00	3.02	1.51
	04/11/06	20:00	0.50	24.0	3,600	720	64.80	2.80	1.40
	04/11/06	20:30	0.50	24.0	3,200	710	63.90	2.45	1.23
	04/11/06	21:00	0.50	24.0	3,460	690	62.10	2.58	1.29
	04/11/06	21:30	0.50	24.0	2,990	770	69.30	2.49	1.24
	04/11/06	22:00	0.50	24.0	3,230	630	56.70	2.20	1.10
	04/11/06	22:30	0.50	24.0	3,170	710	63.90	2.43	1.22
	04/11/06	23:00	0.50	24.0	3,390	680	61.20	2.49	1.24
	04/11/06	23:30	0.50	24.0	3,050	660	59.40	2.17	1.09
	04/12/06	0:00	0.50	24.0	3,880	750	67.50	3.14	1.57
	04/12/06	0:30	0.50	24.0	3,000	610	54.90	1.98	0.99
	04/12/06	1:00	0.50	24.0	2,970	580	52.20	1.86	0.93
	04/12/06	1:30	0.50	24.0	3,010	630	56.70	2.05	1.02
	04/12/06	2:00	0.50	24.0	2,860	730	65.70	2.25	1.13
	04/12/06	2:30	0.50	24.0	2,950	690	62.10	2.20	1.10
									TOTAL 21.03

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-3	2"	10	5.47	5.48	0.01	***	7.51	***	2.04

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-3	7.50
Truck Operator:	T. Raymond		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-3			5.47

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	21.03	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	3.63	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sani-Tech	
Total Liquids Removed:	725.7	Gallons

TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-18**
Nearest Extraction Well:		MW-3	MW-3	MW-3
Approximate Distance:		12 ft	10 ft	20 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
18:30	0.0	0	0	0
19:00	0.5	0	0	0
19:30	1.0	0	0	0
20:00	1.5	0	0	0
20:30	2.0	0	0	0
21:00	2.5	0	0	0
21:30	3.0	0	0	0
22:00	3.5	0	0	0
22:30	4.0	0	0	0
23:00	4.5	0	0	0
23:30	5.0	0	0	0
0:00	5.5	0	0	0
0:30	6.0	0	0	0
1:00	6.5	0	0	0
1:30	7.0	0	0	0
2:00	7.5	0	0	0
2:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-18**
Nearest Extraction Well:		MW-3	MW-3	MW-3
Approximate Distance:		12 ft	10 ft	20 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		6.04	6.06	6.30
22:30	4 hours	6.12	6.26	6.11
2:30	8 hours	7.89	8.28	8.19
Maximum Change:		-1.77	-2.02	-2.08

TABLE 1F
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-3, MW-15 MW-16, MW-17 MW-18	04/12/06	2:30	0.50	20.0	13,210	1010	90.90	14.41	7.20
	04/12/06	3:00	0.50	20.0	13,400	1480	133.20	21.42	10.71
	04/12/06	3:30	0.50	20.0	12,950	1530	137.70	21.40	10.70
	04/12/06	4:00	0.50	20.0	12,680	1550	139.50	21.23	10.61
	04/12/06	4:30	0.50	20.0	12,630	1590	143.10	21.69	10.84
	04/12/06	5:00	0.50	20.0	12,480	1530	137.70	20.62	10.31
	04/12/06	5:30	0.50	20.0	12,010	1430	128.70	18.55	9.27
	04/12/06	6:00	0.50	20.0	11,090	1390	125.10	16.65	8.32
	04/12/06	6:30	0.50	20.0	11,610	1420	127.80	17.81	8.90
	04/12/06	7:00	0.50	20.0	11,380	1410	126.90	17.33	8.66
	04/12/06	7:30	0.50	20.0	11,040	1390	125.10	16.57	8.29
	04/12/06	8:00	0.50	20.0	11,130	1440	129.60	17.31	8.65
	04/12/06	8:30	0.50	20.0	10,980	1440	129.60	17.08	8.54
	04/12/06	9:00	0.50	20.0	10,750	1400	126.00	16.25	8.13
	04/12/06	9:30	0.50	20.0	10,690	1430	128.70	16.51	8.25
	04/12/06	10:00	0.50	20.0	10,520	1410	126.90	16.02	8.01
	04/12/06	10:30	0.50	20.0	10,500	1380	124.20	15.65	7.82
									TOTAL 153.24

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-3	2"	10	7.63	7.63	0.00	***	7.03	***	-0.60
MW-15	2"	10	7.89	7.89	0.00		5.68		-2.21
MW-16	2"	10	8.28	8.29	0.01		7.51		-0.77
MW-17	2"	10	7.94	7.94	0.00		7.51		-0.43
MW-18	2"	10	8.19	8.23	0.04		7.94		-0.26

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-3,15,16,17,18	7.50
Truck Operator:	T. Raymond		
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information

Hydro carbons Removed (vapor):	153.24	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	26.47	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sani-Tech	
Total Liquids Removed:	725.7	Gallons

TABLE 2F
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-10**
Nearest Extraction Well:		MW-17	MW-16	MW-16
Approximate Distance:		70 ft	40 ft	80 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
2:30	0.0	0	0	0
3:00	0.5	0	0	0
3:30	1.0	0	0	0
4:00	1.5	0	0	0
4:30	2.0	0	0	0
5:00	2.5	0	0	0
5:30	3.0	0	0	0
6:00	3.5	0	0	0
6:30	4.0	0	0	0
7:00	4.5	0	0	0
7:30	5.0	0	0	0
8:00	5.5	0	0	0
8:30	6.0	0	0	0
9:00	6.5	0	0	0
9:30	7.0	0	0	0
10:00	7.5	0	0	0
10:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-10**
Nearest Extraction Well:		MW-17	MW-16	MW-16
Approximate Distance:		70 ft	40 ft	80 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.31	5.98	6.22
6:30	4 hours	5.33	6.42	6.21
10:30	8 hours	5.05	5.57	5.64
Maximum Change:		0.28	0.85	0.57

TABLE 1G
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-3, MW-15 MW-16, MW-17 MW-18	04/12/06	10:30	0.50	20.0	10,700	1390	125.10	16.06	8.03
	04/12/06	11:00	0.50	20.0	10,450	1390	125.10	15.69	7.84
	04/12/06	11:30	0.50	20.0	10,250	1410	126.90	15.61	7.80
	04/12/06	12:00	0.50	20.0	10,300	1520	136.80	16.91	8.45
	04/12/06	12:30	0.50	20.0	9,980	1550	139.50	16.71	8.35
	04/12/06	13:00	0.50	20.0	10,220	1510	135.90	16.67	8.33
	04/12/06	13:30	0.50	20.0	10,050	1580	142.20	17.15	8.57
	04/12/06	14:00	0.50	20.0	10,000	1620	145.80	17.50	8.75
	04/12/06	14:30	0.50	20.0	10,000	1550	139.50	16.74	8.37
	04/12/06	15:00	0.50	20.0	10,000	1520	136.80	16.42	8.21
	04/12/06	15:30	0.50	20.0	10,000	1600	144.00	17.28	8.64
	04/12/06	16:00	0.50	20.0	9,760	1520	136.80	16.02	8.01
	04/12/06	16:30	0.50	20.0	8,960	1460	131.40	14.13	7.06
	04/12/06	17:00	0.50	20.0	9,260	1420	127.80	14.20	7.10
	04/12/06	17:30	0.50	20.0	9,160	1580	142.20	15.63	7.82
	04/12/06	18:00	0.50	20.0	9,320	1620	145.80	16.31	8.15
	04/12/06	18:30	0.50	20.0	8,780	1590	143.10	15.08	7.54
									TOTAL 137.04

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-3	2"	10	7.63	7.63	0.00	***	7.03	***	-0.60
MW-15	2"	10	7.89	7.89	0.00		5.68		-2.21
MW-16	2"	10	8.28	8.29	0.01		7.51		-0.77
MW-17	2"	10	7.94	7.94	0.00		7.51		-0.43
MW-18	2"	10	8.19	8.23	0.04		7.94		-0.26

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-3,15,16,17,18	7.50
Truck Operator:	T. Raymond		
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information

Hydro carbons Removed (vapor):	137.04	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	23.67	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sani- Tech	
Total Liquids Removed:	725.7	Gallons

TABLE 2G
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-10**
Nearest Extraction Well:		MW-17	MW-16	MW-16
Approximate Distance:		70 ft	40 ft	80 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-10**
Nearest Extraction Well:		MW-17	MW-16	MW-16
Approximate Distance:		70 ft	40 ft	80 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.05	5.57	5.64
14:30	4 hours	5.34	6.35	6.51
18:30	8 hours	5.48	6.19	5.99
Maximum Change:		-0.29	-0.78	-0.87

TABLE 1H
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (In. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-3, MW-15	04/12/06	18:30	0.50	22.0	7,390	1220	109.80	9.74	4.87
MW-16, MW-17	04/12/06	19:00	0.50	22.0	7,440	1180	106.20	9.48	4.74
MW-18	04/12/06	19:30	0.50	22.0	6,980	1230	110.70	9.27	4.64
	04/12/06	20:00	0.50	22.0	7,130	1370	123.30	10.55	5.27
	04/12/06	20:30	0.50	22.0	6,680	1260	113.40	9.09	4.55
	04/12/06	21:00	0.50	22.0	6,730	1120	100.80	8.14	4.07
	04/12/06	21:30	0.50	22.0	6,240	1080	97.20	7.28	3.64
	04/12/06	22:00	0.50	22.0	6,770	1370	123.30	10.02	5.01
	04/12/06	22:30	0.50	22.0	6,550	1220	109.80	8.63	4.32
	04/12/06	23:00	0.50	22.0	6,340	1180	106.20	8.08	4.04
	04/12/06	23:30	0.50	22.0	5,950	1220	109.80	7.84	3.92
	04/13/06	0:00	0.50	22.0	6,140	1280	115.20	8.49	4.24
	04/13/06	0:30	0.50	22.0	6,780	1230	110.70	9.01	4.50
	04/13/06	1:00	0.50	22.0	5,870	1190	107.10	7.54	3.77
	04/13/06	1:30	0.50	22.0	6,660	1240	111.60	8.92	4.46
	04/13/06	2:00	0.50	22.0	5,980	1230	110.70	7.94	3.97
	04/13/06	2:30	0.50	22.0	6,770	1140	102.60	8.34	4.17
									TOTAL 74.18

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-3	2"	10	7.63	7.63	0.00	***	7.03	***	-0.60
MW-15	2"	10	7.89	7.89	0.00		5.68		-2.21
MW-16	2"	10	8.28	8.29	0.01		7.51		-0.77
MW-17	2"	10	7.94	7.94	0.00		7.51		-0.43
MW-18	2"	10	8.19	8.23	0.04		7.94		-0.26

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-3,15,16,17,18	7.50
Truck Operator:	T. Raymond		
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	74.18	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	12.81	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sani-Tech	
Total Liquids Removed:	725.7	Gallons

TABLE 2H
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-10**
Nearest Extraction Well:		MW-17	MW-16	MW-16
Approximate Distance:		70 ft	40 ft	80 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
18:30	0.0	0	0	0
19:00	0.5	0	0	0
19:30	1.0	0	0	0
20:00	1.5	0	0	0
20:30	2.0	0	0	0
21:00	2.5	0	0	0
21:30	3.0	0	0	0
22:00	3.5	0	0	0
22:30	4.0	0	0	0
23:00	4.5	0	0	0
23:30	5.0	0	0	0
0:00	5.5	0	0	0
0:30	6.0	0	0	0
1:00	6.5	0	0	0
1:30	7.0	0	0	0
2:00	7.5	0	0	0
2:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-10**
Nearest Extraction Well:		MW-17	MW-16	MW-16
Approximate Distance:		70 ft	40 ft	80 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.48	6.19	5.64
22:30	4 hours	5.31	6.69	6.71
2:30	8 hours	5.48	7.05	7.61
Maximum Change:		0.17	-0.50	-1.07

TABLE 1I
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-3, MW-15	04/13/06	2:30	0.50	22.0	5,230	1240	111.60	7.00	3.50
MW-16, MW-17	04/13/06	3:00	0.50	22.0	5,540	1310	117.90	7.84	3.92
MW-18	04/13/06	3:30	0.50	22.0	5,410	1290	116.10	7.54	3.77
	04/13/06	4:00	0.50	22.0	5,250	1240	111.60	7.03	3.52
	04/13/06	4:30	0.50	22.0	5,010	1300	117.00	7.03	3.52
	04/13/06	5:00	0.50	22.0	5,050	1270	114.30	6.93	3.46
	04/13/06	5:30	0.50	22.0	4,800	1260	113.40	6.53	3.27
	04/13/06	6:00	0.50	22.0	4,830	1300	117.00	6.78	3.39
	04/13/06	6:30	0.50	22.0	4,560	1270	114.30	6.25	3.13
	04/13/06	7:00	0.50	22.0	4,530	1280	115.20	6.26	3.13
	04/13/06	7:30	0.50	22.0	4,210	1260	113.40	5.73	2.86
	04/13/06	8:00	0.50	22.0	4,350	1230	110.70	5.78	2.89
	04/13/06	8:30	0.50	22.0	4,100	1250	112.50	5.54	2.77
	04/13/06	9:00	0.50	22.0	4,080	1280	115.20	5.64	2.82
	04/13/06	9:30	0.50	22.0	3,610	1300	117.00	5.07	2.53
	04/13/06	10:00	0.50	22.0	3,480	1240	111.60	4.66	2.33
	04/13/06	10:30	0.50	22.0	3,210	1210	108.90	4.19	2.10
									TOTAL 52.90

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-3	2"	10	7.63	7.63	0.00	***	7.03	***	-0.60
MW-15	2"	10	7.89	7.89	0.00		5.68		-2.21
MW-16	2"	10	8.28	8.29	0.01		7.51		-0.77
MW-17	2"	10	7.94	7.94	0.00		7.51		-0.43
MW-18	2"	10	8.19	8.23	0.04		7.94		-0.26

cuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-3,15,16,17,18	7.50
Truck Operator:	T. Raymond		
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	52.90	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	9.14	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sani-Tech	
Total Liquids Removed:	725.7	Gallons

TABLE 2I
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	MW-14	MW-10
Nearest Extraction Well:		MW-17	MW-16	MW-16
Approximate Distance:		70 ft	40 ft	80 ft
Time	Elapsed Time	Differential Pressure Readings (inches of water)		
2:30	0.0	0	0	0
3:00	0.5	0	0	0
3:30	1.0	0	0	0
4:00	1.5	0	0	0
4:30	2.0	0	0	0
5:00	2.5	0	0	0
5:30	3.0	0	0	0
6:00	3.5	0	0	0
6:30	4.0	0	0	0
7:00	4.5	0	0	0
7:30	5.0	0	0	0
8:00	5.5	0	0	0
8:30	6.0	0	0	0
9:00	6.5	0	0	0
9:30	7.0	0	0	0
10:00	7.5	0	0	0
10:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	MW-14	MW-10
Nearest Extraction Well:		MW-17	MW-16	MW-16
Approximate Distance:		70 ft	40 ft	80 ft
Time	Elapsed Time	Depth to Liquid (feet below of casing):		
Prior toAFVR		5.48	7.05	7.61
6:30	4 hours	5.25	6.09	6.27
10:30	8 hours	5.19	5.63	5.47
Maximum Change:		0.23	0.96	1.34

TABLE 1J
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-3, MW-15 MW-16, MW-17 MW-18	04/13/06	10:30	0.50	18.0	3,410	1840	165.60	6.78	3.39
	04/13/06	11:00	0.50	18.0	3,510	1910	171.90	7.24	3.62
	04/13/06	11:30	0.50	18.0	3,250	1770	159.30	6.21	3.11
	04/13/06	12:00	0.50	18.0	2,790	1720	154.80	5.18	2.59
	04/13/06	12:30	0.50	18.0	2,570	1590	143.10	4.41	2.21
	04/13/06	13:00	0.50	18.0	2,630	1540	138.60	4.37	2.19
	04/13/06	13:30	0.50	18.0	2,730	1450	130.50	4.28	2.14
	04/13/06	14:00	0.50	18.0	2,420	1570	141.30	4.10	2.05
	04/13/06	14:30	0.50	18.0	2,410	1550	139.50	4.03	2.02
	04/13/06	15:00	0.50	18.0	1,990	1600	144.00	3.44	1.72
	04/13/06	15:30	0.50	18.0	2,100	1560	140.40	3.54	1.77
	04/13/06	16:00	0.50	18.0	1,870	1590	143.10	3.21	1.61
	04/13/06	16:30	0.50	18.0	1,760	1610	144.90	3.06	1.53
	04/13/06	17:00	0.50	18.0	1,780	1610	144.90	3.10	1.55
	04/13/06	17:30	0.50	18.0	1,690	1510	135.90	2.76	1.38
	04/13/06	18:00	0.50	18.0	1,650	1630	146.70	2.90	1.45
	04/13/06	18:30	0.50	18.0	1,610	1620	145.80	2.82	1.41
									TOTAL 35.72

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-3	2"	10	7.63	7.63	0.00	***	7.03	***	-0.60
MW-15	2"	10	7.89	7.89	0.00		5.68		-2.21
MW-16	2"	10	8.28	8.29	0.01		7.51		-0.77
MW-17	2"	10	7.94	7.94	0.00		7.51		-0.43
MW-18	2"	10	8.19	8.23	0.04		7.94		-0.26

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-3,15,16,17,18	7.50
Truck Operator:	T. Raymond		
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information

Hydro carbons Removed (vapor):	35.72	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	6.17	Equivilant Gallons
Molecular Weght Utilized:	75	g / mole
Disposal Facility	Crandall Corporation, Sani-Tech	
Total Liquids Removed:	725.7	Gallons

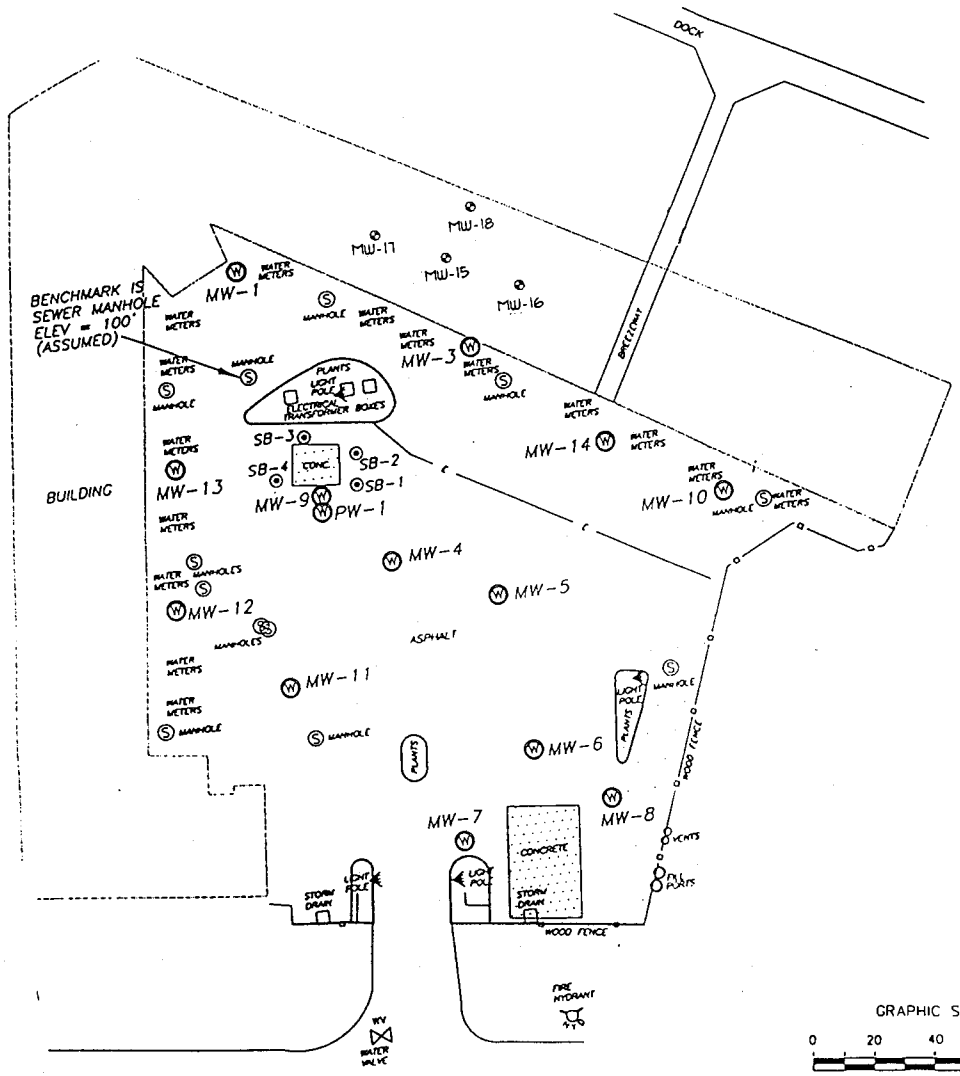
TABLE 2J
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 06-864
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-10**
Nearest Extraction Well:		MW-17	MW-16	MW-16
Approximate Distance:		70 ft	40 ft	80 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-14**	**MW-10**
Nearest Extraction Well:		MW-17	MW-16	MW-16
Approximate Distance:		70 ft	40 ft	80 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.19	5.63	5.47
14:30	4 hours	5.34	6.03	6.36
18:30	8 hours	5.27	6.52	6.18
Maximum Change:		-0.15	-0.49	-0.89



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

US Water Recovery

Non-Hazardous Wastewater Manifest

Number: 2258

1. Generator's EPA ID# (if applicable): Waste ID Number:

2. Generator's Name and Mailing Address:
Midlands Environmental Consultants Inc.
1144 Old Two Notch Road
Lexington SC 29073
Phone (803) 808-2043
PO#:

3. Agent of Generator and Mailing Address:
U S Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445
Phone (843) 797-3111
PO#:

4. Transporter Company Name:
Sani-Tech Environment, LLC
511 Old Mt. Holly Rd.
Goose Creek, SC 29445
Phone (843) 797-0402
Truck & Trailer Licensed Number:

5. Transporter U.S. EPA ID#:

6. Facility Name and Site Address:
U S Water Recovery
435 Old Mt. Holly Rd.
Mt. Holly, SC 29445
Phone: (843) 797-8874
Fax: (843) 797-2125

Mailing Address:
U S Water Recovery
511 Old Mt. Holly Rd.
Goose Creek, SC 29445
Phone: (843) 797-3111
Fax: (843) 797-8710

7. Facility U.S. EPA ID#:

Start Level: End Level: Total Gallons: 6000 Tank Number: 3

8. U.S. DOT Description	Container No.	Container Type	Unit	Quantity
Non-Hazardous, non-regulated waste water				~~6,000~~ Gallons
				7000 Gal.

9. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name: Thad Raymond Signature: [signature] Date: 04-13-06

10. Transporter Acknowledgement of Receipt of Materials:
Printed/Typed Name: Todd Brown Signature: [signature] Date: 4-18-06

11. Discrepancy Indication space:

12. Facility Owner or Operator: Certification of Receipt of Materials:
Printed/Typed Name: David Ward Signature: [signature] Date: 4-18-06

White - Facility Yellow - Transporter Pink - Generator

C 003988

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: . . . . . .

Manifest Document No.: 89543

2. Page 1 of 1

3. Generator's Name and Mailing Address: Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone: (803) 808-2043

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name:

8. US EPA ID Number:

B. Transporter's Phone:

9. Designated Facility Name and Site Address:
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	1	TT	180	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Bay Creek Villas 180 Gal. 18662

Service Call ID: GLB0089542

Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

X Printed/Typed Name: Lyle H. Lee — Signature: [signature] — Month 04 Day 14 Year 06

17. Transporter 1 Acknowledgement of Receipt of Materials

X Printed/Typed Name: Lyle H. Lee — Signature: [signature] — Month 04 Day 14 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: — Signature: — Month . Day . Year .

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Tony Deere — Signature: [signature] — Month 04 Day 14 Year 06

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

C 003987

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 89542

2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone (803) 808-2043

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	1	TT	1	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Bay Creek Villas 77gal SCDHEC ID# 18662
Smiths 58gal SCDHEC ID# 02459

Service Call ID: GLB0089542

Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

TRANSPORTER

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: X Lyle H. Lee — Signature: Lyle H. Lee — Month 04 Day 14 Year 06

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: X Lyle H. Lee — Signature: Lyle H. Lee — Month 04 Day 14 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Tony DeVore — Signature — Month 04 Day 14 Year 06

GENERATOR COPY

Midlands
Environmental
Consultants, Inc.

April 6, 2006

RECEIVED
APR 07 2006
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern Corrective Action Section
Assessment & 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,
Sampling & Chemical Analysis
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662, CA # 26482, UMW # 19800
MECI Project Number 06-834

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the following Report of Monitoring Well Installation, Sampling & Chemical Analysis. The activities and results described in this report are not intended to fully characterize the conditions at the subject site, but should be considered with respect to previous assessment activities performed. This report describes activities conducted at your request.

FIELD EXPLORATION

Four single cased watertable bracketing monitoring wells (MW-15, MW-16, MW-17 and MW-18) were installed at the subject site. Following the installation of the monitoring wells, four groundwater samples were collected for chemical analysis. A subsequent survey was conducted by MECI personnel to locate the additional groundwater monitoring wells.

MONITORING WELL INSTALLATION

On March 22, 2006 monitoring wells MW-15, MW-16, MW-17 and MW-18 were installed at the site. These wells were installed by Geologic Exploration, Inc. (SCDHEC License – Brian Thomas # 1465). The wells were installed using hand auguring techniques to construct the borehole. Monitoring wells MW-15, MW-16, MW-17 and MW-18 were advanced to a depth of 10 feet below ground surface (BGS) with a screened interval of 3-10 feet (BGS). Please find the attached Monitoring Well Installation Records for well construction details.

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Following completion of the monitoring wells, the wells were developed by bailing until they were determined to be functioning properly and turbidity was reduced. The development water was drummed and transported to a waste-water treatment facility for future disposal. Test Boring Records showing soil descriptions are included in Appendix A. Monitoring well installation details are also provided in Appendix A. The drummed purge water was treated by Crandall Corporation of Lexington, South Carolina. A total of one (1) drum of purge/development water was disposed of in this manner. A disposal manifest for the drummed purge water is attached at the end of this report.

Following the installation of these additional monitoring wells, a subsequent survey of the site was performed by MECI personnel to locate the additional monitoring wells. Please see Figure 2 for well locations. Top of casing (TOC) elevations for the additional monitoring wells are as follows: MW-15 = 100.25 feet, MW-16 = 100.15 feet, MW-17 = 100.19 feet, and MW-18 = 100.35 feet. These elevations were determined using an elevation of 99.93 feet for MW-3 as a benchmark for surveying purposes.

MONITORING WELL SAMPLING AND CHEMICAL ANALYSIS

On March 22, 2006, monitoring wells MW-15, MW-16, and MW-17 were purged and sampled. These wells were purged by bailing at least three well volumes of water from the wells or until all available water had been evacuated, whichever occurred first. Field measurements of pH, conductivity, temperature and dissolved oxygen were obtained before, during and after the well purging process. MW-18 contained 0.20 feet of free phase petroleum product at the time of sampling. MW-18 was gauged and sampled. Field measurements of dissolved carbon dioxide were obtained prior to well purging. Table 1 presents the results of the field measurements obtained. The groundwater samples obtained were sent to Access Analytical of Irmo, SC (SCDHEC Laboratory Certification #96023) for analysis.

The groundwater sample collected from monitoring wells MW-15, MW-16, MW-17 and MW-18 were analyzed for volatile organic compounds including BTEX, naphthalene, and methyl-tertiary butyl ether (EPA Method 8260B). The results of the laboratory analyses are summarized in Table 2, and presented in Appendix B.

GROUNDWATER ANALYTICAL RESULTS

Groundwater samples were obtained from the monitoring wells (MW-15 through MW-18) and analyzed for dissolved phase petroleum constituents. The laboratory analytical results from the groundwater samples obtained indicated total BTEX levels ranging from 700 micrograms per liter in MW-17 to 6,130 micrograms per liter in MW-15. Concentrations of MTBE were below detection limits (BDL) in monitoring wells MW-15 through MW-18. Concentrations of Naphthalene ranged from below detection limits to 360 micrograms per liter in MW-16. Free phase petroleum product was encountered in MW-18 at a thickness of 0.20 feet at the time of sampling. The results of the analyses for monitoring wells MW-15, MW-16, MW-17 and MW-18 and specific parameters are listed on Table 2, and the detection limits for each parameter are provided in the laboratory reports (Appendix B).

SOIL (DRILL CUTTINGS) DISPOSAL

Drill cuttings were containerized and later transported to Waste Management/Richland Landfill, Elgin, SC by MECI personnel. A total of 1.03 tons was disposed of in this manner. A disposal manifest for these soils is attached at the end of this report.

Midlands Environmental appreciates the opportunity to offer our professional environmental services to you on this project. Please feel free to contact us at 808-2043 if you have any questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Harry B. Walling
Staff Scientist

William C. McClary, P.G.
Senior Geologist

Attachments

TABLE 1
FIELD PARAMETERS
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 06-834
SCDHEC SITE ID NUMBER 18662

Well Number	Sample Date	Dissolved Oxygen (mg/l)	Dissolved CO_2 (mg/l)	Ferrous Iron (mg/l)	Temperature (° Celsius)	pH (Initial)	pH (Final)	Conductivity (Initial)	Conductivity (Final)	Depth to Product (feet)	Product Thickness (feet)	Depth to Water (feet)	Well-head Elevation	Groundwater Elevation
MW-15	3/22/2006	0.97	NT	NT	17.5	5.57	5.98	343.1	380.2	-	-	5.02	100.25	95.23
MW-16	3/22/2006	1.12	NT	NT	17.8	6.81	5.97	287.7	301.7	-	-	6.00	100.15	94.15
MW-17	3/22/2006	2.04	NT	NT	18.1	5.85	5.97	300.9	321.0	-	-	6.02	100.19	94.17
MW-18	3/22/2006	NT	NT	NT	NT	NT	NT	NT	NT	6.45	0.20	6.65	100.35	93.87

Notes:

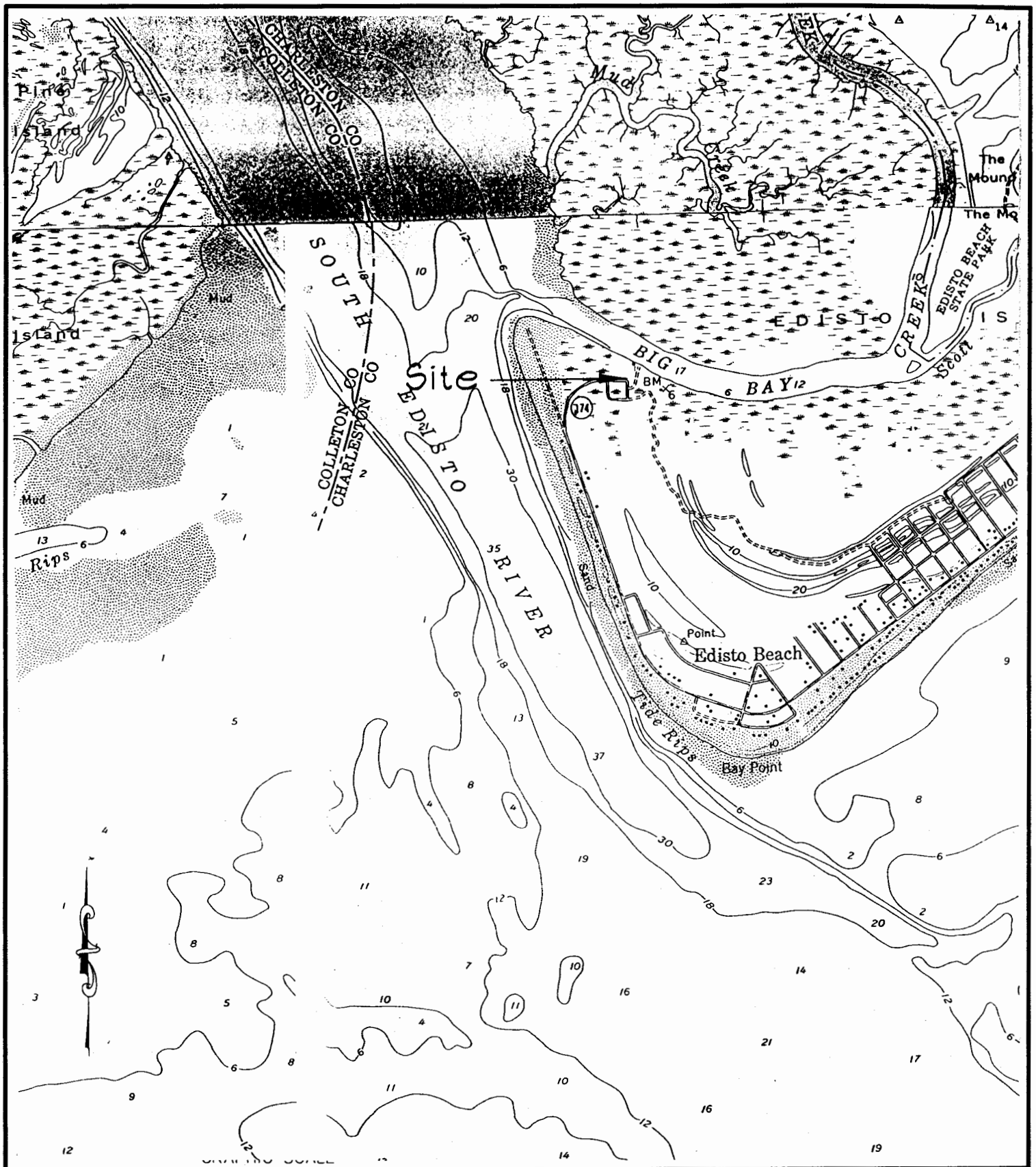
1. mg/l = milligrams per liter.
2. Elevations determined using a top of casing elevation of 99.93 feet for MW-3 as a benchmark.
3. Groundwater depths were measured from the top of the PVC riser pipe.
4. Groundwater levels measured 3/22/06.
5. Dissolved oxygen, dissolved carbon dioxide, initial pH, initial conductivity, and temperature measurements obtained 3/22/06.
6. NT = Not Tested
7. Groundwater elevations obtained from SCDHEC files and MECI field data.
8. Groundwater elevation corrected for the presence of free phase petroleum product in well MW-18 based on a specific gravity of fuel of 0.85.

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 06-834
SCDHEC ID NUMBER 18662

Well Number	Sample Sate	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	Total BTEX (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)
MW-15	3/22/2006	**3,600**	**460**	**1,100**	**970**	**6,130**	BDL	**220**
MW-16	3/22/2006	**1,500**	**1,100**	**1,100**	**2,300**	**6,000**	BDL	**360**
MW-17	3/22/2006	**480**	BDL	**120**	**100**	**700**	BDL	BDL
MW-18	3/22/2006	**500**	BDL	**120**	**100**	**720**	BDL	BDL

Notes:

1. BDL = Below Practical Quantitative Limits
2. µg/l = micrograms per liter
3. MTBE = Methyl-Tertiary-Butyl Ether
4. EDB = Ethylene Dibromide

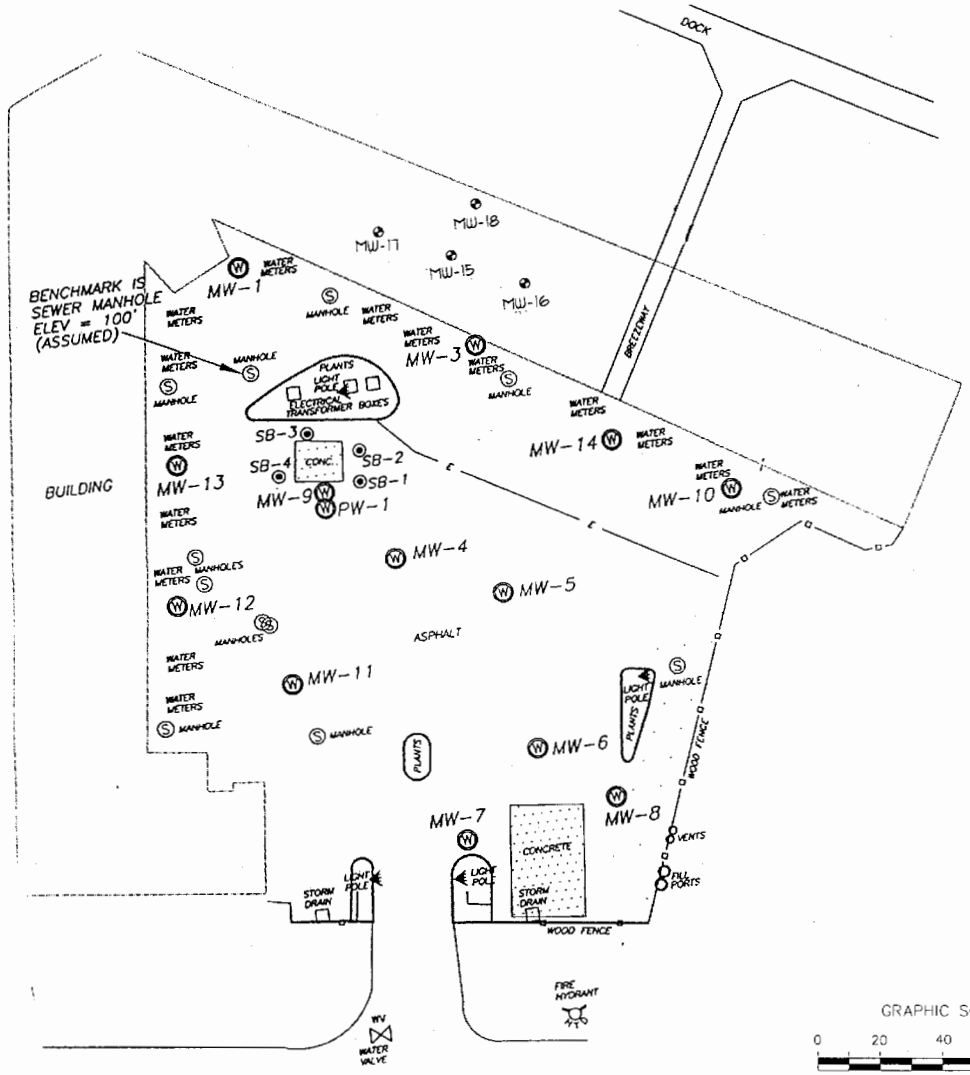


0 1000 2000 4000

1IN = 2000FT

Reference: Edisto Beach, SC
Edisto Island, SC
USGS 7.5 Min. Quad
Contour Interval – 10 Feet

Midlands Environmental Consultants, Inc.	Site Location
Bay Creek Villas 3701 Dockside Rd. SCDHEC Site 18662	
Figure 1	MECI 06-834



Explanation:

Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villias
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 2

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Asphalt			
	Orange, Silty Clayey Fine to Medium SAND	2213		NO BLOWCOUNTS RECORDED
5	Tan, Silty Fine to Medium SAND	1055		
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 5.02 Feet Below Top of Casing on 3/22/06.			
15				
20				
25				
30				
35				

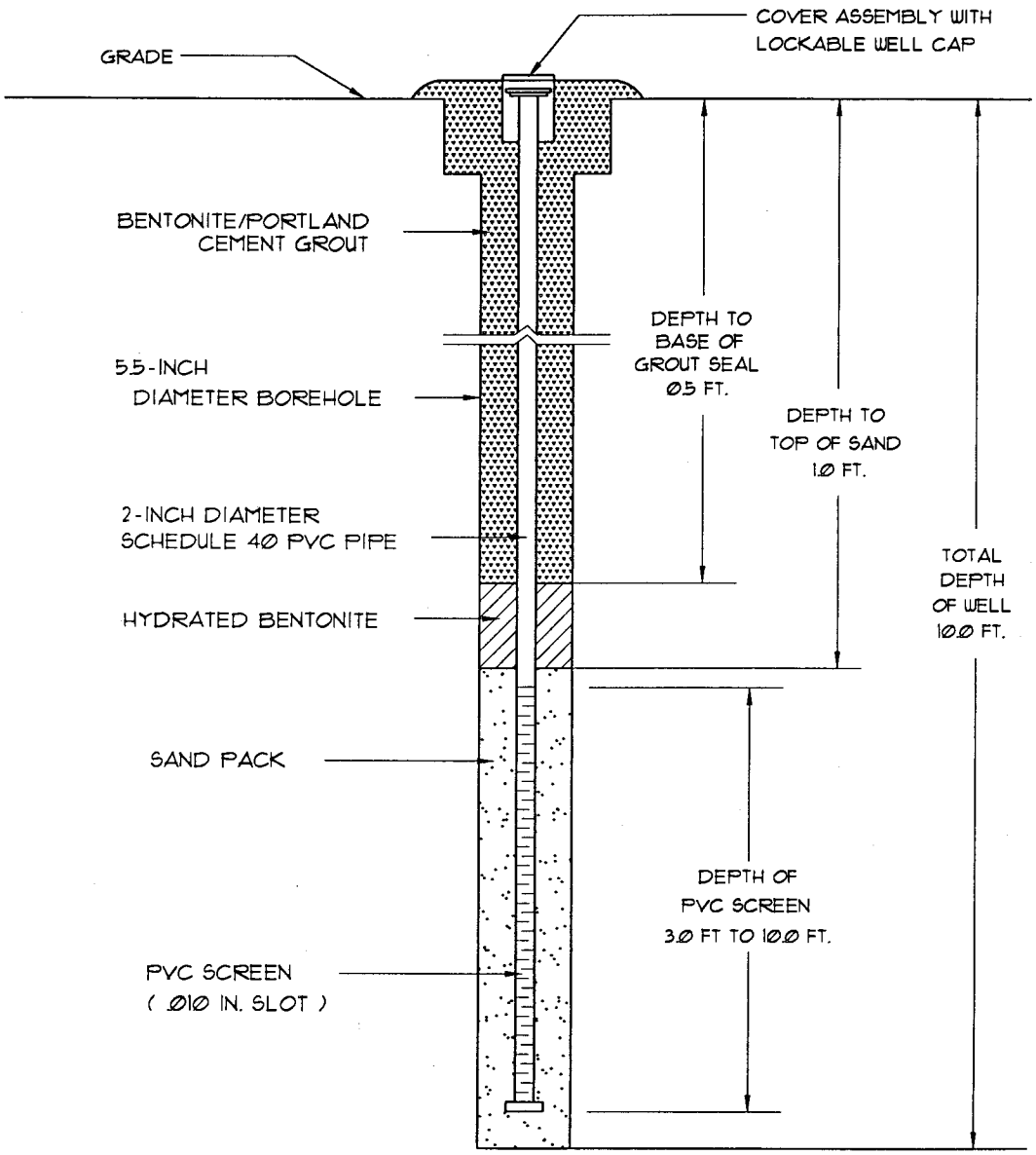
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 06-834

Boring Number:	MW-15
Date Drilled:	3/22/06
Drilled By:	Geologic Exploration Inc.
Logged By:	B. Walling

Prepared By:
Midlands Environmental Consultants, Inc.
1144 Old Two Notch Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

MONITORING WELL INSTALLATION RECORD

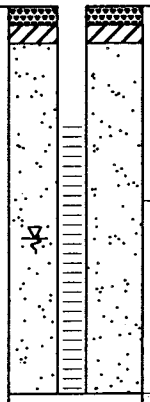
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 06-834



Well Number:	MW-15
Date Drilled:	3/22/06
Drilled By:	Geologic Exploration Inc.
Driller: B. Thomas	S.C. I.D. #: 1465
Logged By:	L.Lee

Prepared By:
Midlands Environmental Consultants, Inc.
1144 Old Two Notch Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Asphalt			
	Black, Silty Fine to Medium Sandy CLAY	1034		NO BLOWCOUNTS RECORDED
5	Dark Gray, Silty Fine to Medium SAND	655		
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 6.00 Feet Below Ground Surface on 3/22/06.			
15				
20				
25				
30				
35				



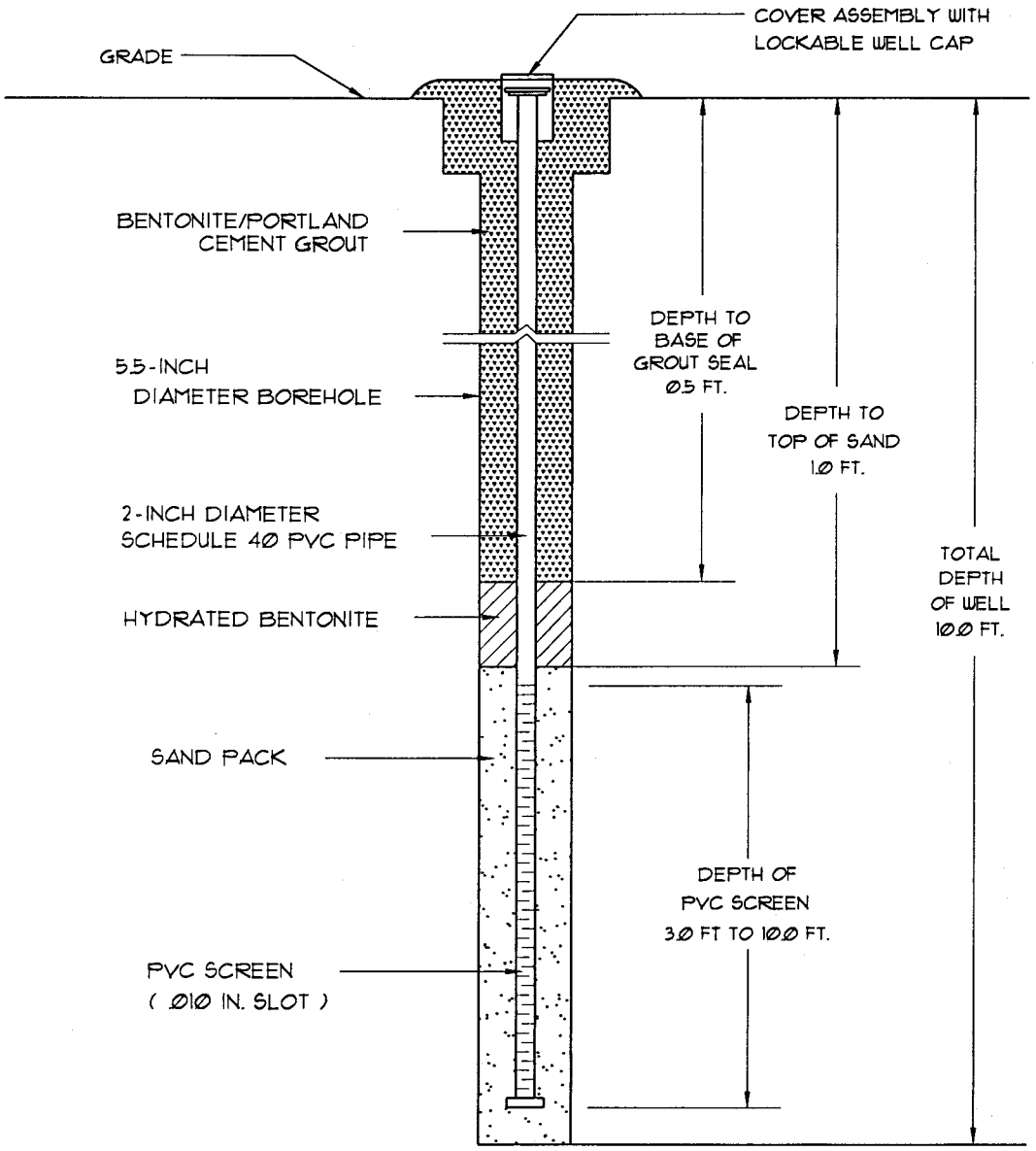
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 06-834

Boring Number:	MW-16
Date Drilled:	3/22/06
Drilled By:	Geologic Exploration Inc.
Logged By:	B. Walling

Prepared By:
Midlands Environmental Consultants, Inc.
1144 Old Two Notch Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

MONITORING WELL INSTALLATION RECORD

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 06-834



Well Number:	MW-16
Date Drilled:	3/22/06
Drilled By:	Geologic Exploration Inc.
Driller: B. Thomas	S.C. I.D. #: 1465
Logged By:	L.Lee

Prepared By:
Midlands Environmental Consultants, Inc.
1144 Old Two Notch Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Asphalt			
	Gray, Silty Fine to Medium SAND	1786		NO BLOWCOUNTS RECORDED
5		2083		
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 6.02 Feet Below Ground Surface on 3/22/06.			
15				
20				
25				
30				
35				

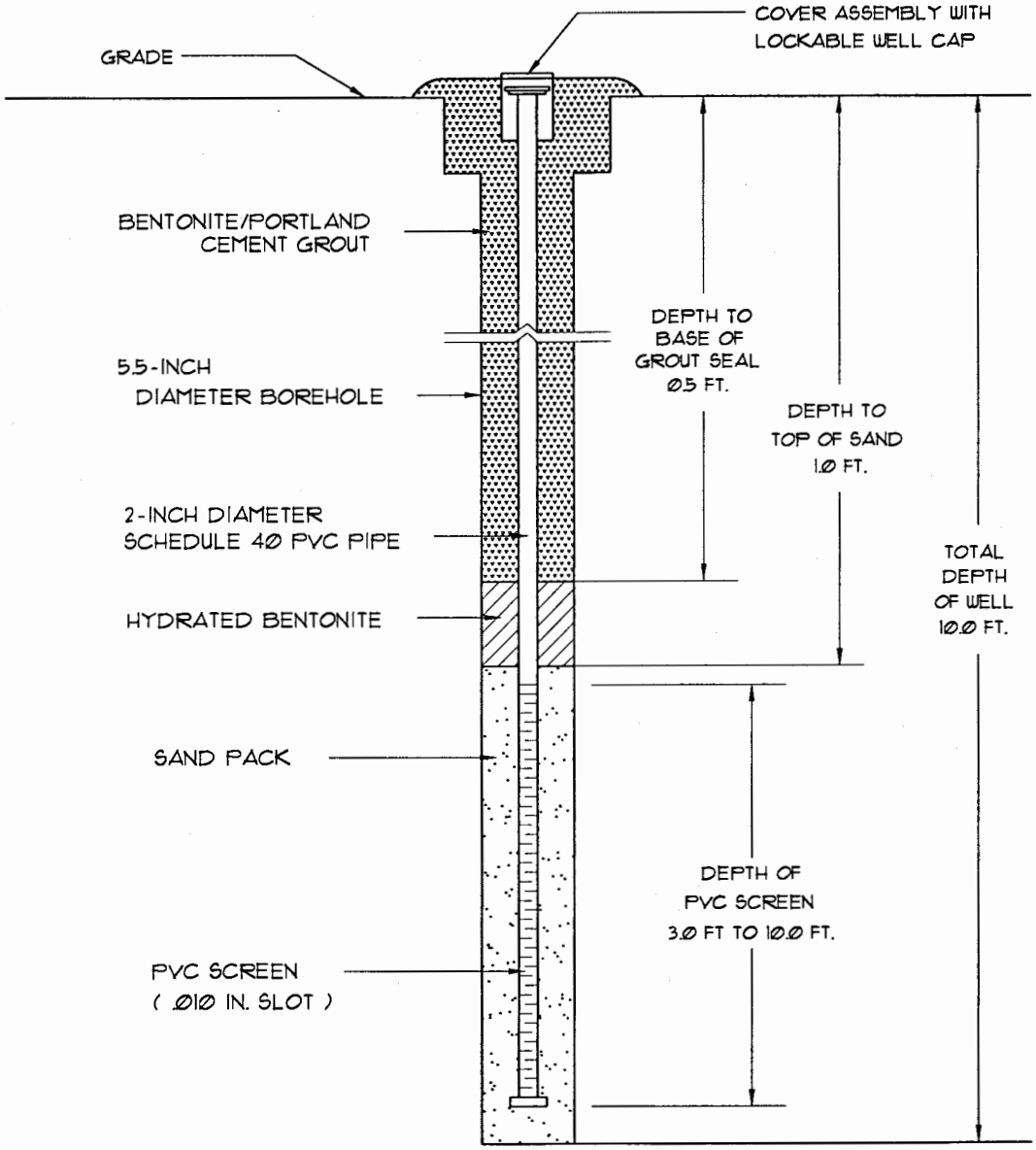
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 06-834

Boring Number:	MW-17
Date Drilled:	3/22/06
Drilled By:	Geologic Exploration Inc.
Logged By:	B. Walling

Prepared By:
Midlands Environmental Consultants, Inc.
1144 Old Two Notch Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

MONITORING WELL INSTALLATION RECORD

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 06-834



Well Number:	MW-17
Date Drilled:	3/22/06
Drilled By:	Geologic Exploration Inc.
Driller: B. Thomas	S.C. I.D. #: 1465
Logged By:	L.Lee

Prepared By:
Midlands Environmental Consultants, Inc.
1144 Old Two Notch Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	OVA PPM	Well Diagram	Penetration Blows Per Foot (0, 5, 10, 20, 40, 60, 80, 100)
	Asphalt			
	Dark Gray, Fine to Medium Sandy CLAY	6545		NO BLOWCOUNTS RECORDED
5	Dark Gray, Silty Clayey Fine to Medium SAND	6067		
10	Boring Terminated at 10.0 Feet. Monitoring Well Installed to 10.0 Feet. Groundwater Measured at 6.65 Feet Below Ground Surface on 3/22/06.			
15				
20				
25				
30				
35				

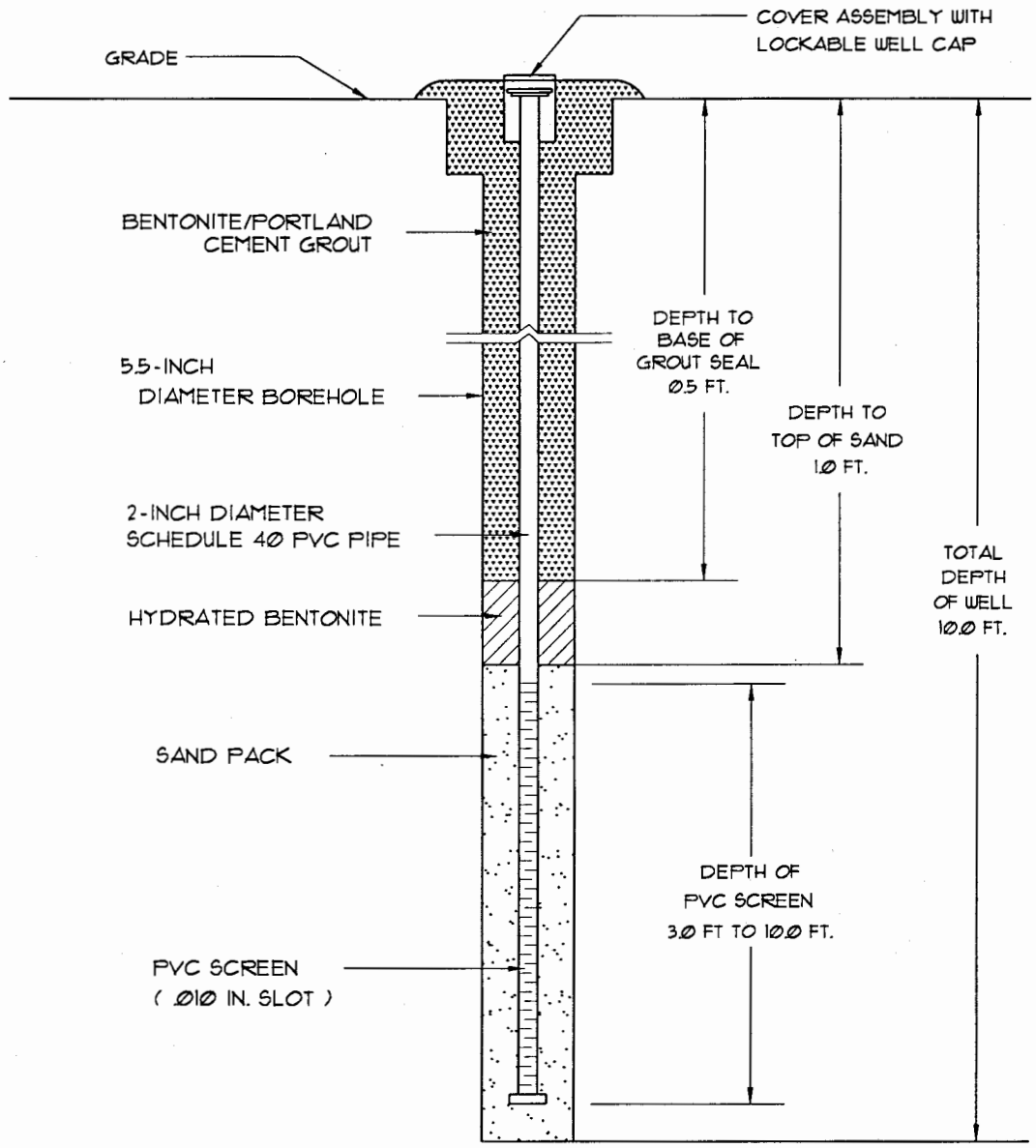
TEST BORING RECORD
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 06-834

Boring Number:	MW-18
Date Drilled:	3/22/06
Drilled By:	Geologic Exploration Inc.
Logged By:	B. Walling

Prepared By:
Midlands Environmental Consultants, Inc.
1144 Old Two Notch Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

MONITORING WELL INSTALLATION RECORD

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID# 18662
MECI Project Number 06-834



Well Number:	MW-18
Date Drilled:	3/22/06
Drilled By:	Geologic Exploration Inc.
Driller: B. Thomas	S.C. I.D. #: 1465
Logged By:	L.Lee

Prepared By:
Midlands Environmental Consultants, Inc.
1144 Old Two Notch Road
Lexington, South Carolina 29073
(803) 808-2043 Fax: 808-2048

ANALYTICAL REPORT

Job Number: 400-10272-1

Job Description: Bay Creek Villas

For:
MECI
1144 Old Two Notch Road
Lexington, SC 29073

Attention: Bryan Shane

Erin S Carter
Project Manager I

04/04/2006
Revision: 1

Second Tier Data Review Performed By:

Ashley B. Amick
Project Manager
aamick@accessanalyticalinc.com

PLEASE NOTE:

****Unless otherwise noted, all samples on this report analyzed at Severn Trent Labs (STL) Pensacola facility, 3355 Mclemore Dr., Pensacola, FL 32514.**
STL-Pensacola is SCDHEC certified laboratory # 96026. NELAP certified laboratory E81010 .
**Local support services for this project are provided by Access Analytical, Inc.. Access Analytical is an authorized representative of Severn Trent Labs (STL) serving clients in the SC/NC/GA areas. All questions regarding this report should be directed to your local Access Analytical, Inc. representative at 803.781.4243 or toll free at 888.315.4243.
**The test results in this report meet all NELAP requirements for accredited parameters. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced except in full without written approval from the laboratory.

ACCREDITED IN ACCORDANCE WITH nelac

METHOD / ANALYST SUMMARY

Client: MECI

Job Number: 400-10272-1

Method	Analyst	Analyst ID
SW846 8260B	Hayman, George	GH

SAMPLE SUMMARY

Client: MECI

Job Number: 400-10272-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
400-10272-1	MW-15	Water	03/22/2006 1130	03/24/2006 0906
400-10272-2	MW-16	Water	03/22/2006 1230	03/24/2006 0906
400-10272-3	MW-17	Water	03/22/2006 1300	03/24/2006 0906
400-10272-4	MW-18	Water	03/22/2006 1330	03/24/2006 0906

Bryan Shane
MECI
1144 Old Two Notch Road
Lexington, SC 29073

Job Number: 400-10272-1

Client Sample ID: MW-15 **Lab Sample ID: 400-10272-1**

Date Sampled: 03/22/2006 1130
Date Received: 03/24/2006 0906

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: 8260B	Date Prepared: 03/27/2006 2249		Date Analyzed: 03/27/2006 2249	
Benzene	3600	ug/L	25	25
Toluene	460	ug/L	130	25
Ethylbenzene	1100	ug/L	130	25
Xylenes, Total	970	ug/L	250	25
Methyl tert-butyl ether	ND	ug/L	130	25
Naphthalene	220	ug/L	130	25

Surrogate			Acceptance Limits
4-Bromofluorobenzene	104	%	83 - 126
Dibromofluoromethane	102	%	69 - 130
Toluene-d8	100	%	86 - 116

Bryan Shane
MECI
1144 Old Two Notch Road
Lexington, SC 29073

Job Number: 400-10272-1

Client Sample ID: MW-16 **Lab Sample ID: 400-10272-2**

Date Sampled: 03/22/2006 1230
Date Received: 03/24/2006 0906

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: 8260B	Date Prepared: 03/27/2006 2305		Date Analyzed: 03/27/2006 2305	
Benzene	1500	ug/L	10	10
Toluene	1100	ug/L	50	10
Ethylbenzene	1100	ug/L	50	10
Xylenes, Total	2300	ug/L	100	10
Methyl tert-butyl ether	ND	ug/L	50	10
Naphthalene	360	ug/L	50	10

Surrogate			Acceptance Limits
4-Bromofluorobenzene	103	%	83 - 126
Dibromofluoromethane	100	%	69 - 130
Toluene-d8	99	%	86 - 116

Bryan Shane
MECI
1144 Old Two Notch Road
Lexington, SC 29073

Job Number: 400-10272-1

Client Sample ID: MW-17 **Lab Sample ID: 400-10272-3**

Date Sampled: 03/22/2006 1300
Date Received: 03/24/2006 0906

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: 8260B	Date Prepared: 03/27/2006 2322		Date Analyzed: 03/27/2006 2322	
Benzene	480	ug/L	5.0	5.0
Toluene	ND	ug/L	25	5.0
Ethylbenzene	120	ug/L	25	5.0
Xylenes, Total	100	ug/L	50	5.0
Methyl tert-butyl ether	ND	ug/L	25	5.0
Naphthalene	ND	ug/L	25	5.0

Surrogate			Acceptance Limits
4-Bromofluorobenzene	103	%	83 - 126
Dibromofluoromethane	104	%	69 - 130
Toluene-d8	102	%	86 - 116

Bryan Shane
MECI
1144 Old Two Notch Road
Lexington, SC 29073

Job Number: 400-10272-1

Client Sample ID: MW-18 **Lab Sample ID: 400-10272-4**

Date Sampled: 03/22/2006 1330
Date Received: 03/24/2006 0906

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: 8260B	Date Prepared: 03/28/2006 2106		Date Analyzed: 03/28/2006 2106	
Benzene	500	ug/L	5.0	5.0
Toluene	ND	ug/L	25	5.0
Ethylbenzene	120	ug/L	25	5.0
Xylenes, Total	100	ug/L	50	5.0
Methyl tert-butyl ether	ND	ug/L	25	5.0
Naphthalene	ND	ug/L	25	5.0

Surrogate			Acceptance Limits
4-Bromofluorobenzene	100	%	83 - 126
Dibromofluoromethane	96	%	69 - 130
Toluene-d8	99	%	86 - 116

Access Analytical - Chain of Custody Record

1.6°C

Project Submission #_____ **PO #**_____ 400-10272 **Laboratory ID:**_____

Company Name: MECI

Report To: Bryan Shane

Address: 1144 Old Two Notch Rd

City: Lexington State: SC Zip: 29073

Phone: 808-2043 Fax: 808-2048

Email:

Project Name: Bay Creek Villas

Sampled By (print): Brent Walling

Preservative (*see codes below)

* Preservative Codes (place corresponding # in block above analysis field): 0=None, 1=HCL, 2=HNO3, 3=H2SO4, 4=NaOH, 5=Na2S2O3, 6=NaHSO4, Other=Specify

ACCESS ANALYTICAL, INC.

7478 Carlisle Street
Irmo, SC 29063

Phone: (803) 781-4243
Fax: 781-4303
Toll Free (888) 315-4243
www.accessanalyticalinc.com

Sample Label	Date Collected	Time Collected	Matrix	# of Cont.	BTEX NAPTH MTBE 8260B							NOTES / COMMENTS
MW-15	3-22-06	1130	GW	3	X							
MW-16	↓	1230	↓	↓	X							Quote 602
MW-17	↓	1300	↓	↓	X							
MW-18	3-22-06	1330	GW	3	X							

Turnaround Time:

X Std. (5-7 Bus. days)
___RUSH*
*Date Required:_____
(For rush work, results faxed by end of business day on date required)

Samples Recd. on Ice?
X Yes
___No

Project Location:
X SC
___NC
___Other_____(specify)

Relinquished By:	Date:	Time:	Received By:
Hay B Wag	3/23/06	1343	Lou Costello
Lou Costello	3/23/06	1700	Fed Ex
	03/24/06	9:06	[illegible]
Fed Ex			

Pg 1 of 1

Access Analytical, Inc.
See Reverse for Terms and Conditions

Original Copy - Returned w/Report
Yellow Copy - Access File Copy
Pink Copy - Client Copy

SPECIAL WASTE MANIFEST

WASTE ID # VA2718

EXPIRATION DATE: November 08, 2006

GENERATOR OF WASTE: MIDLAND ENV. CONSULTANTs.

CUSTOMER ACCOUNT: ACCT.#820-469 (M.E.I.C)

LOCATION OF WASTE : LEXINGTON, SC 29071

PHONE # 803-808-2043 CONTACT: BRYAN SHANE

FAX # 803-808-2048

GENERATOR'S SIGNATURE B.T. Shane DATE: 3/27/06

TRANSPORTER OF WASTE Lyle H. Lee

DATE: 3/27/06 TRUCK NO. 1

DRIVER'S SIGNATURE Lyle H. Lee

•••• TO BE COMPLETED BY RICHLAND LANDFILL ••••

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

DESCRIPTION OF WASTE SOIL FROM UST ASSESSMENT

TICKET NO.# 712102 TONNAGE 1.03

RECEIVED BY DM

Bay Creek Villas SCDHEC Site ID# 18662

WASTE MANAGEMENT

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 712502

Customer Name MIDLANDSENVIRON MIDLANDS ENVI
Ticket Date 03/27/2006
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile VA2718 (SOIL FROM UST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

Carrier MIDLANDSENVIRON MIDLANDS ENVIRONMENT
Vehicle# 01
Volume
Container
Driver
Check#
Billing # 0000469
Gen EPA ID

	Time	Scale	Operator			
In	03/27/2006 11:09:45	Scale2	bryon	Gross	5480	LBS
Out	03/27/2006 11:21:27	Scale1	bryon	Tare	3420	LBS
				Net	2060	LBS
				Tons		1.03

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	SOIL-Declassified	100	1.03	Tons				32-LEXINGT
2	FUEL-Fuel Surcharg	100		%				
3	ENV-ENVIRONMENTAL	100		%				

Total Fees
Total Ticket

I certify that the wastes delivered to this facility on this date are not hazardous wastes as defined by 40 CRF Part 261 and do not contain free liquids as defined by 40 CFR Part 260.10 or any applicable state law, have been fully and accurately described, classified and packaged, and are in proper condition for transportation according to applicable regulations. Additionally, I certify that the materials do not contain any regulated radioactive materials or regulated concentrations of polychlorinated biphenyl's (PCB's); waste from an industrial process or pollution control process; residual/debris from the cleanup of chemical substances; medical waste; batteries, wastes generated from the treatment of a hazardous waste; asbestos (unless prior written approval has been obtained). Any exceptions have been documented and approved by the facility prior to receipt. I agree to remove any non-allowable wastes I bring in to this facility or pay all for the proper removal and disposal of such wastes, upon request by this facility.

Signature

403WMC

C 100123

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 88493	2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address
Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone (803) 808-2043

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	1	TT	121	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0088493

Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

Friendly Marks - ID11693 35 gal.
Bay Creek Villas - ID# 18662 6 gal.
Newberry Maint. - ID# 06456 40 gal.
United Oil 126 - ID# 06097 40 gal.

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: TE Raymond | Signature: [signature] | Month 03 Day 23 Year 06

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: T E. Raymond | Signature: [signature] | Month 03 Day 23 Year 06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: | Signature: | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Tony Devore | Signature: [signature] | Month 03 Day 23 Year 06

GENERATOR COPY

CONSULTECH ENVIRONMENTAL, INC.

February 14, 2006

RECEIVED
FEB 16 2006
UNDERGROUND STORAGE TANK PROGRAM

Mr. Read Miner, P.G.
Assessment and Corrective Action Branch
South Carolina Department of Health and Environmental Control
Division of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: Quarterly Monitoring Report # 13
Bay Creek Villas
3701 Dock Site Road
Edisto Beach, Colleton County, South Carolina
SCDHEC UST Permit # 18662

Attention Mr. Miner:

Consultech Environmental, Inc. (Consultech) is pleased to present this Quarterly Groundwater Monitoring Report for the above referenced facility. Included with this report are the total fluid recovery well logs to remove free product and high dissolved hydrocarbons. Should you have any questions regarding this report or the project in general, please do not hesitate to contact us at (678) 377-0400.

Sincerely,

CONSULTECH ENVIRONMENTAL, INC.

James R. Wilson, P.G.
Senior Project Manager

cc: File C-1205

1800 MacLeod Drive, Suite F * Lawrenceville, GA 30043-5376
678 377-0400 * FAX 678 377-0051

Quarterly Monitoring Report # 13

Bay Creek Villas
3701 Dock Site Road
Edisto Beach, Colleton County, South Carolina
SCDHEC UST Permit # 18662

Prepared for:
SCDHEC
2600 Bull Street
Columbia, SC 29201-1708

RECEIVED
FEB 16 2006
UNDERGROUND STORAGE TANK PROGRAM

Prepared by:
Consultech Environmental, Inc.
1800 MacLeod Drive, Suite F
Lawrenceville, Georgia 30043-5736

Kenneth L. Brooke, P.E.
Project Manager

James R. Wilson, P.G.
Senior Project Manger

JAMES R. WILSON
REGISTERED
NO. 2062
SOUTH CAROLINA
PROFESSIONAL GEOLOGIST

February 2006

Consultech Project No.: C-1205

Quarterly Monitoring Report # 13

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Appendix 1 Groundwater Laboratory Analytical Results

Quarterly Monitoring Report # 13

1.0 Project Summary

Bay Creek Villas are located at 3701 Dock Site Road in Edisto Beach, Colleton County, South Carolina (see Figure 1). Upon receipt of the analytical data released by the South Carolina Department of Health and Environmental Control (SCDHEC), a portable Air-Sparge system combined with augmented bioremediation was chosen to remediate the site's subsurface soils and groundwater. Two total fluid recovery (TFR) wells were installed to a depth of twelve (12) ft-bgs on January 19, 2005 to remove free product and high dissolved hydrocarbons. This report details the groundwater monitoring results for the sampling event conducted on January 11, 2006.

2.0 Groundwater Monitoring Results

Consultech personnel gauged monitoring wells MW-1, MW-3 through MW-14, and PW-1 for groundwater elevations and for any liquid phase hydrocarbons (LPH) at the subject site (see Figure 2). No LPH was detected in any monitoring wells on the subject site.

The groundwater elevations for the monitoring wells ranged between 94.15 feet in monitoring well MW-14 to 95.41 feet in monitoring well MW-1. Table 1 provides a summary of the historical groundwater elevations taken from the past sampling events.

Fluid level measurements were taken to create a groundwater elevation contour map for the shallow wells as presented in Figure 2. This data illustrates the static groundwater surface, direction of groundwater flow, and hydraulic gradient across the site. According to Figure 2, the groundwater flows toward the northeast at an average hydraulic gradient of 0.008 ft/ft between shallow wells MW-12 and MW-14.

3.0 Groundwater Sampling Results

Groundwater samples were collected from monitoring wells MW-1, MW-3 through MW-14, PW-1 and the marsh located north of the site. Please reference Consultech's Standard Operating Procedures document dated October 2002 for detailed sampling protocol. The raw field data and groundwater analytical results for the monitoring wells are shown on Tables 1 and 2, respectively. Laboratory data sheets and chain-of-custody forms are included under Appendix 1 of this report.

A comparison was made between the groundwater analytical results from the January 2006 sampling event and the sampling event conducted in October 2005. The following paragraphs discuss this comparison for the chemicals of concern.

Benzene

The comparison of results indicates a decrease in the dissolved benzene concentration in monitoring wells MW-13 and MW-14. Monitoring wells MW-3, MW-4, and MW-9 increased and monitoring wells MW-1, MW-5, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, PW-1, and the marsh remained below the laboratory detection limit. Currently monitoring wells MW-3, MW-4, and MW-9 are above the SSTLs for benzene.

MTBE

The comparison of results indicates a decrease in the dissolved MTBE concentration in monitoring wells MW-7 and MW-13. Monitoring wells MW-4 and MW-5 increased and MW-1, MW-3, MW-6, MW-8, MW-9, MW-10, MW-11, MW-12, MW-14, PW-1, and the marsh remained below the laboratory detection limit. Currently monitoring well MW-4 is above the SSTLs for MTBE.

Naphthalene

The comparison of results indicates a decrease in the dissolved naphthalenes concentration for monitoring wells MW-7, MW-13, and MW-14. The results indicated an increase in naphthalene concentrations in monitoring wells MW-3, MW-4, MW-5, MW-6, MW-9, and MW-10. Naphthalene concentrations in monitoring wells MW-1, MW-8, MW-10, MW-11, MW-12, PW-1, and the marsh sample have less than detection levels of naphthalene. Currently monitoring wells MW-3, MW-4, MW-5, and MW-9 are above the SSTLs for naphthalene.

Total Mass Concentration

The comparison of results indicates an increase in the dissolved Total Mass concentration since the October 2005 sampling event (see Tables 2 and 3). A "Chemicals of Concern in Groundwater" map is presented as Figure 3, and the "Total Mass versus Time" is presented graphically as Figure 5.

4.0 Conclusions and Recommendations

The Total Mass concentration at the site has increased from 34,391 μg/l in October 2005 to 80,998 μg/l in January 2006 to (see Table 2), which correlates to a decrease in the total mass reduction of SSTLs of -358 % in January 2006 (see Table 3) since the initial sampling event that was conducted in May 2002. The increase is primarily due to monitoring wells MW-3, MW-4, and MW-9. This increase is normal for the increased aggressive air sparging events to that is now two days twice monthly to reduce the high dissolved concentrations in monitoring wells MW-3, MW-4, and MW-9. The bulk of concentrations is coming to the surface which is a good indication that the concentrations are being removed.

Consultech will sample monitoring wells MW-1, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, PW-1, and the Marsh on the next quarterly monitoring event. These monitoring wells will continue to be checked on a quarterly basis for the evaluation of further BTEX, MTBE, and naphthalene concentration reductions in the dissolved plume. The next quarterly sampling event is scheduled for April 2006.

TABLE 1

Raw field data and Groundwater Elevations

Bay Creek Villas, Edisto Beach South Carolina, Facility # 18662

Consultech Project No. C-1205

Monitoring Well	Date	TOC Elevation	Depth to Product from TOC	Depth to Water from TOC	Groundwater Elevation	Do	Temp	Cond	pH
MW-1	1/10/2002	100.01	NA	6.61	93.40	NA	NA	NA	NA
	11/20/02	100.01	NA	3.74	96.27	0.5	23.6	1985	8.8
	06/24/03	100.01	NA	4.34	95.67	1.2	29.3	655	6.5
	09/04/03	100.01	NA	4.63	95.38	1.4	29.4	13	7.0
	12/03/03	100.01	NA	6.09	93.92	2.2	20.8	1998	6.9
	03/16/04	100.01	NA	4.72	95.29	2	20.4	1	7.1
	06/17/04	100.01	NA	5.89	94.12	2.6	18.7	1843	7.2
	10/05/04	100.01	NA	4.12	95.89	3.4	21.4	82	6.2
	11/30/04	100.01	NA	4.78	95.23	3.0	18.4	43	6.4
	01/19/05	100.01	NA	5.18	94.83	3.5	14	571	6.4
	04/27/05	100.01	NA	4.39	95.62	3.9	17.7	531	5.6
	07/14/05	100.01	NA	4.09	95.92	3.4	26.3	586	5.3
	10/25/05	100.01	NA	4.12	95.89	3.1	26.4	1000	5.2
	01/11/06	100.01	NA	4.60	95.41	3.0	18.9	953	6.3
MW-3	1/10/2002	99.93	NA	6.97	92.96	NA	NA	NA	NA
	11/20/02	99.93	NA	4.14	95.79	0.5	25.7	1358	8.0
	06/24/03	99.93	6.74	6.80	93.13	1.1	29	1052	6.5
	09/04/03	99.93	NA	5.26	94.67	1.6	29.6	7	7.6
	12/03/03	99.93	NA	6.69	93.24	1.9	20.4	1218	7.6
	03/16/04	99.93	Sheen	6.72	93.21	1.6	20.5	1	6.9
	06/17/04	99.93	NA	6.47	93.46	2.4	19.2	1720	6.8
	10/05/04	99.93	NA	5.93	94.00	1.2	21.3	647	5.6
	11/30/04	99.93	4.94	4.98	94.95	NM	NM	NM	NM
	01/19/05	99.93	5.26	5.28	94.65	NM	NM	NM	NM
	04/27/05	99.93	5.31	5.41	94.52	NM	NM	NM	NM
	07/14/05	99.93	NA	5.48	94.45	1.3	26.5	141	5.1
	10/25/05	99.93	NA	6.10	93.83	1.4	25.7	26	5.5
	01/11/06	99.93	NA	5.75	94.18	0.9	19.9	113	6.1

TABLE 1
Raw field data and Groundwater Elevations
Bay Creek Villas, Edisto Beach South Carolina, Facility # 18662
Consultech Project No. C-1205

Monitoring Well	Date	TOC Elevation	Depth to Product from TOC	Depth to Water from TOC	Groundwater Elevation	Do	Temp	Cond	pH
MW-4	1/10/2002	99.95	NA	6.33	93.62	NA	NA	NA	NA
	11/20/02	99.95	NA	4.06	95.89	0.1	22.6	1328	6.2
	06/24/03	99.95	NA	5.94	94.01	1.2	29.5	951	6.5
	09/04/03	99.95	NA	4.98	94.97	1.3	29.9	164	8.0
	12/03/03	99.95	NA	4.98	94.97	1.3	29.9	164	8.0
	03/16/04	99.95	NA	5.87	94.08	1.6	20.8	1	6.8
	06/17/04	99.95	NA	5.90	94.05	2.7	18.6	1631	7.1
	10/05/04	99.95	NA	5.59	94.36	1.9	21.1	559	5.2
	11/30/04	99.95	NA	5.07	94.88	2	17.2	623	5.0
	01/19/05	99.95	NA	5.28	94.67	2.2	13.8	492	5.8
	04/27/05	99.95	NA	4.60	95.35	1.6	18.6	1134	5.6
	07/14/05	99.95	NA	4.71	95.24	1.4	26.1	911	6.3
	10/25/05	99.95	NA	5.52	94.43	1.8	26.6	1704	5.6
	01/11/06	99.95	NA	5.30	94.65	1.1	20.5	1100	6.1
MW-5	1/10/2002	99.92	NA	5.86	94.06	NA	NA	NA	NA
	11/20/02	99.92	NA	4.03	95.89	0.6	26.1	1952	8.3
	06/24/03	99.92	NA	5.72	94.20	1.2	31.2	1118	6.6
	09/04/03	99.92	NA	6.04	93.88	0.5	30	79	7.0
	12/03/03	99.92	NA	5.94	93.98	2.1	19.9	1519	7.1
	03/16/04	99.92	NA	5.97	93.95	2.2	20.5	1998	6.8
	06/17/04	99.92	NA	5.71	94.21	2.7	18.4	1537	6.9
	10/05/04	99.92	NA	5.45	94.47	2.5	22	96	5.1
	11/30/04	99.92	NA	5.07	94.85	2.4	17.9	143	5.3
	01/19/05	99.92	NA	5.49	94.43	2.6	13.6	426	7.1
	04/27/05	99.92	NA	4.92	95.00	3.1	17.9	1000	5.7
	07/14/05	99.92	NA	4.80	95.12	2.9	26.2	1111	6.3
	10/25/05	99.92	NA	5.16	94.76	3.4	28.1	1063	5.1
	01/11/06	99.92	NA	5.28	94.64	3.2	21.6	926	6.3
MW-6	1/10/2002	99.06	NA	5	94.06	NA	NA	NA	NA
	11/20/02	99.06	NA	3.09	95.97	0.4	25.2	1460	8.6
	06/24/03	99.06	NA	4.29	94.77	2.4	31	988	6.5
	09/04/03	99.06	NA	4.26	94.80	1.9	31.7	39	7.6
	12/03/03	99.06	NA	4.75	94.31	2.4	21.3	1434	7.0
	03/16/04	99.06	NA	4.56	94.50	1.7	20.3	1	6.9
	06/17/04	99.06	NA	4.62	94.44	2.6	17.9	1510	6.8
	10/05/04	99.06	NA	4.30	94.76	1.6	21.2	74	6.4
	11/30/04	99.06	NA	4.28	94.78	3.3	18.2	94	6.1
	01/19/05	99.06	NA	4.39	94.67	3.7	15.7	990	6.7
	04/27/05	99.06	NA	3.89	95.17	3.4	18.1	1225	5.8
	07/14/05	99.06	NA	3.79	95.27	3.2	26.9	909	5.3
	10/25/05	99.06	NA	3.89	95.17	3.7	26.6	1060	5.1
	01/11/06	99.06	NA	4.28	94.78	3.3	20.2	875	6.2

TABLE 1

Raw field data and Groundwater Elevations

Bay Creek Villas, Edisto Beach South Carolina, Facility # 18662

Consultech Project No. C-1205

Monitoring Well	Date	TOC Elevation	Depth to Product from TOC	Depth to Water from TOC	Groundwater Elevation	Do	Temp	Cond	pH
MW-7	1/10/2002	99.48	NA	5.26	94.22	NA	NA	NA	NA
	11/20/02	99.48	NA	3.37	96.11	0.4	22.7	1491	8.9
	06/24/03	99.48	NA	4.32	95.16	2.6	30.8	952	6.5
	09/04/03	99.48	NA	4.35	95.13	1.8	31.9	36	8.2
	12/03/03	99.48	NA	5.12	94.36	1.7	19.8	1522	7.6
	03/16/04	99.48	NA	4.53	94.95	2.2	19.7	1783	6.8
	06/18/04	99.48	NA	5.01	94.47	2.3	18.7	1468	6.7
	10/05/04	99.48	NA	4.45	95.03	3.6	20.8	124	6.7
	11/30/04	99.48	NA	4.42	95.06	3.1	18.1	85	6.2
	01/19/05	99.48	NA	4.35	95.13	3.7	13.2	833	7.4
	04/27/05	99.48	NA	3.71	95.77	3.8	16.3	1100	6.6
	07/14/05	99.48	NA	3.85	95.63	3.5	27.9	795	5.5
	10/25/05	99.48	NA	4.10	95.38	3.4	25.8	1010	5.2
	01/11/06	99.48	NA	4.60	94.88	3	18.5	843	6.2
MW-8	1/10/2002	99.27	NA	5.09	94.18	NA	NA	NA	NA
	11/20/02	99.27	NA	3.18	96.09	0.6	24.5	1112	9.1
	06/24/03	99.27	NA	4.43	94.84	1.9	31.3	630	6.5
	09/04/03	99.27	NA	4.46	94.81	1.4	30.5	32	7.9
	12/03/03	99.27	NA	4.93	94.34	2.3	18.1	426	7.6
	03/16/04	99.27	NA	4.79	94.48	1.9	18.2	686	6.7
	06/17/04	99.27	NA	4.80	94.47	2.1	19.3	631	7.0
	10/05/04	99.27	NA	4.50	94.77	3.8	21.6	102	6.2
	11/30/04	99.27	NA	4.46	94.81	3	18.5	77	6.1
	01/19/05	99.27	NA	4.63	94.64	3.4	14.7	273	7.2
	04/27/05	99.27	NA	3.93	95.34	3	15.9	498	5.7
	07/14/05	99.27	NA	3.84	95.43	2.7	26	408	4.9
	10/25/05	99.27	NA	3.85	95.42	3.4	26.3	797	5.5
	01/11/06	99.27	NA	4.50	94.77	3.1	20.8	589	6.3
MW-9	1/10/2002	99.59	NA	6.01	93.58	NA	NA	NA	NA
	11/20/02	99.59	NA	3.82	95.77	0.6	24.4	1983	8.8
	06/24/03	99.59	NA	5.73	93.86	0.6	30.4	813	6.6
	09/04/03	99.59	NA	6.00	93.59	1.2	28.2	67	7.1
	12/03/03	99.59	NA	5.74	93.85	1.9	21.3	1615	6.9
	03/16/04	99.59	NA	5.69	93.90	1.7	19.3	1721	6.6
	06/17/04	99.59	NA	5.47	94.12	2.7	19	1628	7.2
	10/05/04	99.59	NA	5.09	94.50	3.2	20.9	216	5.9
	11/30/04	99.59	NA	4.69	94.90	1.4	18	743	4.9
	01/19/05	99.59	NA	4.73	94.86	1.6	14.3	654	5.8
	04/27/05	99.59	NA	4.32	95.27	1.2	17.5	522	5.7
	07/14/05	99.59	NA	4.11	95.48	1.3	25.1	487	4.9
	10/25/05	99.59	NA	5.29	94.30	1.1	26.9	987	5.1
	01/11/06	99.59	NA	5.02	94.57	0.9	19.9	950	6.2

TABLE 1

Raw field data and Groundwater Elevations

Bay Creek Villas, Edisto Beach South Carolina, Facility # 18662

Consultech Project No. C-1205

Monitoring Well	Date	TOC Elevation	Depth to Product from TOC	Depth to Water from TOC	Groundwater Elevation	Do	Temp	Cond	pH
MW-10	1/10/2002	99.89	NA	6.78	93.11	NA	NA	NA	NA
	11/20/02	99.89	NA	4.06	95.83	0.4	23.3	1992	8.2
	06/24/03	99.89	NA	6.43	93.46	2.2	28.1	786	6.3
	09/04/03	99.89	NA	5.05	94.84	1.6	28.9	15	7.4
	12/03/03	99.89	NA	6.54	93.35	2.3	20.3	1173	7.1
	03/16/04	99.89	NA	6.62	93.27	2.4	19.6	1786	6.6
	06/17/04	99.89	NA	6.03	93.86	2.1	17.9	1237	7.1
	10/05/04	99.89	NA	5.66	94.23	3.6	20.4	194	6.1
	11/30/04	99.89	NA	5.08	94.81	2.5	18	252	5.6
	01/19/05	99.89	NA	6.05	93.84	3.7	14.8	169	6.2
	04/27/05	99.89	NA	5.57	94.32	4	17	573	5.7
	07/14/05	99.89	NA	5.29	94.60	4.3	25.5	553	5.0
	10/25/05	99.89	NA	5.70	94.19	4.4	26.5	1057	5.0
	01/11/06	99.89	NA	5.55	94.34	3.8	19.2	930	6.2
MW-11	1/10/2002	99.17	NA	5.3	93.87	NA	NA	NA	NA
	11/20/02	99.17	NA	3.26	95.91	0.1	21.5	1036	7.4
	06/24/03	99.17	NA	4.93	94.24	1.5	29.0	561	6.5
	09/04/03	99.17	NA	4.24	94.93	1.6	30.4	29	6.7
	12/03/03	99.17	NA	5.14	94.03	2.5	20.1	1382	7.0
	03/16/04	99.17	NA	5.00	94.17	2.4	18.7	1956	6.7
	06/17/04	99.17	NA	5.07	94.10	2.3	18.4	1294	7.0
	10/05/04	99.17	NA	4.54	94.63	3.3	20.8	228	6.5
	11/30/04	99.17	NA	4.23	94.94	3.7	17.4	62	6.2
	01/19/05	99.17	NA	4.36	94.81	3.5	13.5	206	8.2
	04/27/05	99.17	NA	3.74	95.43	3.3	17.4	527	6.1
	07/14/05	99.17	NA	3.90	95.27	3.5	25.2	411	5.0
	10/25/05	99.17	NA	4.11	95.06	3.9	25.4	1014	5.2
	01/11/06	99.17	NA	4.39	94.78	3.6	20.3	770	6.3
MW-12	1/10/2002	99.91	NA	5.84	94.07	NA	NA	NA	NA
	11/20/02	99.91	NA	3.79	96.12	0.3	22.8	1928	7.6
	06/24/03	99.91	NA	4.45	95.46	2.8	29.3	935	6.5
	09/04/03	99.91	NA	4.72	95.19	2.1	30.1	14	7.4
	12/03/03	99.91	NA	5.03	94.88	1.9	19.1	1294	7.1
	03/16/04	99.91	NA	4.81	95.10	3	10.1	1	6.7
	06/17/04	99.91	NA	4.89	95.02	2.7	19.6	1664	6.8
	10/05/04	99.91	NA	4.69	95.22	3.4	20.1	342	6.4
	11/30/04	99.91	NA	4.83	95.08	3	16.8	119	6.5
	01/19/05	99.91	NA	4.96	94.95	3.4	13.7	63	6.1
	04/27/05	99.91	NA	4.44	95.47	3.8	17.3	593	5.9
	07/14/05	99.91	NA	4.51	95.40	3.5	25.1	956	4.9
	10/25/05	99.91	NA	4.50	95.41	3.6	25.4	1111	5.2
	01/11/06	99.91	NA	4.65	95.26	3.5	19.2	818	6.3

TABLE 1
Raw field data and Groundwater Elevations
Bay Creek Villas, Edisto Beach South Carolina, Facility # 18662
Consultech Project No. C-1205

Monitoring Well	Date	TOC Elevation	Depth to Product from TOC	Depth to Water from TOC	Groundwater Elevation	Do	Temp	Cond	pH
MW-13	1/10/2002	99.82	NA	5.08	94.74	NA	NA	NA	NA
	11/20/02	99.82	NA	3.72	96.10	0.3	23	1187	8.1
	06/24/03	99.82	NA	4.26	95.56	0.3	29.4	532	6.5
	09/04/03	99.82	NA	4.64	95.18	1.8	30.7	18	7.5
	12/03/03	99.82	NA	4.82	95.00	2	21	1721	6.9
	03/16/04	99.82	NA	4.55	95.27	2.3	17.7	1603	6.6
	06/17/04	99.82	NA	4.78	95.04	1.9	18.4	1722	6.9
	10/05/04	99.82	NA	4.19	95.63	3	20.9	188	6.9
	11/30/04	99.82	NA	4.73	95.09	2.3	18.4	424	5.5
	01/19/05	99.82	NA	4.69	95.13	2.4	14.9	370	6.1
	04/27/05	99.82	NA	4.41	95.41	2.3	17.4	582	5.9
	07/14/05	99.82	NA	4.20	95.62	2.7	25.3	357	4.9
	10/25/05	99.82	NA	4.17	95.65	2.5	25.6	989	5.0
	01/11/06	99.82	NA	4.51	95.31	2.8	18.9	811	6.3
MW-14	1/10/2002	99.69	NA	6.41	93.28	NA	NA	NA	NA
	11/20/02	99.69	NA	3.58	96.11	0.5	24.9	1987	8.6
	06/24/03	99.69	NA	4.59	95.10	2.1	29.4	1369	6.5
	09/04/03	99.69	NA	5.07	94.62	1.5	29.4	33	7.6
	12/03/03	99.69	NA	5.98	93.71	2.1	19.8	1118	7.0
	03/16/04	99.69	NA	6.25	93.44	2.2	20.1	1	6.7
	06/17/04	99.69	NA	5.76	93.93	2.7	18.8	1097	6.8
	10/05/04	99.69	NA	5.58	94.11	2.6	21.8	96	6.4
	11/30/04	99.69	NA	4.97	94.72	3	17.2	206	5.9
	01/19/05	99.69	NA	5.61	94.08	2.8	13.2	577	7.9
	04/27/05	99.69	NA	5.22	94.47	3.1	18	1508	6.8
	07/14/05	99.69	NA	5.11	94.58	3.2	26.1	1018	4.9
	10/25/05	99.69	NA	5.48	94.21	3.3	27.6	1110	5.2
	01/11/06	99.69	NA	5.54	94.15	3	19.7	836	6.0
PW-1	1/10/2002	99.69	NA	6.62	93.07	NA	NA	NA	NA
	11/20/02	99.69	NA	4.62	95.07	0.4	22.4	1958	7.2
	06/24/03	99.69	NA	6.47	93.22	0.8	28.4	Max	6.8
	09/04/03	99.69	NA	6.53	93.16	3.4	28.7	55	7.6
	12/03/03	99.69	NA	6.69	93.00	3	20.4	1382	7.6
	3/16/2004	99.69	NA	6.65	93.04	1.5	18.2	1	7.5
	06/17/04	99.69	NA	6.62	93.07	3.2	19.0	1381	7.0
	10/05/04	99.69	NA	5.42	94.27	2.1	20.4	68	6.3
	11/30/04	99.69	NA	5.11	94.58	NM	NM	NM	NM
	01/19/05	99.69	NA	6.19	93.50	5.5	14.7	1300	8.9
	04/27/05	99.69	NA	5.28	94.41	5.1	17.2	1000	6.8
	07/14/05	99.69	NA	5.4	94.29	4.9	24.9	1000	6.5
	10/25/05	99.69	NA	6.04	93.65	5	23.5	1100	5.4
	01/11/06	99.69	NA	6.1	93.59	4.8	21.8	1000	6.4

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass.
MW-1	**SSTL**	3	1	4	1	5	5	
	05/29/02	2.9	<1	3.5	<1	<5	<5	18.4
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	2.3	**13.3**	**24.4**	**104**	<1.0	<5.0	216
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
	04/27/05	<1	<1	<1	<1	<1	<5	10
	07/14/05	<1	<1	<1	<1	<1	<5	10
	10/25/05	<1	<1	<1	<1	<1	<5	10
	01/11/06	<1	**1.6**	<1	**1.3**	<1	<5	11
MW-3	**SSTL**	5	1000	700	4090	40	25	
	05/29/02	**2720**	**2170**	**1880**	**4090**	<50	**580**	11490
	11/20/02	**3900**	**6200**	**2200**	**7700**	**500**	**500**	21000
	06/24/03	**7400**	**6600**	**3800**	**11000**	**<500**	**1000**	30300
	09/04/03	**7580**	**18400**	**4580**	**20700**	<1	**2880**	54141
	12/03/03	**3300**	**8960**	**7000**	**22900**	9.1	1930	44099
	03/16/04	**4700**	**8000**	**4200**	**16000**	<1	<5	32900
	06/17/04	**5.0**	3.8	12	52	5.9	14	93
	10/05/04	**4100**	**3500**	**3200**	**9600**	**100.0**	**3,700**	24200
	11/30/04	**72000**	**260000**	**40000**	**180000**	**940,000.0**	**20,000**	1512000
	01/19/05	**72000**	**260000**	**40000**	**180000**	**940,000.0**	**20,000**	1512000
	04/27/05	**72000**	**260000**	**40000**	**180000**	**940,000.0**	**20,000**	1512000
	07/14/05	**5400**	**1240**	**2390**	**6580**	<1	**1,170**	16780
	10/25/05	**4600**	**2500**	**1600**	**3900**	<DL	**690**	13290
	01/11/06	**7600**	**3700**	**1100**	**6300**	<20	**810**	19510

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
MW-4	**SSTL**	5	935	700	3230	40	25	
	05/29/02	196	935	**1370**	3230	**<50**	**479**	6260
	11/20/02	220	100	**2000**	**4300**	**500**	**2400**	9520
	06/24/03	**440**	900	**2900**	**4100**	**<500**	**1200**	10040
	09/04/03	**294**	453	**1030**	852	**45.8**	**513**	3188
	12/03/03	**447**	529	**1470**	1430	**184**	**983**	5043
	03/16/04	**520**	**1300**	**1400**	2300	**270**	**870**	6660
	06/17/04	**5.6**	4.0	14	58	5.2	16	103
	10/05/04	**270**	**150**	**880**	230	16.0	**630**	2176
	11/30/04	**209**	51	**1280**	424	**47.0**	**501**	2512
	01/19/05	**41.9**	5.2	127.0	51.1	12.4	**153.0**	391
	04/27/05	**126.0**	47.7	328.0	123.0	**41.9**	**342.0**	1009
	07/14/05	**193.0**	180.0	**745.0**	296.0	38.6	**563.0**	2016
	10/25/05	**350.0**	830.0	**1000.0**	1700.0	<DL	**690.0**	4570
	01/11/06	**3200**	**3200**	**7600**	**14000**	**560**	**6200**	34760
MW-5	**SSTL**	1.0	1.0	1.0	1.0	5.0	5.0	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	2.7	<5	12
	12/03/03	<1	**4.5**	**16.6**	**114**	**5.3**	**158**	298
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	**1.2**	1.8	<5	11
	04/27/05	<1	<1	<1	<1	<1	<5	10
	07/14/05	<1	<1	**1.2**	**5.1**	<1	**7.9**	17
	10/25/05	<1	<1	<1	<1	<1	<5	10
	01/11/06	<1	<1	<1	**2.8**	1.0	**35.0**	42

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
MW-6	SSTL	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	1.7	1.5	<5	11
	12/03/03	<1	1.6	1.9	10.5	1.3	27.6	43
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	1.0	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	1.7	<5	11
	04/27/05	<1	<1	<1	<1	<1	<5	10
	07/14/05	<1	<1	<1	<1	<1	<5	10
	10/25/05	<1	<1	<1	<1	<1	<5	10
	01/11/06	<1	<1	<1	1.4	<1	6.1	10
MW-7	SSTL	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<,1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	4.0	<1	<5	13
	12/03/03	<1	3.4	5.4	33	<1	52.5	94
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
	04/27/05	<1	<1	<1	<1	<1	<5	10
	07/14/05	<1	<1	<1	<1	<1	<5	10
	10/25/05	<1	<1	<1	1.1	3.5	5.6	12
	01/11/06	<1	<1	<1	1.4	<1	<5	10

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
MW-8	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	**1.4**	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	1.5	2	11.7	<1	16.5	32
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
	04/27/05	<1	<1	<1	<1	<1	<5	10
	07/14/05	<1	<1	<1	<1	<1	<5	10
	10/25/05	<1	<1	<1	<1	<1	<5	10
	01/11/06	<1	<1	<1	1.2	<1	<5	10
MW-9	**SSTL**	5	1000	700	5580	40	25	
	05/29/02	**1140**	**5400**	**1520**	5580	**<50**	**412**	14102
	11/20/02	**1600**	**2900**	**1800**	**6000**	**250**	**360**	12910
	06/24/03	**1500**	**410**	**2900**	**4900**	**<50**	**820**	10580
	09/04/03	**2050**	**4820**	**1610**	3600	<1.0	**1010**	13091
	12/03/03	**2380**	**4700**	**1800**	4770	<1.0	**626**	14276
	03/16/04	**1800**	**3200**	**880**	1900	<1.0	**350**	8130
	06/17/04	7.4	5.5	19	80	6.3	24	142
	10/05/04	**670**	100	**860**	530	<1	**460**	2620
	11/30/04	**553**	83.9	**823**	340	<1	**50**	1850
	01/19/05	**404**	119	468	404	<1	**175**	1570
	04/27/05	**721**	164	**1050**	1240	<1	**450**	3625
	07/14/05	**985**	316	**1550**	1040	<1	**714**	4605
	10/25/05	**1700**	**7200**	**1900**	5000	<DL	**530**	16330
	01/11/06	**2300**	**12000**	**2200**	9300	<20	**740**	26540

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
MW-10	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	<1	<1	4.8	<1	16	21
	03/16/04	<1	<1	<1	<1	1.8	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	6.4	30.9	<1	18.0	58
	04/27/05	<1	<1	<1	<1	<1	<5	10
	07/14/05	<1	<1	<1	<1	<1	<5	10
	10/25/05	<1	<1	<1	<1	<1	<5	10
	01/11/06	<1	6.1	2.3	13.0	<1	19.0	42
MW-11	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	<1	1	5	<1	15	21
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	2.2	<1	<5	11
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
	04/27/05	<1	<1	<1	<1	<1	<5	10
	07/14/05	<1	<1	<1	<1	<1	<5	10
	10/25/05	<1	<1	<1	<1	<1	<5	10
	01/11/06	<1	<1	<1	<1	<1	<5	10

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
MW-12	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<2	<5	<5	15
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	1.7	2.1	13	<1	23.7	41
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	1.1	<1	<1	2.0	<1	<5	11
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
	04/27/05	<1	<1	<1	<1	<1	<5	10
	07/14/05	<1	<1	<1	<1	<1	<5	10
	10/25/05	<1	<1	<1	<1	<1	<5	10
	01/11/06	<1	<1	<1	<1	<1	<5	10
MW-13	**SSTL**	1	1	31	2	5	25	
	05/29/02	<1	<1	30.5	1.8	<5	**30.1**	69
	11/20/02	<1	<1	5.3	<3	<5	<5	20
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	**2.9**	4.6	**16.8**	<1	**41.8**	66
	03/16/04	<1	<1	<1	<1	4.5	<5	15
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	**13.0**	**5.3**	**79.0**	**36.0**	<1	**58.0**	191
	11/30/04	**6.0**	**1.5**	**66.0**	**7.1**	<1	**29.0**	110
	01/19/05	**5.6**	**1.2**	**36.3**	**3.2**	<1	<5	46
	04/27/05	**3.8**	1.0	**53.8**	**5.8**	<1	16.2	81
	07/14/05	**3.5**	<1	**44.9**	**4.5**	<1	23.4	76
	10/25/05	**2.6**	**1.2**	**44.0**	**4.7**	3.2	**38.0**	94
	01/11/06	<1	<1	10.0	**12.0**	<1	<5	22

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
MW-14	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	42	<1	38	3.9	<5	<5	95
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	4.1	<5	13
	12/03/03	<1	<1	<1	4.2	6.7	13.5	24
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	1.2	<1	<5	10
	11/30/04	<1	<1	<1	<1	44.5	5.4	50
	01/19/05	1.4	5.1	30.5	143.0	18.8	53.4	252
	04/27/05	<1	<1	<1	3.0	<1	<5	12
	07/14/05	2.6	<1	<1	1.0	<1	<5	12
	10/25/05	4.6	<1	<1	<1	<1	6.2	15
	01/11/06	<1	1.3	<1	2.4	<1	<5	11
PW-1	**SSTL**	NA	NA	NA	NA	NA	NA	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	1.6	<1	<1	<3	<5	<5	17
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	NA	NA	NA	NA	NA	NA	NA
	03/16/04	<1	1.3	1.8	7.2	<1	<1	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	2.0	1.8	7.5	<1	<5	11
	11/30/04	<1	<1	<1	2.9	<1	<5	12
	01/19/05	<1	<1	<1	<1	<1	<5	10
	04/27/05	<1	<1	<1	<1	<1	<5	10
	07/14/05	<1	<1	<1	<1	<1	<5	10
	10/25/05	<1	<1	<1	<1	<1	<5	10
	01/11/06	<1	<1	<1	<1	<1	<5	10

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
Marsh	SSTL	1	1	1	1	5	5	
	05/29/02	<1	<1	<1	<1	<5	<5	14
	11/20/02	<1	<1	<1	<3	<5	<5	16
	06/24/03	<1	<1	<1	<2	<5	<5	15
	09/04/03	<1	<1	<1	<1	<1	<5	10
	12/03/03	<1	<1	<1	**3.5**	<1	**9.8**	13
	03/16/04	<1	<1	<1	<1	<1	<5	10
	06/17/04	<1	<1	<1	<1	<1	<5	10
	10/05/04	<1	<1	<1	<1	<1	<5	10
	11/30/04	<1	<1	<1	<1	<1	<5	10
	01/19/05	<1	<1	<1	<1	<1	<5	10
	04/27/05	<1	<1	<1	<1	<1	<5	10
	07/14/05	<1	<1	<1	<1	<1	<5	10
	10/25/05	<1	<1	<1	<1	<1	<5	10
	01/11/06	<1	<1	<1	<1	<1	<5	10
Initial Mass	05/29/02	4,070	8,517	4,814	12,913	210	1,556	32,080
	11/20/02	5,774	9,212	6,053	18,037	1,310	3,320	43,706
	06/24/03	9,352	7,922	9,612	20,024	1,110	3,080	51,100
	09/04/03	9,936	23,685	7,232	25,168	65	4,463	70,549
	12/03/03	6,129	14,218	10,327	29,418	2,199	45,430	107,721
	03/16/04	7,020	12,501	6,482	20,207	276	1,220	47,901
	06/17/04	18	13	45	190	17	54	458
	10/05/04	5,040	3,757	5,021	10,410	116	4,848	29,301
	11/30/04	72,762	260,136	42,169	180,774	940,092	20,585	1,516,623
	01/19/05	72,446	260,131	40,668	180,633	940,035	20,399	1,514,409
	04/27/05	72,847	260,213	41,432	181,372	940,042	20,808	1,516,826
	07/14/05	6,582	1,736	4,731	7,927	39	2,478	23,596
	10/25/05	6,653	10,531	4,544	10,606	7	1,960	34,401
Total Cur Mass	01/11/06	13,100	18,909	10,912	29,636	561	7,810	80,998
SSTL Mass		21	2,939	2,137	12,905	140	115	18,257
Current Mass		13,100	18,909	10,912	29,636	561	7,810	80,998

TABLE 2
Groundwater Analytical Data
Bay Creek Villas, Edisto Beach, South Carolina Facilites # 18662
Consultech Project No. C-1205

Well No.	Date	Benzene	Toluene	Ethyl-benzene	Xylenes	MTBE	Naph-thalene	Total Mass
% Decrease	5/02 to 11/02	-41.86%	-8.16%	-25.74%	-39.68%	-523.81%	-113.35%	-36.24%
% Decrease	5/02 to 06/03	-129.78%	6.99%	-99.67%	-55.07%	-428.57%	-97.93%	-59.29%
% Decrease	5/02 to 09/03	-144.13%	-178.09%	-50.23%	-94.91%	69.00%	-186.81%	-119.92%
% Decrease	5/02 to12/03	-50.60%	-66.94%	-114.52%	-127.82%	-947.14%	-2819.49%	-235.79%
% Decrease	5/02 to 3/04	-72.49%	-46.78%	-34.64%	-56.49%	-31.57%	21.60%	-49.32%
% Decrease	5/02 to 6/04	99.56%	99.84%	99.07%	98.53%	91.71%	96.53%	98.57%
% Decrease	5/02 to 10/04	-23.84%	55.88%	-4.30%	19.38%	44.76%	-211.55%	8.66%
% Decrease	5/02 to 11/04	-1687.81%	-2954.32%	-775.97%	-1299.96%	-447562.62%	-1222.88%	-4627.66%
% Decrease	5/02 to 1/05	-1680.04%	-2954.25%	-744.79%	-1298.87%	-447535.57%	-1210.93%	-4620.76%
% Decrease	5/02 to 4/05	-1689.90%	-2955.22%	-760.65%	-1304.59%	-447539.00%	-1237.20%	-4628.29%
% Decrease	5/02 to 7/05	-61.71%	79.62%	1.72%	38.61%	81.62%	-59.26%	26.45%
% Decrease	5/02 to 10/05	-63.46%	-23.65%	5.61%	17.87%	96.81%	-25.94%	-7.23%
% Decrease	5/02 to 01/06	-221.88%	-122.01%	-126.68%	-129.50%	-167.14%	-401.90%	-152.49%

N/S - Not Sampled
Values Presented in Bold exceed SSTL

Table 3

Bay Creek Villas, Edisto Beach South Carolina, Consultech Project No. C-1205

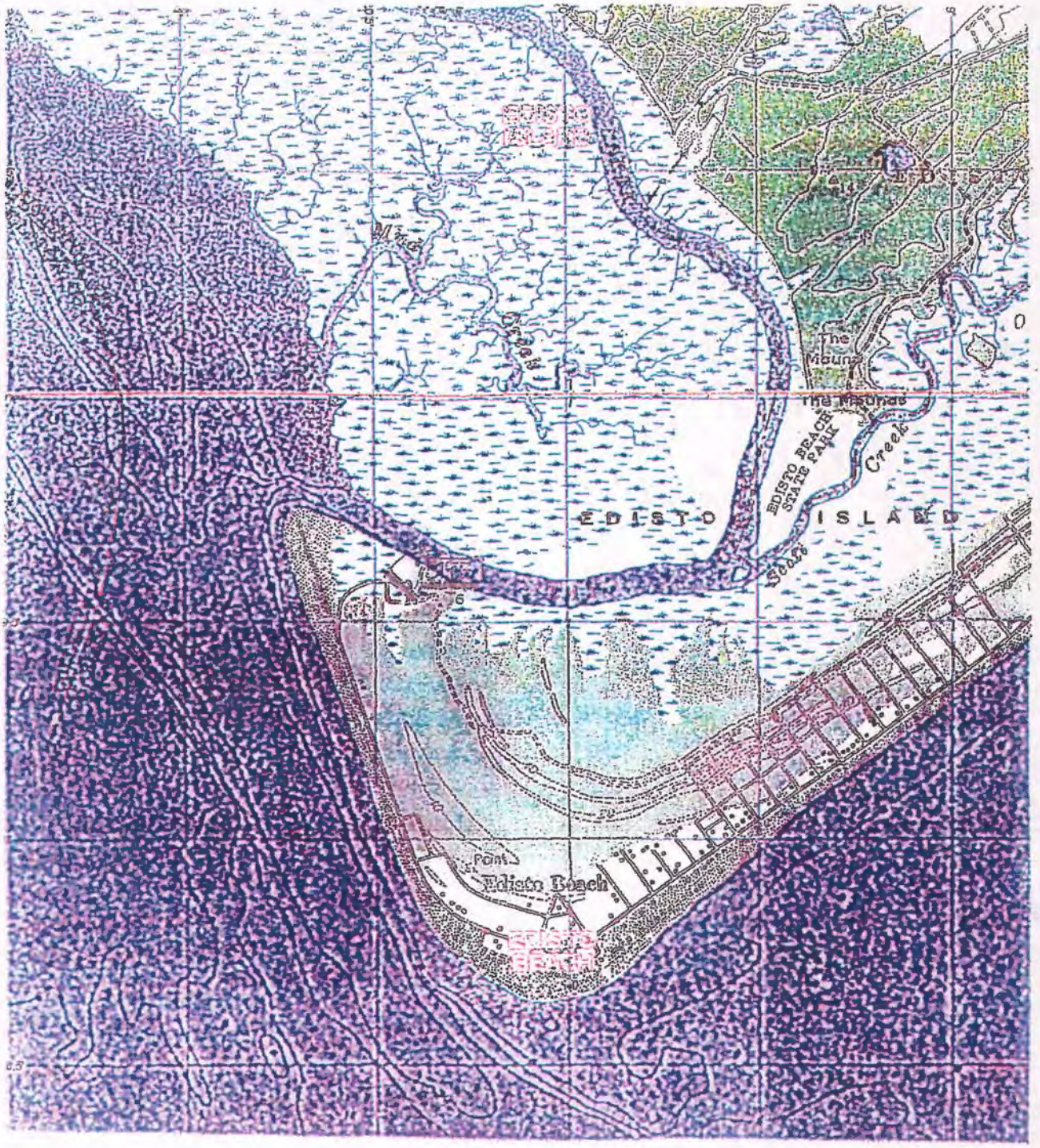
UST Permit Number #18662

Mass Reduction Calculations Through January 11, 2006

		Benzene	Toluene	Ethylbenzen	Xylenes	MTBE	Naphthalene	Mass>SSTL
MW-1	SSTL	3	1	4	1	5	5	
	Initial	2.9	1.0	3.5	1.0	5.0	5.0	
01/11/06	Subsequent	1.0	1.6	1.0	1.3	1.0	5.0	
	Initial > SSTL	0	0	0	0	0	0	0
	Subsequent > SSTL	0	0.6	0	0.3	0	0	0.9
MW-3	SSTL	5	1000	700	4090	40	25	
	Initial	2720	2170	1880	4090	50.0	580	
01/11/06	Subsequent	7,600.0	3,700.0	1,100.0	6,300.0	20.0	810.0	
	Initial > SSTL	2715	1170	1180	0	10	555	5,630
	Subsequent > SSTL	7595	2700	400	2210	0	785	13,690
MW-4	SSTL	5	935	700	3230	40	25	
	Initial	196	935	1370	3230	50.0	479	
01/11/06	Subsequent	3,200.0	3,200.0	7,600.0	14,000	560.0	6,200	
	Initial > SSTL	191	0	670	0	10	454	1,325
	Subsequent > SSTL	3195	2265	6900	10770	520	6175	29,825
MW-5	SSTL	1.0	1.0	1.0	1.0	5.0	5.0	
	Initial	1.0	1.0	1.0	1.0	5.0	5.0	
01/11/06	Subsequent	1.0	1.0	1.0	2.8	1.0	35.0	
	Initial > SSTL	0	0	0	0	0	0	0
	Subsequent > SSTL	0	0	0	1.8	0	30	31.8
MW-9	SSTL	5	1000	700	5580	40	25	
	Initial	1140	5400	1520	5580	50.0	412	
01/11/06	Subsequent	2300.0	12000.0	2200	9300	20.0	740	
	Initial > SSTL	1135	4400	820	0	10	387	6,752
	Subsequent > SSTL	2295	11000	1500	3720	0	715	19,230
MW-13	SSTL	1	1	31	2	5	25	
	Initial	1.0	1.0	30.5	1.8	5.0	30.1	
01/11/06	Subsequent	1.0	1.0	10.0	12.0	1.0	5.0	
	Initial > SSTL	0	0	0	0	0	5.1	5.1
	Subsequent > SSTL	0	0	0	10	0	0	10
Marsh	SSTL	1	1	1	1	5	5	
	Initial	1.0	1.0	1.0	1.0	5.0	5.0	
01/11/06	Subsequent	1.0	1.0	1.0	1.0	1.0	5.0	
	Initial > SSTL	0	0	0	0	0	0	0
	Subsequent > SSTL	0	0	0	0	0	0	0

13,712.1
62,788

Percent Mass Reduction= (Initial>STTL)-(Subsequent>SSTL) / (Initial>SSTL) **-358 %**



REFERENCE: EDISTO BEACH, SOUTH CAROLINA QUADRANGLE MAP, 7.5 MINUTE SERIES, U.S. GEOLOGICAL SURVEY

SCALE 1 : 24,000

0 2,000 4,000

SCALE IN FEET

QUADRANGLE LOCATION

DRAWN: D.J.D.	DATE: 12/08/02
REV.: 0	
PROJECT: BAY CREEK VILLAS	
PROJECT No.: C-1205	

FIGURE 1
SITE LOCATION MAP

CONSULTECH ENVIRONMENTAL, INC.

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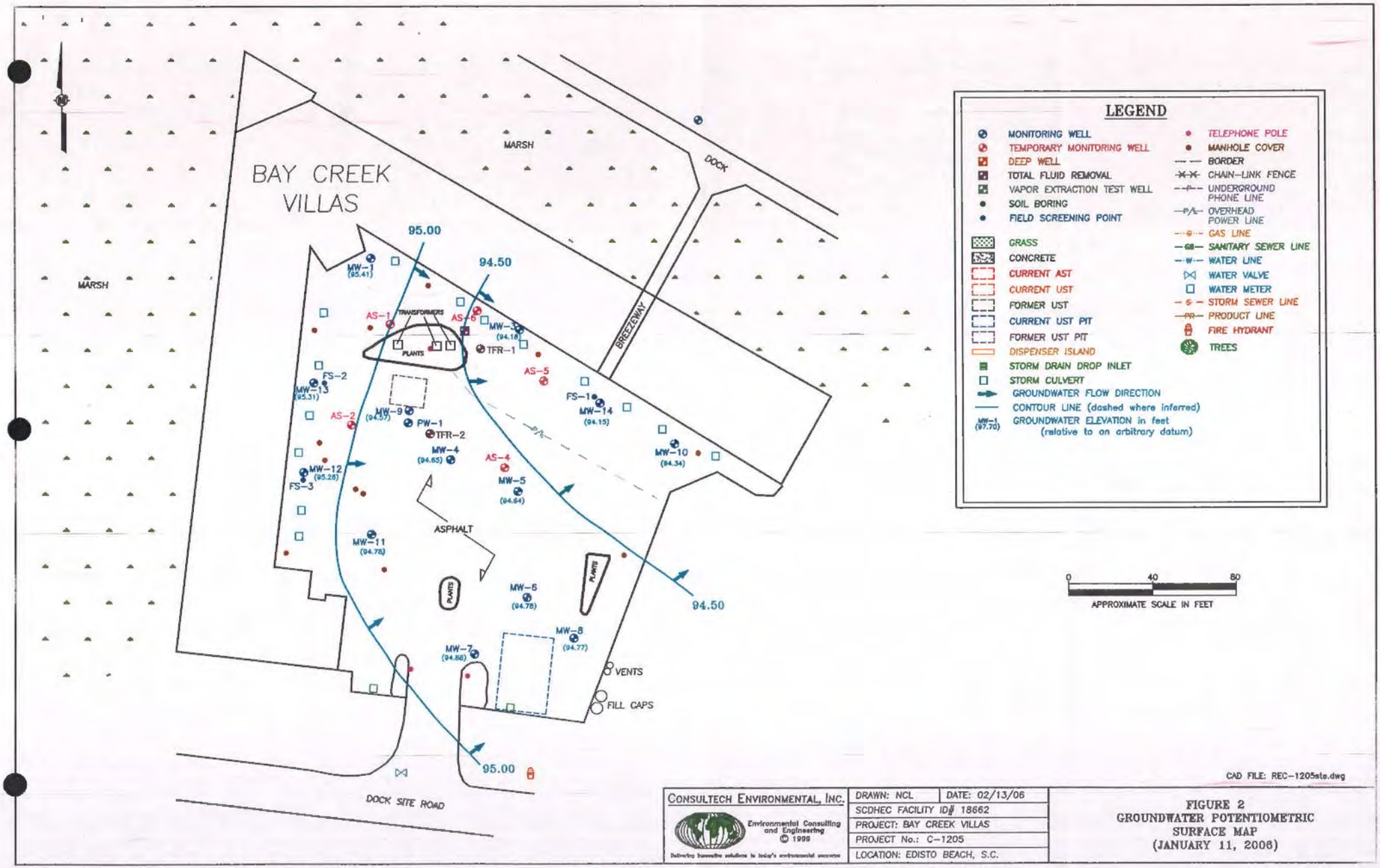
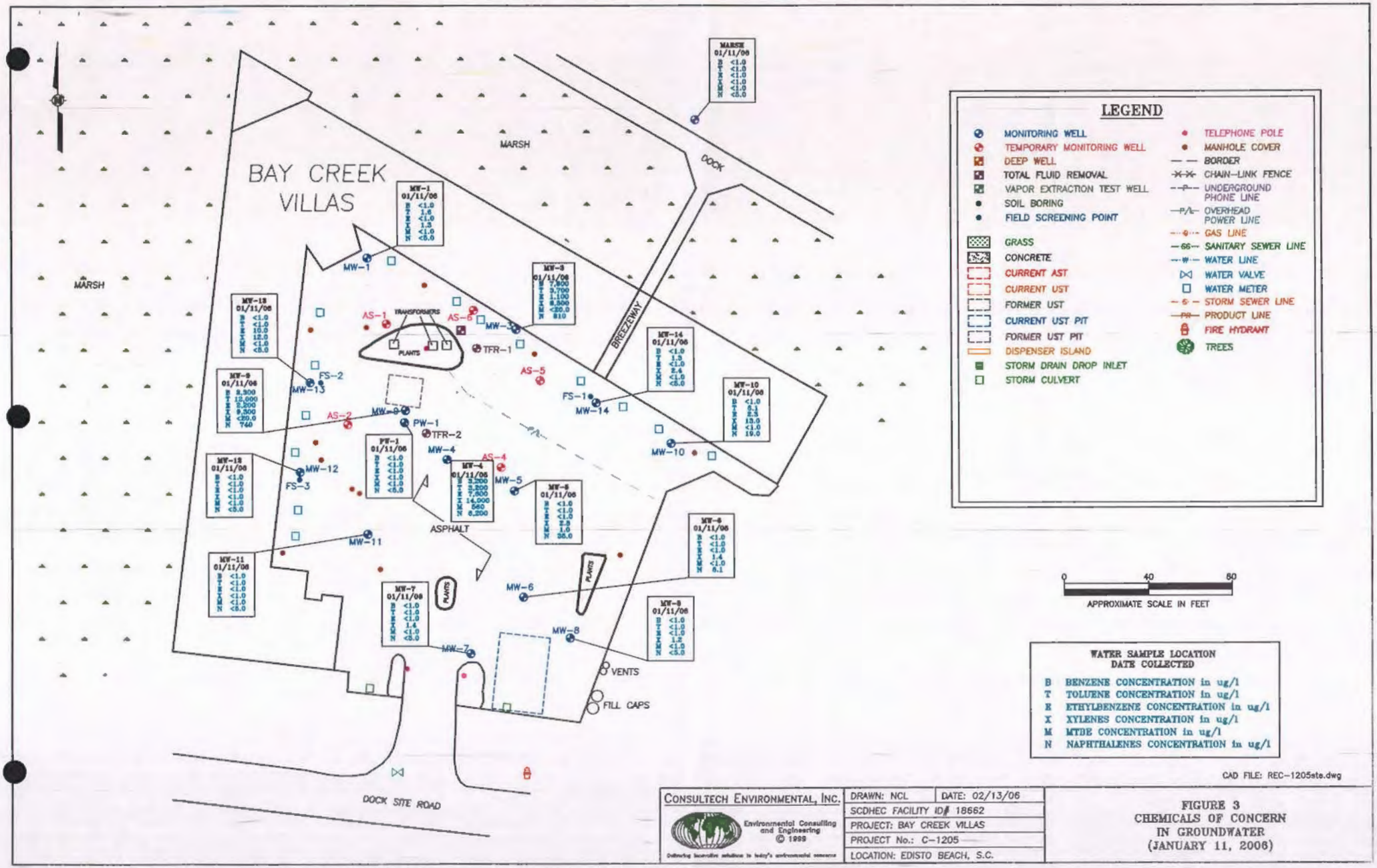


CAD FILE: REC-1205sto.dwg

CONSULTECH ENVIRONMENTAL, INC. Environmental Consulting and Engineering © 1999	DRAWN: NCL	DATE: 02/13/06
	SCDHEC FACILITY ID# 18662	
	PROJECT: BAY CREEK VILLAS	
	PROJECT No.: C-1205	
	LOCATION: EDISTO BEACH, S.C.	

FIGURE 2
GROUNDWATER POTENTIOMETRIC SURFACE MAP
(JANUARY 11, 2006)

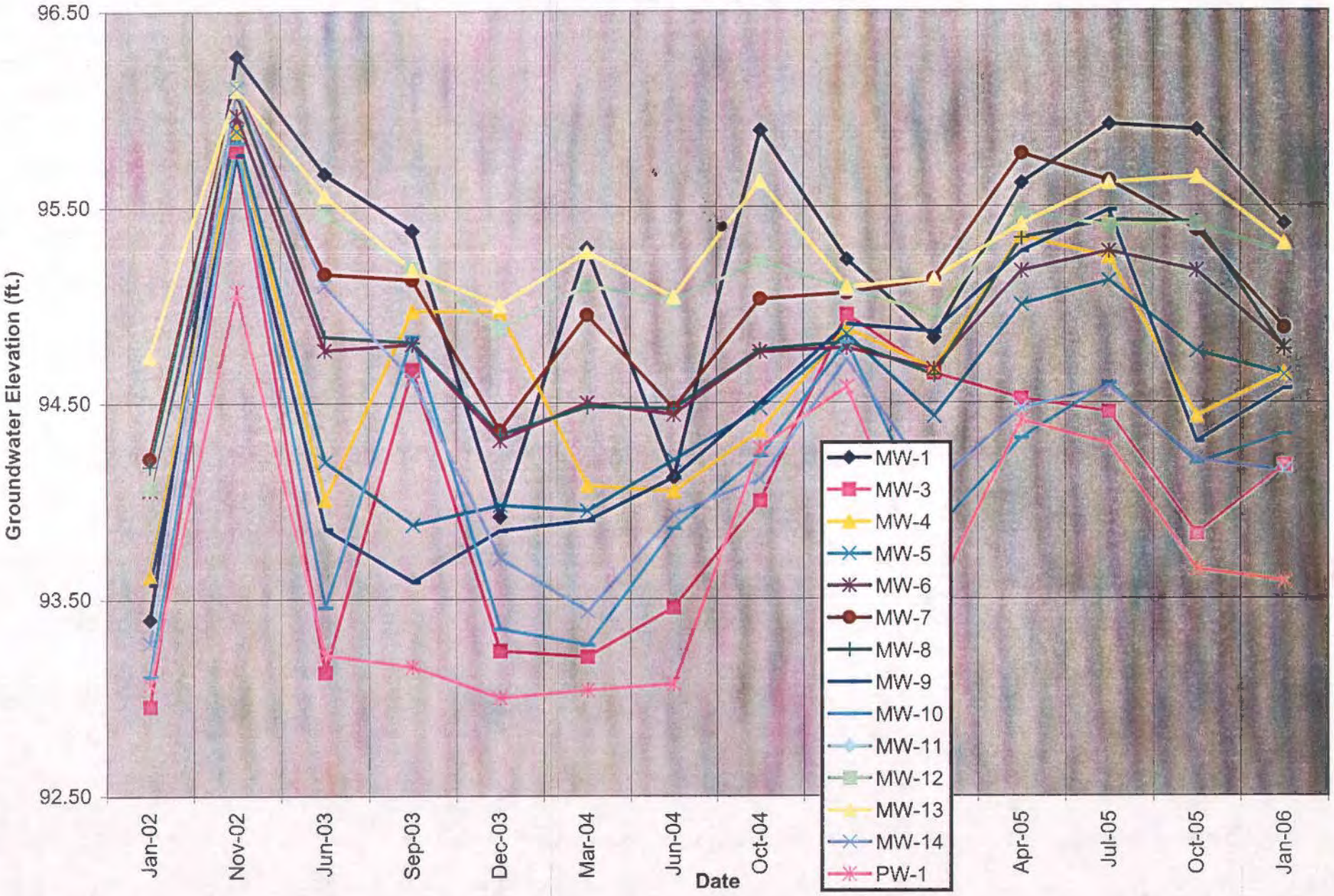

BAY CREEK VILLAS
MARSH
MARSH
DOCK
BREEZEWAY
TRANSFORMERS
PLANTS
ASPHALT
PLANTS
PLANTS
VENTS
FILL CAPS
DOCK SITE ROAD
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13
MW-14
PW-1
TFR-1
TFR-2
FS-1
FS-2
FS-3
AS-1
AS-2
AS-4
AS-5
AS-6
MARSH 01/11/06 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
MW-1 01/11/06 B <1.0 T 1.6 E <1.0 X 1.5 M <1.0 N <5.0
MW-3 01/11/06 B 7,900 T 3,700 E 1,100 X 8,500 M <20.0 N 810
MW-13 01/11/06 B <1.0 T <1.0 E 10.0 X 12.0 M <1.0 N <5.0
MW-9 01/11/06 B 2,300 T 12,000 E 2,200 X 9,300 M <20.0 N 740
MW-2 01/11/06 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
PW-1 01/11/06 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
MW-4 01/11/06 B 3,200 T 3,200 E 7,500 X 14,000 M 560 N 6,200
MW-5 01/11/06 B <1.0 T <1.0 E <1.0 X 2.5 M 1.0 N 35.0
MW-14 01/11/06 B <1.0 T 1.5 E <1.0 X 2.4 M <1.0 N <5.0
MW-10 01/11/06 B <1.0 T 0.1 E 2.5 X 13.0 M <1.0 N 19.0
MW-12 01/11/06 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
MW-11 01/11/06 B <1.0 T <1.0 E <1.0 X <1.0 M <1.0 N <5.0
MW-7 01/11/06 B <1.0 T <1.0 E <1.0 X 1.4 M <1.0 N <5.0
MW-6 01/11/06 B <1.0 T <1.0 E <1.0 X 1.4 M <1.0 N 6.1
MW-8 01/11/06 B <1.0 T <1.0 E <1.0 X 1.2 M <1.0 N <5.0
LEGEND
MONITORING WELL
TEMPORARY MONITORING WELL
DEEP WELL
TOTAL FLUID REMOVAL
VAPOR EXTRACTION TEST WELL
SOIL BORING
FIELD SCREENING POINT
GRASS
CONCRETE
CURRENT AST
CURRENT UST
FORMER UST
CURRENT UST PIT
FORMER UST PIT
DISPENSER ISLAND
STORM DRAIN DROP INLET
STORM CULVERT
TELEPHONE POLE
MANHOLE COVER
BORDER
CHAIN-LINK FENCE
UNDERGROUND PHONE LINE
OVERHEAD POWER LINE
GAS LINE
SANITARY SEWER LINE
WATER LINE
WATER VALVE
WATER METER
STORM SEWER LINE
PRODUCT LINE
FIRE HYDRANT
TREES
0 40 80
APPROXIMATE SCALE IN FEET
WATER SAMPLE LOCATION
DATE COLLECTED
B BENZENE CONCENTRATION in ug/l
T TOLUENE CONCENTRATION in ug/l
E ETHYLBENZENE CONCENTRATION in ug/l
X XYLENES CONCENTRATION in ug/l
M MTBE CONCENTRATION in ug/l
N NAPHTHALENES CONCENTRATION in ug/l
CAD FILE: REC-1205sts.dwg
CONSULTECH ENVIRONMENTAL, INC.
Environmental Consulting and Engineering
© 1999
DRAWN: NCL
DATE: 02/13/06
SCDHEC FACILITY ID# 18662
PROJECT: BAY CREEK VILLAS
PROJECT No.: C-1205
LOCATION: EDISTO BEACH, S.C.
FIGURE 3
CHEMICALS OF CONCERN
IN GROUNDWATER
(JANUARY 11, 2006)

Groundwater Elevation vs. Time

Bay Creek Villas, Edisto Beach, SC Facilities # 18662

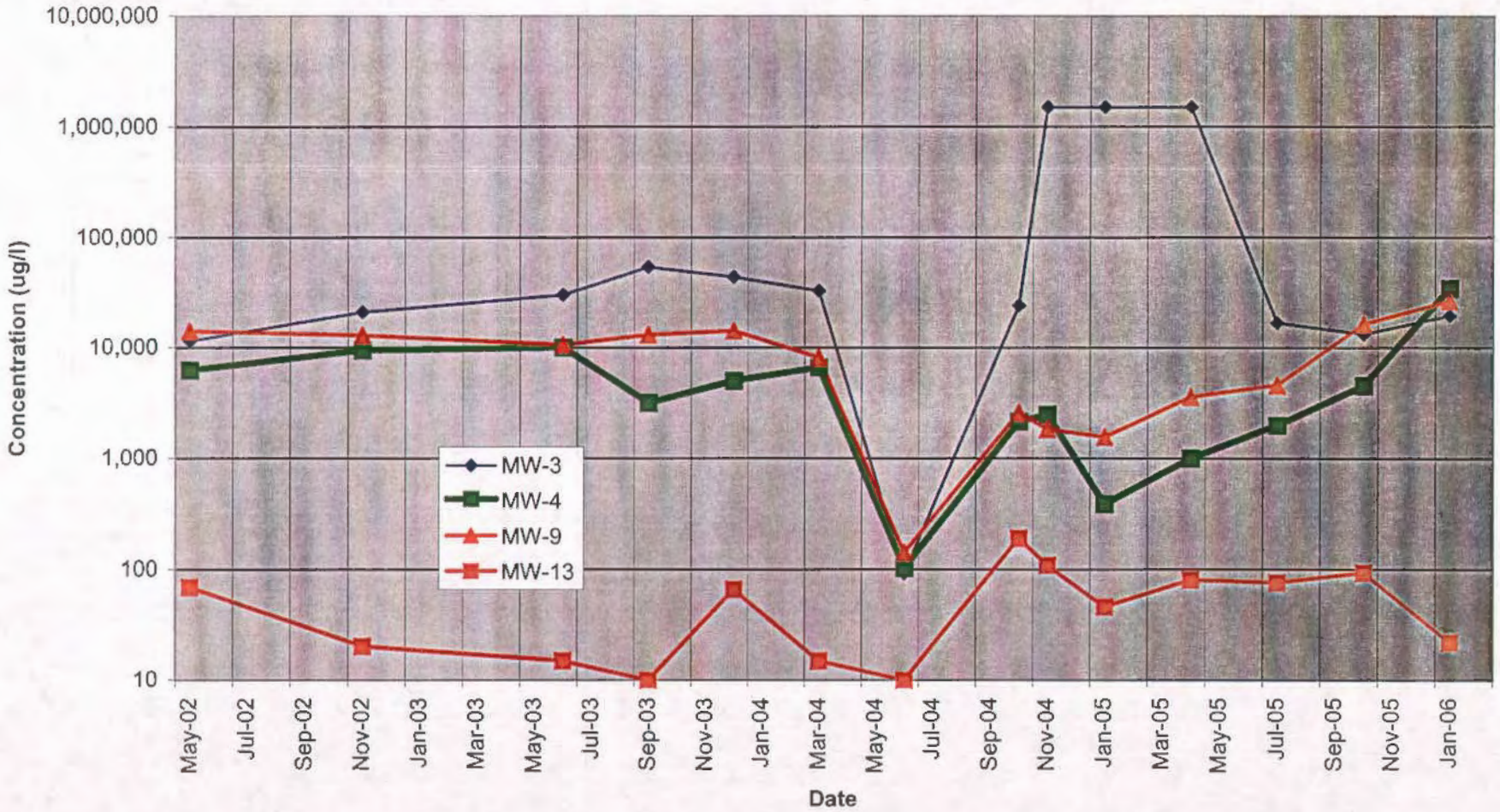
Consultech Project C-1205

Figure 4



Total Mass vs. Time
Bay Creek Villas, Edisto Beach, SC. Facility #18662
Consultech project C-1205

Figure 5



ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

CHAIN OF CUSTODY

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Consultech Environmental
Billing address:
Address: 1800 Macleod Dr. St F Lawrenceville Ga
P.O.# (if required):
Results Sent to: (Client Contact): Jim Wilson
Email address:
Contact Phone #: 678.377.0400 Fax#: 377.0051
Project (Site) Name: Bay Creek Villas Edisto Beach, SC
Project Number: C-1205
Preservation Code: (See below)

For Laboratory Use Only:
QC Level: 1 2 3 4 CLP-Like
Custody Seal(s): Y N Tape
AAL LIMS System ID:
Receiver's Initials/Temp:
AAL Work Order #

Sampler(s): (signature): Van T. Chisholm
Sampler(s): (printed): Van T. Chisholm

Analysis Requested: 1 — BTEX, NAPH, MTBE, 8260B

Field Comments:

Line No.	Sample ID #	Sample Date / Time (06')	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	BTEX, NAPH, MTBE, 8260B	AAL Lab ID: 96642
1	MW-1	1.11 / 1100		X	GW	Edisto Beach, SC	2	X	001
2	MW-3	1.11 / 1115		X	GW		2	X	002
3	MW-4	1.11 / 1130		X	GW		2	X	003
4	MW-5	1.11 / 1145		X	GW		2	X	004
5	MW-6	1.11 / 1200		X	GW		2	X	005
6	MW-7	1.11 / 1215		X	GW		2	X	006
7	MW-8	1.11 / 1230		X	GW		2	X	007
8	MW-9	1.11 / 1245		X	GW		2	X	008
9	MW-10	1.11 / 1300		X	GW		2	X	009
10	MW-11	1.11 / 1315		X	GW		2	X	010

1) Relinquished By: Van T Chisholm Date / Time 1.11.06/1700
2) Received By: Ken Roberts Date / Time 1/12/06 0922
3) Relinquished By: Date / Time
4) Received By: Date / Time

Delivered by: (Circle One) Fed Ex / UPS / DHL / AAL Pickup / Hand / Other

Turnaround Time Requested:

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

CHAIN OF CUSTODY

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Consultech
Address: 1800 Macleod Dr SW, F Lawrenceville Ga
Results Sent to: (Client Contact): Wilson
Email address:
Contact Phone #: 678.377.0400 Fax#: 377.0051
Project (Site) Name: Bay Creek Villas, Edisto Beach, SC
Project Number: C-1205

Billing address:
P.O.# (if required):

For Laboratory Use Only: AAL LIMS System ID:
QC Level: 1 2 3 4 CLP-Like Receiver's Initials/Temp:
Custody Seal(s): Y N Tape AAL Work Order #

Preservation Code: (See below)

Sampler(s): (signature): Van T Chisholm
Sampler(s): (printed): Van T. Chisholm

Analysis Requested: 1 — BTEX, MTBE, NAPH 8260B

Field Comments:

Line No.	Sample ID #	Sample Date / Time (06)	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	BTEX, MTBE, NAPH 8260B	AAL Lab ID:
1	mw-12	1-11/1330		X	GW	Edisto Beach SC	2	X	9642-011
2	mw-13	1-11/1345		X	GW		2	X	-012
3	mw-14	1-11/1400		X	GW		2	X	-013
4	PW-1	1-11/1415		X	GW		2	X	-014
5	marsh-1	1-11/1430		X	SW		2	X	-015
6									
7									
8									
9									
10									

1) Relinquished By:	Date / Time	2) Received By:	Date / Time	Delivered by: (Circle One)
Van T Chisholm	1-11-06/1700	[illegible]	1/12/06 0922	Fed Ex / UPS / DHL / AAL Pickup / Hand / Other
3) Relinquished By:	Date / Time	4) Received By:	Date / Time	Turnaround Time Requested:

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

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Consultech Environmental, Inc., Lawrenceville, GA

Bay Creek Villas Edisto Beach, SC

Sample Id: **MW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-001** Date Collected: **Jan-11-06 11:00** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 00:40 Analyst: JH01 Date Prep: Jan-15-06 16:51 Tech: JPM01
Seq Number: 30140

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	1.6	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	1.3	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **MW-3** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-002** Date Collected: **Jan-11-06 11:15** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 21:16 Analyst: JH01 Date Prep: Jan-16-06 18:04 Tech: JH01
Seq Number: 30182

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	7600	20	6.0	ug/L	E	20
Toluene	108-88-3	3700	20	5.0	ug/L		20
Ethylbenzene	100-41-4	1100	20	3.8	ug/L		20
Xylenes, Total	1330-20-7	6300	20	15	ug/L		20
Methyl tert-butyl ether	1634-04-4	BRL	20	5.2	ug/L		20
Naphthalene	91-20-3	810	100	9.0	ug/L		20

Sample Id: **MW-4** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-003** Date Collected: **Jan-11-06 11:30** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 21:43 Analyst: JH01 Date Prep: Jan-16-06 18:04 Tech: JH01
Seq Number: 30182

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	3200	100	30	ug/L		100
Toluene	108-88-3	3200	100	25	ug/L		100
Ethylbenzene	100-41-4	7600	100	19	ug/L		100
Xylenes, Total	1330-20-7	14000	100	74	ug/L		100
Methyl tert-butyl ether	1634-04-4	560	100	26	ug/L		100
Naphthalene	91-20-3	6200	500	45	ug/L		100

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Consultech Environmental, Inc., Lawrenceville, GA

Bay Creek Villas Edisto Beach, SC

Sample Id: **MW-5** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-004** Date Collected: **Jan-11-06 11:45** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 02:02 Analyst: JH01 Date Prep: Jan-15-06 16:51 Tech: JPM01
Seq Number: 30140

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	2.8	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	1.0	1.0	0.26	ug/L		1
Naphthalene	91-20-3	35	5.0	0.45	ug/L		1

Sample Id: **MW-6** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-005** Date Collected: **Jan-11-06 12:00** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 02:30 Analyst: JH01 Date Prep: Jan-15-06 16:51 Tech: JPM01
Seq Number: 30140

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	1.4	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	6.1	5.0	0.45	ug/L		1

Sample Id: **MW-7** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-006** Date Collected: **Jan-11-06 12:15** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 02:58 Analyst: JH01 Date Prep: Jan-15-06 16:51 Tech: JPM01
Seq Number: 30140

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	1.4	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

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Bay Creek Villas Edisto Beach, SC

Sample Id: **MW-8** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-007** Date Collected: **Jan-11-06 12:30** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 03:25 Analyst: JH01 Date Prep: Jan-15-06 16:51 Tech: JPM01
Seq Number: 30140

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	1.2	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **MW-9** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-008** Date Collected: **Jan-11-06 12:45** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 22:11 Analyst: JH01 Date Prep: Jan-16-06 18:04 Tech: JH01
Seq Number: 30182

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	2300	20	6.0	ug/L		20
Toluene	108-88-3	12000	20	5.0	ug/L	E	20
Ethylbenzene	100-41-4	2200	20	3.8	ug/L		20
Xylenes, Total	1330-20-7	9300	20	15	ug/L		20
Methyl tert-butyl ether	1634-04-4	BRL	20	5.2	ug/L		20
Naphthalene	91-20-3	740	100	9.0	ug/L		20

Sample Id: **MW-10** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-009** Date Collected: **Jan-11-06 13:00** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 04:20 Analyst: JH01 Date Prep: Jan-15-06 16:51 Tech: JPM01
Seq Number: 30140

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	6.1	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	2.3	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	13	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	19	5.0	0.45	ug/L		1

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Consultech Environmental, Inc., Lawrenceville, GA

Bay Creek Villas Edisto Beach, SC

Sample Id: **MW-11** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-010** Date Collected: **Jan-11-06 13:15** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 08:28 Analyst: JH01 Date Prep: Jan-16-06 05:43 Tech: JPM01
Seq Number: 30142

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **MW-12** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-011** Date Collected: **Jan-11-06 13:30** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 08:56 Analyst: JH01 Date Prep: Jan-16-06 05:43 Tech: JPM01
Seq Number: 30142

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **MW-13** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-012** Date Collected: **Jan-11-06 13:45** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 09:24 Analyst: JH01 Date Prep: Jan-16-06 05:43 Tech: JPM01
Seq Number: 30142

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	10	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	12	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

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Consultech Environmental, Inc., Lawrenceville, GA

Bay Creek Villas Edisto Beach, SC

Sample Id: **MW-14** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-013** Date Collected: **Jan-11-06 14:00** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 09:51 Analyst: JH01 Date Prep: Jan-16-06 05:43 Tech: JPM01
Seq Number: 30142

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	1.3	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	2.4	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **PW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-014** Date Collected: **Jan-11-06 14:15** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 10:19 Analyst: JH01 Date Prep: Jan-16-06 05:43 Tech: JPM01
Seq Number: 30142

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **MARSH-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **9642-015** Date Collected: **Jan-11-06 14:30** Date Received: **Jan-12-06 09:22**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 10:46 Analyst: JH01 Date Prep: Jan-16-06 05:43 Tech: JPM01
Seq Number: 30142

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

*

Version: 1.004

Certificate of Analytical Results 9642

Consultech Environmental, Inc., Lawrenceville, GA

Bay Creek Villas Edisto Beach, SC

Sample Id: **28540 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **28540 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-15-06 19:09 Analyst: JH01 Date Prep: Jan-15-06 16:51 Tech: JPM01
Seq Number: 30140

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **28541 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **28541 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 08:01 Analyst: JH01 Date Prep: Jan-16-06 05:43 Tech: JPM01
Seq Number: 30142

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **28570 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **28570 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Jan-16-06 20:21 Analyst: JH01 Date Prep: Jan-16-06 18:04 Tech: JH01
Seq Number: 30182

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.26	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

*

Version: 1.004

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ACCURA ANALYTICAL LAB Contract: C-1205

Lab Code: ACCURA Case No. : 9642 SAS No. : _____

SDG No. : 9642

	EPA SAMPLE NO.	SMC1	SMC2	SMC3	OTHER	
		(DCE) #	(BFB) #	(TOL) #		TOT OUT
1	28540 BKS	N/A	94	117		0
2	28540 BSD	N/A	95	119*		1
3	28540 BLK	N/A	87	120*		1
4	MW-1	N/A	86	128*		1
5	MW-5	N/A	94	116*		1
6	MW-5	N/A	94	116*		1
7	MW-6	N/A	93	115		0
8	MW-7	N/A	93	117*		1
9	MW-8	N/A	93	120*		1
10	MW-10	N/A	94	116*		1
11	MW-10	N/A	94	116*		1
12	28541 BKS	N/A	97	117		0
13	28541 BLK	N/A	93	121*		1
14	MW-11	N/A	90	120*		1
15	MW-11	N/A	90	120*		1
16	MW-12	N/A	93	120*		1
17	MW-13	N/A	97	123*		1
18	MW-14	N/A	92	121*		1
19	PW-1	N/A	94	117*		1
20	MARSH-1	N/A	94	118*		1
21	28570 BKS	N/A	97	116		0
22	28570 BSD	N/A	95	117		0
23	28570 BSD	N/A	95	117		0

		QC LIMITS
SMC1 (DCE) =	1,2-Dichloroethane-d4	
SMC2 (BFB) =	4-Bromofluorobenzene	(77 - 117)
SMC3 (TOL) =	Toluene-d8	(84 - 115)

N/A = DCE and it's internal standard are Not Applicable to the reported analytes.

Column to be used to flag recovery values

* Values outside of contract required QC limits

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ACCURA ANALYTICAL LAB Contract: C-1205

Lab Code: ACCURA Case No. : 9642 SAS No. : _____

SDG No. : 9642

EPA SAMPLE NO.		SMC1	SMC2	SMC3	OTHER	TOT OUT
		(DCE) #	(BFB) #	(TOL) #		
24	28570 BLK	N/A	90	122*		1
25	MW-3	N/A	96	118*		1
26	MW-4	N/A	97	121*		1
27	MW-9	N/A	97	118*		1

QC LIMITS

SMC1 (DCE) = 1,2-Dichloroethane-d4
SMC2 (BFB) = 4-Bromofluorobenzene (77 - 117)
SMC3 (TOL) = Toluene-d8 (84 - 115)

N/A = DCE and it's internal standard are Not Applicable to the reported analytes.

Column to be used to flag recovery values
* Values outside of contract required QC limits

Accura Analytical Laboratory

EPA Defined Qualifiers Codes used by AAL

BRL: This abbreviation indicates that the analytical results were Below the Reporting Limit (BRL).

U: The compound was analyzed for but not detected.

J: This indicates an estimated value. This flag is used in 3 incidences.

(1) When estimating a concentration for tentatively identified compounds where 1:1 response is assumed.
(2) When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the Contract Required Detection Limit (CRDL) – or Reporting Limit - but greater than the MDL.
(3) When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL – or Reporting Limit- but greater than MDL.

N: Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds. (TICs), where the identification is based on a mass spectral library search. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" flag is not used.

P: This is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported and flagged with "P"

C: This applies to pesticide result where the identification has been confirmed by GC/MS. Do **not** apply if this flag if analyte(s) were not confirmed. Used the laboratory-defined flag instead (see the X qualifier).

B: This is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The flag shall be used for a tentatively identified compound as well as for a positively identified target compound.

E: This identifies compounds whose concentrations exceed the upper level of the linear calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract should be diluted and re-analyzed.

Note: *For Total xylene, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately.*

X: Defined by the laboratory

Z: Surrogates/Spikes results exceeds quality control limits

ZZ: Surrogates/Spikes results exceeds quality control limits in multiple samples

***: Surrogate recoveries were diluted out

M: Manual integrations were necessary and an "m" qualifying code is present on the quantitation report next to the analyte.

D: This flag indicates that the identified compound is reported from the dilution run.

Midlands
Environmental
Consultants, Inc.

May 8, 2007

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
MAY 08 2007
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #29241
MECI Project Number 07-1216D

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on May 2, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.29 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 5.72 pounds or approximately 0.99 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.72 pounds per hour. Concentrations of off gas produced during the event were recorded from 280 parts per million by volume (PPM) to 848 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 16.0 to 18.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1D.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2D. Monitoring well locations are depicted on attached Figure 1.

A total of 100 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Robert Johnson

Robert P. Johnson
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

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MAY 0 8 2007

UNDERGROUND STORAGE
TANK PROGRAM

TABLE1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1216D
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	05/02/07	10:00	0.50	17.0	403	1150	103.50	0.50	0.25
	05/02/07	10:30	0.50	17.0	315	1080	97.20	0.37	0.18
	05/02/07	11:00	0.50	17.0	280	1230	110.70	0.37	0.19
	05/02/07	11:30	0.50	17.0	468	1190	107.10	0.60	0.30
	05/02/07	12:00	0.50	16.0	703	1060	95.40	0.80	0.40
	05/02/07	12:30	0.50	16.0	695	1190	107.10	0.89	0.45
	05/02/07	13:00	0.50	16.0	716	1080	97.20	0.84	0.42
	05/02/07	13:30	0.50	16.0	685	970	87.30	0.72	0.36
	05/02/07	14:00	0.50	16.0	716	1060	95.40	0.82	0.41
	05/02/07	14:30	0.50	16.0	687	1230	110.70	0.91	0.46
	05/02/07	15:00	0.50	18.0	693	920	82.80	0.69	0.34
	05/02/07	15:30	0.50	18.0	848	800	72.00	0.73	0.37
	05/02/07	16:00	0.50	18.0	680	814	73.26	0.60	0.30
	05/02/07	16:30	0.50	18.0	816	791	71.19	0.70	0.35
	05/02/07	17:00	0.50	18.0	734	776	69.84	0.62	0.31
	05/02/07	17:30	0.50	18.0	791	750	67.50	0.64	0.32
	05/02/07	18:00	0.50	18.0	839	709	63.81	0.64	0.32
									TOTAL 5.72

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	5.87	6.16	0.29	***	7.85	***	1.94

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	6.35
Truck Operator:	R. Johnson		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18 =			5.91

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	5.72	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.99	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	100	Gallons

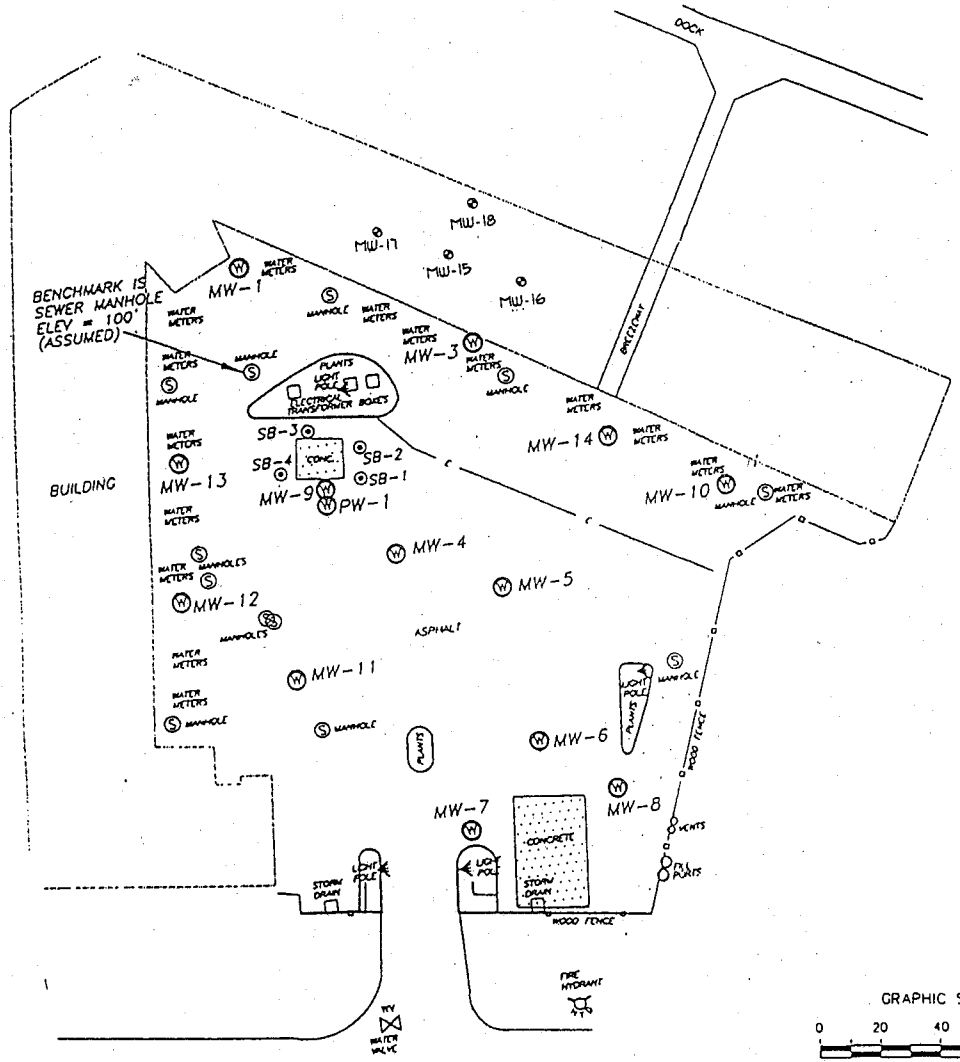
TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1216D
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-3	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:00	0.0	0	0	0
10:30	0.5	0	0	0
11:00	1.0	0	0	0
11:30	1.5	0	0	0
12:00	2.0	0	0	0
12:30	2.5	0	0	0
13:00	3.0	0	0	0
13:30	3.5	0	0	0
14:00	4.0	0	0	0
14:30	4.5	0	0	0
15:00	5.0	0	0	0
15:30	5.5	0	0	0
16:00	6.0	0	0	0
16:30	6.5	0	0	0
17:00	7.0	0	0	0
17:30	7.5	0	0	0
18:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-3	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		6.10	4.96	4.83
14:00	4 hours	6.25	4.96	4.80
18:00	8 hours	6.79	4.96	4.85
Maximum Change:		-0.69	0.00	-0.05



Explanation:

⊗ Location of Waterable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

Crandall

C 010973

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 06048	2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address: Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone (803) 808-2043

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	1980	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0106048

Emergency Response: Infotrac - 800-535-5053

Caller must ID Crandall as registrant

Bay Creek (SCDHEC 18662) 125 gal. Bay Creek (18662) 100 gal.
Food Chief (SCDHEC 10054A) 85 GAL
Breakers #1 (SCDHEC 12898) 180 gal. Bay Creek (SCDHEC 18662) 75 gal
Bay Creek (SCDHEC 18662) 100 gal. Corner Pantry (13678 68) 25 gal
Shelton Food Store (SCDHEC 00877) 150 gal
Cousars Suprette (SCDHEC 08897) 60 gal Constant (08897) 110 gal
Shelton Food Store (SCDHEC 00877) 250 gal. Cousars (SCDHEC 08897) 110 gal. Browns Brothers (SCDHEC 47145) 45 gal
Fink Family Pantry (SCDHEC 14325) 250 gal.
McConnells Corner Mart (SCDHEC 09390) 0 GAL
Burnetts Cleaners (SCDHEC 01572K1) 35 gal
Greens Amoco (SCDHEC 11543) 100 gal.
Glover's Service station (SCDHEC 02094) Friendly marks (SCDHEC 11543) 100 gal.

TRANSPORTER

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
No Signature Available				

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	Troy Backman	05	07	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

INVOICE COPY

Midlands
Environmental
Consultants, Inc.

May 8, 2007

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
MAY 0 8 2007
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #29241
MECI Project Number 07-1216C

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on May 1, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted continuously for a total of eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.10 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was detected at a thickness of 0.01 feet immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 0.32 pounds or approximately 0.06 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.04 pounds per hour. Concentrations of off gas produced during the event were recorded from 11.9 parts per million by volume (PPM) to 56.3 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 12.0 to 21.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1C.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC. 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2C. Monitoring well locations are depicted on attached Figure 1.

A total of 75 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Robert Johnson (mth

Robert P. Johnson
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

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MAY 0 8 2007

UNDERGROUND STORAGE
TANK PROGRAM

TABLE 1C
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1216C
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	05/01/07	10:00	0.50	21.0	54.8	760	68.40	0.04	0.02
	05/01/07	10:30	0.50	20.0	56.3	800	72.00	0.05	0.02
	05/01/07	11:00	0.50	20.0	32.3	820	73.80	0.03	0.01
	05/01/07	11:30	0.50	20.0	46.8	820	73.80	0.04	0.02
	05/01/07	12:00	0.50	12.0	32.4	1580	142.20	0.06	0.03
	05/01/07	12:30	0.50	12.0	13.8	1750	157.50	0.03	0.01
	05/01/07	13:00	0.50	12.0	21.2	1710	153.90	0.04	0.02
	05/01/07	13:30	0.50	12.0	23.5	1680	151.20	0.04	0.02
	05/01/07	14:00	0.50	12.0	13.9	1660	149.40	0.02	0.01
	05/01/07	14:30	0.50	12.0	30.9	1390	125.10	0.05	0.02
	05/01/07	15:00	0.50	12.0	37.3	970	87.30	0.04	0.02
	05/01/07	15:30	0.50	12.0	11.9	1790	161.10	0.02	0.01
	05/01/07	16:00	0.50	12.0	25.1	1650	148.50	0.04	0.02
	05/01/07	16:30	0.50	12.0	23.3	1680	151.20	0.04	0.02
	05/01/07	17:00	0.50	12.0	16.6	1780	160.20	0.03	0.02
	05/01/07	17:30	0.50	12.0	21.8	1690	152.10	0.04	0.02
	05/01/07	18:00	0.50	12.0	13.6	1660	149.40	0.02	0.01
									TOTAL 0.32

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	5.90	6.00	0.10	6.38	6.39	0.01	0.48

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	6.20
Truck Operator:	R. Johnson		
Stack I.D. (feet)	0.33 feet		

Corrected depth to water before AFVR Event in MW-18 = 5.92

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	0.32	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.06	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	75	Gallons

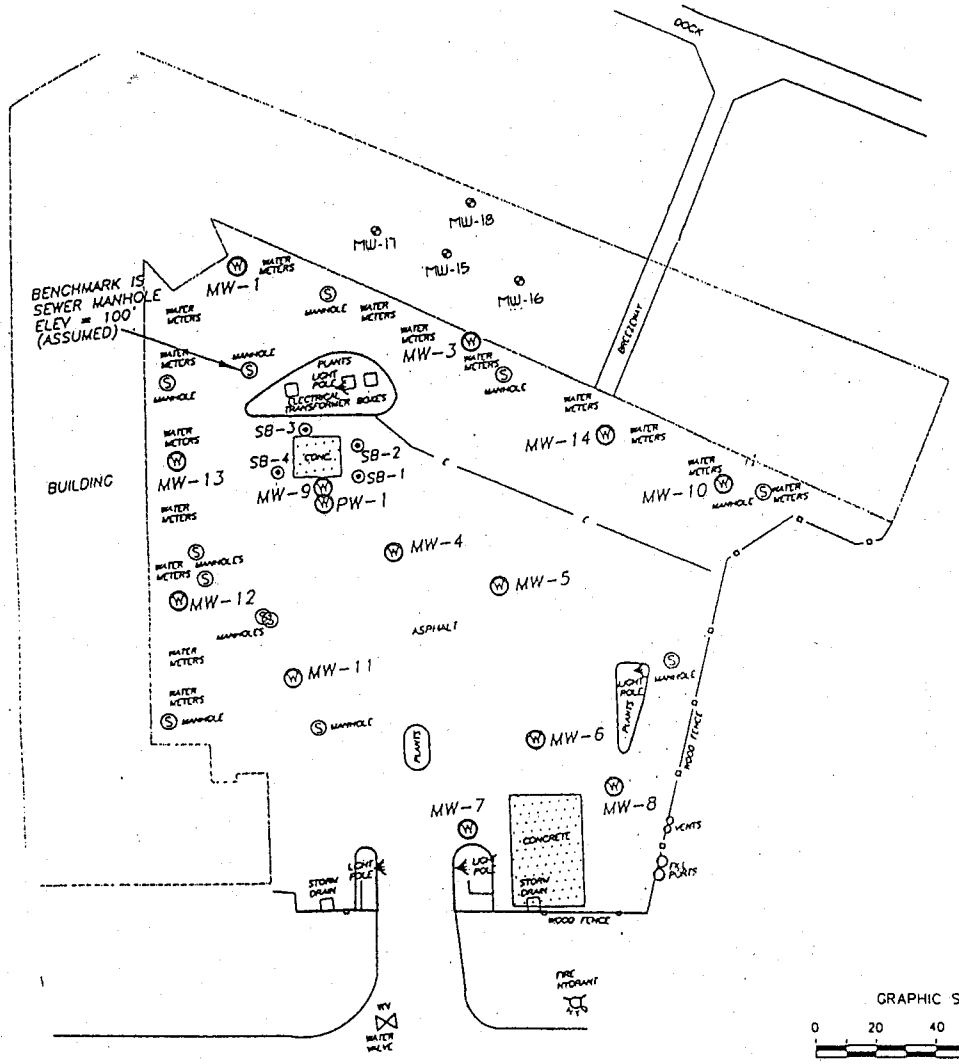
TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1216C
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-3	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:00	0.0	0	0	0
10:30	0.5	0	0	0
11:00	1.0	0	0	0
11:30	1.5	0	0	0
12:00	2.0	0	0	0
12:30	2.5	0	0	0
13:00	3.0	0	0	0
13:30	3.5	0	0	0
14:00	4.0	0	0	0
14:30	4.5	0	0	0
15:00	5.0	0	0	0
15:30	5.5	0	0	0
16:00	6.0	0	0	0
16:30	6.5	0	0	0
17:00	7.0	0	0	0
17:30	7.5	0	0	0
18:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-3	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.98	4.97	4.85
14:00	4 hours	6.32	4.97	4.81
18:00	8 hours	6.98	4.97	4.79
Maximum Change:		-1.00	0.00	0.06



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 3, 2006
FIGURE 1

C 010973

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 06048	2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address: Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone ((803) 808-2043)

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	1.980	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Food Chief (SCDHEC 10054A) 85 GAL
Service Call ID: GLB0106048
Bay Creek (SCDHEC 18662) 125 gal. Bay Creek (18662) 100 gal.
Breakers #1 (SCDHEC 12898) 180 gal. Bay Creek (SCDHEC 18662) 75 gal
Bay Creek (SCDHEC 18662) 100 gal. Corner Pantry (03607868) 125 gal
Shelton Food Store (SCDHEC 00877) 150 gal
Shelton Food Store (SCDHEC 00877) 250 gal. Cousars Supreme (SCDHEC 08897) 60 gal. Constant (08897) 110 gal
Fink Handy Pantry (SCDHEC 14325) 250 gal. Cousars (SCDHEC 08897) 110 gal. Browns Brothers (SCDHEC 47145) 45 gal
Emergency Response: Infotrac - 800-535-5053
McConnells Corner Mart (SCDHEC 09390) 8 GAL Burnetts Cleaners (SCDHEC 01572A) 35 gal
Greens Amoco (SCDHEC 11543) 100 gal.
Caller must ID Crandall as registrant
Glover's Service Station (SCDHEC 02994) Friendly Marks (SCDHEC 11543) 100 gal.

TRANSPORTER

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
No Signature Available				

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	Troy Backman	05	07	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

INVOICE COPY

Midlands
Environmental
Consultants, Inc.

May 7, 2007

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
MAY 0 8 2007
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #29241
MECI Project Number 07-1216A

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on April 24, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.01 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 1.31 pounds or approximately 0.23 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.16 pounds per hour. Concentrations of off gas produced during the event were recorded from 33.4 parts per million by volume (PPM) to 253 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 12.0 to 23.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A. Monitoring well locations are depicted on attached Figure 1.

A total of 100 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff Coleman

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

RECEIVED
MAY 0 8 2007
UNDERGROUND STORAGE TANK PROGRAM

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1216A
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	04/24/07	8:00	0.50	23.0	75.4	728	65.52	0.06	0.03
	04/24/07	8:30	0.50	22.0	78.3	760	68.40	0.06	0.03
	04/24/07	9:00	0.50	18.0	92	1110	99.90	0.11	0.06
	04/24/07	9:30	0.50	15.0	117	1110	99.90	0.14	0.07
	04/24/07	10:00	0.50	12.0	141.2	1730	155.70	0.26	0.13
	04/24/07	10:30	0.50	12.0	253	1820	163.80	0.50	0.25
	04/24/07	11:00	0.50	12.0	108	1800	162.00	0.21	0.10
	04/24/07	11:30	0.50	12.0	104	1790	161.10	0.20	0.10
	04/24/07	12:00	0.50	12.0	90.5	1770	159.30	0.17	0.09
	04/24/07	12:30	0.50	12.0	108	1890	170.10	0.22	0.11
	04/24/07	13:00	0.50	12.0	71	1790	161.10	0.14	0.07
	04/24/07	13:30	0.50	12.0	63.3	1690	152.10	0.12	0.06
	04/24/07	14:00	0.50	12.0	63.2	1740	156.60	0.12	0.06
	04/24/07	14:30	0.50	12.0	51	1780	160.20	0.10	0.05
	04/24/07	15:00	0.50	12.0	33.4	1710	153.90	0.06	0.03
	04/24/07	15:30	0.50	12.0	44.6	1650	148.50	0.08	0.04
	04/24/07	16:00	0.50	12.0	34.4	1690	152.10	0.06	0.03
									TOTAL 1.31

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	7.31	7.32	0.01	***	6.59	***	-0.72

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	7.90
Truck Operator:	R. Johnson		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18 =			7.31

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	1.31	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.23	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	100	Gallons

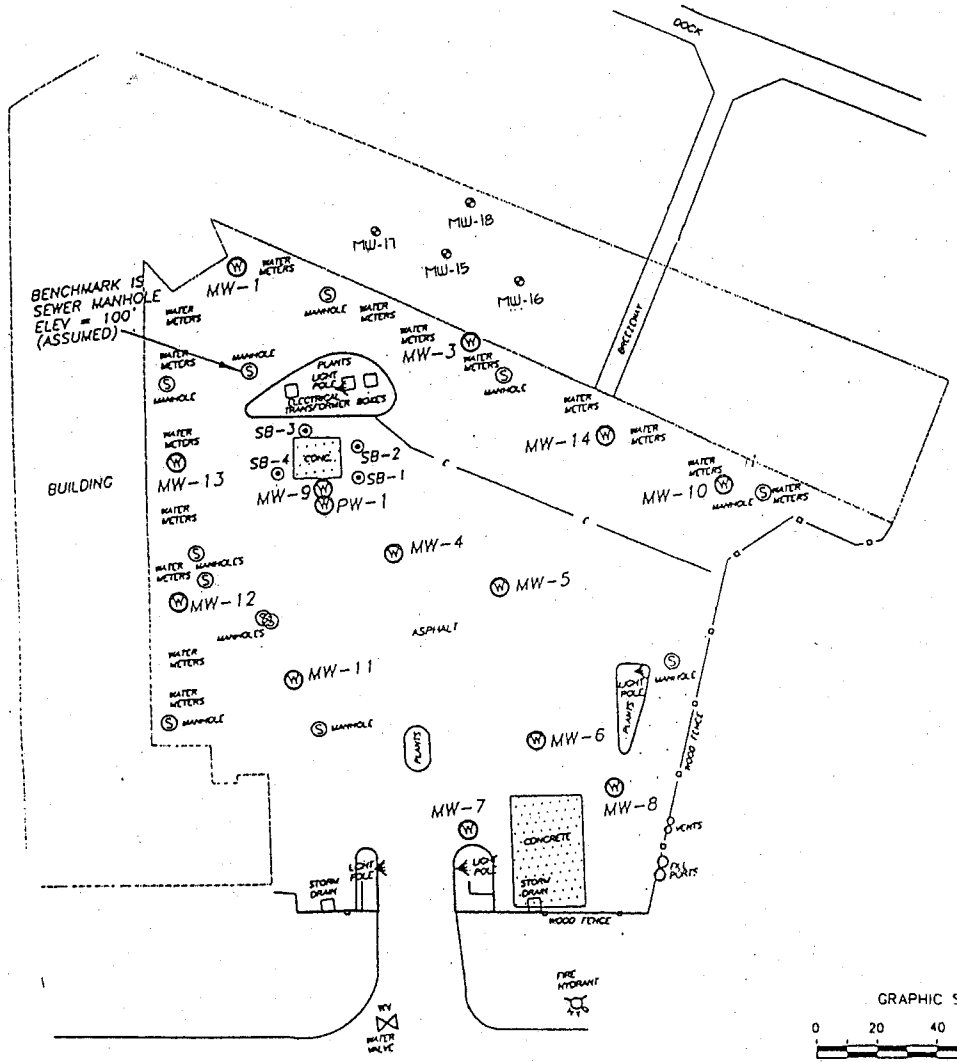
TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1216A
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
8:00	0.0	0	0	0
8:30	0.5	0	0	0
9:00	1.0	0	0	0
9:30	1.5	0	0	0
10:00	2.0	0	0	0
10:30	2.5	0	0	0
11:00	3.0	0	0	0
11:30	3.5	0	0	0
12:00	4.0	0	0	0
12:30	4.5	0	0	0
13:00	5.0	0	0	0
13:30	5.5	0	0	0
14:00	6.0	0	0	0
14:30	6.5	0	0	0
15:00	7.0	0	0	0
15:30	7.5	0	0	0
16:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		6.16	5.00	4.81
12:00	4 hours	6.58	5.00	4.80
16:00	8 hours	6.08	4.96	4.77
Maximum Change:		0.50	0.04	0.04



Explanation:

⊗ Location of Waterlable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

Crandall

C 010973

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 06048

2. Page 1 of 1

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone ((803) 808-2043)

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	1980	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Food Chief (SCDHEC 10054A) 85 GAL
Service Call ID: GLB0106048
Bay Creek (SCDHEC 18662) 125 gal. Bay Creek (18662) 100 gal.
Breakers #1 (SCDHEC 12898) 180 gal. Bay Creek (SCDHEC 18662) 75 gal
Bay Creek (SCDHEC 18662) 100 gal. Corner Pantry (13607868) 125 gal
Shelton Food Store (SCDHEC 00877) 150 gal
Shelton Food Store (SCDHEC 00877) 250 gal
Cousars Supreme (SCDHEC 08897) 60 gal Constant (08897) 110 gal
Cousars (SCDHEC 08897) 110 gal. Blowns Brothers 110 gal
Emergency Response: Infotrac - 800-535-5053
McConnells Corner Mart (SCDHEC 09390) 8 GAL
Burnetts Cleaners (SCDHEC 01570K1) 35 gal (SCDHEC 47145) 45 gal
Greens Amoco (SCDHEC 11543) 100 gal.
Caller must ID Crandall as registrant
Glover's Service station (SCDHEC 02994) Friendly marks (SCDHEC 11543) 100 gal.

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
No Signature Available				

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	Troy Backman	05	07	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

INVOICE COPY

Midlands
Environmental
Consultants, Inc.

May 7, 2007

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

RECEIVED
MAY 0 8 2007
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #29241
MECI Project Number 07-1216B

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on April 25, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted continuously for eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.20 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 1.29 pounds or approximately 0.22 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.16 pounds per hour. Concentrations of off gas produced during the event were recorded from 29.6 parts per million by volume (PPM) to 697 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 11.0 to 21.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2B. Monitoring well locations are depicted on attached Figure 1.

A total of 125 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

RECEIVED
MAY 0 8 2007
UNDERGROUND STORAGE TANK PROGRAM

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1216B
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	04/25/07	9:00	0.50	21.0	279	780	70.20	0.24	0.12
	04/25/07	9:30	0.50	20.0	350	850	76.50	0.32	0.16
	04/25/07	10:00	0.50	20.0	697	840	75.60	0.63	0.32
	04/25/07	10:30	0.50	12.0	115	1740	156.60	0.22	0.11
	04/25/07	11:00	0.50	12.0	84.4	1790	161.10	0.16	0.08
	04/25/07	11:30	0.50	12.0	48.1	1760	158.40	0.09	0.05
	04/25/07	12:00	0.50	11.0	52.2	1830	164.70	0.10	0.05
	04/25/07	12:30	0.50	11.0	76.5	1870	168.30	0.15	0.08
	04/25/07	13:00	0.50	11.0	39.8	1860	167.40	0.08	0.04
	04/25/07	13:30	0.50	11.0	50.1	1890	170.10	0.10	0.05
	04/25/07	14:00	0.50	11.0	31.2	1820	163.80	0.06	0.03
	04/25/07	14:30	0.50	11.0	43.3	1830	164.70	0.09	0.04
	04/25/07	15:00	0.50	11.0	36.2	1820	163.80	0.07	0.04
	04/25/07	15:30	0.50	11.0	41	1820	163.80	0.08	0.04
	04/25/07	16:00	0.50	11.0	29.6	1850	166.50	0.06	0.03
	04/25/07	16:30	0.50	11.0	33.4	1820	163.80	0.07	0.03
	04/25/07	17:00	0.50	11.0	31.9	1820	163.80	0.06	0.03
									TOTAL 1.29

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	7.20	7.00	0.20	***	6.44	***	-0.39

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	7.50
Truck Operator:	R. Johnson		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18 =			6.83

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	1.29	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.22	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	125	Gallons

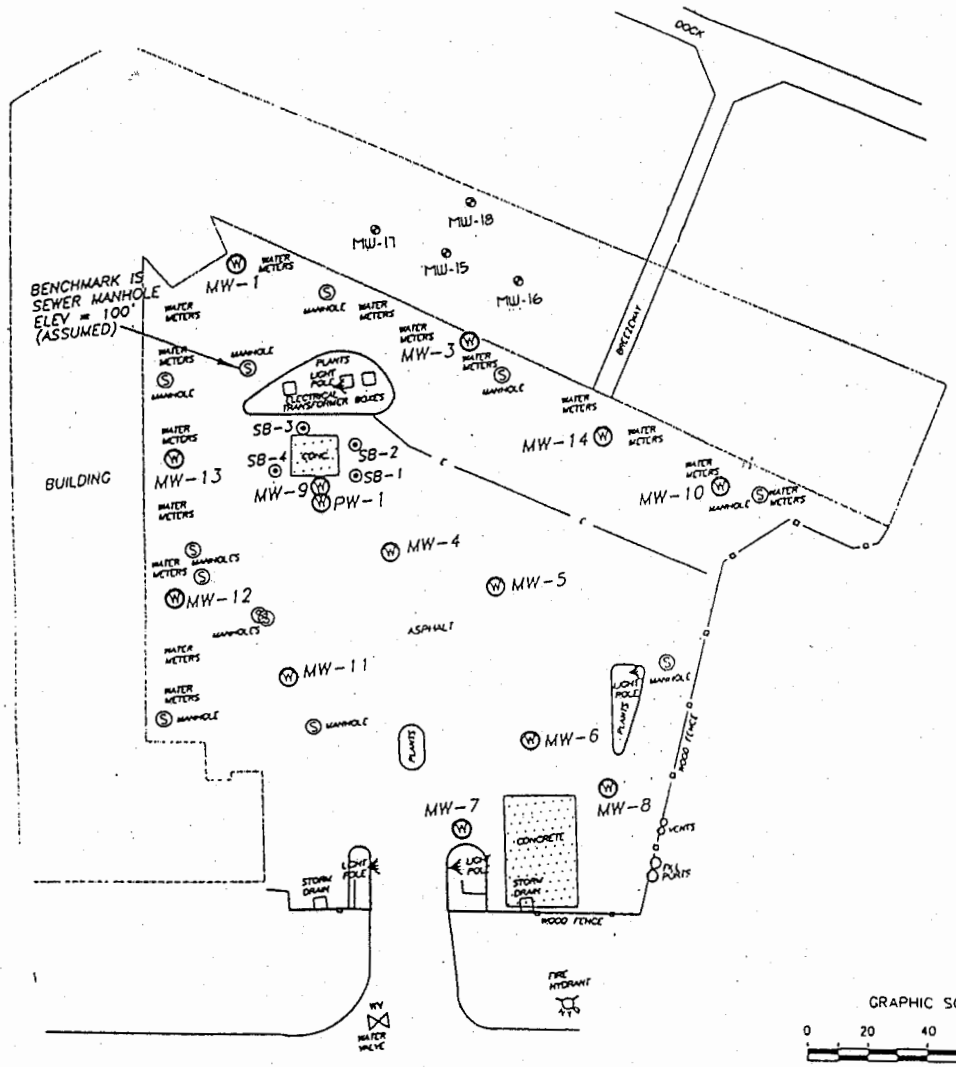
TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 07-1216B
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
9:00	0.0	0	0	0
9:30	0.5	0	0	0
10:00	1.0	0	0	0
10:30	1.5	0	0	0
11:00	2.0	0	0	0
11:30	2.5	0	0	0
12:00	3.0	0	0	0
12:30	3.5	0	0	0
13:00	4.0	0	0	0
13:30	4.5	0	0	0
14:00	5.0	0	0	0
14:30	5.5	0	0	0
15:00	6.0	0	0	0
15:30	6.5	0	0	0
16:00	7.0	0	0	0
16:30	7.5	0	0	0
17:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		43 ft	19 ft	32 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		6.10	4.97	4.78
13:00	4 hours	6.65	4.97	4.78
17:00	8 hours	6.41	4.95	4.75
Maximum Change:		-0.55	0.02	0.03



Explanation:

⊗ Location of Waterlable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

C 010973

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 06048	2. Page 1 of 1

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone ((803) 808-2043)

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	1980	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Food Chief (SCDHEC 10054A) 85 GAL
Service Call ID: GLB0106048
Bay Creek (SCDHEC 18662) 125 gal. Bay Creek (18662) 100 gal.
Breakers #1 (SCDHEC 12898) 180 gal. Bay Creek (SCDHEC 18662) 75 gal
Bay Creek (SCDHEC 18662) 100 gal. Corner Pantry (13607868) 25 gal
Sheiton Food Store (SCDHEC 00877) 150 gal. Cousars Supreme (SCDHEC 08897) 60 gal. Constant (08897)
Sheiton Food Store (SCDHEC 00877) 250 gal. Cousars (SCDHEC 08897) 110 gal. Browns Brothers 110 gal
Emergency Response: Infotrac - 800-535-5053
McConnells Corner Mart (SCDHEC 09390) 60 GAL Burnetts Cleaners (SCDHEC 01572K) 35 gal (SCDHEC 47145) 45 gal
Caller must ID Crandall as registrant
Greens Amoco (SCDHEC 11543) 100 gal.
Glover's Service station (SCDHEC 02994) Friendly marks (SCDHEC 11543) 100 gal.

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
No Signature Available				

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	[signature]	05	07	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

INVOICE COPY

Midlands
Environmental
Consultants, Inc.

April 3, 2007

RECEIVED
APR 10 2007
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #28636
MECI Project Number 07-1139F

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 30, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted continuously for a total of eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.30 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 15.08 pounds or approximately 2.60 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.89 pounds per hour. Concentrations of off gas produced during the event were recorded from 475 parts per million by volume (PPM) to 1,523 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 12.0 to 14.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1F.

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2F. Monitoring well locations are depicted on attached Figure 1.

A total of 180 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Benjamin R. Sease
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1F
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139F
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	03/30/07	10:30	0.50	14.0	1,066	1660	149.40	1.91	0.96
	03/30/07	11:00	0.50	13.0	1,275	1710	153.90	2.35	1.18
	03/30/07	11:30	0.50	13.0	1,340	1790	161.10	2.59	1.30
	03/30/07	12:00	0.50	13.0	1,523	1800	162.00	2.96	1.48
	03/30/07	12:30	0.50	12.0	1,281	1950	175.50	2.70	1.35
	03/30/07	13:00	0.50	12.0	914	1920	172.80	1.90	0.95
	03/30/07	13:30	0.50	12.0	853	1940	174.60	1.79	0.89
	03/30/07	14:00	0.50	12.0	807	1940	174.60	1.69	0.85
	03/30/07	14:30	0.50	12.0	748	1930	173.70	1.56	0.78
	03/30/07	15:00	0.50	12.0	764	1930	173.70	1.59	0.80
	03/30/07	15:30	0.50	12.0	736	1930	173.70	1.53	0.77
	03/30/07	16:00	0.50	12.0	702	1920	172.80	1.46	0.73
	03/30/07	16:30	0.50	12.0	665	1930	173.70	1.39	0.69
	03/30/07	17:00	0.50	12.0	627	1940	174.60	1.31	0.66
	03/30/07	17:30	0.50	12.0	590	1930	173.70	1.23	0.61
	03/30/07	18:00	0.50	12.0	578	1930	173.70	1.20	0.60
	03/30/07	18:30	0.50	12.0	475	1940	174.60	1.00	0.50
									TOTAL 15.08

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Total Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-18	2"	10	5.85	6.15	0.30	***	7.10	***	1.21

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	7.00
Truck Operator:	B.Sease		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18 =			5.90

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	15.08	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	2.60	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	180	Gallons

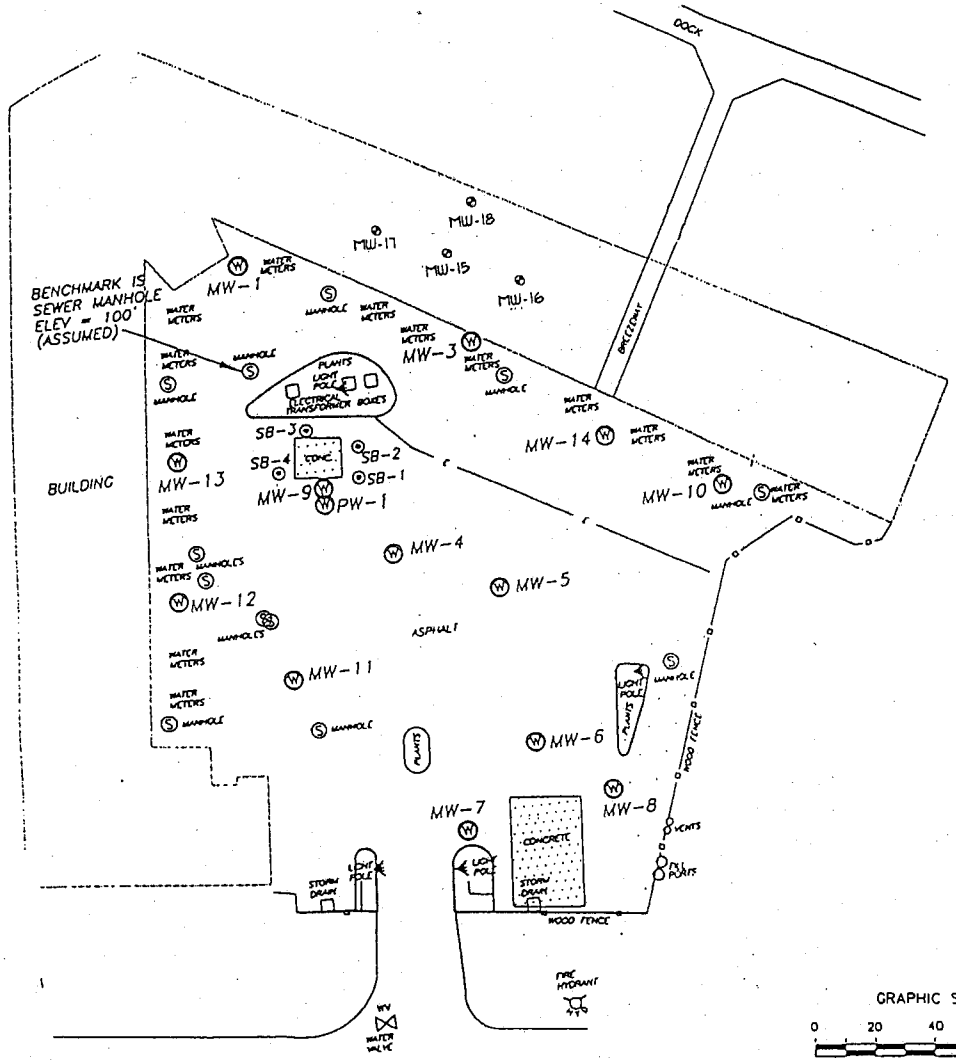
TABLE 2F
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139F
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.73	5.66	4.66
14:30	4 hours	4.75	7.05	4.64
18:30	8 hours	4.73	5.81	4.62
Maximum Change:		-0.02	-1.39	0.04



Explanation:

⊗ Location of Waterlable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

C 009753

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 04393

2. Page 1 of 1

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29072

4. Generator's Phone (803) 808-2042

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981854499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981854499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	2300	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
Newberry Maint (06456)
Service Call ID: GLB0104393
Reids Package store (11669) 40 gal.
Bay Creek (18662) 180 gal.
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant
Charles Run Water System (01496) 205 gal
United Oil #144 (SCDHEC Site ID# 13137) 550 gal
Landys Auto parts (SCDHEC Site ID #11671) 310 gal.
Bay Creek (SCDHEC Site ID #18662) 235 gal.
Save a Ton 84 (SCDHEC Site ID #03539) 130 gal.
Selma Convience (SCDHEC ID # 10844) 185 gal.
Waldensian Bakeries (SCDHEC ID # 08071) 2000
Prince Oil Co. Inc (SCDHEC ID # 00015) 0 gal.
York County Det Cent. (SCDHEC ID # 09152) 70 gal.
Greens Pharmacy (SCDHEC ID # 11543) 180 gal.

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: No Signature Available | Signature | Month | Day | Year

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Troy Backman | Signature: Troy Backman | Month 04 | Day 02 | Year 07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name | Signature | Month | Day | Year

GENERATOR — TRANSPORTER — FACILITY

INVOICE COPY

Midlands
Environmental
Consultants, Inc.

March 16, 2007

RECEIVED
MAR 26 2007
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #28636
MECI Project Number 07-1139D

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 8, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted continuously for a total of eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.23 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 25.82 pounds or approximately 4.46 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 3.04 pounds per hour. Concentrations of off gas produced during the event were recorded from 1,007 parts per million by volume (PPM) to 3,336 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 15.0 to 20.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1D.

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2D. Monitoring well locations are depicted on attached Figure 1.

A total of 210 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139D
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	03/08/07	12:30	0.50	20.0	2,576	980	88.20	2.73	1.36
	03/08/07	13:00	0.50	20.0	2,680	1100	99.00	3.18	1.59
	03/08/07	13:30	0.50	18.0	3,336	1260	113.40	4.54	2.27
	03/08/07	14:00	0.50	15.0	2,519	1670	150.30	4.54	2.27
	03/08/07	14:30	0.50	15.0	1,885	1700	153.00	3.46	1.73
	03/08/07	15:00	0.50	15.0	1,880	1710	153.90	3.47	1.74
	03/08/07	15:30	0.50	15.0	1,859	1740	156.60	3.49	1.75
	03/08/07	16:00	0.50	15.0	1,784	1710	153.90	3.29	1.65
	03/08/07	16:30	0.50	15.0	1,712	1720	154.80	3.18	1.59
	03/08/07	17:00	0.50	15.0	1,652	1720	154.80	3.07	1.53
	03/08/07	17:30	0.50	15.0	1,480	1700	153.00	2.72	1.36
	03/08/07	18:00	0.50	15.0	1,554	1710	153.90	2.87	1.43
	03/08/07	18:30	0.50	15.0	1,557	1740	156.60	2.93	1.46
	03/08/07	19:00	0.50	15.0	1,170	1700	153.00	2.15	1.07
	03/08/07	19:30	0.50	15.0	1,007	1720	154.80	1.87	0.94
	03/08/07	20:00	0.50	15.0	1,124	1710	153.90	2.08	1.04
	03/08/07	20:30	0.50	15.0	1,164	1650	148.50	2.07	1.04
									TOTAL 25.82

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Total Depth (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-18	2"	10	5.92	6.15	0.23	***	7.10	***	1.15

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	6.60
Truck Operator:	B. Sease		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18 =			5.95

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	25.82	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	4.46	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	210	Gallons

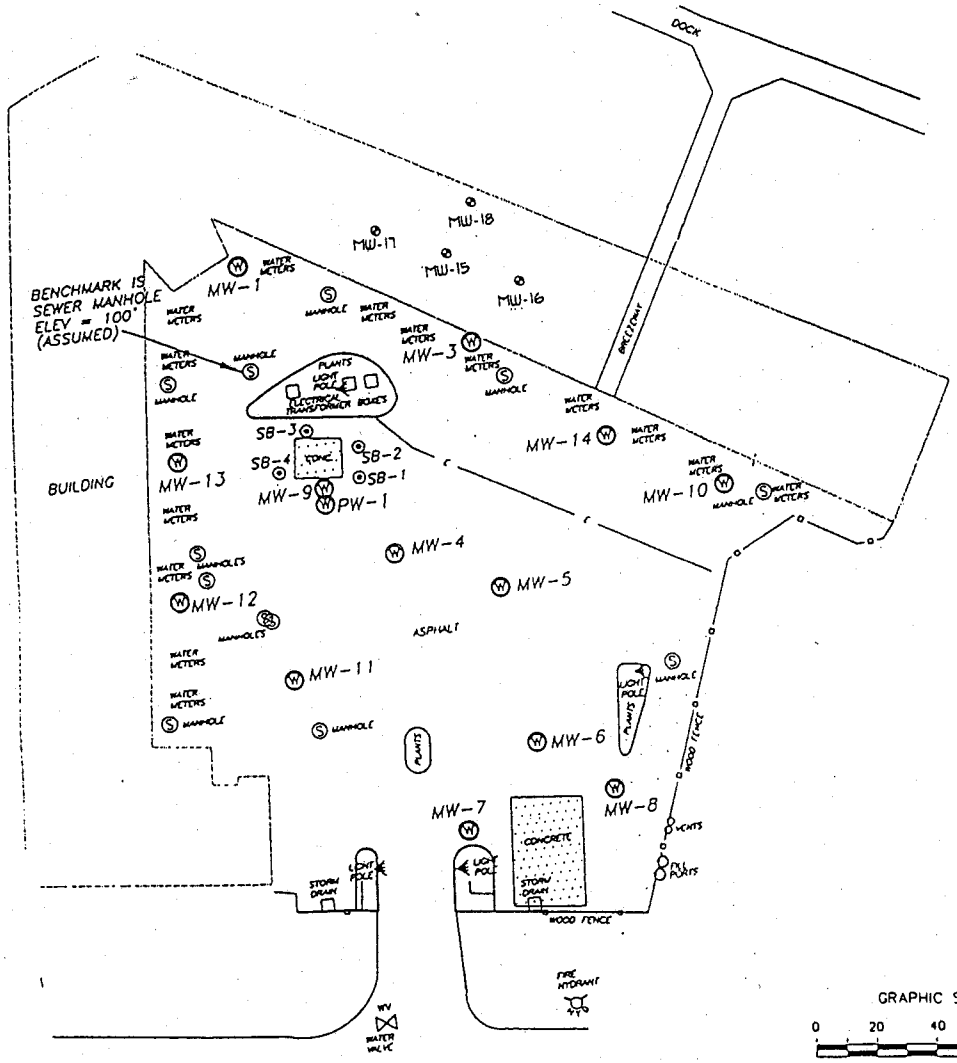
TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139D
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
12:30	0.0	0	0	0
13:00	0.5	0	0	0
13:30	1.0	0	0	0
14:00	1.5	0	0	0
14:30	2.0	0	0	0
15:00	2.5	0	0	0
15:30	3.0	0	0	0
16:00	3.5	0	0	0
16:30	4.0	0	0	0
17:00	4.5	0	0	0
17:30	5.0	0	0	0
18:00	5.5	0	0	0
18:30	6.0	0	0	0
19:00	6.5	0	0	0
19:30	7.0	0	0	0
20:00	7.5	0	0	0
20:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.64	5.79	4.53
16:30	4 hours	4.68	7.15	4.51
20:30	8 hours	4.68	6.55	4.54
Maximum Change:		-0.04	-0.76	-0.03



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

C 113278

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 03736

2. Page 1 of 1

3. Generator's Name and Mailing Address
Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone (803) 808-2043

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Contoiners No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	0.01	TT	1975	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0103726
Pelzer Gas Mart (00480) 205 gal
Country Sidr 2 (06742) 105 gal
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

North Main Gulf (11340) 85 gal, Former Ford Specielist (00487) 80 gal
Burnetts Cleaners (15724) 275 gal Friendly Marks (11693) 5 gal
York County Det. (09152) 25 gal Pitt Stop #23 (07837) 155 gal
Bay Creek Villas (18662) 210 Rockland Parking lot (15476) 170 gal
Beaverdam Groc. (180 gal) Rogers Auto Parts 35 gal
United Oil #144 (13137) 275 gal Former Cracker Box (18287) 40

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: No ONE | Signature: AVAL. | Month 03 | Day 19 | Year 07

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Austin Smith | Signature | Month 03 | Day 19 | Year 07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month | Day | Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name: Chris Manuel | Signature | Month 03 | Day 20 | Year 07

GENERATOR COPY

Midlands
Environmental
Consultants, Inc.

March 30, 2007

RECEIVED
APR 04 2007
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #28636
MECI Project Number 07-1139E

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on March 21, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted continuously for a total of eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.14 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 13.78 pounds or approximately 2.38 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.62 pounds per hour. Concentrations of off gas produced during the event were recorded from 98.3 parts per million by volume (PPM) to 2,062 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 16.0 to 22.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1E.

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2E. Monitoring well locations are depicted on attached Figure 1.

A total of 235 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Paul Wojoski BG

Paul A. Wojoski
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

RECEIVED
APR 0 4 2007
UNDERGROUND STORAGE TANK PROGRAM

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139E
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	03/21/07	10:30	0.50	19.0	482	1180	106.20	0.61	0.31
	03/21/07	11:00	0.50	16.0	512	1560	140.40	0.86	0.43
	03/21/07	11:30	0.50	17.0	98.3	1400	126.00	0.15	0.07
	03/21/07	12:00	0.50	22.0	1,456	630	56.70	0.99	0.50
	03/21/07	12:30	0.50	20.0	1,892	980	88.20	2.00	1.00
	03/21/07	13:00	0.50	20.0	1,780	960	86.40	1.85	0.92
	03/21/07	13:30	0.50	20.0	1,883	930	83.70	1.89	0.95
	03/21/07	14:00	0.50	20.0	1,812	960	86.40	1.88	0.94
	03/21/07	14:30	0.50	20.0	1,854	960	86.40	1.92	0.96
	03/21/07	15:00	0.50	20.0	1,861	960	86.40	1.93	0.96
	03/21/07	15:30	0.50	20.0	1,891	920	82.80	1.88	0.94
	03/21/07	16:00	0.50	20.0	1,854	960	86.40	1.92	0.96
	03/21/07	16:30	0.50	20.0	1,768	960	86.40	1.83	0.92
	03/21/07	17:00	0.50	20.0	1,945	900	81.00	1.89	0.95
	03/21/07	17:30	0.50	20.0	2,062	940	84.60	2.09	1.05
	03/21/07	18:00	0.50	20.0	1,936	900	81.00	1.88	0.94
	03/21/07	18:30	0.50	20.0	1,981	920	82.80	1.97	0.98
									TOTAL
									13.78

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	3.78	3.92	0.14	***	7.29	***	3.49

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	3.00
Truck Operator:	B. Sease		
Stack I.D. (feet)	0.33 feet		

Corrected depth to water before AFVR Event in MW-18 = 3.80

Recovery / Disposal Information

Hydro carbons Removed (vapor):	13.78	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	2.38	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	235	Gallons

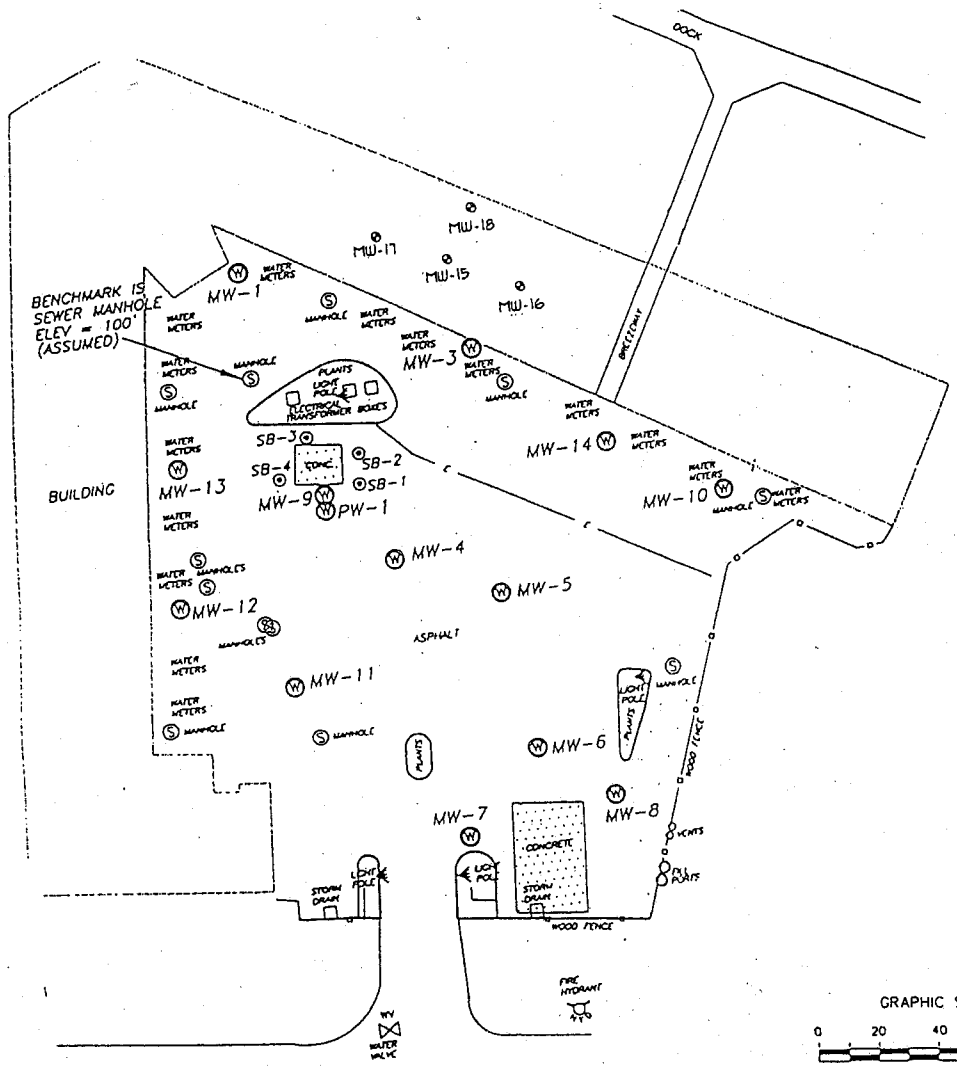
TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139E
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.82	5.80	4.72
14:30	4 hours	4.81	6.36	4.70
18:30	8 hours	4.86	8.17	4.71
Maximum Change:		-0.04	-2.37	-0.01



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

C 009753

Crandall

NON-HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Document No. 04393	2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073
(803) 808-2043

4. Generator's Phone ( )

5. Transporter 1 Company Name	6. US EPA ID Number	A. Transporter's Phone
Crandall Corporation	SCD981864499	(803) 791-4800
7. Transporter 2 Company Name	8. US EPA ID Number	B. Transporter's Phone
9. Designated Facility Name and Site Address	10. US EPA ID Number	C. Facility's Phone
Crandall Corporation 100 Rich-Lex Drive Lexington, SC 29072	SCD981864499	(803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	2300	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above	E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Newberry Maint (06456)
Service Call ID: GLB0104393
Reids Package Store (11669) 40 gal.
Bay Creek (18662) 180 gal.
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant
Charleston Water System (01496) 205 gal
United Oil #144 (SCDHEC site ID# 13137) 550 gal
Landys Auto parts (SCDHEC site ID #11671) 310 gal.
Bay Creek (SCDHEC site ID# 18662) 235 gal.
Save a Ton 84 (SCDHEC site ID #03539) 130 gal.
Selma Convience (SCDHEC ID# 16844) 185 gal.
Waldensian Bakeries (SCDHEC ID #08071) 200 g
Prince Oil Co. Inc (SCDHEC ID # 09945) 0 gal.
York County Det Cent. (SCDHEC ID #09152) 70 gal.
Greens Amaco (SCDHEC ID# 11543) 180 gal.

TRANSPORTER

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
No Signature Available				

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	Troy Backman	04	02	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

INVOICE COPY

Midlands
Environmental
Consultants, Inc.

March 6, 2007

RECEIVED
MAR 0 6 2007
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #28636
MECI Project Number 07-1139C

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on February 27, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted continuously for a total of eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 1.43 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 21.77 pounds or approximately 3.76 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 2.72 pounds per hour. Concentrations of off gas produced during the event were recorded from 1,259 parts per million by volume (PPM) to 2,764 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 20.0 to 21.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1C.

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2C. Monitoring well locations are depicted on attached Figure 1.

A total of 200 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1C
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139C
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	02/27/07	21:00	0.50	21.0	1,259	850	76.50	1.16	0.58
	02/27/07	21:30	0.50	20.0	1,965	900	81.00	1.91	0.95
	02/27/07	22:00	0.50	20.0	2,118	950	85.50	2.17	1.09
	02/27/07	22:30	0.50	20.0	2,638	950	85.50	2.71	1.35
	02/27/07	23:00	0.50	20.0	2,513	920	82.80	2.50	1.25
	02/27/07	23:30	0.50	20.0	2,764	980	88.20	2.93	1.46
	02/27/07	0:00	0.50	20.0	2,753	980	88.20	2.91	1.46
	02/27/07	0:30	0.50	20.0	2,764	970	87.30	2.90	1.45
	02/27/07	1:00	0.50	20.0	2,753	970	87.30	2.88	1.44
	02/27/07	1:30	0.50	20.0	2,722	980	88.20	2.88	1.44
	02/27/07	2:00	0.50	20.0	2,717	980	88.20	2.88	1.44
	02/27/07	2:30	0.50	20.0	2,636	970	87.30	2.76	1.38
	02/27/07	3:00	0.50	20.0	2,512	980	88.20	2.66	1.33
	02/27/07	3:30	0.50	20.0	2,498	970	87.30	2.62	1.31
	02/27/07	4:00	0.50	20.0	2,483	980	88.20	2.63	1.31
	02/27/07	4:30	0.50	20.0	2,465	970	87.30	2.58	1.29
	02/27/07	5:00	0.50	20.0	2,334	980	88.20	2.47	1.24
									TOTAL 21.77

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	5.58	7.01	1.43	***	5.71	***	-0.08

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	5.60
Truck Operator:	B. Guiles		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18 =			5.79

Recovery / Disposal Information

Hydro carbons Removed (vapor):	21.77	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	3.76	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	200	Gallons

TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139C
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
21:00	0.0	0	0	0
21:30	0.5	0	0	0
22:00	1.0	0	0	0
22:30	1.5	0	0	0
23:00	2.0	0	0	0
23:30	2.5	0	0	0
0:00	3.0	0	0	0
0:30	3.5	0	0	0
1:00	4.0	0	0	0
1:30	4.5	0	0	0
2:00	5.0	0	0	0
2:30	5.5	0	0	0
3:00	6.0	0	0	0
3:30	6.5	0	0	0
4:00	7.0	0	0	0
4:30	7.5	0	0	0
5:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.76	6.36	4.64
1:00	4 hours	4.78	7.37	4.63
5:00	8 hours	4.79	5.25	4.66
Maximum Change:		-0.03	2.12	-0.03

C 119593

Crandall

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: . . . . . .
Manifest Document No.: .02321.
2. Page 1 of 1

3. Generator's Name and Mailing Address: Midlands Environmental
1144 Old Two Notch
Lexington, SC 29072
4. Generator's Phone ((803)) 808-2043

5. Transporter 1 Company Name: Crandall Corporation
6. US EPA ID Number: SCD981864499
A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name:
8. US EPA ID Number:
B. Transporter's Phone:

9. Designated Facility Name and Site Address:
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072
10. US EPA ID Number: SCD981864499
C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	~~004~~	TT	Est ~~10000~~	G
b.	001	TT	0.627	G
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0102321

Selma Convenience (SCDHEC #16844 / 190 gal)
SAV-A-TON (SCDHEC # 03539 / 60 gal)
Newberry Maintenance - Event A (SCDHEC #06456 / 130 gal)
Bay Creek Villas - Event C (SCDHEC # 18662 / 200 gal)

Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant Newberry Maintenance - Event B (SCDHEC # 06456 / 40 gal)

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: No Signature Available
Signature:
Month 03 Day 02 Year 07

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Troy Backman
Signature:
Month 03 Day 02 Year 07

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month . Day . Year .

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.
Printed/Typed Name: Chris Manuel
Signature:
Month 03 Day 05 Year 07

GENERATOR
TRANSPORTER
FACILITY

ORIGINAL TO OFFICE

Midlands
Environmental
Consultants, Inc.

February 21, 2007

FEB 22 2007

UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #28636
MECI Project Number 07-1139A

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on February 6, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted for eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.66 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 6.13 pounds or approximately 1.06 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.77 pounds per hour. Concentrations of off gas produced during the event were recorded from 72.1 parts per million by volume (PPM) to 1,611 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 15.0 to 18.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

Post Office Box 854, Lexington SC 29071 • 1144 Old Two Notch Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A. Monitoring well locations are depicted on attached Figure 1.

A total of 85 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Brandon T. Guiles
Staff Biologist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139A
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	02/06/07	22:30	0.50	15.0	1,611	1710	153.90	2.98	1.49
	02/06/07	23:00	0.50	15.0	921	1700	153.00	1.69	0.85
	02/06/07	23:30	0.50	15.0	608	1680	151.20	1.10	0.55
	02/06/07	0:00	0.50	15.0	374	1700	153.00	0.69	0.34
	02/06/07	0:30	0.50	15.0	235	1690	152.10	0.43	0.21
	02/06/07	1:00	0.50	18.0	433	1200	108.00	0.56	0.28
	02/06/07	1:30	0.50	18.0	110	1180	106.20	0.14	0.07
	02/06/07	2:00	0.50	18.0	72.1	1220	109.80	0.09	0.05
	02/06/07	2:30	0.50	18.0	63.9	1280	115.20	0.09	0.04
	02/06/07	3:00	0.50	18.0	85.4	1260	113.40	0.12	0.06
	02/06/07	3:30	0.50	18.0	117	1270	114.30	0.16	0.08
	02/06/07	4:00	0.50	18.0	242	1280	115.20	0.33	0.17
	02/06/07	4:30	0.50	18.0	327	1280	115.20	0.45	0.23
	02/06/07	5:00	0.50	18.0	469	1250	112.50	0.63	0.32
	02/06/07	5:30	0.50	18.0	514	1300	117.00	0.72	0.36
	02/06/07	6:00	0.50	18.0	607	1280	115.20	0.84	0.42
	02/06/07	6:30	0.50	18.0	874	1300	117.00	1.23	0.61
									TOTAL 6.13

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	5.81	6.47	0.66	***	7.20	***	1.29

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	5.83
Truck Operator:	B. Guiles		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18 =			5.91

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	6.13	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.06	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	85	Gallons

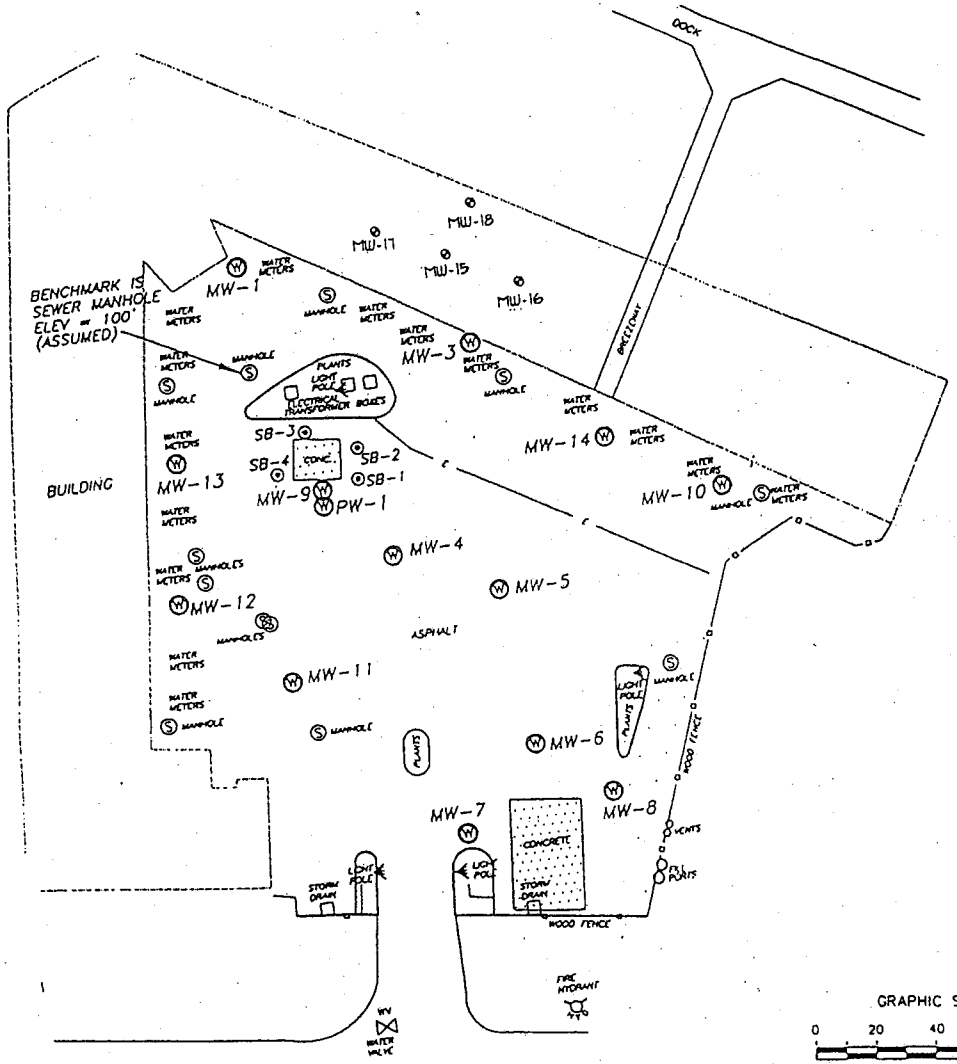
TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139A
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
22:30	0.0	0	0	0
23:00	0.5	0	0	0
23:30	1.0	0	0	0
0:00	1.5	0	0	0
0:30	2.0	0	0	0
1:00	2.5	0	0	0
1:30	3.0	0	0	0
2:00	3.5	0	0	0
2:30	4.0	0	0	0
3:00	4.5	0	0	0
3:30	5.0	0	0	0
4:00	5.5	0	0	0
4:30	6.0	0	0	0
5:00	6.5	0	0	0
5:30	7.0	0	0	0
6:00	7.5	0	0	0
6:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.37	5.69	4.18
14:30	4 hours	4.39	6.38	4.18
18:30	8 hours	4.43	7.57	4.18
Maximum Change:		-0.06	-1.88	0.00



Explanation:

⊗ Location of Watertable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 06-834
DATE April 5, 2006
FIGURE 1

Crandall

115915

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 02702

2. Page 1 of 1

3. Generator's Name and Mailing Address
Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone ((803) 808-2043)

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	2786	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Cades for Wastes Listed Above

15. Special Handling Instructions and Additional Information
KMO 116 (130gal) Cooleys Grocery (115gal) FNR Smith Gulf (20gal) Master Shell (18gal) Whitaker property (90gal) Country Side 2 (125gal) Lugoff baits tackle (135gal) Bay Creek Villas (85gal) Pickens R. Way (105gal) Luckys Corner Mart (200gal) A&B Groc. (280gal) Durham's Grocery (200gal) Pit Stop (105gal) Whitaker Prop (50gal) Hersman's Warehouse (23gal) Weathers service Station (125gal) Bay Creek Villa (185gal) Avants Auto (225gal) Neighborhood Groc (125gal) Horton's (225gal) Lowe's Groc (140gal)

Service Call ID: GLB0102702
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
[signature]		02	21	07

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
TROY BACKMAN	Troy Backman	02	21	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

INVOICE COPY

Midlands
Environmental
Consultants, Inc.

February 21, 2007

RECEIVED
FEB 22 2007
UNDERGROUND STORAGE
TANK PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID # 18662; CA #28636
MECI Project Number 07-1139B

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on February 16, 2007. The event was conducted on monitoring well MW-18 to remove free phase petroleum product. The event was conducted for eight hours. Free phase petroleum product was detected in monitoring well MW-18 at a thickness of 0.41 feet prior to the AFVR event. The event was conducted by MECI personnel utilizing a MECI vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 28.45 pounds or approximately 4.92 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 3.56 pounds per hour. Concentrations of off gas produced during the event were recorded from 942 parts per million by volume (PPM) to 2,925 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 13.0 to 14.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

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Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2B. Monitoring well locations are depicted on attached Figure 1.

A total of 185 gallons of liquid was removed from MW-18 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Staff Scientist

William C. McClary P.G.
Senior Geologist

Attachments:

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139B
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	02/16/07	11:00	0.50	14.0	2,925	1700	153.00	5.37	2.69
	02/16/07	11:30	0.50	14.0	2,353	1670	150.30	4.24	2.12
	02/16/07	12:00	0.50	14.0	2,368	1700	153.00	4.35	2.17
	02/16/07	12:30	0.50	14.0	2,350	1740	156.60	4.42	2.21
	02/16/07	13:00	0.50	14.0	2,228	1760	158.40	4.23	2.12
	02/16/07	13:30	0.50	13.0	2,051	1850	166.50	4.10	2.05
	02/16/07	14:00	0.50	13.0	1,664	1900	171.00	3.41	1.71
	02/16/07	14:30	0.50	13.0	1,643	1870	168.30	3.32	1.66
	02/16/07	15:00	0.50	13.0	1,560	1860	167.40	3.13	1.57
	02/16/07	15:30	0.50	13.0	1,468	1850	166.50	2.93	1.47
	02/16/07	16:00	0.50	13.0	1,405	1840	165.60	2.79	1.40
	02/16/07	16:30	0.50	13.0	1,465	1880	169.20	2.97	1.49
	02/16/07	17:00	0.50	13.0	1,311	1890	170.10	2.68	1.34
	02/16/07	17:30	0.50	13.0	1,240	1830	164.70	2.45	1.23
	02/16/07	18:00	0.50	13.0	1,186	1820	163.80	2.33	1.17
	02/16/07	18:30	0.50	13.0	1,100	1860	167.40	2.21	1.10
	02/16/07	19:00	0.50	13.0	942	1930	173.70	1.96	0.98
									TOTAL **28.45**

Well Data: Well No.	Diameter (in)	Total Depth (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	10	6.19	6.60	0.41	***	6.90	***	0.65

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	7.50
Truck Operator:	B. Sease		
Stack I.D. (feet)	0.33 feet		
Corrected depth to water before AFVR Event in MW-18 =			6.25

Recovery / Disposal Information

Hydro carbons Removed (vapor):	28.45	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	4.92	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	185	Gallons

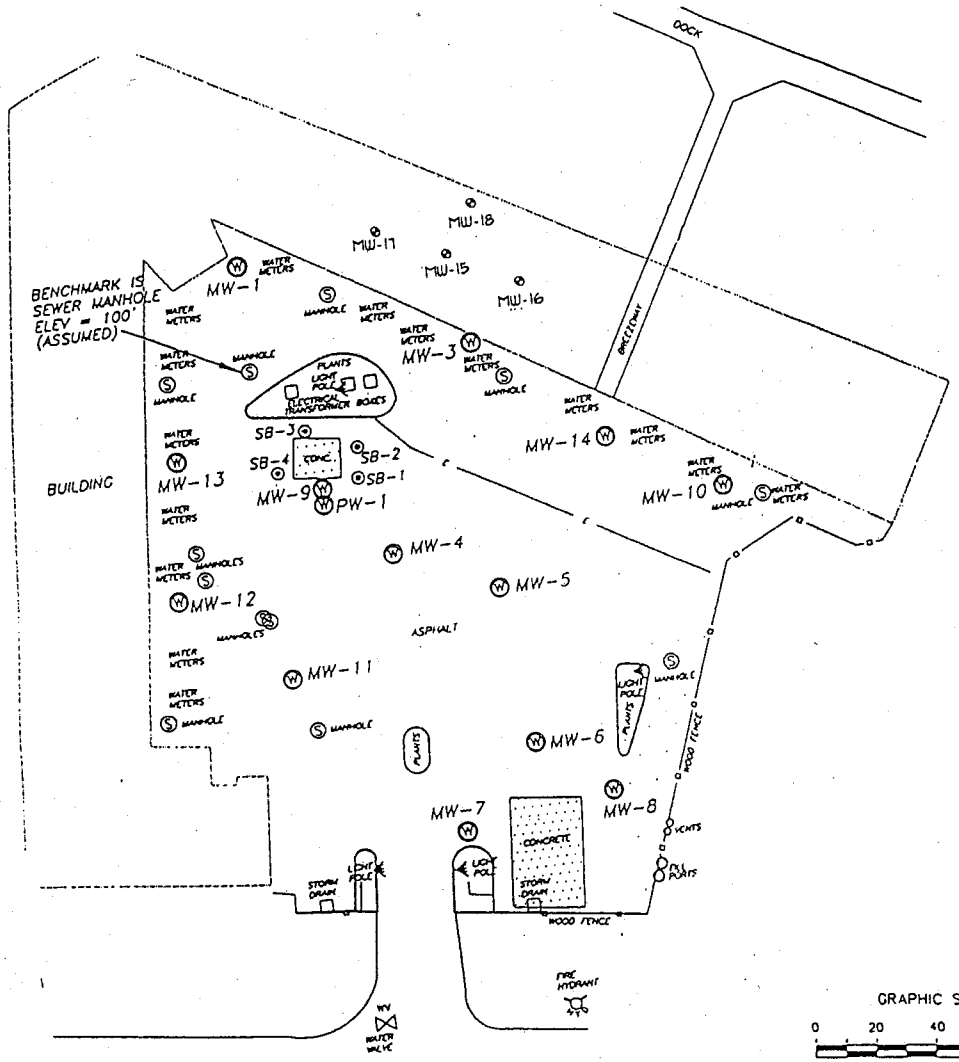
TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SC
MECI PROJECT NUMBER 07-1139B
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:00	0.0	0	0	0
11:30	0.5	0	0	0
12:00	1.0	0	0	0
12:30	1.5	0	0	0
13:00	2.0	0	0	0
13:30	2.5	0	0	0
14:00	3.0	0	0	0
14:30	3.5	0	0	0
15:00	4.0	0	0	0
15:30	4.5	0	0	0
16:00	5.0	0	0	0
16:30	5.5	0	0	0
17:00	6.0	0	0	0
17:30	6.5	0	0	0
18:00	7.0	0	0	0
18:30	7.5	0	0	0
19:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-17**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		13 ft	20 ft	21 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.45	4.59	6.00
15:00	4 hours	4.45	4.62	7.16
19:00	8 hours	4.49	4.62	6.61
Maximum Change:		-0.04	-0.03	-1.16



Explanation:

⊗ Location of Waterlable Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes and SCDHEC Files.

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	06-834
DATE	April 5, 2006
FIGURE	1

C 119913

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 02702

2. Page 1 of 1

3. Generator's Name and Mailing Address Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone ((803) 808-2043)

5. Transporter 1 Company Name: Crandall Corporation

6. US EPA ID Number: SCD981864499

A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072

10. US EPA ID Number: SCD981864499

C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	2786	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information KMD 116 (130gal) Cooleys Grocery (115gal) FNR Smith Gulf (20gal) Master Shell (18gal) Whitaker property (90gal) Country Side 2 (125gal) Lugoff baits tackle (135gal) Bay Creek Villas (85gal) Pickens R. Way (105gal) Luckys Corner Mart (200gal) A&B Groc. (280gal) Durham's Grocery (200gal) Pit Stop (105gal) Whitaker Prop (50gal) Hersman's Warehouse (23gal) Weathers service Station (125gal) Bay Creek Villa (185gal) Avants Auto (225gal) Neighborhood Groc (125gal) Horton's (225gal) Lowes Grove (140gal)

Service Call ID: GLB0102702
Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
[signature]		02	21	07

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
TROY BACKMAN	Troy Backman	02	21	07

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this monifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

INVOICE COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

AUG 11 2011

113 tech
UST DOCKET

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
18662	Bay Creek Villas	Colleton	17-BTEXMN	R. Miner
~~00769~~	Anderson Patrol	Anderson	16-BTEXMN, DCA, EDB, & Oxygenates	R. Miner
06797	Santee State Park	Orangeburg	5-BTEXMN	R. Miner
15670	Colleton County	Colleton	9-BTEXMN	R. Miner
03421	Driggers Station	Florence	1-BTEXMN	M. Rivers
05751	Louie Brown	Lee	12-BTEXMN, DCA, & Oxygenates	D. Thoma
05410	Bucks Grocery	Kershaw	20-BTEXMN	D. Thoma
14902	Doziers Grocery	Georgetown	10-BTEXMN, EDB, & Oxygenates	D. Thoma
00332	Interstate Truck	Allendale	33-BTEXMN, DCA, EDB, & Oxygenates	C. Ridgley
15816	MJ Tadlock Grocery	Chester	32-BTEXMN, DCA, EDB, & Oxygenates	C. Ridgley

* The number of samples does not include trip blanks, field blanks, or field duplicates.

Please contact me with the sampling schedule before commencing work at these facilities. In addition, a weekly update for each site is required to be submitted via e-mail to the site's project manager and myself. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

Enc: Site Information Packets

cc: Technical Files

Midlands Environmental Consultants, Inc.

August 26, 2011

UST
Rec'd
AUG 29 2011
PROGRAM

Ms. Debra Thoma, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

#114
UST
DOCKET

Subject: QAPP Contractor Addendum – Revision 0
Bay Creek Villas
Colleton, South Carolina
SCDHEC Site ID Number 18662, CA # 41943
MECI Project Number 11-3518
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 August 24, 2011, MECI personnel performed a site visit to the subject site to evaluate site conditions, locate monitoring wells and identify potential problems for future sampling activities.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Bay Creek Villas, SCDHEC Site ID# 18662

3701 Dockside Road, Edisto Beach, South Carolina

Prepared by:
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Date: August 26, 2011

Approvals

Read Miner, P.G. SC DHEC Project Manager	Signature	Date 8/30/11
Brendon P. Kelly Contractor QA Manager	Signature	Date 8/26/11
Jeff L. Coleman Site Rehabilitation Contractor	Signature	Date 8/26/11
Michael Woodrum Laboratory Director	Signature	Date 08/24/2011

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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Read Miner, P.G.	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6584	803-896-6245	minerrs@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
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
Courtney M. Sanders	Field Manager	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@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	Read Miner, P.G.	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6584	803-896-6245	minerrs@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	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	Courtney M. Sanders	Midlands Environmental Consultants, Inc. 235-B Dooley Road	803-808-2043	803-808-2048	cms@meci.net

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
		Lexington, SC 29073			
Analytical Laboratory Director	Michael Woodrum	Shealy Environmental Services,Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@shealylab.com
Soil Boring and Monitoring Well Driller					
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

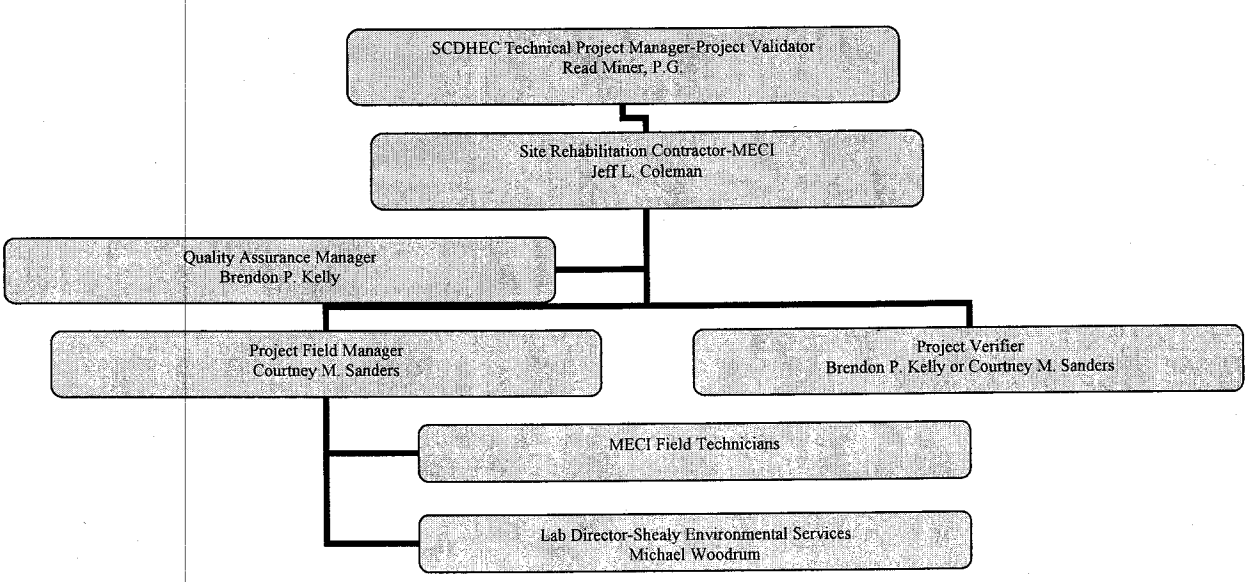


Figure 1A Organizational Chart

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 (Bay Creek Villas) is located at 3701 Dockside Road, Edisto Beach, Colleton County, South Carolina. The subject site previously maintained one 1,000 gallon diesel underground storage tank (UST). This UST was abandoned by filling with concrete in December of 2000. The South Carolina Department of Health and Environmental Control (SCDHEC) reported and confirmed a release of petroleum product from this UST in January of 2000. The subject site is currently rated a Class 2AA.

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 (Bay Creek Villas) 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 3701 Dockside Road, Edisto Beach, Colleton County, South Carolina. The site is currently occupied by a condominium complex.

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
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 (EPA Method 8260-B).

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A9 Documents and Records

Personnel will receive the most current version of the QAPP Addendum via: (Check all that apply)

____US Mail ____Courier __X__ Hand delivered

Other (please specify):_____E-mailed electronic copies___

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Instrument Raw Data	Target, Thermospec, or Iteva software	Hardcopy and Electronic	Hardcopy: Offsite storage for 7 yrs Electronic: Two external storage device backups – one offsite, one onsite storage for 10 yrs	Yes
Final Reports	LIMS	Electronic	Electronic: Two external storage device backups – one offsite, one onsite storage for 10 years	Yes
Field Work	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Chain of Custody	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
QAPP Addendum	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes
Internal QC record	Brendon Kelly	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Sampling Report	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments

Item	Start Date	End Date	Comments
Site Reconnaissance	8/24/11	8/24/11	Already Completed
QAPP preparation	08/26/11	8/26/11	In progress
QAPP approval	8/26/11	9/16/11	Assuming three week turnaround
Monitoring well Sampling	9/17/11	9/24/11	Sampled within 1 week of QAPP approval
Report Preparation	9/24/11	10/16/11	Three weeks to prepare/submit report

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

***Estimate* the number of samples of each matrix that are expected to be collected:**

Soil _____

Ground Water from monitoring wells _____14____

From Drinking/Irrigation water wells _____0____

Field Duplicate Collection _____1____

Field Blank Collection _____1____

Trip Blank _____1____

From surface water features _____0____

Total number of Water samples _____17____

Notes:
During the August 24, 2011 site visit, the fourteen (14) monitoring wells requested to be sampled were located.

During the site visit, it was noted that monitoring wells required a total of **4** bolts to be properly secured.

All samples will be analyzed by Shealy Environmental Services, Inc. for BTEX, Napth, MTBE (8260B).

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 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.

Please see MECI Monitoring Well Sampling SOP for decontamination procedures.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

All samples will be shipped to the lab via courier or overnight shipping company. Please see MECI Monitoring Well Sampling SOP for sample shipping procedures.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Water level indicator not working properly	Attempt to clean probe, change battery, use back-up indicator if need be.	Record on field sheets, notify office staff. Take indicator out of rotation until problem identified and corrected.	Field Staff, Field Manager
Field meters not working	Attempt to clean probes, recalibrate in the field.	Record on field sheets, notify office staff. Take meters out of rotation until problem identified and corrected.	Field Staff, Field Manager
Wells not located	Use metal detector, measure from known points, contact project manager for additional information.	Record method used to attempt to locate the well on field sheets, and possibly reasoning for the well to be missing	Field Staff

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. ***How will the samples get from the Site to the Lab to ensure holding requirements are met?***

Following sample collection, the samples are immediately place in a laboratory provided cooler, pre-filled with wet ice obtained from the MECI office. Samples are transported to the MECI office once a sampling event is complete. A Chain of Custody (CoC) is filled out following the sampling event by the field staff. See attached CoC. If a lab provided courier is scheduled to visit the MECI offices the day following a sampling event, sampling coolers are repacked with wet ice, and left at the office for pick-up the following

morning. If no courier is schedule to visit the MECI office the day following a sampling event, all sampling coolers are repacked with ice and are dropped off at a lab approved shipping company for overnight delivery to the lab.

2. ***How will the contactors cool the samples and keep the samples cool?***

All samples are kept on wet ice, obtained from MECI office.

3. ***How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?***

A calibrated thermometer and temperature blank will be used to document sample temperature. The temperature blank is immediately checked by the sample receiving technician upon arrival at the laboratory.

4. ***Where will the samples be stored in the Lab once they are received?***

All samples are stored in clean refrigeration units monitored and maintained at 4 degrees C + or – 2 degrees. Volatile organic samples are stored separately form all other samples.

5. ***Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.***

A chain of custody (COC) will be filled out for each sampling event at each project site. COC to be signed by MECI and Shealy Environmental technician at time physical transfer of samples occurs to courier. Shealy uses the following COC procedures to protect sample integrity following pickup by their courier: A full time Sample Receiving Technician receives all samples and completes a Sample Receipt Checklist (SRC), which will identify any anomalies, if any exist the Sample Receiving Technician or Project Manager must resolve the deviation internally and/or notify the client to resolve the anomaly

B4 Analytical Methods

1. ***Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:***

Parameter	SOP ID*	Method Referenced	Equipment	Comments
BTEX+Naph+MTBE+Oxygentaes	S-VO-002	8260B	GC/MS	
PAH's	S-SV-021	8270D	GC/MS	
EDB	S-SV-012	8011	GC	
Lead,T.	S-IM-022	6010C	ICP	
Ferrous Iron	S-IN-009	SM 3500-FED	Spectrophotometer	
Nitrate	S-IN-042	353.2	Auto-analyzer/Lachate	
Sulfate	S-IN-010	300.0	Ion Chromatograph	
Methane	S-VO-004	RSK-175	GC	

TOC	S-IN-030	Walkley-Black	N/A	
DRO - TPH	S-SV-001	8015C	GC	
pH	MECI SOP 4.3.6	*	YSI 63	
Conductivity	MECI SOP 4.3.6	*	YSI 63	
Dissolved Oxygen	MECI SOP 4.3.6	*	YSI 550A	
Temperature	MECI SOP 4.3.6	*	YSI 550A	

Table 7A Analytical SOPs and Referenced Methods

- **This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
S-VO-002	S-VO-002	GC/MS VOLATILES ANALYSIS BASED ON EPA METHODS 8260B AND 624 PREPARED BY EPA METHODS 5030B, 5035 AND 3585
S-SV-021	S-SV-021	GC/MS ANALYSIS BASED ON EPA METHOD 8270D PREPARED BY EPA METHODS 3520C, 3550C AND 3580A
S-SV-012	S-SV-012	GC/ECD ANALYSIS OF EDB AND DBCP BASED ON METHOD 8011 & 504.1
S-IM-022	S-IM-022	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY-PECTROMETRIC METHOD for TRACE ELEMENT ANALYSES METHOD 6010C
S-IN-009	S-IN-009	FERROUS IRON (PHENANTHROLINE METHOD) STANDARD METHOD 3500-Fe D
S-IN-042	S-IN-042	NITRATE+NITRITE NITROGEN BY EPA METHOD 353.2, NITRATE NITROGEN BY 353.2 SUBTRACTION, AND NITRITE NITROGEN BY EPA METHOD 353.2
S-IN-010	S-IN-010	INORGANIC ANIONS BY ION CHROMATOGRAPHY EPA METHOD 300.0 and SW-846 9056 and 9056A
S-VO-004	S-VO-004	STANDARD OPERATING PROCEDURE GC ANALYSIS BASED ON METHOD RSKSOP-175
S-IN-030	S-IN-030	TOTAL ORGANIC CARBON (TOC) WALKLEY-BLACK PROCEDURE
S-SV-001	S-SV-001	GC/FID DIESEL RANGE ORGANICS ANALYSIS BASED ON METHOD 8015B and/or 8015C PREPARED BY EPA METHODS 3520C, 3550C and 3580A
MECI SOP 4.3.6	MECI SOP 4.3.6	Sampling Standard operating procedures

Table 8A SOP Abbreviation Key

2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Failure	Response	Documented Where?	Individual Responsible

Field meters not working	Attempt to clean probes, recalibrate in the field.	Record on field sheets, notify office staff. Take meters out of rotation until problem identified and corrected.	Field Staff, Field Manager
COC or Sample Receiving issues	Call Client	Sample Receiving Checklist (SRC)	PM – Kelly Maberry kmaberry@shealylab.com
Analytical errors	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –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	ALL	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst
Semivolatile Mass Specc	ALL	Injection port maintenance, ion source maintenance, column replacement	Periodic	Laboratory	MSSV Analyst
ECD GC	ALL	Injection port maintenance, column replacement	Periodic	Laboratory	GC Analyst
Dionex IC	ALL	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	ALL	Clean Sample introduction system , auto sampler, torch, Change spray chamber, torch tubing, tubing	Periodic	Laboratory	ICP Analyst
Leeman Mercury Analyzer	ALL	Clean GLS, Change Pump tubing, Nafion Dryer, Lamp	Periodic	Laboratory	Mercury Analyst
Flow Injection Analysis – Lachat 8000	ALL	Replace sample and reagent lines, replace light source, re-wrap heating coil, replace column	Periodic/As Needed	Laboratory	Nitrate Analyst
YSI 63	All	Replace probe tip	Yearly	Order from YSI	B. Kelly
YSI 63	All	Replace batteries	As Needed	In stock at office	Field Staff
YSI 63	All	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of office	Field Staff
YSI 63	All	Check buffer solutions for expiration	Weekly	In stock at office	B. Kelly
YSI 550A	All	Replace membrane	4 to 8 weeks	In stock at office	Field Staff
YSI 550A	All	Replace batteries	As Needed	In stock at office	Field Staff
YSI 550A	All	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of 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	Daily calibration check	Method Requirements	MSV Analyst	Recalibration or instrument maintenance
Semi-volatiles Mass Spec	Daily calibration check	Method Requirements	MSSV Analyst	Recalibration or instrument maintenance
ECD GC	Daily calibration check	Method Requirements	GC Analyst	Recalibration or instrument maintenance
Dionex IC	Daily calibration check	Method Requirements	Nitrate Analyst	Recalibration or instrument maintenance
ICP	Daily calibration check	Method Requirements	ICP Analyst	Recalibration or instrument maintenance
Leeman Mercury Analyzer	Daily calibration check	Method Requirements	Mercury Analyst	Recalibration or instrument maintenance
Flow Injection Analysis – Lachat 8000	Daily and continuing calibration check	See calibration criteria	INM Analyst	Recalibration or instrument maintenance
YSI 63	Daily calibration check	See calibration criteria	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer
YSI 550A	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	6a & 6b
YSI 63	Conductivity Calibration	As directed by manufacturer	+/- 10 uS	clean/replace probe tip, recalibrate	Field Staff	6a & 6b
YSI 550A	DO calibration	Daily	+/- 0.25 mg/l	clean/replace probe tip, recalibrate	Field Staff	6a & 6b
YSI 550A	Temperature Calibration	Daily	+/- 1 °C	clean/replace probe tip, recalibrate	Field Staff	6a & 6b

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
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	TRS	Within expiration date	Stored in	B. Kelly, Field Staff

Standard	Environmental, Enviroequipment		calibration room	
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

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed.

There are no non-direct measurements in this project

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

Following sample collection and chain of custody production, samples are shipped to the lab. Field work from the field staff is reviewed by the MECI project manager, and converted into digital form. All data entry is subsequently checked to validate the data entry. The original copies of the field work are stored in MECI files for a minimum of 5 years. Digital copies of the work are stored on the MECI server, which is backed up weekly, and stored for a minimum of 5 years. The digital copy of the field work is presented to SCDHEC with the final report.

2. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?

The laboratory maintains comprehensive Quality Control and Training Programs. All sample receipt data, sample log-in, and analytical data is peer reviewed, including review for inappropriate changes. Data management, review procedures and the Quality Systems Program are documented in the laboratory's

Quality Manual and Standard Operating Procedures. The Quality Assurance Department oversees adherence to and review of these programs.

All MECI field work is produced using ink-pens. Any attempt to alter field data, after sampling is complete, can be readily identified. MECI keeps a carbon copy of the chain of custody after it is shipped to the lab. This copy is kept with the field work. If any change to the CoC are suspected, this original carbon copy can be use to identify potential changes.

3. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted?

Sample data acquisition software is reviewed periodically. The LIMS database is backed up daily and is able to be restored in the event of a system failure. These procedures are documented in laboratory SOP S-AD-003, LIMS. The IT Manager is responsible for these systems and procedures."

4. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).

Laboratory Hardcopy data stored off site is logged, maintained and archived by the Quality Assurance Department. Laboratory Electronic Data Reports are maintained through IT back up under the responsibility of the IT Systems Manager.

MECI keeps all field work and paper copies of reports in its in-house filing system. All paper copies are stored for a minimum of 5 years. Any file can be retrieved easily by going to the correct filing cabinet/box.

All electronic copies of reports generated are kept on the MECI server. This server is backed-up on a weekly basis. Any file stored on the MECI server can be retrieved instantly, by accessing the server. All electronic files are stored for a minimum of 5 years on the server.

Section C Assessment and Oversight

C1 Assessment and Response Actions

1. *The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. . Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?*

Field audits can be conducted on any field personnel at any time. MECI field audits can be conducted by the Field Manger, who will be responsible for ensuring that field personnel adhere to the QAPP. If during a random field audit, severe problems are found, work will be stopped by the field manager and the QA officer contacted to determine corrective action. All problems must be corrected prior to any additional work being performed. Should it be requested, an On-site Field Audit can be scheduled with the SCDHEC project manager.

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?*

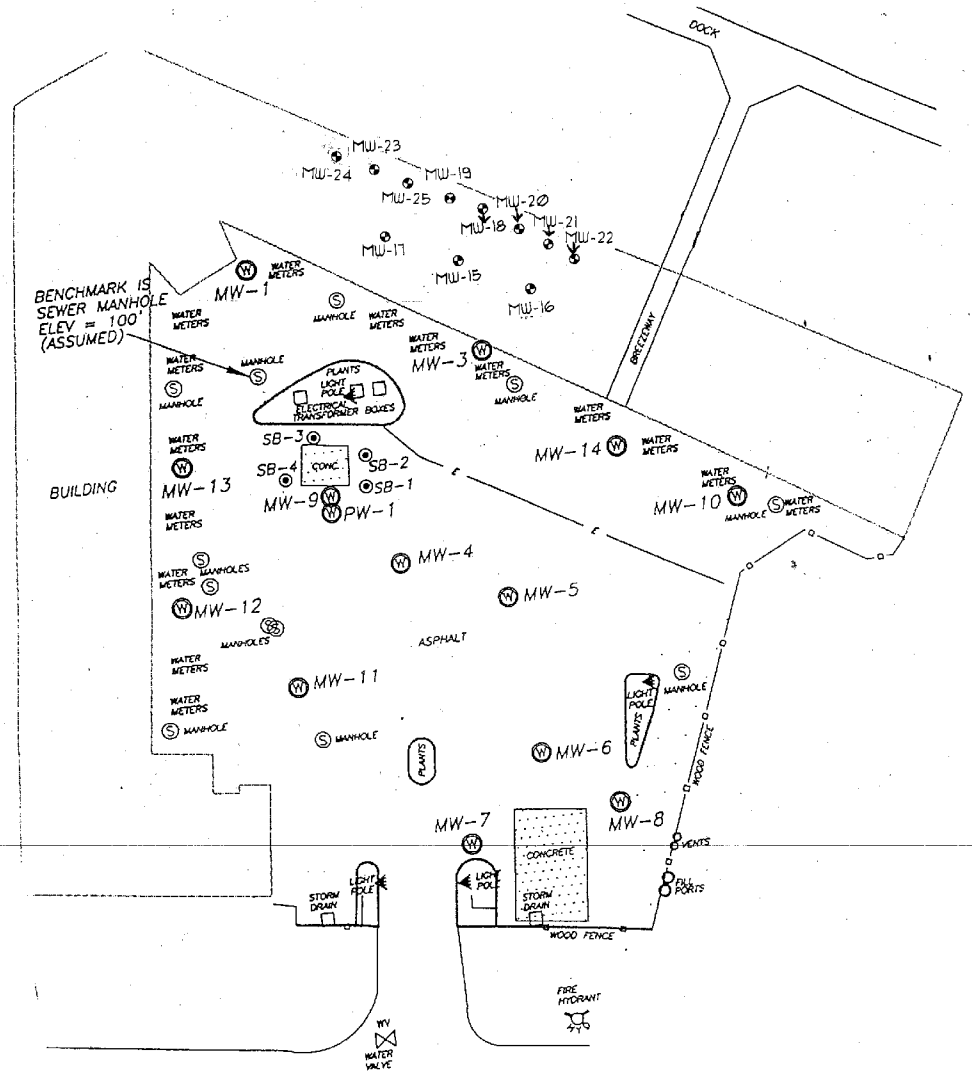
The laboratory participates in annual Proficiency Testing through an approved vendor, Wibby Environmental. Proficiency Testing results are provided to the Office of Environmental Laboratory Certification.

C2 Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1469
DATE	January 31, 2008
FIGURE	2

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 12602

Client	Report to Contact	Sampler (Printed Name)	Quote No.
Address	Telephone No. / Fax No. / Email	Waybill No.	Page of
City / State / Zip Code	Preservative 1. Unpres. 4. HNO3 7. NaOH 2. NaOH/ZnA 5. HCL 3. H2SO4 6. Na Thio.		Number of Containers
Project Name			Bottle (See Instructions on back)
			Preservative
Project Number	P.O Number		Lot No.

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis												Remarks / Cooler ID

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 / Sampler	Date	Time	1. Received by	Date	Time
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by	Date	Time

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. _____ °C
Temp. Blank ☐ Y / ☐ N

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

UST 115tech DOCKETING

SEP 14 2011

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

Re: **Notice to Proceed-Groundwater Sampling/QAPP Contractor Addendum Approval**
Groundwater Sampling Contract
Solicitation # IFB-5400002759, PO#4600088529
Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC
UST Permit #18662
Colleton County

Dear Mr. Shane:

In accordance with bid solicitation # IFB-5400002759 and the UST Management Division Quality Assurance Program Plan (QAPP), the Site-Specific Contractor Addendum has been reviewed and approved. In accordance with the QAPP, a status report of the project should be provided on a weekly basis via e-mail. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division.

MECI will perform services at the site on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

The final report should contain the requirements of Section III.2.15 of the bid solicitation. The final report should be submitted to Debra Thoma, the contract manager.

If you have any site-specific questions, please contact me at (803) 896-6584 or via e-mail at minerrs@dhec.sc.gov. If you have any contract specific questions, please contact Debra Thoma at (803) 896-6397 or via e-mail at thomadl@dhec.sc.gov.

Sincerely,

Read S Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Approved QAPP Contractor Addendum Signature Page
Approved Cost Agreement

cc: Debra Thoma, Corrective Action Section, UST Management Division
Kelly Maberry, Shealy Environmental, 106 Vantage Point Dr., West Columbia, SC, 29172 (w/ approved CA)
Technical Files (w/ Finalized & Approved QAPP)

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Bay Creek Villas, SCDHEC Site ID# 18662

3701 Dockside Road, Edisto Beach, South Carolina

Prepared by:
Brendon P. Kelly
Project Scientist
Midlands Environmental Consultants, Inc.
(Certified Site Rehabilitation Contractor UCC-0009)
235-B Dooley Road
Lexington, SC 29073
(803)808-2043

Date: August 26, 2011

Approvals

Read Miner, P.G. SC DHEC Project Manager	Signature	Date 8/30/11
Brendon P. Kelly Contractor QA Manager	Signature	Date 8/26/11
Jeff L. Coleman Site Rehabilitation Contractor	Signature	Date 8/26/11
Michael Woodrum Laboratory Director	Signature	Date 08/24/2011

Midlands
Environmental
Consultants, Inc.

September 29, 2011

Ms. Debra Thoma, Hydrogeologist
Corrective Action Section
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
Read
OCT 05 2011
PROGRAM

Subject: Report of Groundwater Sampling
Bay Creek Villas
3701 Dockside Road
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662, CA # 41943
MECI Project Number 11-3518
Certified Site Rehabilitation Contractor UCC-0009

UST
#116
DOCKETING

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 (Bay Creek Villas) is located at 3701 Dockside Road, Edisto Beach, Colleton County, South Carolina. The subject site previously maintained one 1,000 gallon diesel underground storage tank (UST). This UST was abandoned by filling with concrete in December of 2000. The South Carolina Department of Health and Environmental Control (SCDHEC) reported and confirmed a release of petroleum product from this UST in January of 2000. The subject site is currently rated a Class 2AA.

The above information is based on reports and correspondence obtained from MECI field notes and SCDHEC files.

MONITORING WELL SAMPLING AND CHEMICAL ANALYSIS

On September 27, 2011, MECI personnel collected groundwater samples from thirteen (13) monitoring wells at the subject site. One (1) monitoring well (MW-21) was gauged and contained 0.60 feet of free phase petroleum product. MECI personnel utilized an electronic water level indicator for water level measurements and an oil/water interface probe for free phase petroleum

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

product level measurements. Based on a request by SCDHEC personnel, all of the wells were not purged prior to sampling. No monitoring wells were purged prior to sampling. 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. 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	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-3R		X		X									
MW-4		X		X									
MW-9		X		X									
MW-15		X		X									
MW-16		X		X									
MW-17		X		X									
MW-18		X		X									
MW-19		X		X									
MW-20		X		X									
MW-21			X										
MW-22		X		X									
MW-23		X		X									
MW-24		X		X									
MW-25		X		X									
MW-20 Dup*				X									
Field Blank				X									
Trip Blank				X									

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane PAH = polycyclic aromatic hydrocarbons

*** = Indicates Duplicate Sample**

No Purge water was produced during this sampling event.

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

Brendon P. Kelly
Project Scientist

Attachments:

Contractor Checklist

Item#	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?			X
3	Is name, address, & phone number of current property owner provided?			X
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?			X
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?			X
17	Has the method of well development been detailed?			X
18	Has justification been provided for the locations of the monitoring wells?			X
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?			X
20	Has the groundwater sampling methodology been detailed? See MECI SOP	X		
21	Have the groundwater sampling dates and groundwater measurements been provided? See attached Site Activity Summary Sheet	X		
22	Has the purging methodology been detailed? See MECI SOP	X		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete? See attached Field Data Information Sheets	X		
24	If free-product is present, has the thickness been provided? See attached Site Activity Summary Sheets	X		
25	Does the report include a brief discussion of the assessment done and the results?			X
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item#	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?			X
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			X
34	Has the current and historical laboratory data been provided in tabular format?			X
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 1)	X		
38	Has the site base map been provided with all required elements? (Figure 2)	X		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			X
40	Has the site potentiometric map been provided? (Figure 5)			X
41	Have the geologic cross-sections been provided? (Figure 6)			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements? (Appendix A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? See attached	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	X		

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: K. Pudney, C. Lashely

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

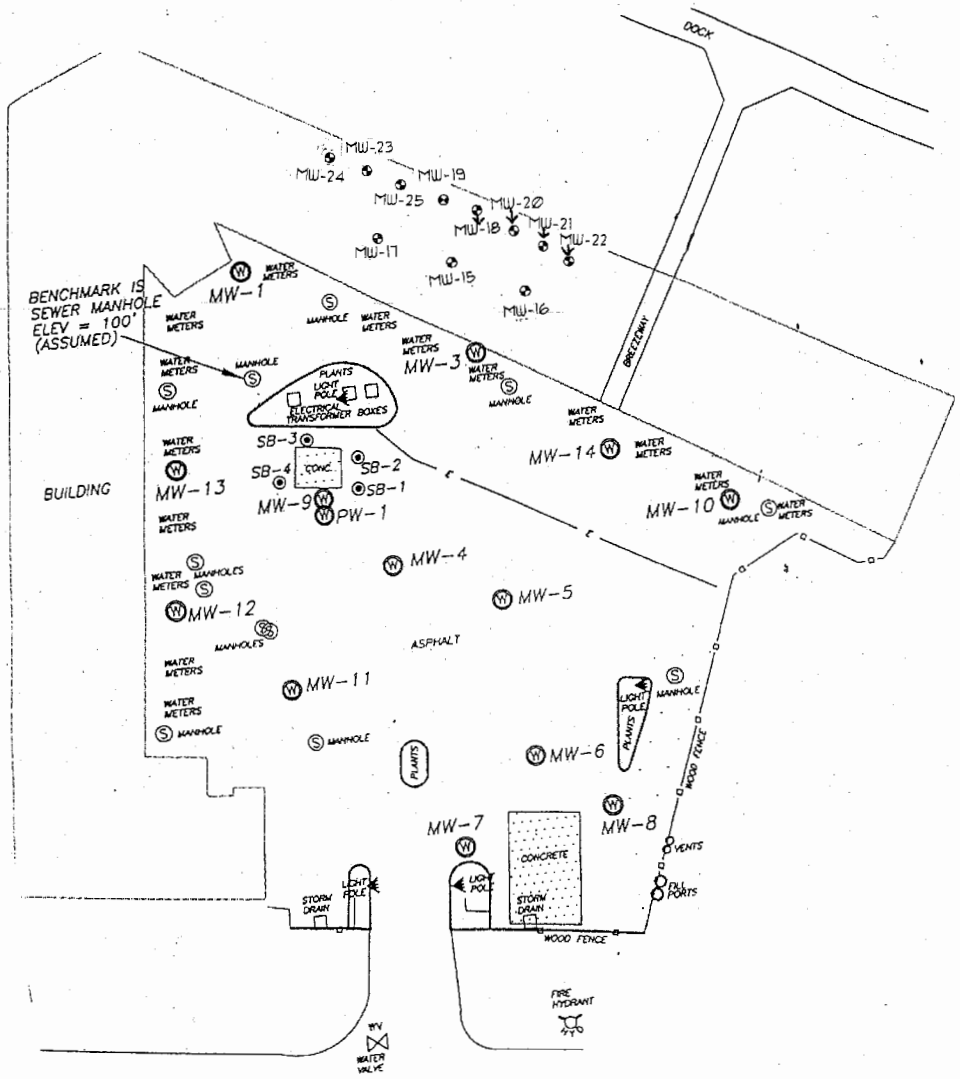
Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-3R	Y	9/27/11	13:55	1.8-11.8	***	5.35	***	***	Organic Odor / Well Cap Added
MW-4	Y	9/27/11	14:00	2.5-15	***	4.65	***	***	No Odor
MW-9	Y	9/27/11	14:05	1.5-10	***	4.70	***	***	Odor
MW-15	Y	9/27/11	13:45	3-10	***	4.45	***	***	No Odor
MW-16	Y	9/27/11	13:39	3-10	***	5.00	***	***	Odor
MW-17	Y	9/27/11	13:42	3-10	***	4.20	***	***	No Odor
MW-18	Y	9/27/11	13:34	3-10	***	5.84	***	***	Odor
MW-19	Y	9/27/11	13:35	2.5-9.5	***	5.10	***	***	Odor
MW-20	Y	9/27/11	13:30	3-70	***	4.93	***	***	Odor
MW-21	N	***	***	2.5-9.5	5.60	6.20	0.60	***	Free Product Thickness = 0.60 feet
MW-22	Y	9/27/11	13:25	3.-10	***	4.95	***	***	Odor
MW-23	Y	9/27/11	13:22	2.5-9.5	***	3.75	***	***	No Odor
MW-24	Y	9/27/11	13:20	2.5-9.5	***	3.30	***	***	No Odor
MW-25	Y	9/27/11	13:32	2.5-9.5	***	5.30	***	***	Odor
MW-20 Duplicate	Y	9/27/11	13:30	***	***	***	***	***	Duplicate
								0.0	**TOTAL GALLONS PURGED**

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: K. Pudney, C. Lashely

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
Field Blank	Y	9/27/11	13:45	***	***	***	***	***	Field Blank
Trip Blank	Y	9/27/11	***	***	***	***	***	***	Trip Blank
								0.0	TOTAL GALLONS PURGED



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

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 04112

Client: SCDHEC	Report to Contact: D. Thoma	Sampler (Printed Name): Chris Lashley	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email: 803 · 596 · 7957	Waybill No.	Page 1 of 2
City: Columbia; State: SC; Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		
Project Name: Bal Creek Villas			
Project Number: 18662 / 41942	P.O Number: 4600058529		

Analysis: 3 / A / 5 — Number of Containers / Bottle (See Instructions on back) / Preservative / Lot No.

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	GW	DW	WW	S	Other	Analysis: BTEX Naphthalene	Remarks / Cooler ID
MW 3R	9/27	1355	G	X					X	[illegible]
MW 4	↓	1400	↓	↓					↓	No odor
MW 9	↓	1405	↓	↓					↓	odor
MW 15	↓	1345	↓	↓					↓	No odor
MW 16	↓	1339	↓	↓					↓	odor
MW 17	↓	1342	↓	↓					↓	No odor
MW 18	↓	1334	↓	↓					↓	odor
MW 19	↓	1335	↓	↓					↓	odor
MW 20	↓	1330	↓	↓					↓	odor
MW 20 Duplicate	9/27	1330	G	X					X	odor

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify)

Possible Hazard Identification: ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler: [signature]	9/28	14:33	1. Received by: [signature]	9/28	1433
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory Received by		

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. _____ °C
Temp. Blank ☐ Y / ☐ N

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** **Number** 04107

Client: SCDHEC	Report to Contact: D. THOMA	Sampler (Printed Name): CHRIS CASHEN	Quote No.
Address: 2600 BULL STREET	Telephone No. / Fax No. / Email: 803-896-7957	Waybill No.	Page 2 of 2
City: Columbia; State: SC; Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers
Project Name: BAY CREEK WELLS			Bottle (See Instructions on back)
			Preservative
			Lot No.
Project Number: 12662/41942	P.O Number: 4600055529		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix GW	DW	WW	S	Other	Analysis: 1,2,4-TMB, Naph, MTBE	Remarks / Cooler ID
MW 22	9/27	1325	G	X					X	odor
MW 23		1322		X					X	No odor
MW 24		1326		X					X	No odor
MW 25		1332	G	X					X	odor
Field Blank	9/27	1345						X	X	
Trip Blank								X	X	

Turn Around Time Required (Prior lab approval required for expedited TAT) ☐ Standard ☐ Rush (Please Specify)	Sample Disposal ☐ Return to Client ☐ Disposal by Lab		QC Requirements (Specify)	Possible Hazard Identification ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown	
1. Relinquished by: Sampler	Date 9/28	Time 14:33	1. Received by	Date 9/28	Time 1433
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by	Date	Time

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack Receipt Temp. _____ °C Temp. Blank ☐ Y / ☐ N

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

SC DHEC - UST Management
2600 Bull Street
Columbia, SC 29201
Attention: Debra Thoma

UST
OCT 1 1 2011
PROGRAM

Project Name: **Bay Creek Villas**

Project Number: **UST Permit #18662/CA #41942**

Lot Number: **MI28020**

Date Completed: **10/05/2011**

Kelly M. Maberry
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
SC DHEC - UST Management
Lot Number: MI28020

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.

Shealy is not NELAC certified for Phosphorus by 365.1 but is certified in SC and NC.

Shealy is not NELAC certified for VPH, but is certified for VPH in NC.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Sample Receiving
Samples -001, -002, -003, -005, -007, -009, -012, -014 and -016 for volatiles analysis contained one or two 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
Due to high detections for target compounds, samples -005 and -007 were diluted 20X and 40X, 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.

The sample duplicate for -005 had all surrogates recovered outside of the acceptance limits. The MS associated with sample -007 had benzene, xylenes and two surrogates recovered outside of the acceptance limits. The original samples also had surrogates recovered outside of the acceptance limits for both samples; therefore, this demonstrates a matrix effect and data quality is not impacted.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
SC DHEC - UST Management
Lot Number: MI28020

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-3R	Aqueous	09/27/2011 1355	09/28/2011
002	MW-4	Aqueous	09/27/2011 1400	09/28/2011
003	MW-9	Aqueous	09/27/2011 1405	09/28/2011
004	MW-15	Aqueous	09/27/2011 1345	09/28/2011
005	MW-16	Aqueous	09/27/2011 1339	09/28/2011
006	MW-17	Aqueous	09/27/2011 1342	09/28/2011
007	MW-18	Aqueous	09/27/2011 1334	09/28/2011
008	MW-19	Aqueous	09/27/2011 1335	09/28/2011
009	MW-20	Aqueous	09/27/2011 1330	09/28/2011
010	MW-20 Duplicate	Aqueous	09/27/2011 1330	09/28/2011
011	MW-22	Aqueous	09/27/2011 1325	09/28/2011
012	MW-23	Aqueous	09/27/2011 1322	09/28/2011
013	MW-24	Aqueous	09/27/2011 1320	09/28/2011
014	MW-25	Aqueous	09/27/2011 1332	09/28/2011
015	Field Blank	Aqueous	09/27/2011 1345	09/28/2011
016	Trip Blank	Aqueous	09/27/2011	09/28/2011

(16 samples)

Executive Summary
SC DHEC - UST Management
Lot Number: MI28020

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-3R	Aqueous	Benzene	8260B	1.8	J	ug/L	6
002	MW-4	Aqueous	Benzene	8260B	27		ug/L	7
002	MW-4	Aqueous	Ethylbenzene	8260B	700		ug/L	7
002	MW-4	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.68	J	ug/L	7
002	MW-4	Aqueous	Naphthalene	8260B	990		ug/L	7
002	MW-4	Aqueous	Toluene	8260B	11		ug/L	7
002	MW-4	Aqueous	Xylenes (total)	8260B	36		ug/L	7
003	MW-9	Aqueous	Benzene	8260B	280		ug/L	8
003	MW-9	Aqueous	Ethylbenzene	8260B	1900		ug/L	8
003	MW-9	Aqueous	Naphthalene	8260B	830		ug/L	8
003	MW-9	Aqueous	Toluene	8260B	63		ug/L	8
003	MW-9	Aqueous	Xylenes (total)	8260B	260		ug/L	8
004	MW-15	Aqueous	Benzene	8260B	15		ug/L	9
004	MW-15	Aqueous	Ethylbenzene	8260B	15		ug/L	9
004	MW-15	Aqueous	Naphthalene	8260B	11		ug/L	9
004	MW-15	Aqueous	Xylenes (total)	8260B	14		ug/L	9
005	MW-16	Aqueous	Benzene	8260B	2700		ug/L	10
005	MW-16	Aqueous	Ethylbenzene	8260B	1400		ug/L	10
005	MW-16	Aqueous	Naphthalene	8260B	470		ug/L	10
005	MW-16	Aqueous	Toluene	8260B	960		ug/L	10
005	MW-16	Aqueous	Xylenes (total)	8260B	2700		ug/L	10
006	MW-17	Aqueous	Benzene	8260B	210		ug/L	11
006	MW-17	Aqueous	Ethylbenzene	8260B	100		ug/L	11
006	MW-17	Aqueous	Toluene	8260B	5.2		ug/L	11
006	MW-17	Aqueous	Xylenes (total)	8260B	43		ug/L	11
007	MW-18	Aqueous	Benzene	8260B	9100		ug/L	12
007	MW-18	Aqueous	Ethylbenzene	8260B	1400		ug/L	12
007	MW-18	Aqueous	Naphthalene	8260B	720		ug/L	12
007	MW-18	Aqueous	Toluene	8260B	2500		ug/L	12
007	MW-18	Aqueous	Xylenes (total)	8260B	6200		ug/L	12
008	MW-19	Aqueous	Benzene	8260B	8900		ug/L	13
008	MW-19	Aqueous	Ethylbenzene	8260B	1200		ug/L	13
008	MW-19	Aqueous	Naphthalene	8260B	650		ug/L	13
008	MW-19	Aqueous	Toluene	8260B	2600		ug/L	13
008	MW-19	Aqueous	Xylenes (total)	8260B	5300		ug/L	13
009	MW-20	Aqueous	Benzene	8260B	150		ug/L	14
009	MW-20	Aqueous	Ethylbenzene	8260B	500		ug/L	14
009	MW-20	Aqueous	Naphthalene	8260B	820		ug/L	14
009	MW-20	Aqueous	Toluene	8260B	63		ug/L	14
009	MW-20	Aqueous	Xylenes (total)	8260B	1200		ug/L	14
010	MW-20 Duplicate	Aqueous	Benzene	8260B	110		ug/L	15
010	MW-20 Duplicate	Aqueous	Ethylbenzene	8260B	450		ug/L	15
010	MW-20 Duplicate	Aqueous	Naphthalene	8260B	610		ug/L	15
010	MW-20 Duplicate	Aqueous	Toluene	8260B	40		ug/L	15
010	MW-20 Duplicate	Aqueous	Xylenes (total)	8260B	670		ug/L	15

Executive Summary (Continued)

Lot Number: MI28020

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
014	MW-25	Aqueous	Benzene	8260B	4600		ug/L	19
014	MW-25	Aqueous	Ethylbenzene	8260B	1200		ug/L	19
014	MW-25	Aqueous	Naphthalene	8260B	750		ug/L	19
014	MW-25	Aqueous	Toluene	8260B	4500		ug/L	19
014	MW-25	Aqueous	Xylenes (total)	8260B	8000		ug/L	19

(50 detections)

Client: **SC DHEC - UST Management**
Description: **MW-3R**
Date Sampled: **09/27/2011 1355**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0207	LBS		68653

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**1.8**	**J**	**5.0**	**0.20**	**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		99	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		86	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-4**
Date Sampled: **09/27/2011 1400**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0743	LBS		68653
2	5030B	8260B	4	09/30/2011 1821	BM		68814

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**27**		**5.0**	**0.20**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**700**		**20**	**6.8**	**ug/L**	**2**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.68**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**990**		**20**	**6.8**	**ug/L**	**2**
Toluene	**108-88-3**	**8260B**	**11**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**36**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130		105	70-130
Bromofluorobenzene		104	70-130		95	70-130
Toluene-d8		90	70-130		106	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-9**
Date Sampled: **09/27/2011 1405**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	09/30/2011 1843	BM		68814

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**280**		**25**	**1.0**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**1900**		**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**	**830**		**25**	**8.5**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**63**		**25**	**8.5**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**260**		**25**	**8.5**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-15**
Date Sampled: **09/27/2011 1345**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-004**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0230	LBS		68653

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**15**		**5.0**	**0.20**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**15**		**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**	**11**		**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		100	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		89	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-16**
Date Sampled: **09/27/2011 1339**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	09/30/2011 1904	BM		68814
2	5030B	8260B	20	10/04/2011 0609	JJG		68963

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**2700**		**100**	**4.0**	**ug/L**	**2**
Ethylbenzene	**100-41-4**	**8260B**	**1400**		**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**	**470**		**25**	**8.5**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**960**		**25**	**8.5**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**2700**		**100**	**34**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130	N	69	70-130
Bromofluorobenzene		96	70-130	N	68	70-130
Toluene-d8		104	70-130	N	68	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-17**
Date Sampled: **09/27/2011 1342**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-006**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0252	LBS		68653

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**210**		**5.0**	**0.20**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**100**		**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**	**5.2**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**43**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		101	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		90	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-18**
Date Sampled: **09/27/2011 1334**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-007**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	09/30/2011 1925	BM		68814
2	5030B	8260B	40	10/04/2011 0349	JJG		68963

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**9100**		**200**	**8.0**	**ug/L**	**2**
Ethylbenzene	**100-41-4**	**8260B**	**1400**		**100**	**34**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		100	8.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**720**		**100**	**34**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**2500**		**100**	**34**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**6200**		**200**	**68**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130	N	32	70-130
Bromofluorobenzene		94	70-130	N	43	70-130
Toluene-d8		104	70-130	N	30	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-19**
Date Sampled: **09/27/2011 1335**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-008**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	09/30/2011 1946	BM		68814
3	5030B	8260B	40	10/05/2011 0916	LBS		69062

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**8900**		**200**	**8.0**	**ug/L**	**3**
Ethylbenzene	**100-41-4**	**8260B**	**1200**		**100**	**34**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		100	8.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**650**		**100**	**34**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**2600**		**100**	**34**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**5300**		**200**	**68**	**ug/L**	**3**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 3 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130		98	70-130
Bromofluorobenzene		94	70-130		100	70-130
Toluene-d8		102	70-130		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-20**
Date Sampled: **09/27/2011 1330**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-009**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0315	LBS		68653
2	5030B	8260B	5	09/30/2011 2008	BM		68814
3	5030B	8260B	5	10/04/2011 1532	LBS		69011

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**150**		**5.0**	**0.20**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**500**		**25**	**8.5**	**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**	**820**		**25**	**8.5**	**ug/L**	**2**
Toluene	**108-88-3**	**8260B**	**63**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**1200**		**25**	**8.5**	**ug/L**	**3**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits	Q	Run 3 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130		104	70-130		110	70-130
Bromofluorobenzene		110	70-130		95	70-130		98	70-130
Toluene-d8		91	70-130		106	70-130		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **SC DHEC - UST Management**
Description: **MW-20 Duplicate**
Date Sampled: **09/27/2011 1330**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-010**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0337	LBS		68653
2	5030B	8260B	2	09/30/2011 1735	JJG		68822
3	5030B	8260B	5	10/04/2011 1554	LBS		69011

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**110**		**5.0**	**0.20**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**450**		**10**	**3.4**	**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**	**610**		**25**	**8.5**	**ug/L**	**3**
Toluene	**108-88-3**	**8260B**	**40**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**670**		**25**	**8.5**	**ug/L**	**3**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits	Q	Run 3 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130		102	70-130		107	70-130
Bromofluorobenzene		106	70-130		103	70-130		95	70-130
Toluene-d8		89	70-130		101	70-130		108	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-22**
Date Sampled: **09/27/2011 1325**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-011**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0400	LBS		68653
2	5030B	8260B	1	09/30/2011 1553	BM		68814

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	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	2
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	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130		110	70-130
Bromofluorobenzene		99	70-130		94	70-130
Toluene-d8		87	70-130		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"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-23**
Date Sampled: **09/27/2011 1322**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-012**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0422	LBS		68653

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		88	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-24**
Date Sampled: **09/27/2011 1320**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-013**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0444	LBS		68653

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		87	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **MW-25**
Date Sampled: **09/27/2011 1332**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-014**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	09/30/2011 1712	JJG		68822

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**4600**		**100**	**4.0**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**1200**		**100**	**34**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		100	8.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**750**		**100**	**34**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**4500**		**100**	**34**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**8000**		**100**	**34**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		102	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **Field Blank**
Date Sampled: **09/27/2011 1345**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-015**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0507	LBS		68653

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	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		99	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		87	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

Client: **SC DHEC - UST Management**
Description: **Trip Blank**
Date Sampled: **09/27/2011**
Date Received: **09/28/2011**

Laboratory ID: **MI28020-016**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	09/29/2011 0529	LBS		68653

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	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		102	70-130
Toluene-d8		87	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
N = Recovery is out of criteria
H = Out of holding time

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ68653-001
Batch: 68653
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	09/29/2011 0054
Ethylbenzene	ND		1	5.0	1.7	ug/L	09/29/2011 0054
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	09/29/2011 0054
Naphthalene	ND		1	5.0	1.7	ug/L	09/29/2011 0054
Toluene	ND		1	5.0	1.7	ug/L	09/29/2011 0054
Xylenes (total)	ND		1	5.0	1.7	ug/L	09/29/2011 0054

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		87	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ68653-002
Batch: 68653
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	43		1	87	70-130	09/28/2011 2324
Ethylbenzene	50	52		1	103	70-130	09/28/2011 2324
Methyl tertiary butyl ether (MTBE)	50	48		1	97	70-130	09/28/2011 2324
Naphthalene	50	46		1	92	70-130	09/28/2011 2324
Toluene	50	46		1	92	70-130	09/28/2011 2324
Xylenes (total)	100	110		1	106	70-130	09/28/2011 2324

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		105	70-130
Toluene-d8		88	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ68653-003
Batch: 68653
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	43		1	87	0.16	70-130	20	09/28/2011 2346
Ethylbenzene	50	51		1	103	0.68	70-130	20	09/28/2011 2346
Methyl tertiary butyl ether (MTBE)	50	48		1	96	0.40	70-130	20	09/28/2011 2346
Naphthalene	50	45		1	91	0.65	70-130	20	09/28/2011 2346
Toluene	50	45		1	91	0.85	70-130	20	09/28/2011 2346
Xylenes (total)	100	100		1	104	1.8	70-130	20	09/28/2011 2346

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		90	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ68814-001
Batch: 68814
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	09/30/2011 1302
Ethylbenzene	ND		1	5.0	1.7	ug/L	09/30/2011 1302
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	09/30/2011 1302
Naphthalene	ND		1	5.0	1.7	ug/L	09/30/2011 1302
Toluene	ND		1	5.0	1.7	ug/L	09/30/2011 1302
Xylenes (total)	ND		1	5.0	1.7	ug/L	09/30/2011 1302

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ68814-002
Batch: 68814
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	57		1	114	70-130	09/30/2011 1137
Ethylbenzene	50	50		1	100	70-130	09/30/2011 1137
Methyl tertiary butyl ether (MTBE)	50	58		1	115	70-130	09/30/2011 1137
Naphthalene	50	47		1	94	70-130	09/30/2011 1137
Toluene	50	53		1	106	70-130	09/30/2011 1137
Xylenes (total)	100	100		1	100	70-130	09/30/2011 1137

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ68814-003
Batch: 68814
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	56		1	112	1.6	70-130	20	09/30/2011 1158
Ethylbenzene	50	48		1	97	3.1	70-130	20	09/30/2011 1158
Methyl tertiary butyl ether (MTBE)	50	57		1	115	0.096	70-130	20	09/30/2011 1158
Naphthalene	50	45		1	90	5.0	70-130	20	09/30/2011 1158
Toluene	50	52		1	104	1.7	70-130	20	09/30/2011 1158
Xylenes (total)	100	99		1	99	1.4	70-130	20	09/30/2011 1158

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ68822-001
Batch: 68822
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	09/30/2011 1626
Ethylbenzene	ND		1	5.0	1.7	ug/L	09/30/2011 1626
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	09/30/2011 1626
Naphthalene	ND		1	5.0	1.7	ug/L	09/30/2011 1626
Toluene	ND		1	5.0	1.7	ug/L	09/30/2011 1626
Xylenes (total)	ND		1	5.0	1.7	ug/L	09/30/2011 1626

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ68822-002
Batch: 68822
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	53		1	105	70-130	09/30/2011 1453
Ethylbenzene	50	55		1	110	70-130	09/30/2011 1453
Methyl tertiary butyl ether (MTBE)	50	56		1	112	70-130	09/30/2011 1453
Naphthalene	50	51		1	103	70-130	09/30/2011 1453
Toluene	50	54		1	108	70-130	09/30/2011 1453
Xylenes (total)	100	110		1	111	70-130	09/30/2011 1453

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ68822-003 **Matrix:** Aqueous
Batch: 68822 **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	53		1	105	0.31	70-130	20	09/30/2011 1517
Ethylbenzene	50	54		1	109	1.1	70-130	20	09/30/2011 1517
Methyl tertiary butyl ether (MTBE)	50	55		1	111	0.97	70-130	20	09/30/2011 1517
Naphthalene	50	59		1	118	13	70-130	20	09/30/2011 1517
Toluene	50	53		1	106	1.6	70-130	20	09/30/2011 1517
Xylenes (total)	100	110		1	110	0.87	70-130	20	09/30/2011 1517

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ68963-001 **Matrix:** Aqueous
Batch: 68963 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	10/03/2011 2250
Xylenes (total)	ND		1	5.0	1.7	ug/L	10/03/2011 2250

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ68963-002 **Matrix:** Aqueous
Batch: 68963 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	56		1	113	70-130	10/03/2011 2126
Xylenes (total)	100	100		1	104	70-130	10/03/2011 2126

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ68963-002 **Matrix:** Aqueous
Batch: 68963 **Prep Method:** 5030B
Analytical Method: 8260B

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ68963-003 **Matrix:** Aqueous
Batch: 68963 **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	56		1	113	0.11	70-130	20	10/03/2011 2147
Xylenes (total)	100	100		1	103	1.8	70-130	20	10/03/2011 2147

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		108	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: MI28020-005DU **Matrix:** Aqueous
Batch: 68963 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
Benzene	2700	2800		20	5.3	20	10/04/2011 0630
Xylenes (total)	2700	2900		20	4.6	20	10/04/2011 0630

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene	N	67	70-130
1,2-Dichloroethane-d4	N	66	70-130
Toluene-d8	N	69	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: MI28020-007MS
Batch: 68963
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	9100	2000	8900	N	40	-11	70-130	10/04/2011 0651
Xylenes (total)	6200	4000	7500	N	40	33	70-130	10/04/2011 0651

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene	N	67	70-130
1,2-Dichloroethane-d4	N	66	70-130
Toluene-d8		70	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ69011-001
Batch: 69011
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Naphthalene	ND		1	5.0	1.7	ug/L	10/04/2011 0810
Xylenes (total)	ND		1	5.0	1.7	ug/L	10/04/2011 0810

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		109	70-130
Toluene-d8		108	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ69011-002
Batch: 69011
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	50	41		1	82	70-130	10/04/2011 0646
Xylenes (total)	100	89		1	89	70-130	10/04/2011 0646

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ69011-002 **Matrix:** Aqueous
Batch: 69011 **Prep Method:** 5030B
Analytical Method: 8260B

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ69011-003 **Matrix:** Aqueous
Batch: 69011 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Naphthalene	50	40		1	81	1.5	70-130	20	10/04/2011 0707
Xylenes (total)	100	90		1	90	1.3	70-130	20	10/04/2011 0707

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: MQ69062-001 **Matrix:** Aqueous
Batch: 69062 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	10/05/2011 0720
Xylenes (total)	ND		1	5.0	1.7	ug/L	10/05/2011 0720

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: MQ69062-002
Batch: 69062
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	55		1	109	70-130	10/05/2011 0547
Xylenes (total)	100	110		1	114	70-130	10/05/2011 0547

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		97	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: MQ69062-003
Batch: 69062
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	53		1	106	3.2	70-130	20	10/05/2011 0611
Xylenes (total)	100	110		1	113	0.73	70-130	20	10/05/2011 0611

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 04112

Client: SCDHEC	Report to Contact: D. Thoma	Sampler (Printed Name): Chris Lashley	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email: 803-896-7957	Waybill No.	Page 1 of 2
City: Columbia; State: SC; Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		
Project Name: BAY CREEK villas			
Project Number: 18662 / 41942	P.O Number: 4600088529		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: BTEX, MTBE	Remarks / Cooler ID
Number of Containers									3	
Bottle (See Instructions on back)									A	
Preservative									6	
Lot No.										MI 28020
MW-3R	9/27	1355	G	X					X	organic odor
MW-4		1400								No odor
MW-9		1405								odor
MW-15		1345								No odor
MW-16		1339								odor
MW-17		1342								No odor
MW-18		1334								odor
MW-19		1335								odor
MW-20		1330								odor
MW-20 Duplicate	9/27	1330	G	X					X	odor

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify)

Possible Hazard Identification: ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

1. Relinquished by: Sampler	Date 9/28	Time 1433	1. Received by	Date 9/28	Time 1433
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date 9/28	Time 1505	4. Laboratory Received by	Date 9-28-11	Time 1505

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☑ Yes ☐ No ☐ Ice Pack
Receipt Temp. 1.0 °C
Temp. Blank ☐ Y / ☐ N

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 04107

Client: SCDHEC	Report to Contact: D. THOMA	Sampler (Printed Name): CHRIS LASHLEY	Quote No.
Address: 2600 Bull STREET	Telephone No. / Fax No. / Email: 803-896-7957	Waybill No.	Page 2 of 2
City: Columbia; State: SC; Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers: 3; Bottle (See Instructions on back): A; Preservative: 5
Project Name: BAY CREEK Villas			Lot No.
Project Number: 18662/41942	P.O Number: 4600088529		MI2020

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis	BTEX, Naphth, MTBE	Remarks / Cooler ID
MW-22	9/27	1325	G	X						X	odor
MW-23		1322		X						X	No odor
MW-24		1320		X						X	No odor
MW-25		1332	G	X						X	odor
Field Blank	9/27	1345						X		X	
TRip Blank								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

	Date	Time		Date	Time
1. Relinquished by Sampler [signature]	9/28	14:33	1. Received by [signature]	9/28	1433
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by [signature]	9/28	1505	4. Laboratory Received by [signature]	9/28/11	1505

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☑Yes ☐ No ☐ Ice Pack | Receipt Temp. 1.0 °C | Temp. Blank ☐ Y / ☐ N

Sample Receipt Checklist (SRC)

Client: SC DHRC Cooler Inspected by/date: [illegible] / 9/28/11 Lot #: ME28020

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other			
Yes ☐	No ☑		1. Were custody seals present on the cooler?
Yes ☐	No ☑		2. If custody seals were present, were they intact and unbroken?
Cooler ID/temperature upon receipt 1.0 °C / °C / °C / °C / °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?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)			
Sample(s)_____were received incorrectly preserved and were adjusted accordingly in sample receiving with _____(H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)			
Sample(s) -001(2) -002(2) -003(1) -005(2) -008(2) -009(1) were received with bubbles >6 mm in diameter.			
Sample(s) -012(2) -014(2) -016(2) 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:_____

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

BRIAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071-0854

DEC 01 2011

UST 3/17 Rec'd KETING

Re: Bid # IBF-36815-8/27/09-EMW; PO # 4500011659
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Free Product (FP) recovery using Aggressive Fluid Vapor Recovery (AFVR) or passive skimmers at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR and/or passive skimmers installation. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 4500011659 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below). **All AFVR events must be conducted in accordance with Section B of the UST Quality Assurance Program Plan (QAPP).**

UST Permit #	Facility	County	Releas	Work Scope	Due Date*	CA #	Approved Amt.
14212	Satterfield Used Cars	Greenville	1	4 AFVR	60 days	42581	4.575.00
18662	Bay Creek Villas	Colleton	1	6 AFVR	90 days	42586	6,555.00
12205	S & S Truck Stop	Aiken	1	2 AFVR	60 days	42596	2,275.00
12614	Frank's Amoco	Lexington	1	3 AFVR	60 days	42617	3,325.00
16009	Mary Moorhead Property	Anderson	1	3 AFVR	90 days	42688	5,36500
01253	Macks Camp	Berkeley	1	3 AFVR	90 days	42689	3,315.00
14433	Town of Winnsboro	Fairfield	1	3 AFVR	90 days	42709	3,315.00

*From receipt of letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained.

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval. Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

The Department grants pre-approval for transportation of free phase product and petroleum contaminated groundwater from the referenced site to a permitted treatment facility. The free product and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 896-6664, by fax at (803) 896-6245 or by email at milenkmp@dhec.sc.gov.

Sincerely,

Maia Milenkova, Hydrogeologist
Assessment Section
UST Management Division
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packets
cc: Technical File (w/copy of ACA)
SCDHEC/UST/11/29/11/MPM

Approved Cost Agreement 42586

Facility: 18662 BAY CREEK VILLAS

MINERRS

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	6.0000	350.00	2,100.00
17 DISPOSAL						
		A1	WASTEWATER - PURGING/SAMPLING	1,800.0000	0.10	180.00
23 EFR						
		A	8 HOUR EVENT	6.0000	600.00	3,600.00
		C	OFF GAS TREATMENT	6.0000	100.00	600.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
				Total Amount		6,555.00

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

UST DOCKETING 118 tel

DEC 29 2011

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **Monitoring Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Monitoring Report received October 5, 2011
Colleton County

Dear Mr. Padgett:

On September 27, 2011, the monitoring wells at the referenced facility were sampled. A copy of the report and a copy of an excel spreadsheet summarizing all of the historical data are enclosed. Free product has re-appeared in one monitoring well (MW-21) with a thickness of 0.6 feet. Concentrations of dissolved petroleum chemicals have remained stable or decreased in the remaining monitoring wells. A directive has been issued for Midlands Environmental Consultants to continue with Aggressive Fluid Vapor Recovery (AFVR) events to remove the residual free product. I have been informed by Midlands that these events will be resuming the beginning of January and they will complete as many as possible prior to the next homeowners meeting in February 2012. You will be provided copies of the progress reports as they become available.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Monitoring Report
Spreadsheet

cc: Technical File (without enclosures)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosures)

Midlands
Environmental
Consultants, Inc.

January 23, 2012

UST
JAN 24 2012
PROGRAM

Mr. Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
119 tech
DOCKETING

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA # 42586
MECI Project Number 11-3731A
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

A site visit was conducted at Bay Creek Villas on December 8, 2011 to locate/gauge monitoring wells and to evaluate current site conditions. MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on January 11 and 12, 2012. The event was conducted on MW-18, MW-19, and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in monitoring wells MW-18, MW-19, and MW-21 prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 25.52 pounds or approximately 4.41 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.60 pounds per hour. Concentrations of off gas produced during the event were recorded from 185 parts per million by volume (PPM) to 4,782 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 7.0 to 23.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A. Monitoring well locations are depicted on attached Figure 1.

A total of 300 gallons of liquid was removed from monitoring wells MW-18, MW-19, and MW-21 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3731A
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	01/11/12	10:30	0.50	7.0	417	3,490	314.10	1.57	0.79
MW-19	01/11/12	11:00	0.50	7.0	432	3,450	310.50	1.61	0.80
MW-21	01/11/12	11:30	0.50	7.0	399	3,320	298.80	1.43	0.72
	01/11/12	12:00	0.50	7.0	368	3,260	293.40	1.30	0.65
	01/11/12	12:30	0.50	7.0	376	3,110	279.90	1.26	0.63
	01/11/12	13:00	0.50	9.0	381	3,070	276.30	1.26	0.63
	01/11/12	13:30	0.50	9.0	395	2,990	269.10	1.28	0.64
	01/11/12	14:00	0.50	9.0	420	2,840	255.60	1.29	0.64
	01/11/12	14:30	0.50	9.0	458	2,800	252.00	1.38	0.69
	01/11/12	15:00	0.50	9.0	439	2,760	248.40	1.31	0.65
	01/11/12	15:30	0.50	9.0	372	2,710	243.90	1.09	0.54
	01/11/12	16:00	0.50	9.0	293	2,650	238.50	0.84	0.42
	01/11/12	16:30	0.50	9.0	241	2,620	235.80	0.68	0.34
	01/11/12	17:00	0.50	11.0	267	2,670	240.30	0.77	0.38
	01/11/12	17:30	0.50	11.0	282	2,610	234.90	0.79	0.40
	01/11/12	18:00	0.50	11.0	311	2,580	232.20	0.87	0.43
	01/11/12	18:30	0.50	11.0	340	2,530	227.70	0.93	0.46
	01/11/12	19:00	0.50	16.0	231	1,410	126.90	0.35	0.18
	01/11/12	19:30	0.50	16.0	206	1,440	129.60	0.32	0.16
	01/11/12	20:00	0.50	16.0	194	1,430	128.70	0.30	0.15
	01/11/12	20:30	0.50	16.0	185	1,450	130.50	0.29	0.14
	01/11/12	21:00	0.50	19.0	329	1,190	107.10	0.42	0.21
	01/11/12	21:30	0.50	19.0	762	1,160	104.40	0.95	0.48
	01/11/12	22:00	0.50	19.0	905	1,180	106.20	1.15	0.58
	01/11/12	22:30	0.50	19.0	1,472	1,220	109.80	1.94	0.97
	01/11/12	23:00	0.50	19.0	1,981	1,250	112.50	2.67	1.34
	01/11/12	23:30	0.50	19.0	2,340	1,260	113.40	3.18	1.59
	01/12/12	0:00	0.50	23.0	2,531	830	74.70	2.27	1.13
	01/12/12	0:30	0.50	23.0	2,682	810	72.90	2.35	1.17
	01/12/12	1:00	0.50	23.0	2,928	770	69.30	2.43	1.22
	01/12/12	1:30	0.50	23.0	3,373	740	66.60	2.70	1.35
	01/12/12	2:00	0.50	23.0	3,854	680	61.20	2.83	1.42
	01/12/12	2:30	0.50	23.0	4,360	710	63.90	3.34	1.67
	01/12/12	3:00	0.50	23.0	4,782	750	67.50	3.87	1.94
									TOTAL 25.52

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-18	2"	3-10	***	5.42	***	***	6.76	***	1.34
MW-19	2"	2.5-9.5	***	5.00	***	***	6.58	***	1.58
MW-21	2"	2.5-9.5	***	5.14	***	***	6.32	***	1.18

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	6.00
Truck Operator:	G. Globensky	MW-19	5.50
Stack I.D. (feet)	0.33 feet	MW-21	5.50

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	25.52	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	4.41	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	300	Gallons

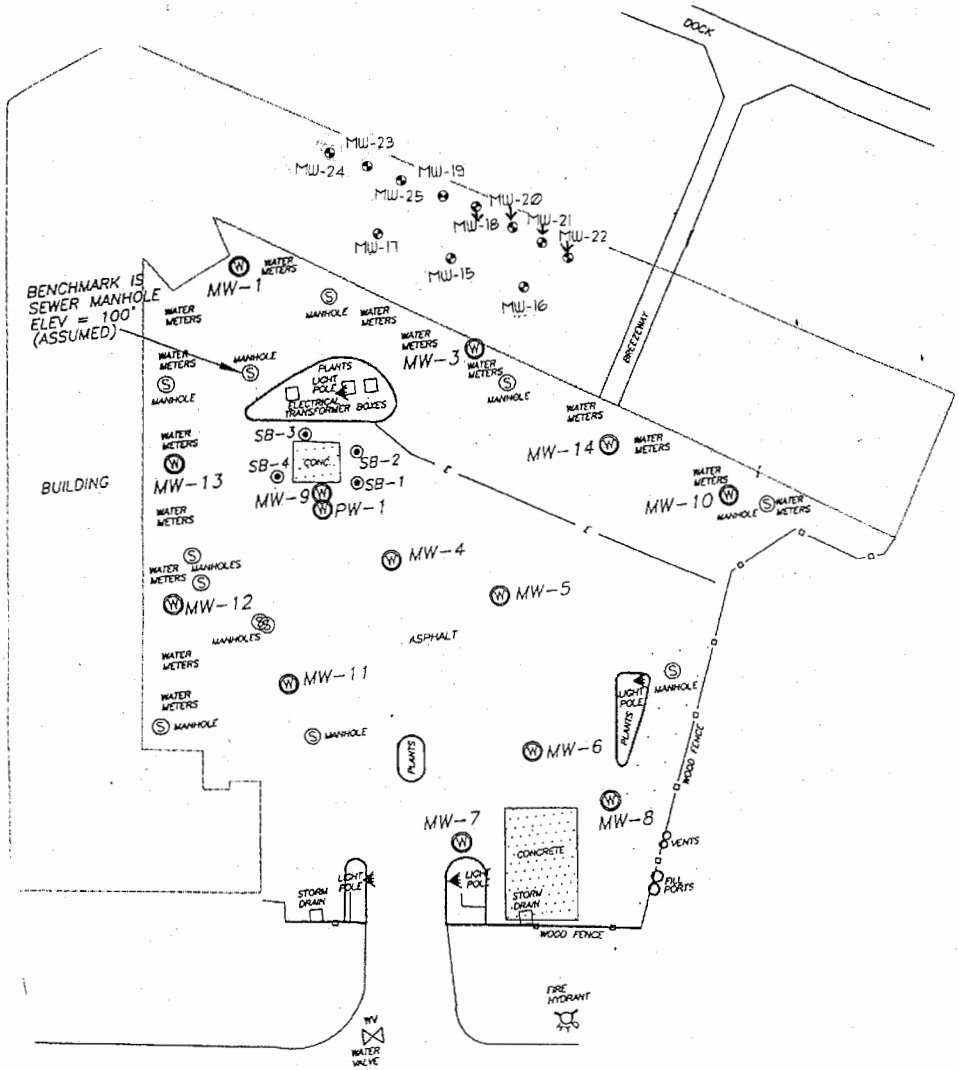
TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3731A
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-20**	**MW-25**
Nearest Extraction Well:		MW-18	MW-21	MW-19
Approximate Distance:		19 ft	14 ft	120 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
19:00	8.5	0	0	0
19:30	9.0	0	0	0
20:00	9.5	0	0	0
20:30	10.0	0	0	0
21:00	10.5	0	0	0
21:30	11.0	0	0	0
22:00	11.5	0	0	0
22:30	12.0	0	0	0
23:00	12.5	0	0	0
23:30	13.0	0	0	0
0:00	13.5	0	0	0
0:30	14.0	0	0	0
1:00	14.5	0	0	0
1:30	15.0	0	0	0
2:00	15.5	0	0	0
2:30	16.0	0	0	0
3:00	16.5	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-20**	**MW-25**
Nearest Extraction Well:		MW-18	MW-21	MW-19
Approximate Distance:		19 ft	14 ft	120 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.88	5.95	6.00
14:30	4 hours	4.84	6.09	6.07
18:30	8 hours	4.92	6.21	6.18
22:30	12 hours	4.91	6.37	6.26
3:00	16 hours	4.97	6.64	6.45
Maximum Change:		-0.13	-0.69	-0.45



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1499
DATE January 31, 2008
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number

5. Generator's Name and Mailing Address
MIDLANDS ENVIRONMENTAL
1144 TWO NOTCH ROAD
LEXINGTON, SC 29073

Generator's Site Address (if different than mailing address) TK10653

Generator's Phone:

6. Transporter 1 Company Name: TK TANK SERVICE SUMTER, SC
U.S. EPA ID Number: 987573557

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
TK TANK SERVICES
425 BOULEVARD ROAD
SUMTER, SC 29153

U.S. EPA ID Number

Facility's Phone: 803-418-5314 987573557

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	~~2750~~ 3580	gallons

SCDHEC Site	Permit Number	Gallons Produced
Green Avenue BP	13084	225
Satterfield Used Cars	14212	50
Mack's Camp	01253	150
Pratt's Grocery	06974	50
Burrow's Service Center	12487	475
Heath Self Serve	08937	175
Friendly Marks	11693	0
Glover's Gulf Station	06994	150
Blacksburg Hardware	01924	150
Marion Comers	12223	50
Former Ellisons Grocery	16090	50
Burton's BP	12299	150
B&H Grocery	03754	125
Newton's General Store	03723	125
Bay Creek Villas	18662	100
Bay Creek Villas	18662	200
Mary Moorhead	16009	155
Wailon's Quick	12814	175
Drigger's Service	03421	125
Richland County Landfill	11808	250
Richland County Public Works	11805	325
Green Avenue BP	13084	225
Satterfield Used Cars	14212	100

I accurately described above by the proper shipping name, and are classified, packaged, ational and national governmental regulations.

Month Day Year

Port of entry/exit:
Date leaving U.S.:

Transporter 2 Printed/Typed Name
Signature
Month 1 Day 19 Year 12

17. Discrepancy

17a. Discrepancy Indication Space ☑ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

3580 gallons by wt.

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Tommy Keels
Signature: Tommy Keels
Month Day Year 1 19 12

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

JAN 2 7 2012

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

UST
120 tech
DOCKET

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received January 24, 2012
Colleton County

Dear Mr. Padgett:

As you are aware, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on January 11-12, 2012. A copy of the report is enclosed. Free phase product was not found in any of the monitoring wells; however, the AFVR event continued on three monitoring wells which have historically had free product and the highest concentrations of dissolved petroleum (MW-18, MW-19, and MW-21. Approximately 4.41 equivalent gallons of petroleum vapor was recovered along with 300 gallons of contaminated water. Two additional 16-hour AFVR events are proposed.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Midlands
Environmental
Consultants, Inc.

February 1, 2012

UST
FEB 02 2012
PROGRAM

UST
121 tech
DOCKETING

Mr. Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA # 42586
MECI Project Number 11-3731C & D
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on January 30 and 31, 2012. The event was conducted on monitoring well MW-21 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring well MW-21 at a thickness of 0.12 feet prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 3.33 pounds or approximately 0.57 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.21 pounds per hour. Concentrations of off gas produced during the event were recorded from 40.4 parts per million by volume (PPM) to 968 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 24.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1C & D.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2C & D. Monitoring well locations are depicted on attached Figure 1.

A total of 200 gallons of liquid was removed from monitoring wells MW-21 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

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Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1C & 1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3731C & D
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-21	01/30/12	11:15	0.50	10.0	702	1,670	150.30	1.27	0.63
	01/30/12	11:45	0.50	10.0	968	1,700	153.00	1.78	0.89
	01/30/12	12:15	0.50	10.0	221	1,710	153.90	0.41	0.20
	01/30/12	12:45	0.50	10.0	189	1,720	154.80	0.35	0.18
	01/30/12	13:15	0.50	10.0	158	1,730	155.70	0.30	0.15
	01/30/12	13:45	0.50	10.0	136	1,730	155.70	0.25	0.13
	01/30/12	14:15	0.50	10.0	144	1,720	154.80	0.27	0.13
	01/30/12	14:45	0.50	10.0	163	1,730	155.70	0.30	0.15
	01/30/12	15:15	0.50	12.0	49.1	1,040	93.60	0.06	0.03
	01/30/12	15:45	0.50	15.0	166	960	86.40	0.17	0.09
	01/30/12	16:15	0.50	15.0	149	970	87.30	0.16	0.08
	01/30/12	16:45	0.50	15.0	121	940	84.60	0.12	0.06
	01/30/12	17:15	0.50	15.0	107	930	83.70	0.11	0.05
***	01/30/12	17:45	0.50	14.0	89.3	780	70.20	0.08	0.04
	01/30/12	18:15	0.50	14.0	77.1	720	64.80	0.06	0.03
	01/30/12	18:45	0.50	14.0	59.8	730	65.70	0.05	0.02
	01/30/12	19:15	0.50	14.0	56.6	740	66.60	0.05	0.02
	01/30/12	19:45	0.50	14.0	49.2	740	66.60	0.04	0.02
	01/30/12	20:15	0.50	14.0	40.4	730	65.70	0.03	0.02
	01/30/12	20:45	0.50	22.0	101	450	40.50	0.05	0.02
	01/30/12	21:15	0.50	22.0	92.6	430	38.70	0.04	0.02
	01/30/12	21:45	0.50	22.0	76.4	420	37.80	0.03	0.02
	01/30/12	22:15	0.50	22.0	71.2	410	36.90	0.03	0.02
	01/30/12	22:45	0.50	22.0	80.3	420	37.80	0.04	0.02
	01/30/12	23:15	0.50	24.0	95.4	400	36.00	0.04	0.02
	01/30/12	23:45	0.50	24.0	101	400	36.00	0.04	0.02
	01/31/12	0:15	0.50	18.0	112	820	73.80	0.10	0.05
	01/31/12	0:45	0.50	18.0	91.1	840	75.60	0.08	0.04
	01/31/12	1:15	0.50	18.0	85.4	810	72.90	0.07	0.04
	01/31/12	1:45	0.50	18.0	80.1	830	74.70	0.07	0.04
	01/31/12	2:15	0.50	24.0	123	400	36.00	0.05	0.03
	01/31/12	2:45	0.50	24.0	130	400	36.00	0.06	0.03
	01/31/12	3:15	0.50	24.0	118	400	36.00	0.05	0.03
	01/31/12	3:45	0.50	24.0	110	400	36.00	0.05	0.02
									TOTAL
									3.33

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-21	2"	2.5-9.5	6.63	6.75	0.12	***	7.50	***	0.85

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-21	7.50
Truck Operator:	B. Owen		
Stack I.D. (feet)	0.33 feet		

Corrected depth to water prior to AFVR event in MW-21= 6.65

*** = Stinger Length increased to 8.00 feet

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	3.33	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.57	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	200	Gallons

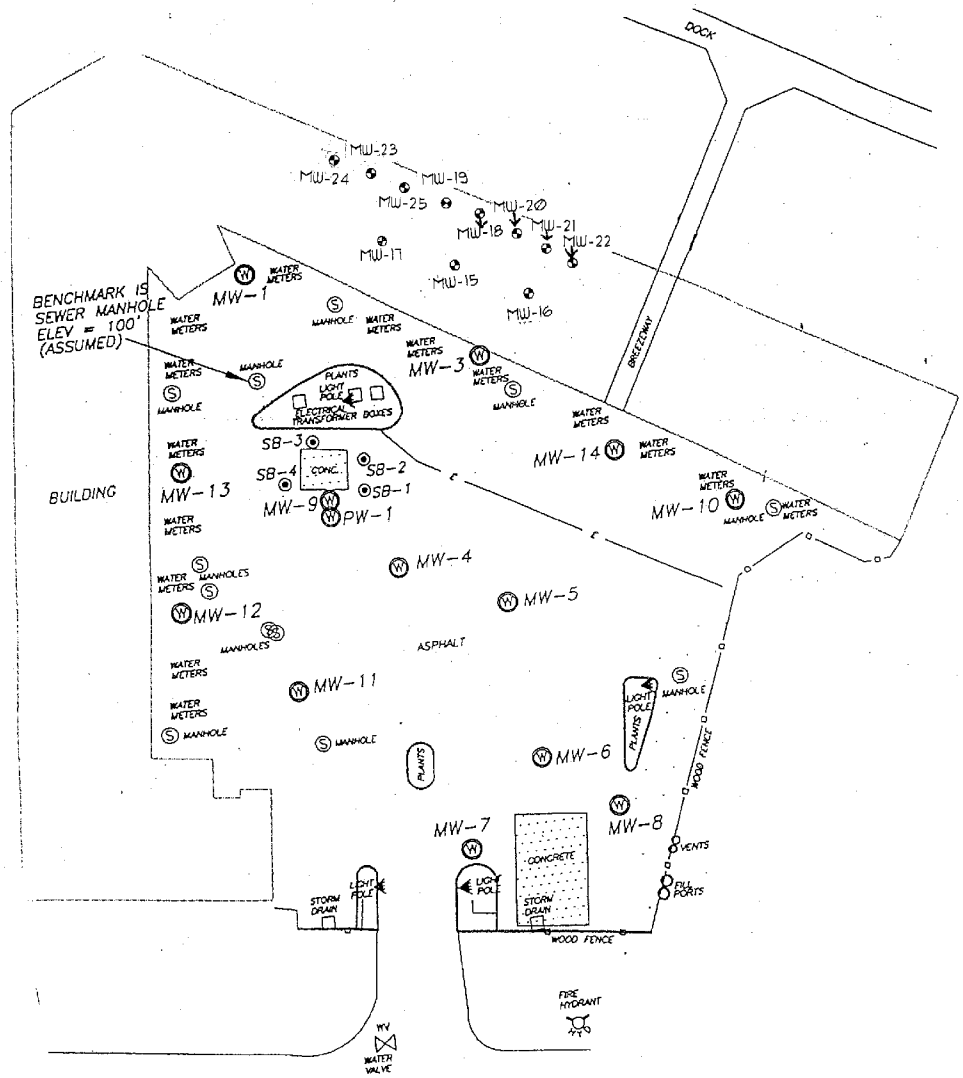
TABLE 2C & 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3731C & D
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-18	**MW-19**	**MW-20**
Nearest Extraction Well:		MW-21	MW-21	MW-21
Approximate Distance:		19 ft	14 ft	120 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:15	0.0	0	0	0
11:45	0.5	0	0	0
12:15	1.0	0	0	0
12:45	1.5	0	0	0
13:15	2.0	0	0	0
13:45	2.5	0	0	0
14:15	3.0	0	0	0
14:45	3.5	0	0	0
15:15	4.0	0	0	0
15:45	4.5	0	0	0
16:15	5.0	0	0	0
16:45	5.5	0	0	0
17:15	6.0	0	0	0
17:45	6.5	0	0	0
18:15	7.0	0	0	0
18:45	7.5	0	0	0
19:15	8.0	0	0	0
19:45	8.5	0	0	0
20:15	9.0	0	0	0
20:45	9.5	0	0	0
21:15	10.0	0	0	0
21:45	10.5	0	0	0
22:15	11.0	0	0	0
22:45	11.5	0	0	0
23:15	12.0	0	0	0
23:45	12.5	0	0	0
0:15	13.0	0	0	0
0:45	13.5	0	0	0
1:15	14.0	0	0	0
1:45	14.5	0	0	0
2:15	15.0	0	0	0
2:45	15.5	0	0	0
3:15	16.0	0	0	0
3:45	16.5	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-18	**MW-19**	**MW-20**
Nearest Extraction Well:		MW-21	MW-21	MW-21
Approximate Distance:		19 ft	14 ft	120 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		6.71	6.71	6.71
15:15	4 hours	6.38	6.36	6.60
19:15	8 hours	8.01	7.45	6.78
23:15	12 hours	7.62	7.12	6.91
3:45	16 hours	6.40	6.22	6.45
Maximum Change:		-1.63	-1.09	0.46



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number: TK1010663

5. Generator's Name and Mailing Address: MIDLANDS ENVIRONMENTAL, 1144 TWO NOTCH ROAD, LEXINGTON, SC 29073

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: TK TANK SERVICE — SUMTER, SC — U.S. EPA ID Number: 987573557

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: TK TANK SERVICES, 425 BOULEVARD ROAD, SUMTER, SC 29153 — U.S. EPA ID Number: 987573557

Facility's Phone: 803-418-5314

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
NON HAZARDOUS PETROLEUM CONTAMINATED WATER		TT	2740 ~~2600~~	gallons

13. Sp

SCDHEC Site	Permit Number	Gallons Produced
Frank's Amoco	12614	365
Thrifty Gas Mart	02010	125
Gregory's Store	08979	200
Bulk Plant	14052	215
Bulk Plant	14052	110
Supreme Quick Stop	00444	250
Cooley's Grocery	00420	100
Bulk Plant	14052	350
Bulk Plant	14052	250
Pantry 3235	02872	250
Bay Creek Villas	18662	200
Crown SC-517	08466	325

GENERATOR

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Tom — Signature — Month — Day — Year

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steve A. Gamble — Signature: Steve A. Gamble — Month: 2 — Day: 1 — Year: 12

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Tommy Keels — Signature: Tommy Keels — Month: 2 — Day: 1 — Year: 12

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

FEB 07 2012

UST DOCKETING

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received February 2, 2012
Colleton County

Dear Mr. Padgett:

As you are aware, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on January 30-31, 2012. A copy of the report is enclosed. Free phase product was found in one monitoring well with a thickness of 0.12 feet and the AFVR event was completed on this well for 16 hours. Approximately 0.57 equivalent gallons of petroleum vapor was recovered along with 200 gallons of contaminated water. One additional 16-hour AFVR event is currently planned.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment.

UST DOCKETING

MAR 1 3 2012

BRIAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071-0854

Re: Bid # IBF-36815-8/27/09-EMW; PO # 4500011659
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Free Product (FP) recovery using Aggressive Fluid Vapor Recovery (AFVR) or passive skimmers at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR and/or passive skimmers installation. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 4500011659 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below). **All AFVR events must be conducted in accordance with Section B of the UST Quality Assurance Program Plan (QAPP). All wells other then targeted wells must be capped (sealed) during the events.**

UST Permit #	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt.
01253	Macks Camp	Berkeley	1	3 AFVR	60 days	43310	3,315.00
16009	Mary Moorhead Property	Anderson	1	3 AFVR	60 days	43307	5,355.00
~~06994~~	Glover's Gulf Service	Orangeburg	1	6 AFVR	90 days	43308	6,555.00
18662	Bay Creek Villas	Colleton	1	5 AFVR	90 days	43318	5,475.00
14469	Great Falls Exxon	Chester	1	1 AFVR	60 days	43321	1,610.00

*From receipt of letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained.

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval. Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

The Department grants pre-approval for transportation of free phase product and petroleum contaminated groundwater from the referenced site to a permitted treatment facility. The free product and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 896-6664, by fax at (803) 896-6245 or by email at milenkmp@dhec.sc.gov.

Sincerely,

Maia Milenkova

Maia Milenkova, Hydrogeologist
Assessment Section
UST Management Division
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packets
cc: Technical File (w/copy of ACA)
SCDHEC/UST/03/05/12/MPM

Midlands
Environmental
Consultants, Inc.

March 13, 2012

UST
MAR 1 5 2012
PROGRAM

UST
124 tech
DOCKETING

Mr. Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA # 42586
MECI Project Number 11-3731E & F
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on February 29 and March 01, 2012. The event was conducted on monitoring well MW-18, MW-19, and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in monitoring wells MW-18, MW-19, and MW-21 prior to the AFVR event. The event was conducted continuously for sixteen hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 9.23 pounds or approximately 1.59 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.58 pounds per hour. Concentrations of off gas produced during the event were recorded from 38.9 parts per million by volume (PPM) to 821 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 19.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1E.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2E. Monitoring well locations are depicted on attached Figure 1.

A total of 325 gallons of liquid was removed from monitoring wells MW-18, MW-19, and MW-21 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3731E
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	02/29/12	11:00	0.50	10.0	276	2,650	238.50	0.79	0.39
MW-19	02/29/12	11:30	0.50	10.0	319	2,670	240.30	0.92	0.46
MW-21	02/29/12	12:00	0.50	10.0	232	2,760	248.40	0.69	0.35
	02/29/12	12:30	0.50	10.0	116	2,790	251.10	0.35	0.17
	02/29/12	13:00	0.50	10.0	87.9	2,920	262.80	0.28	0.14
	02/29/12	13:30	0.50	10.0	61.4	3,010	270.90	0.20	0.10
	02/29/12	14:00	0.50	10.0	43.4	3,020	271.80	0.14	0.07
	02/29/12	14:30	0.50	19.0	821	1,660	149.40	1.47	0.74
	02/29/12	15:00	0.50	19.0	772	1,690	152.10	1.41	0.70
	02/29/12	15:30	0.50	19.0	720	1,650	148.50	1.28	0.64
	02/29/12	16:00	0.50	19.0	677	1,630	146.70	1.19	0.60
	02/29/12	16:30	0.50	15.0	488	2,010	180.90	1.06	0.53
	02/29/12	17:00	0.50	15.0	440	2,050	184.50	0.97	0.49
	02/29/12	17:30	0.50	15.0	352	2,020	181.80	0.77	0.38
	02/29/12	18:00	0.50	15.0	290	2,060	185.40	0.65	0.32
	02/29/12	18:30	0.50	12.0	263	2,080	187.20	0.59	0.30
	02/29/12	19:00	0.50	12.0	245	2,060	185.40	0.55	0.27
	02/29/12	19:30	0.50	12.0	238	2,320	208.80	0.60	0.30
	02/29/12	20:00	0.50	12.0	224	2,380	214.20	0.58	0.29
	02/29/12	20:30	0.50	12.0	206	2,550	229.50	0.57	0.28
	02/29/12	21:00	0.50	12.0	191	2,610	234.90	0.54	0.27
	02/29/12	21:30	0.50	12.0	153	2,620	235.80	0.43	0.22
	02/29/12	22:00	0.50	12.0	126	2,640	237.60	0.36	0.18
	02/29/12	22:30	0.50	12.0	113	2,790	251.10	0.34	0.17
	02/29/12	23:00	0.50	11.0	101	2,790	251.10	0.30	0.15
	02/29/12	23:30	0.50	11.0	81.1	2,830	254.70	0.25	0.12
	03/01/12	0:00	0.50	11.0	68.2	2,850	256.50	0.21	0.10
	03/01/12	0:30	0.50	11.0	57.3	2,860	257.40	0.18	0.09
	03/01/12	1:00	0.50	11.0	55.4	2,870	258.30	0.17	0.09
	03/01/12	1:30	0.50	11.0	49.2	2,890	260.10	0.15	0.08
	03/01/12	2:00	0.50	11.0	62.8	2,880	259.20	0.20	0.10
	03/01/12	2:30	0.50	11.0	50.1	2,890	260.10	0.16	0.08
	03/01/12	3:00	0.50	11.0	42.2	2,910	261.90	0.13	0.07
									TOTAL 9.23

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	6.62	***	***	6.87	***	0.25
MW-19	2"	2.5-9.5	***	6.57	***	***	6.95	***	0.38
MW-21	2"	2.5-9.5	***	6.49	***	***	7.22	***	0.73

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	7.50
Truck Operator:	B. Owen	MW-19	7.50
Stack I.D. (feet)	0.33 feet	MW-21	7.50

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	9.23	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.59	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	325	Gallons

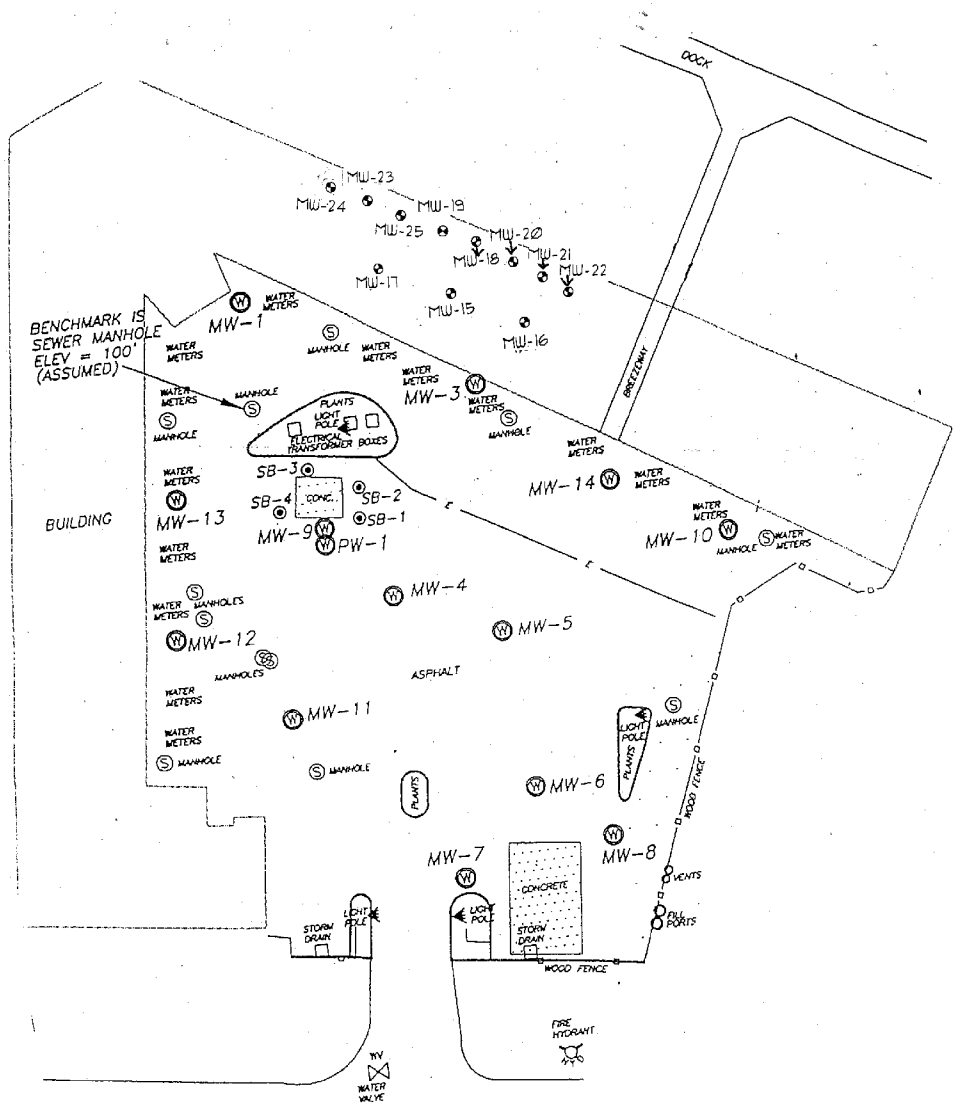
TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 11-3731E
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:				
		MW-20	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-18	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		15 ft	11 ft	27 ft	40 ft	16 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**				
11:00	0.0	0	0	0	0	0
11:30	0.5	0	0	0	0	0
12:00	1.0	0	0	0	0	0
12:30	1.5	0	0	0	0	0
13:00	2.0	0	0	0	0	0
13:30	2.5	0	0	0	0	0
14:00	3.0	0	0	0	0	0
14:30	3.5	0	0	0	0	0
15:00	4.0	0	0	0	0	0
15:30	4.5	0	0	0	0	0
16:00	5.0	0	0	0	0	0
16:30	5.5	0	0	0	0	0
17:00	6.0	0	0	0	0	0
17:30	6.5	0	0	0	0	0
18:00	7.0	0	0	0	0	0
18:30	7.5	0	0	0	0	0
19:00	8.0	0	0	0	0	0
19:30	8.5	0	0	0	0	0
20:00	9.0	0	0	0	0	0
20:30	9.5	0	0	0	0	0
21:00	10.0	0	0	0	0	0
21:30	10.5	0	0	0	0	0
22:00	11.0	0	0	0	0	0
22:30	11.5	0	0	0	0	0
23:00	12.0	0	0	0	0	0
23:30	12.5	0	0	0	0	0
0:00	13.0	0	0	0	0	0
0:30	13.5	0	0	0	0	0
1:00	14.0	0	0	0	0	0
1:30	14.5	0	0	0	0	0
2:00	15.0	0	0	0	0	0
2:30	15.5	0	0	0	0	0
3:00	16.0	0	0	0	0	0
Maximum Change:		**0**	**0**	**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:				
		MW-20	**MW-22**	**MW-23**	**MW-24**	**MW-25**
Nearest Extraction Well:		MW-18	MW-21	MW-19	MW-19	MW-19
Approximate Distance:		15 ft	11 ft	27 ft	40 ft	16 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**				
Prior toAFVR		6.57	6.43	4.66	5.16	6.53
15:00	4 hours	6.65	6.10	4.62	5.15	6.47
19:00	8 hours	7.12	6.82	4.63	5.15	6.65
23:00	12 hours	7.24	6.90	4.64	5.17	6.70
3:00	16 hours	7.11	6.87	4.63	5.15	6.71
Maximum Change:		-0.67	-0.80	-0.04	-0.02	-0.24



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number

5. Generator's Name and Mailing Address: MIDLANDS ENVIRONMENTAL, 1134 TWO NOTCH ROAD, LEXINGTON, SC 29072

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: TR TANK SERVICE, SUMTER, SC — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address: TR TANK SERVICE, 125 BOULEVARD ROAD, SUMTER, SC 29152 — U.S. EPA ID Number

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
NON HAZARDOUS PETROLEUM CONTAMINATED WATER		TT	3690	gallons

SCDHEC Site	Permit Number	Gallons Produced
West State Line Gulf	08606	175
West State Line Gulf	08606	150
Bay Creek Villas	18662	325
McGill Grocery	19440	200
Ford Specialist	00487	100
Satterfield Used Cars	14212	100
Gregory's Store	08979	200
Former McCoy Oil	19002	325
Phillips Rental Property	19328	140
Burton's BP	12299	125
Southern Gas Service	03913	175
Winners Circle	10382	150
Winners Circle	10382	150
Wailon's Quick Stop	12814	175
Gibb's Grocery	03463	450
Richland County Landfill	11808	100
Former Gulf Station	18447	200
Former Fast Fare	18131	250
Summers Store	03198	0
TJ's Mart (Former Smile Gas #43)	11164	200

escribed above by the proper shipping name, and are classified, packaged, ational governmental regulations.

Month Day Year

ntry/exit:

ving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steve A. Gamble — Signature: Steve A. Gamble — Month 3 Day 14 Year 12

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

UST DOCKETING 125 tech

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

MAR 19 2012

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received March 15, 2012
Colleton County

Dear Mr. Padgett:

As you are aware, a 16-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on February 29-March 1, 2012. A copy of the report is enclosed. Free phase product was not found in any of the monitoring wells and the AFVR event was completed for 16 hours. Approximately 1.59 equivalent gallons of petroleum vapor was recovered along with 325 gallons of contaminated water. Five additional 8-hour AFVR events are currently planned.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Midlands
Environmental
Consultants, Inc.

May 7, 2012

UST
MAY 09 2012
PROGRAM

Mr. Read Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
126 Fed
DOCKETING

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #43318
MECI Project Number 12-3897A
Certified Site Rehabilitation Contractor UCC-009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted a site visit at Bay Creek Villas on April 17, 2012 to locate/gauge monitoring and evaluate current site conditions. MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on April 24, 2012. The event was conducted on monitoring wells MW-18 and MW-19 to reduce dissolved CoC concentrations. Free phase petroleum product was detected in monitoring wells MW-18 or MW-19 prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was detected in MW-18 at a thickness of 0.35 feet and in MW-19 at a thickness of 0.50 feet immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 4.50 pounds or approximately 0.78 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.56 pounds per hour. Concentrations of off gas produced during the event were recorded from 50.1 parts per million by volume (PPM) to 1,345 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 5.0 to 14.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A. Monitoring well locations are depicted on attached Figure 1.

A total of 180 gallons of liquid was removed from MW-18 and MW-19 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services of Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Brian J. Owen
Field Technician

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1A
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3897A
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (In. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	04/24/12	10:30	0.50	14.0	880	820	73.80	0.78	0.39
MW-19	04/24/12	11:00	0.50	14.0	1,345	780	70.20	1.13	0.57
	04/24/12	11:30	0.50	14.0	1,315	730	65.70	1.04	0.52
	04/24/12	12:00	0.50	14.0	1,323	680	61.20	0.97	0.49
	04/24/12	12:30	0.50	10.0	514	1,230	110.70	0.68	0.34
	04/24/12	13:00	0.50	10.0	289	1,150	103.50	0.36	0.18
	04/24/12	13:30	0.50	8.0	268	2,570	231.30	0.74	0.37
	04/24/12	14:00	0.50	8.0	221	2,620	235.80	0.63	0.31
	04/24/12	14:30	0.50	5.0	192	2,170	195.30	0.45	0.22
	04/24/12	15:00	0.50	5.0	189	2,490	224.10	0.51	0.25
	04/24/12	15:30	0.50	5.0	136	2,420	217.80	0.36	0.18
	04/24/12	16:00	0.50	5.0	111	2,380	214.20	0.29	0.14
	04/24/12	16:30	0.50	5.0	103	2,520	226.80	0.28	0.14
	04/24/12	17:00	0.50	5.0	88.7	2,640	237.60	0.25	0.13
	04/24/12	17:30	0.50	5.0	71.4	2,730	245.70	0.21	0.11
	04/24/12	18:00	0.50	5.0	63.8	2,610	234.90	0.18	0.09
	04/24/12	18:30	0.50	5.0	50.1	2,530	227.70	0.14	0.07
									TOTAL 4.50

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	5.68	***	7.60	7.95	0.35	1.97
MW-19	2"	2.5-9.5	***	5.58	***	7.10	7.60	0.50	1.60

Vacuum Truck Information		Well ID	Stinger Depth
Subcontrator:	MECI	MW-18	6.00
Truck Operator:	C. Lashely	MW-19	6.00
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	4.50	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.78	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services	
Total Liquids Removed:	180	Gallons

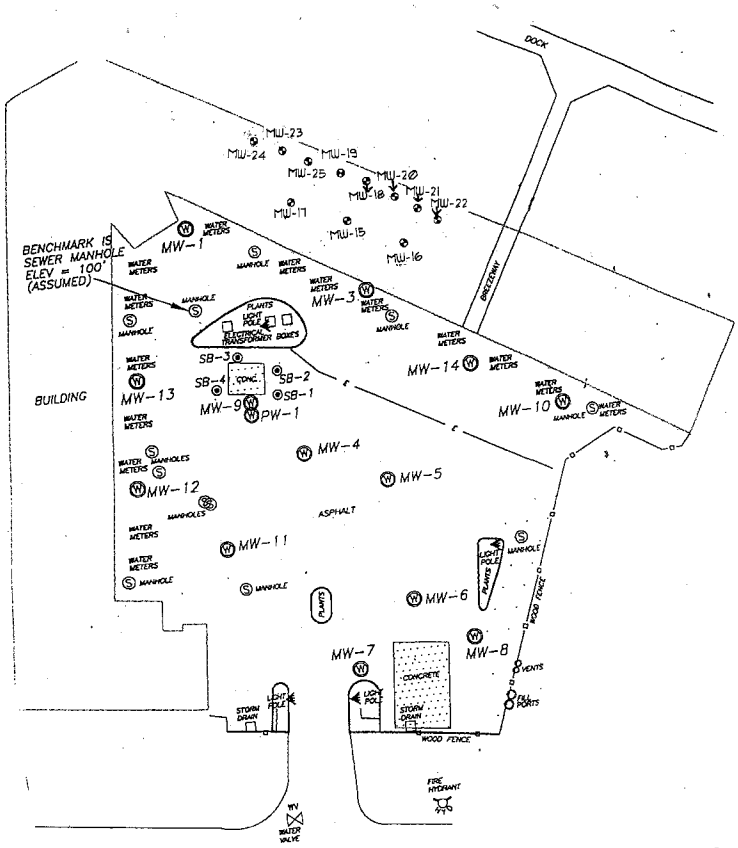
TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3897A
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-17**	**MW-21**
Nearest Extraction Well:		MW-18	MW-19	MW-18
Approximate Distance:		17 ft	22 ft	22 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:30	0.0	0	0	0
11:00	0.5	0	0	0
11:30	1.0	0	0	0
12:00	1.5	0	0	0
12:30	2.0	0	0	0
13:00	2.5	0	0	0
13:30	3.0	0	0	0
14:00	3.5	0	0	0
14:30	4.0	0	0	0
15:00	4.5	0	0	0
15:30	5.0	0	0	0
16:00	5.5	0	0	0
16:30	6.0	0	0	0
17:00	6.5	0	0	0
17:30	7.0	0	0	0
18:00	7.5	0	0	0
18:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-17**	**MW-21**
Nearest Extraction Well:		MW-18	MW-19	MW-18
Approximate Distance:		17 ft	22 ft	22 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.60	4.48	5.41
14:30	4 hours	4.59	4.45	6.78
18:30	8 hours	4.58	4.46	7.62
Maximum Change:		0.02	0.03	-2.21



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address

Generator's Site Address (if different than mailing address)

TK10754

MIDLANDS ENVIRONMENTAL
1144 TWO NOTCH ROAD
LEXINGTON, SC 29073

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

SERVICE SUMTER, SC

8. Designated Facility Name and Site Address — U.S. EPA ID Number

TK TANK SERVICES
455 BOULEVARD ROAD
SUMTER, SC 29153

Facility's Phone:

803-418-5514

9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
1. NON HAZARDOUS PETROLEUM CONTAMINATED WATER	1	TT	2880	gallons

SCDHEC Site	Permit Number	Gallons Produced
Summers Store	03198	0
Richland County Landfill	11808	100
Former Fast Fare	18131	75
Former Fast Fare	18131	125
Phillips Rental Property	19328	200
Bay Creek Villas	18662	180
Ancrum	01617	150
Constan Car Wash	07871	150
Glovers Gulf Service	06994	150
Don D. Grant	02697	225
Former Price Service Center	19411	100
Ford Specialist	00487	100
Rogers Auto Parts	00428	50
Mary Moorhead Property	16009	100
BB&T	19443	150
Burrow's Service Center	12487	325
J.C. Morrows	08551	150
Donahue Grocery	04581	175
Whittle Brothers	00585	175
Baxley Lawn & Saw Shop	00892	150
Stewart Sandwich	04474	50

accurately described above by the proper shipping name, and are classified, packaged, tional and national governmental regulations.

Month Day Year

Port of entry/exit:

Date leaving U.S.:

Steve A. Gamble — Steve A. Gamble — Month 5 Day 7 Year 12

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MAY 2 3 2012

UST DOCKETING 127 Tech

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received May 9, 2012
Colleton County

Dear Mr. Padgett:

As you are aware, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on April 24, 2012. A copy of the report is enclosed. Free phase product was measured in monitoring well MW-18 (0.35 feet) and MW-19 (0.5 feet). Approximately 0.78 equivalent gallons of petroleum vapor was recovered along with 180 gallons of contaminated water. Four additional 8-hour AFVR events are currently planned.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Midlands
Environmental
Consultants, Inc.

May 22, 2012

UST
MAY 2 5 2012
PROGRAM

UST
128 tech
DOCKETING

Mr. Read Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #43318
MECI Project Number 12-3897B
Certified Site Rehabilitation Contractor UCC-009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on May 14, 2012. The event was conducted on monitoring wells MW-18 and MW-20 to reduce dissolved CoC concentrations. Free phase petroleum product was detected in monitoring wells MW-18 or MW-20 prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the monitoring wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 5.82 pounds or approximately 1.01 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.73 pounds per hour. Concentrations of off gas produced during the event were recorded from 364 parts per million by volume (PPM) to 763 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

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Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2B. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from MW-18 and MW-20 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services of Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Brian J. Owen
Field Technician

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1B
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3897B
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	05/14/12	11:00	0.50	10.0	763	1,660	149.40	1.37	0.68
MW-20	05/14/12	11:30	0.50	10.0	501	1,690	152.10	0.91	0.46
	05/14/12	12:00	0.50	10.0	365	1,740	156.60	0.69	0.34
***	05/14/12	12:30	0.50	15.0	621	1,330	119.70	0.89	0.45
	05/14/12	13:00	0.50	15.0	364	1,210	108.90	0.48	0.24
	05/14/12	13:30	0.50	14.0	392	1,330	119.70	0.56	0.28
	05/14/12	14:00	0.50	14.0	516	1,310	117.90	0.73	0.37
	05/14/12	14:30	0.50	14.0	503	1,290	116.10	0.70	0.35
	05/14/12	15:00	0.50	14.0	497	1,280	115.20	0.69	0.34
	05/14/12	15:30	0.50	14.0	488	1,270	114.30	0.67	0.33
	05/14/12	16:00	0.50	14.0	476	1,250	112.50	0.64	0.32
	05/14/12	16:30	0.50	14.0	461	1,220	109.80	0.61	0.30
	05/14/12	17:00	0.50	14.0	450	1,180	106.20	0.57	0.29
	05/14/12	17:30	0.50	14.0	439	1,150	103.50	0.55	0.27
	05/14/12	18:00	0.50	14.0	432	1,130	101.70	0.53	0.26
	05/14/12	18:30	0.50	14.0	429	1,140	102.60	0.53	0.26
	05/14/12	19:00	0.50	14.0	425	1,150	103.50	0.53	0.26
									TOTAL
									5.82

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	6.61	***	***	6.25	***	-0.36
MW-20	2"	3-10	***	5.51	***	***	5.11	***	-0.40

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	7.00
Truck Operator:	C. Lashely	MW-20	6.00
Stack I.D. (feet)	0.33 feet		

*** = Stingers shortened by 2' to compensate for tidal influence

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	5.82	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.01	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services	
Total Liquids Removed:	150	Gallons

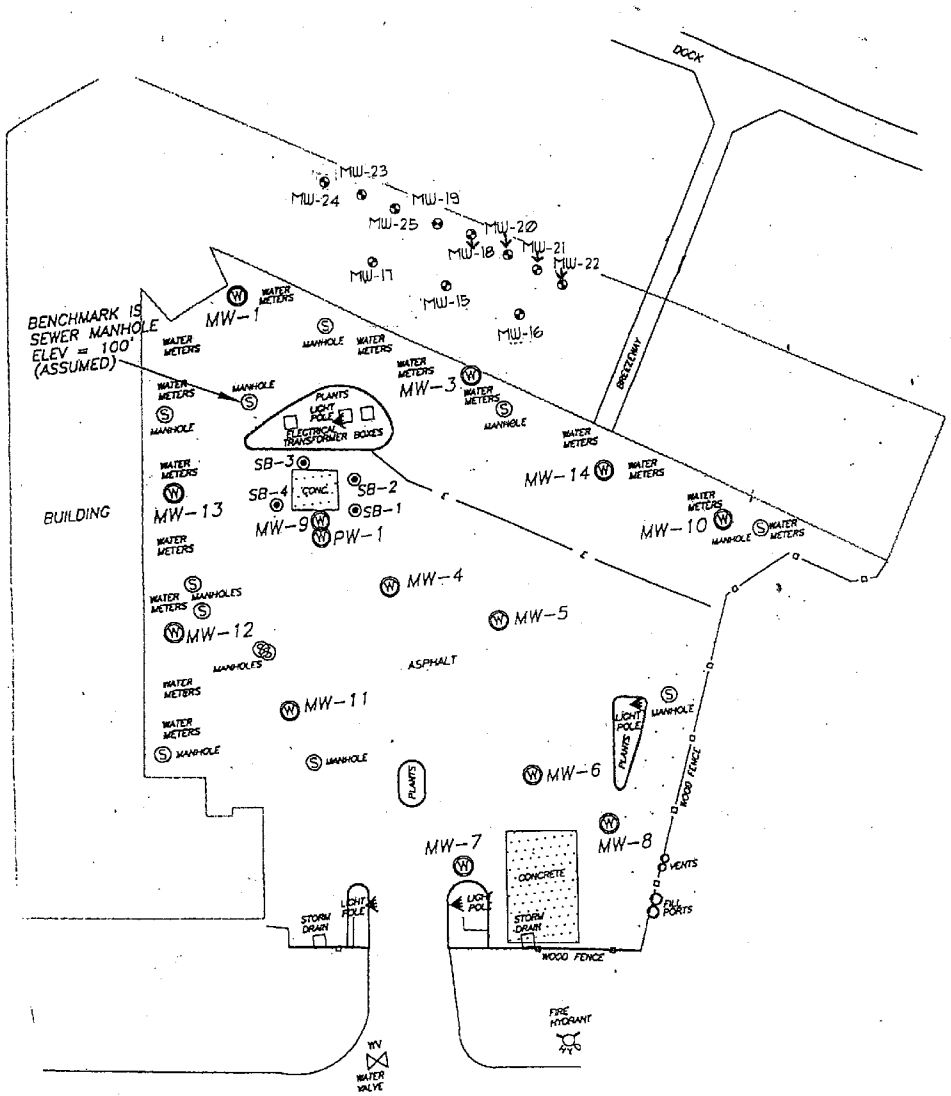
TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3897B
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-21**
Nearest Extraction Well:		MW-18	MW-20	MW-20
Approximate Distance:		17 ft	19 ft	10 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:00	0.0	0	0	0
11:30	0.5	0	0	0
12:00	1.0	0	0	0
12:30	1.5	0	0	0
13:00	2.0	0	0	0
13:30	2.5	0	0	0
14:00	3.0	0	0	0
14:30	3.5	0	0	0
15:00	4.0	0	0	0
15:30	4.5	0	0	0
16:00	5.0	0	0	0
16:30	5.5	0	0	0
17:00	6.0	0	0	0
17:30	6.5	0	0	0
18:00	7.0	0	0	0
18:30	7.5	0	0	0
19:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-15	**MW-16**	**MW-21**
Nearest Extraction Well:		MW-18	MW-20	MW-20
Approximate Distance:		17 ft	19 ft	10 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		4.58	6.40	6.61
15:00	4 hours	4.60	5.40	5.01
19:00	8 hours	4.60	5.20	5.00
Maximum Change:		-0.02	1.20	1.61



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1488
DATE	January 31, 2008
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number

5. Generator's Name and Mailing Address: Midlands Environmental, 1144 Two Notch Rd, Lexington, SC

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name — U.S. EPA ID Number

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address — U.S. EPA ID Number

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Nonhazardous Petroleum Contaminated water	001	T1	3675	gallons

SCDHEC Site	Permit Number	Gallons Produced
Thrify Gas Mart	02010	100
Hilton's Grocery	12655	150
EZ Stop	14555	50
Donnie's Muffler	18955	325
Former McCoy Oil Site	19002	325
Richland County Public Works	11805	200
Glovers Gulf Service	06994	125
Bay Creek Villas	18662	150
Ancrum	01617	150
Former Gulf Station	18447	100
Phillips Rental Property	19328	100
Mary Moorhead Property	16009	150
Willis Grocery	08308	175
Willis Grocery	08308	150
Garret Hampton	19466	175
Former Gulf Station	18447	150
Boles Enterprises	04768	150
Boles Enterprises	04768	175
Former McCoy Oil Site	19002	300
EZ Stop	14555	225
BB&T	19443	250

13.

...ns for reporting proper disposal of Hazardous Waste.

Month Day Year

...of entry/exit:

...leaving U.S.:

Transporter 1 Printed/Typed Name: Steve A. Gambl. — Signature: Steve A. [illegible] — Month 5 Day 24 Year 12

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

MAY 30 2012

UST DOCKETING 1394ecl

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received May 25, 2012
Colleton County

Dear Mr. Padgett:

As you are aware, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on May 14, 2012. A copy of the report is enclosed. Free phase product was not observed in any of the monitoring wells. Approximately 1.01 equivalent gallons of petroleum vapor was recovered along with 150 gallons of water. Three additional 8-hour AFVR events are currently planned.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Midlands
Environmental
Consultants, Inc.

UST
JUN 1 4 2012
PROGRAM

June 14, 2012

Mr. Read Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

US
130 tech
ET

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #43318
MECI Project Number 12-3897C
Certified Site Rehabilitation Contractor UCC-009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on June 04, 2012. The event was conducted on monitoring wells MW-18, MW-19, and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in monitoring wells MW-18, MW-19 , and MW-20 prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the monitoring wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 3.60 pounds or approximately 0.62 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.45 pounds per hour. Concentrations of off gas produced during the event were recorded from 60.1 parts per million by volume (PPM) to 902 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 18.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1C.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2C. Monitoring well locations are depicted on attached Figure 1.

A total of 100 gallons of liquid was removed from MW-18, MW-19, and MW-21 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services of Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1C
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3897C
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	06/04/12	11:15	0.50	12.0	171	1,580	142.20	0.29	0.15
MW-19	06/04/12	11:45	0.50	12.0	114	1,560	140.40	0.19	0.10
MW-21	06/04/12	12:15	0.50	10.0	167	1,750	157.50	0.32	0.16
	06/04/12	12:45	0.50	10.0	121	1,750	157.50	0.23	0.11
	06/04/12	13:15	0.50	10.0	98.9	1,760	158.40	0.19	0.09
	06/04/12	13:45	0.50	10.0	102	1,780	160.20	0.20	0.10
	06/04/12	14:15	0.50	10.0	68.2	1,780	160.20	0.13	0.07
	06/04/12	14:45	0.50	10.0	60.1	1,790	161.10	0.12	0.06
***	06/04/12	15:15	0.50	10.0	76.3	1,770	159.30	0.15	0.07
	06/04/12	15:45	0.50	14.0	81.2	1,660	149.40	0.15	0.07
	06/04/12	16:15	0.50	14.0	64.0	1,610	144.90	0.11	0.06
	06/04/12	16:45	0.50	18.0	902	1,080	97.20	1.05	0.53
	06/04/12	17:15	0.50	18.0	844	1,020	91.80	0.93	0.46
	06/04/12	17:45	0.50	18.0	761	1,040	93.60	0.85	0.43
	06/04/12	18:15	0.50	18.0	724	1,040	93.60	0.81	0.41
	06/04/12	18:45	0.50	18.0	631	1,030	92.70	0.70	0.35
	06/04/12	19:15	0.50	18.0	689	1,060	95.40	0.79	0.39
									TOTAL
									3.60

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-18	2"	3-10	***	6.55	***	***	7.30	***	0.75
MW-19	2"	3-10	***	5.10	***	***	1.90	***	-3.20
MW-21	2"	3-10	***	5.42	***	***	6.70	***	1.28

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	7.00
Truck Operator:	B. Owen	MW-19	6.00
Stack I.D. (feet)	0.33 feet	MW-21	6.00

*** = Added 1 Foot to Stingers

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	3.60	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.62	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services	
Total Liquids Removed:	100	Gallons

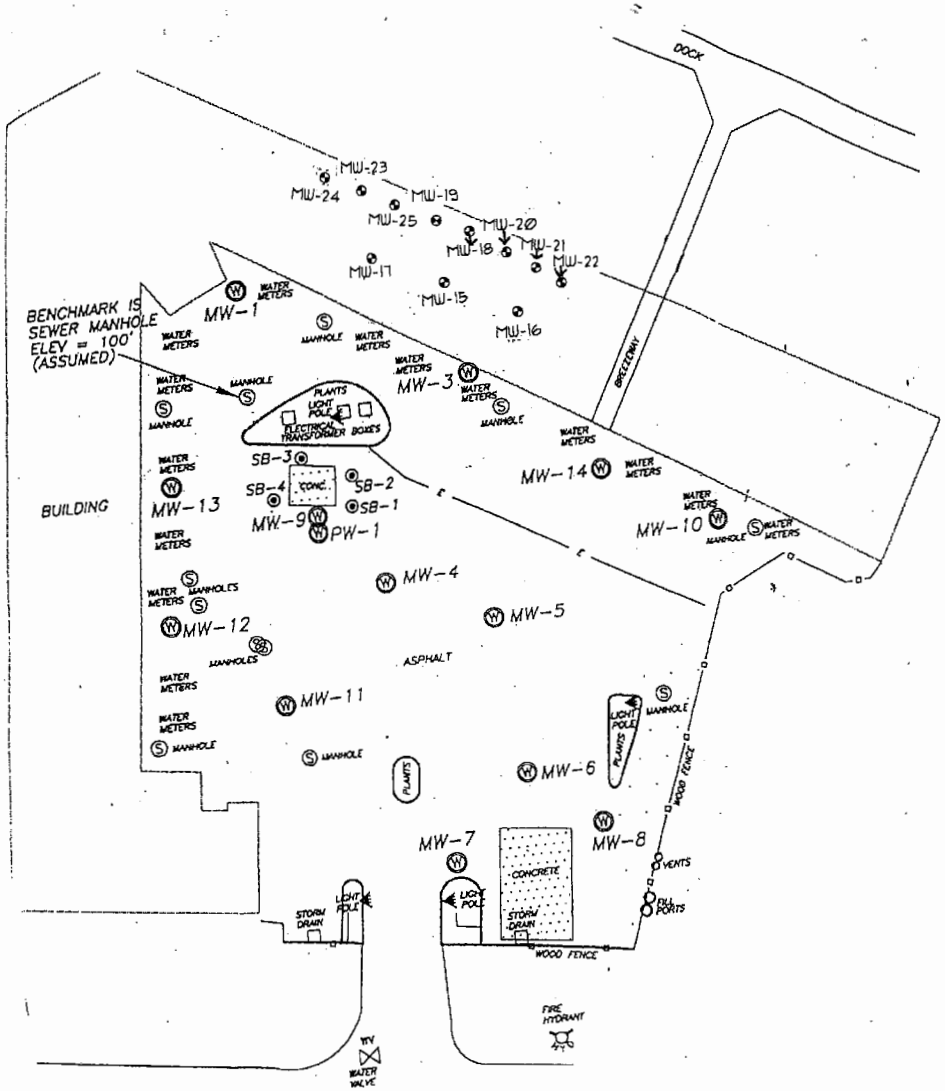
TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3897C
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-20	**MW-23**	**MW-25**
Nearest Extraction Well:		MW-21	MW-19	MW-18
Approximate Distance:		18 ft	27 ft	27 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:15	0.0	0	0	0
11:45	0.5	0	0	0
12:15	1.0	0	0	0
12:45	1.5	0	0	0
13:15	2.0	0	0	0
13:45	2.5	0	0	0
14:15	3.0	0	0	0
14:45	3.5	0	0	0
15:15	4.0	0	0	0
15:45	4.5	0	0	0
16:15	5.0	0	0	0
16:45	5.5	0	0	0
17:15	6.0	0	0	0
17:45	6.5	0	0	0
18:15	7.0	0	0	0
18:45	7.5	0	0	0
19:15	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-20	**MW-23**	**MW-25**
Nearest Extraction Well:		MW-21	MW-19	MW-18
Approximate Distance:		18 ft	27 ft	27 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		5.05	3.95	5.65
15:15	4 hours	5.91	3.92	5.89
19:15	8 hours	6.85	3.94	6.40
Maximum Change:		-1.80	-0.03	-0.75



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number

5. Generator's Name and Mailing Address: 1

Generator's Site Address (if different than mailing address): 10808

Generator's Phone: MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON, SC 29073

6. Transporter 1 Company Name: 803-360-7957 — U.S. EPA ID Number:

7. Transporter 2 Company Name: T K TANK SERVICES,INC. — U.S. EPA ID Number:

8. Designated Facility Name and Site Address — U.S. EPA ID Number:

Facility's Phone:

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. nonhazardous petroleum contaminated water/product	1	TT	3180 ~~2500~~	gallons

SCDHEC Site	Permit Number	Gallons Produced
Heath Self Serve 2	08932	230
Heath Self Serve 2	08932	225
Heath Self Serve 2	08932	125
Oakland Ave.	19192	100
Oakland Ave.	19192	100
Burrow's Service Center	12487	400
Green Ave. BP	13084	100
Southern Gas Service	03913	175
United Oil #144	13137	150
Bay Creek	18662	100
Ancrum	01617	200
Macks Camp	01253	200
Glover's Gulf Service	06994	125
Heath Self Serve 2	08932	150
Munn E Saver	11776	225
Fmr. McCoy Oil	19002	325
Baxley Lawn & Show Shop	00892	150
Whittle Brothers Texaco	00858	100

...curately described above by the proper shipping name, and are classified, packaged, ...onal and national governmental regulations.

Month Day Year: 6 11 2012

Port of entry/exit:

Date leaving U.S.:

Transporter Signature (for exports only):

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steve A Gamble — Signature: Steve A. Gamble — Month Day Year: 6 11 2012

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Tommy Keels — Signature: Tommy Keels — Month Day Year: 6 11 2012

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

JUN 1 9 2012

UST DOCKETING 13/Tech

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received June 14, 2012
Colleton County

Dear Mr. Padgett:

As you are aware, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on June 4, 2012. A copy of the report is enclosed. Free phase product was not observed in any of the monitoring wells. Approximately 0.62 equivalent gallons of petroleum vapor was recovered along with 100 gallons of water. Two additional 8-hour AFVR events are currently planned.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Midlands
Environmental
Consultants, Inc.

June 21, 2012

Mr. Read Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
JUL 0 2 2012
PROGRAM

UST
0132 T
DOCKETING

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #43318
MECI Project Number 12-3897D
Certified Site Rehabilitation Contractor UCC-009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on June 18, 2012. The event was conducted on monitoring wells MW-18, MW-19, and MW-21 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in monitoring wells MW-18, MW-19, or MW-20 prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the monitoring wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 4.93 pounds or approximately 0.85 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.62 pounds per hour. Concentrations of off gas produced during the event were recorded from 170 parts per million by volume (PPM) to 1,683 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 14.0 to 20.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1D.

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Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2D. Monitoring well locations are depicted on attached Figure.

A total of 175 gallons of liquid was removed from MW-18, MW-19, and MW-21 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services of Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1D
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3897D
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	06/18/12	11:00	0.50	15.0	1,683	1,220	109.80	2.22	1.11
MW-19	06/18/12	11:30	0.50	15.0	1,560	1,190	107.10	2.00	1.00
MW-21	06/18/12	12:00	0.50	14.0	421	1,240	111.60	0.56	0.28
	06/18/12	12:30	0.50	14.0	282	1,260	113.40	0.38	0.19
	06/18/12	13:00	0.50	14.0	240	1,290	116.10	0.33	0.17
	06/18/12	13:30	0.50	14.0	180	1,260	113.40	0.24	0.12
	06/18/12	14:00	0.50	20.0	641	850	76.50	0.59	0.29
	06/18/12	14:30	0.50	20.0	600	890	80.10	0.58	0.29
	06/18/12	15:00	0.50	20.0	541	870	78.30	0.51	0.25
	06/18/12	15:30	0.50	20.0	436	880	79.20	0.41	0.21
	06/18/12	16:00	0.50	20.0	472	890	80.10	0.45	0.23
	06/18/12	16:30	0.50	20.0	412	900	81.00	0.40	0.20
	06/18/12	17:00	0.50	20.0	354	910	81.90	0.35	0.17
	06/18/12	17:30	0.50	20.0	215	890	80.10	0.21	0.10
	06/18/12	18:00	0.50	20.0	266	890	80.10	0.26	0.13
	06/18/12	18:30	0.50	20.0	201	910	81.90	0.20	0.10
	06/18/12	19:00	0.50	20.0	170	920	82.80	0.17	0.08
									TOTAL 4.93

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
MW-18	2"	3-10	***	5.28	***	***	6.91	***	1.63
MW-19	2"	3-10	***	4.82	***	***	6.34	***	1.52
MW-21	2"	3-10	***	5.00	***	***	6.25	***	1.25

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	6.00
Truck Operator:	B. Owen	MW-19	5.50
Stack I.D. (feet)	0.33 feet	MW-21	6.00

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	4.93	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.85	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services	
Total Liquids Removed:	175	Gallons

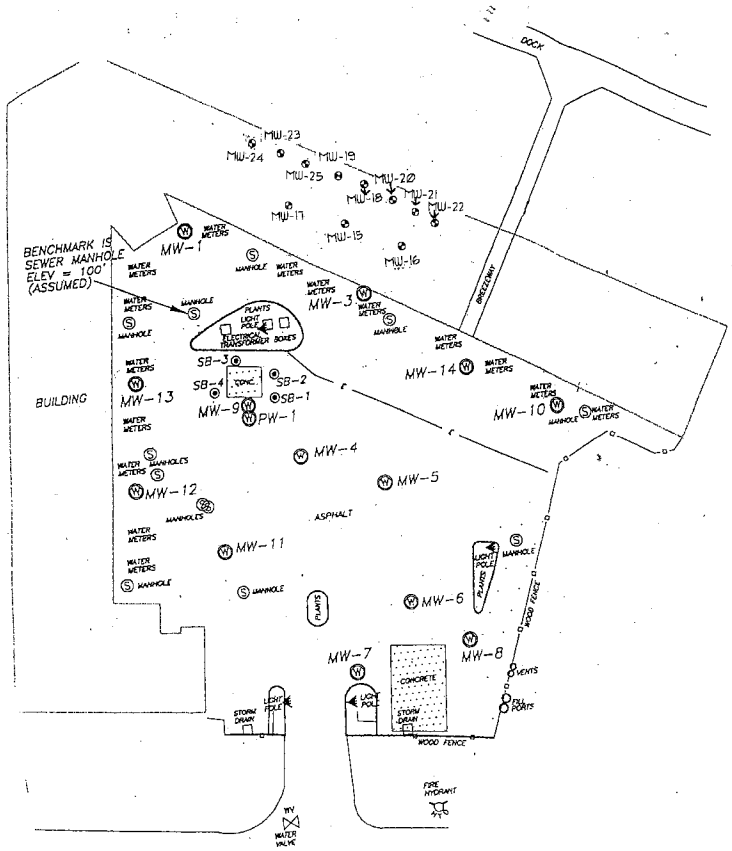
TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3897D
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-20	**MW-23**	**MW-25**
Nearest Extraction Well:		MW-21	MW-19	MW-18
Approximate Distance:		18 ft	27 ft	27 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:00	0.0	0	0	0
11:30	0.5	0	0	0
12:00	1.0	0	0	0
12:30	1.5	0	0	0
13:00	2.0	0	0	0
13:30	2.5	0	0	0
14:00	3.0	0	0	0
14:30	3.5	0	0	0
15:00	4.0	0	0	0
15:30	4.5	0	0	0
16:00	5.0	0	0	0
16:30	5.5	0	0	0
17:00	6.0	0	0	0
17:30	6.5	0	0	0
18:00	7.0	0	0	0
18:30	7.5	0	0	0
19:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-20	**MW-23**	**MW-25**
Nearest Extraction Well:		MW-21	MW-19	MW-18
Approximate Distance:		18 ft	27 ft	27 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior to AFVR		4.69	5.70	4.78
15:00	4 hours	5.30	3.88	5.30
19:00	8 hours	5.68	3.67	5.68
Maximum Change:		-0.99	2.03	-0.90



Explanation:

Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO.	07-1489
DATE	January 31, 2008
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number 10817

5. Generator's Name and Mailing Address
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON, SC 29073
Generator's Phone: 803-360-7957

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
T K TANK SERVICES,INC.
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
T K TANK SERVICES INC
425 BOULEVARD RD.
SUMTER, SC
Facility's Phone: 803-418-5314
U.S. EPA ID Number

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
nonhazardous petroleum contaminated water/product	1	TT	~~2500~~ 5065	gallons

SCDHEC Site	Permit Number	Gallons Produced
Green Ave. BP	13084	50
Rogers Auto	00428	50
Frank's Service Center	08936	200
Donnie's Muffler	18955	125
Garrett Hampton	19466	200
Ez Stop Food Shop	14555	100
Bay Creek	18662	175
Beaufort Patrol	01056	50
Great Falls Exxon	14469	150
Town Of Winnsboro	18662	150
Purolator Corp.	05878	200
United Oil 144	13137	140
United Oil 144	13137	100
Burrow's Service	12487	650
BB&T	19443	150
Constan	07871	50
Green Ave. BP	13084	125
Brown Brother's Gulf Service	04145	200
JC Morrow Grocery	08551	75
Tillman Johnson	08484	125

d accurately described above by the proper shipping name, and are classified, packaged, national and national governmental regulations.

Month 6 Day 27 Year 2012

Port of entry/exit:
Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: STEVE GAMBLE
Signature: Steve A. [illegible]
Month 6 Day 27 Year 12

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Tommy Keels
Signature: Tommy Keels
Month 6 Day 27 Year 12

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

JUL 0 3 2012

UST DOCKETING 133 filed

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received June 29, 2012
Colleton County

Dear Mr. Padgett:

As you are aware, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on June 18, 2012. A copy of the report is enclosed. Free phase product was not observed in any of the monitoring wells. Approximately 0.85 equivalent gallons of petroleum vapor was recovered along with 175 gallons of water. One additional 8-hour AFVR event is currently planned.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6396 or by e-mail at shullss@dhec.sc.gov.

Sincerely,

Shane S. Shull., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

Midlands
Environmental
Consultants, Inc.

August 7, 2012

UST
AUG 0 9 2012
PROGRAM

UST
134dec
DOCKETING

Mr. Read Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID # 18662; CA #43318
MECI Project Number 12-3897E
Certified Site Rehabilitation Contractor UCC-009

Dear Mr. Miner,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Bay Creek Villas on July 23, 2012. The event was conducted on monitoring wells MW-18, MW-19, and MW-21 to remove free phase petroleum product. Free phase petroleum product was detected in monitoring wells MW-18 at a thickness of 0.02 feet, in MW-19 at a thickness of 0.02 feet, and in MW-21 at a thickness of 0.22 feet prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the monitoring wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 5.05 pounds or approximately 0.87 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.63 pounds per hour. Concentrations of off gas produced during the event were recorded from 20.0 parts per million by volume (PPM) to 801 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 8.0 to 13.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1E.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • Fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2E. Monitoring well locations are depicted on attached Figure.

A total of 150 gallons of liquid was removed from MW-18, MW-19, and MW-21 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services of Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1E
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3897E
SCDHEC SITE ID NUMBER 18662

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-18	07/23/12	11:30	0.50	8.0	801	2,330	209.70	2.02	1.01
MW-19	07/23/12	12:00	0.50	8.0	303	2,320	208.80	0.76	0.38
MW-21	07/23/12	12:30	0.50	8.0	111	2,330	209.70	0.28	0.14
	07/23/12	13:00	0.50	9.0	67.8	2,320	208.80	0.17	0.08
	07/23/12	13:30	0.50	10.0	34.4	2,330	209.70	0.09	0.04
	07/23/12	14:00	0.50	8.0	31.7	2,340	210.60	0.08	0.04
	07/23/12	14:30	0.50	6.0	20.0	2,410	216.90	0.05	0.03
	07/23/12	15:00	0.50	13.0	643	1,010	90.90	0.70	0.35
	07/23/12	15:30	0.50	13.0	578	980	88.20	0.61	0.31
	07/23/12	16:00	0.50	13.0	682	1,210	108.90	0.89	0.45
	07/23/12	16:30	0.50	13.0	568	1,340	120.60	0.82	0.41
	07/23/12	17:00	0.50	13.0	512	1,260	113.40	0.70	0.35
	07/23/12	17:30	0.50	13.0	442	1,170	105.30	0.56	0.28
	07/23/12	18:00	0.50	13.0	467	1,180	106.20	0.60	0.30
	07/23/12	18:30	0.50	13.0	507	1,180	106.20	0.65	0.32
	07/23/12	19:00	0.50	13.0	431	1,190	107.10	0.55	0.28
	07/23/12	19:30	0.50	13.0	461	1,180	106.20	0.59	0.29
									TOTAL 5.05

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-18	2"	3-10	5.29	5.31	0.02	***	7.38	***	2.09
MW-19	2"	3-10	5.28	5.30	0.02	***	7.01	***	1.73
MW-21	2"	3-10	5.08	5.30	0.22	***	7.21	***	2.10

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-18	5.50
Truck Operator:	P. Boylan	MW-19	5.50
Stack I.D. (feet)	0.33 feet	MW-21	5.50

Corrected depth to water prior to AFVR event in MW-18= 5.29
Corrected depth to water prior to AFVR event in MW-19= 5.28
Corrected depth to water prior to AFVR event in MW-21= 5.11

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	5.05	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.87	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services	
Total Liquids Removed:	150	Gallons

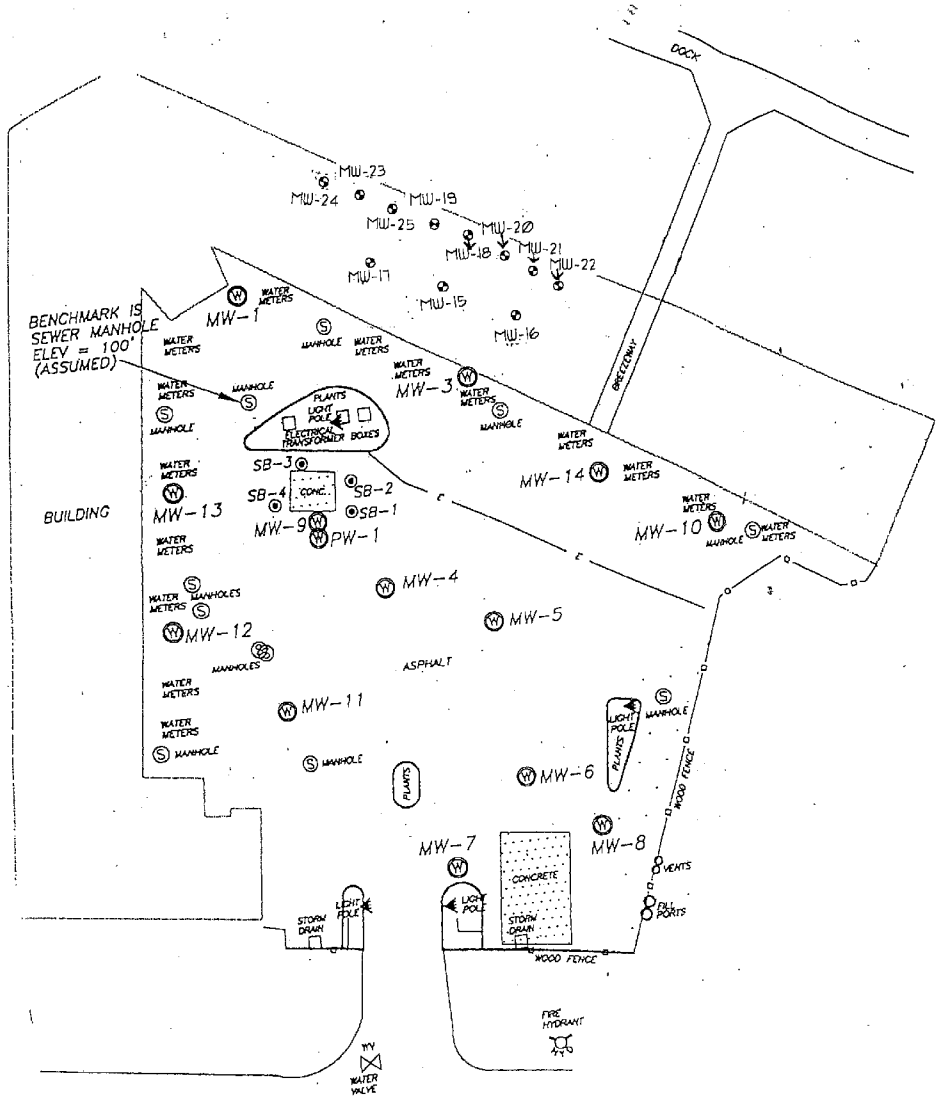
TABLE 2E
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3897E
SCDHEC SITE ID NUMBER 18662

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-20**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		44 ft	18 ft	12 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
11:30	0.0	0	0	0
12:00	0.5	0	0	0
12:30	1.0	0	0	0
13:00	1.5	0	0	0
13:30	2.0	0	0	0
14:00	2.5	0	0	0
14:30	3.0	0	0	0
15:00	3.5	0	0	0
15:30	4.0	0	0	0
16:00	4.5	0	0	0
16:30	5.0	0	0	0
17:00	5.5	0	0	0
17:30	6.0	0	0	0
18:00	6.5	0	0	0
18:30	7.0	0	0	0
19:00	7.5	0	0	0
19:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-3	**MW-15**	**MW-20**
Nearest Extraction Well:		MW-18	MW-18	MW-18
Approximate Distance:		44 ft	18 ft	12 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior to AFVR		6.73	4.50	5.41
15:30	4 hours	5.39	4.49	5.50
19:30	8 hours	5.42	4.48	6.41
Maximum Change:		1.34	0.02	-1.00



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number 10883

5. Generator's Name and Mailing Address

MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON, SC 29073

Generator's Phone: 803-360-7957

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: T K TANK SERVICES INC.

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

T K TANK SERVICES INC
425 BOULEVARD RD
SUMTER, SC

Facility's Phone: 803-418-5314

U.S. EPA ID Number

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
		TT	3030	gallons

SCDHEC Site	Permit Number	Gallons Produced
Pantry 3235	04768	150
Pantry 3418	04768	75
Macks Camp	19426	150
Former Gulf Station	00820	100
Frank's Service Center	06994	150
Tillman Johnson	01253	150
Stewart Sandwich Shop	18447	100
Cowpens Exxon	19002	150
Cowpens Exxon	16009	150
Brown Brothers	06097	150
Rogers Auto Parts	04145	150
Ancrum	04474	100
Pantry 3235	19426	200
Ma-Shakit	11776	150
Garrett Hampton Center	06382	150
Bay Creek Villas	19411	150
Hilton's Grocery	12898	125
Former Royal Petroleum	06994	250
EZ Stop	00892	0
Former Corner Liquors	00120	175
United Oil #144	00120	30
Frank's Amoco	00120	225

ately described above by the proper shipping name, and are classified, packaged, and national governmental regulations.

Month 8 Day 6 Year 2012

Port of entry/exit:

Date leaving U.S.:

GENERATOR / INT'L

TRANSPORTER

Transporter 1 Printed/Typed Name: STEVE GAMBLE

Signature: Steve A. Gamble

Month 8 Day 6 Year 2012

Transporter 2 Printed/Typed Name

Signature

Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone.

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Tommy Keeb

Signature: Tommy Keeb

Month 8 Day 06 Year 12

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

AUG 1 5 2012

UST DOCKETING 1354ch

BRANTLEY PADGETT
BAY CREEK VILLAS
3701 DOCK SITE RD
EDISTO BEACH SC 29438

Re: **AFVR Report Review**
Bay Creek Villas, 3701 Dock Site Rd., Edisto Beach, SC
UST Permit #18662
Aggressive Fluid Vapor Recovery (AFVR) Report received August 9, 2012
Colleton County

Dear Mr. Padgett:

As you may be aware, an 8-hour Aggressive Fluid Vapor Recovery (AFVR) event took place on July 23, 2012. A copy of the report is enclosed. Free phase product was observed in monitoring wells MW-18, MW-19, and MW-21 prior to the AFVR event. Free phase product was not detected following the event. Approximately 0.87 equivalent gallons of petroleum vapor was recovered along with 150 gallons of water. Additional AFVR events will be conducted at this site in the near future.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6396 or by e-mail at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (without enclosure)
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (with enclosure)

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

SEP 2 1 2012

UST DOCKETING 136 tech

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
12552	JJC Lanmark	Kershaw	6-BTEXMN, DCA, Oxygenates, EDB, & total Lead	M. Milenkova
12708	Two Way Mart	Clarendon	17-BTEXMN, DCA, Oxygenates, & EDB	S. Shull
~~07435~~	Pantry Express 640	Richland	26-BTEXMN, DCA, & Oxygenates	S. Fulmer
18662	Bay Creek Villas	Colleton	17-BTEXMN, DCA, Oxygenates, & EDB	S. Shull
07608	Frm Red Diamond	Florence	14-BTEXMN, DCA, Oxygenates, & EDB	S. Fulmer
11702	Colonel Creek Landing	Fairfield	10- BTEXMN, DCA, & Oxygenates	R. Miner
11756	EZ Shop 25	Orangeburg	37- BTEXMN, DCA, Oxygenates, & EDB	R. Miner
06768	Frm Horton's Grocery	Oconee	23- BTEXMN, DCA, Oxygenates, & EDB	J. Padgett
18574	Frm Littleton's Grocery	Oconee	31- BTEXMN, DCA, Oxygenates, & EDB	J. Padgett
07318	Reva of Clemson	Pickens	16- BTEXMN, DCA, & Oxygenates	J. Padgett
07176	Zee Mart	Pickens	27- BTEXMN, DCA, Oxygenates, & EDB	J. Padgett
02460	New Zion Dog Food	Clarendon	43- BTEXMN, DCA, Oxygenates, & EDB	S. Shull
03474	Pams Prospect Grocery	Florence	17- BTEXMN, DCA, Oxygenates, & EDB	M. Rivers
03558	Pig & Chick	Florence	18- BTEXMN, DCA, Oxygenates	M. Rivers
12614	Franks Amoco	Lexington	22-BTEXMN, DCA, Oxygenates, & EDB	S. Briney

* The number of samples does not include trip blanks, field blanks, or field duplicates.

Please contact me with the sampling schedule before commencing work at these facilities. In addition, a weekly update for each site is required to be submitted via e-mail to the site's project manager and myself. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

Enc: Site Information Packets

cc: Technical Files

Midlands Environmental Consultants, Inc.

October 5, 2012

UST Shane OCT 0 8 2012 PROGRAM

UST 137 DOCKETING

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 0
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 12-4176
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 October 02, 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

Jeff L. Coleman
Senior Scientist

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For

Bay Creek Villas, SCDHEC Site ID# 18662

3701 Dockside Road, Edisto Beach, 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: October 5, 2012

Approvals

Shane S. Shull SC DHEC Project Manager	_____ Signature	Date_____
Courtney M. Sanders Contractor QA Manager	_____ Signature	Date 10-8-12
Jeff L. Coleman Site Rehabilitation Contractor	_____ Signature	Date 10/8/12
Michael Woodrum Laboratory Director	_____ Signature	Date 10/04/2012

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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Shane S. Shull	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6396	803-896-6245	shullss@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
Kyle V. Pudney	Field Manager	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	kvp@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	Shane. S. Shull	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6396	803-896-6245	shullss@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	Kyle V. Pudney	Midlands Environmental Consultants, Inc.	803-808-2043	803-808-2048	kvp@meci.net

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
		235-B Dooley Road Lexington, SC 29073			
Analytical Laboratory Director	Michael Woodrum	Shealy Environmental Services,Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@shealylab.com
Project Verifier	Courtney M. Sanders or Kyle V. Pudney	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@meci.net

Table 2A Addendum Role Identification and Contact Information

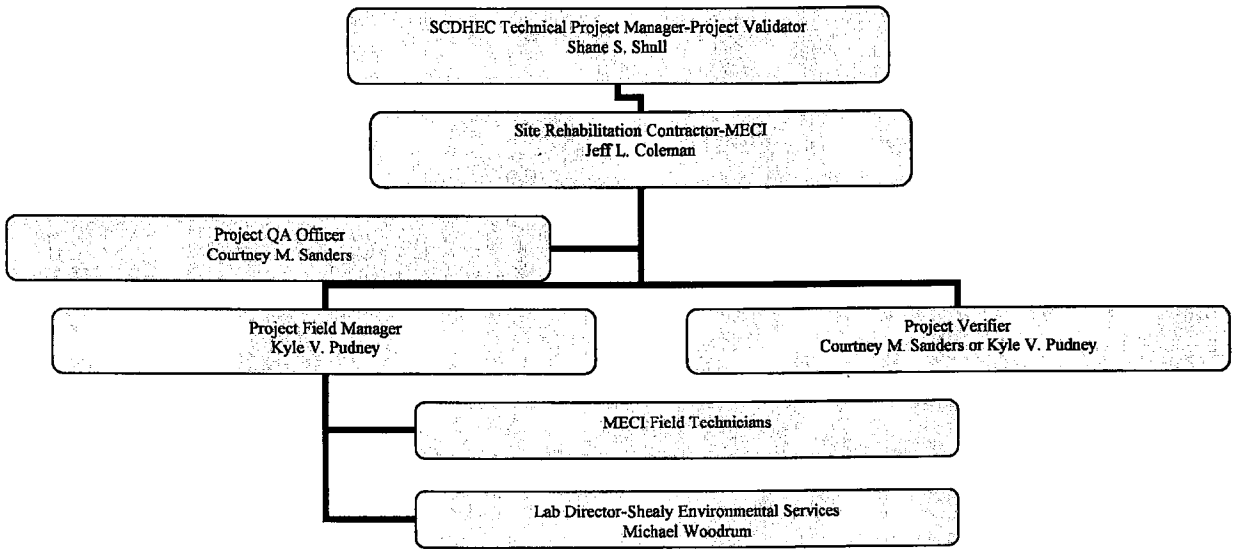


Figure 1A Organizational Chart

Project Manager (Shane S. Shull) – The project manager is responsible for direct oversight of contractors conducting assessment and site rehabilitation of releases at UST sites.

Site Rehabilitation Contractor (Jeff L. Coleman) – The Site Rehabilitation Contractor is an independent contractor responsible for managing and coordinating field and office activities needed for assessments or cleanup.

-Final Review of all work produced for a scope of work.
-Final say on technical interpretation of data.

Quality Assurance Officer (Courtney M. Sanders) – The Quality Assurance Officer is responsible for the oversight of all quality assurance activities associated with projects performed by the Site Rehabilitation Contractor.

-In charge of producing and maintaining the QAPPA for MECI.
-Reviews (and Audits, if necessary) all work produced in conjunction with a scope of work.
-Quality control of data entry and report preparation.

Field Manager (Kyle Pudney) –The field manager will oversee all work done on any given project.

-Assign, direct and oversee all field personnel working on each project.
-Responsible for coordinating with the SCDHEC project manager, should any problems or clarifications arise.
-Responsible for all reporting done in conjunction with field work.

Analytical Laboratory Director (Michael Woodrum)– The Laboratory Director is directly responsible for the Analytical Laboratory used during a scope of work. The Analytical Laboratory receives the soil and water samples from the site rehabilitation contractor, performs the requested analyses, and provides analytical reports.

Project Verifier (Courtney M. Sanders) – The project verifier is responsible for verifying the quality of data produced during a scope of work. This includes review of field work and laboratory reports for potential quality issues.

Field Technicians (various employees) – Responsible for all field activities for a given scope of work.

-Conduct all initial site visit, and record findings
-Conduct all field activities associated with a scope of work. All work will be conducted according to the MECI SOP. Will be responsible for reporting any potential problems are inconsistencies found during assessment activities.
-Completes the chain of custody upon completion of sampling event and delivers samples to lab or office for later lab pick-up.

A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed.

The subject site (Bay Creek Villas) is located at 3701 Dockside Road, Edisto Beach, Colleton County, South Carolina. The site formerly maintained one 1,000 gallon diesel underground storage tank (UST). The subject UST was abandoned by filling with concrete in December of 2000. The South Carolina Department of Health and Environmental Control (SCDHEC) reported and confirmed a release of petroleum product from the former UST in January of 2000. The subject site is currently rated a Class 2AA.

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 (Cooke's General Store) 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 Dockside Road, Edisto Beach, Colleton County, South Carolina. The site is currently occupied by a marina

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
Staff Geologist	John Bryant	OSHA 40 hr HAZWOPER	4/17/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	3/5/2012	N/A	N/A
Field	Brian Owen	OSHA 40 hr	8/21/2009	N/A	N/A

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Technician		HAZWOPER			
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Courtney Sanders	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Kyle Pudney	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Chris Lashley	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Gavin Globensky	OSHA 40 hr HAZWOPER	7/29/2011	N/A	N/A
Staff Biologist	Ryan Ariail	OSHA 40 hr HAZWOPER	9/23/2011	N/A	N/A
Staff Geologist	Joey Scherpenberg	OSHA 40 hr HAZWOPER	07/20/2012	N/A	N/A
Staff Geologist	Patrick Boylan	OSHA 40 hr HAZWOPER	07/20/2012	N/A	N/A
Staff Geologist	Darcie Odom	OSHA 40 hr HAZWOPER	07/20/2012	N/A	N/A
Lab Manager	Michael Woodrum	***	***	Lab Certification	SC 32010

Table 3A Required Training and Licenses

Courtney M. Sanders of Midlands Environmental Consultants, Inc. is responsible to ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location:235-B Dooley Road, Lexington, SC 29073.

It is understood that training records will be produced if requested by SC DHEC.

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory___Shealy Environmental Services, Inc.____
Name of Lab Director_____Michael Woodrum_____
SC DHEC Certification Number_____32010_____

Parameters this Lab will analyze for this project:

All samples will be analyzed for BTEX, Naphthalene, MTBE, 1,2 DCA, 8 Oxygenates (EPA Method 8260-B), and EDB (EPA Method 8011).

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A9 Documents and Records

Personnel will receive the most current version of the QAPP Addendum via: (Check all that apply)

____US Mail ____Courier __X__ Hand delivered

Other (please specify):_____E-mailed electronic copies___

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Instrument Raw Data	Target, Thermospec, or Iteva software	Hardcopy and Electronic	Hardcopy: Offsite storage for 7 yrs Electronic: Two external storage device backups – one offsite, one onsite storage for 10 yrs	Yes
Final Reports	LIMS	Electronic	Electronic: Two external storage device backups – one offsite, one onsite storage for 10 years	Yes
Field Work	Field Staff	Hardcopy	MECI office: 235/B Dooley Road / Min. 5 years	Yes
Chain of Custody	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
QAPP Addendum	Courtney Sanders	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes
Internal QC record	Courtney Sanders	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Sampling Report	Courtney Sanders	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
Site Reconnaissance	10/2/12	10/2/12	Already Completed

Item	Start Date	End Date	Comments
QAPP preparation	10/5/12	10/5/12	In progress
QAPP approval	10/6/12	10/27/12	Assuming three week turnaround
Monitoring well Sampling	10/28/12	11/11/12	Sampled within 2 weeks of QAPP approval
Report Preparation	11/12/12	12/3/12	Three weeks to prepare/submit report

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

***Estimate* the number of samples of each matrix that are expected to be collected:**

Soil _____

Ground Water from monitoring wells _____14____

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 _____17____

Notes:
During the October 02, 2012 site visit, fourteen (14) monitoring wells were located.

During the initial site visit it was noted that all located monitoring wells were in good condition.

All monitoring well samples will be analyzed by Shealy Environmental Services, Inc. for BTEX, Naphthalene, MTBE, 1,2 DCA, 8 Oxygenates (8260B), and EDB (8011).

For the sample matrices indicated above, please describe how samples will be collected and the equipment needed.

Please see MECI Monitoring Well Sampling SOP for sampling procedures and type of materials used for sampling

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

All equipment, excluding electronic water level indicators, field probes and turbidity tubes, is disposable.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.

Please see MECI Monitoring Well Sampling SOP for decontamination procedures.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

All samples will be shipped to the lab via courier or overnight shipping company. Please see MECI Monitoring Well Sampling SOP for sample shipping procedures.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Water level indicator not working properly	Attempt to clean probe, change battery, use back-up indicator if need be.	Record on field sheets, notify office staff. Take indicator out of rotation until problem identified and corrected.	Field Staff, Field Manager
Field meters not working	Attempt to clean probes, recalibrate in the field.	Record on field sheets, notify office staff. Take meters out of rotation until problem identified and corrected.	Field Staff, Field Manager
Wells not located	Use metal detector, measure from known points, contact project manager for additional information.	Record method used to attempt to locate the well on field sheets, and possibly reasoning for the well to be missing	Field Staff

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. ***How will the samples get from the Site to the Lab to ensure holding requirements are met?***

Following sample collection, the samples are immediately place in a laboratory provided cooler, pre-filled with wet ice obtained from the MECI office. Samples are transported to the MECI office once a sampling event is complete. A Chain of Custody (CoC) is filled out following the sampling event by the field staff. See attached CoC. If a lab provided courier is scheduled to visit the MECI offices the day following a sampling event, sampling coolers are repacked with wet ice, and left at the office for pick-up the following morning. If no courier is schedule to visit the MECI office the day following a sampling event, all sampling

coolers are repacked with ice and are dropped off at a lab approved shipping company for overnight delivery to the lab.

2. ***How will the contactors cool the samples and keep the samples cool?***

All samples are kept on wet ice, obtained from MECI office.

3. ***How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?***

A calibrated thermometer and temperature blank will be used to document sample temperature. The temperature blank is immediately checked by the sample receiving technician upon arrival at the laboratory.

4. ***Where will the samples be stored in the Lab once they are received?***

All samples are stored in clean refrigeration units monitored and maintained at 4 degrees C + or – 2 degrees. Volatile organic samples are stored separately form all other samples.

5. ***Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.***

A chain of custody (COC) will be filled out for each sampling event at each project site. COC to be signed by MECI and Shealy Environmental technician at time physical transfer of samples occurs to courier. Shealy uses the following COC procedures to protect sample integrity following pickup by their courier: A full time Sample Receiving Technician receives all samples and completes a Sample Receipt Checklist (SRC), which will identify any anomalies, if any exist the Sample Receiving Technician or Project Manager must resolve the deviation internally and/or notify the client to resolve the anomaly

B4 Analytical Methods

1. ***Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:***

Parameter	SOP ID*	Method Referenced	Equipment	Comments
BTEX+Naph+MTBE+Oxygentaes	S-VO-002	8260B	GC/MS	
PAH's	S-SV-021	8270D	GC/MS	
EDB	S-SV-012	8011	GC	
Lead,T.	S-IM-022	6010C	ICP	
Ferrous Iron	S-IN-009	SM 3500-FED	Spectrophotometer	
Nitrate	S-IN-042	353.2	Auto-analyzer/Lachate	
Sulfate	S-IN-010	300.0	Ion Chromatograph	
Methane	S-VO-004	RSK-175	GC	
TOC	S-IN-030	Walkley-Black	N/A	

DRO - TPH	S-SV-001	8015C	GC	
pH	MECI SOP 4.3.6	*	YSI 63	
Conductivity	MECI SOP 4.3.6	*	YSI 63	
Dissolved Oxygen	MECI SOP 4.3.6	*	YSI 550A	
Temperature	MECI SOP 4.3.6	*	YSI 550A	
Turbidity	MECI SOP 4.3.6	*	60 cm Turbidity Tube	

Table 7A Analytical SOPs and Referenced Methods

- **This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
S-VO-002	S-VO-002	GC/MS VOLATILES ANALYSIS BASED ON EPA METHODS 8260B AND 624 PREPARED BY EPA METHODS 5030B, 5035 AND 3585
S-SV-021	S-SV-021	GC/MS ANALYSIS BASED ON EPA METHOD 8270D PREPARED BY EPA METHODS 3520C, 3550C AND 3580A
S-SV-012	S-SV-012	GC/ECD ANALYSIS OF EDB AND DBCP BASED ON METHOD 8011 & 504.1
S-IM-022	S-IM-022	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY-PECTROMETRIC METHOD for TRACE ELEMENT ANALYSES METHOD 6010C
S-IN-009	S-IN-009	FERROUS IRON (PHENANTHROLINE METHOD) STANDARD METHOD 3500-Fe D
S-IN-042	S-IN-042	NITRATE+NITRITE NITROGEN BY EPA METHOD 353.2, NITRATE NITROGEN BY 353.2 SUBTRACTION, AND NITRITE NITROGEN BY EPA METHOD 353.2
S-IN-010	S-IN-010	INORGANIC ANIONS BY ION CHROMATOGRAPHY EPA METHOD 300.0 and SW-846 9056 and 9056A
S-VO-004	S-VO-004	STANDARD OPERATING PROCEDURE GC ANALYSIS BASED ON METHOD RSKSOP-175
S-IN-030	S-IN-030	TOTAL ORGANIC CARBON (TOC) WALKLEY-BLACK PROCEDURE
S-SV-001	S-SV-001	GC/FID DIESEL RANGE ORGANICS ANALYSIS BASED ON METHOD 8015B and/or 8015C PREPARED BY EPA METHODS 3520C, 3550C and 3580A
MECI SOP 4.3.6	MECI SOP 4.3.6	Sampling Standard operating procedures

Table 8A SOP Abbreviation Key

2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Failure	Response	Documented Where?	Individual Responsible

Field meters not working	Attempt to clean probes, recalibrate in the field.	Record on field sheets, notify office staff. Take meters out of rotation until problem identified and corrected.	Field Staff, Field Manager
COC or 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

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	C. Sanders
YSI 63	09C 101302, 10K 101895, 07M 100905	Replace batteries	As Needed	In stock at office	Field Staff
YSI 63	09C 101302, 10K 101895, 07M 100905	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of office	Field Staff
YSI 63	09C 101302, 10K 101895, 07M 100905	Check buffer solutions for expiration	Weekly	In stock at office	C. Sanders
YSI 550A	04L 2026AK,	Replace membrane	4 to 8	In stock at office	Field Staff

	08B 101407, 04A 0912AI		weeks		
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	Daily calibration	See calibration criteria	Field Staff	Recalibrate, general

101407, 04A 0912AI	check			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	Method Criteria	Detailed in SOP	Nitrate Analyst	S-IN-042

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
		verification standard				
YSI 63	pH Calibration	Daily	+/- 0.2 pH units	clean/replace probe tip, recalibrate	Field Staff	4.3.6
YSI 63	Conductivity Calibration	As directed by manufacturer	+/- 10 uS	clean/replace probe tip, recalibrate	Field Staff	4.3.6
YSI 550A	DO calibration	Daily	+/- 0.25 mg/l	clean/replace probe tip, recalibrate	Field Staff	4.3.6
YSI 550A	Temperature Calibration	Daily	+/- 1 °C	clean/replace probe tip, recalibrate	Field Staff	4.3.6
Electronic Water Level Indicator	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***
Oil/Water Interface probe	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***

Table 13A Instrument Calibration Criteria and Corrective Action

*** This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
Laboratory Chemicals	Fisher,VWR	Certificates of analysis and laboratory testing	Laboratory storage	Receiving and laboratory personnel
Laboratory standards	O2Si, Restek, High Purity, VHG, 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	C. Sanders, Field Staff
Nylon Rope	Preferred Pump	Covered with plastic	Stored in Vehicle Bay, Off of the ground	C. Sanders, Field Staff
Nitrile Gloves	Preferred Pump	Unopened box, no holes	Stored in Vehicle Bay, Off of the ground	C. Sanders, Field Staff
40 mL HCL	Shealy	Custody seal intact	Stored in Vehicle	C. Sanders, Field Staff

preserved amber vials	Environmental Services		Bay, Off of the ground	
250 mL HNO3 preserved metals vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	C. Sanders, Field Staff
Coolers	Shealy Environmental Services	Intact	Stored in Vehicle Bay, Off of the ground	C. Sanders, Field Staff
pH Buffer	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	C. Sanders, Field Staff
Conductivity Standard	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	C. Sanders, Field Staff
DO Membranes	YSI, Enviroequipment	Clean, in box	Stored in calibration room	C. Sanders, Field Staff
Batteries	Any Store	Not previously used	Stored in calibration room	C. Sanders, Field Staff

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

1. Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
Historical Data	Site Maps and Well Construction Information	Well Location and Detail	

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed.

There are no non-direct measurements in this project

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

Following sample collection and chain of custody production, samples are shipped to the lab. Field work from the field staff is reviewed by the MECI project manager, and converted into digital form. All data entry is subsequently checked to validate the data entry. The original copies of the field work are stored in MECI files for a minimum of 5 years. Digital copies of the work are stored on the MECI server, which is backed up weekly, and stored for a minimum of 5 years. The digital copy of the field work is presented to SCDHEC with the final report.

2. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?

The laboratory maintains comprehensive Quality Control and Training Programs. All sample receipt data, sample log-in, and analytical data is peer reviewed, including review for inappropriate changes. Data management, review procedures and the Quality Systems Program are documented in the laboratory's Quality Manual and Standard Operating Procedures. The Quality Assurance Department oversees adherence to and review of these programs.

All MECI field work is produced using ink-pens. Any attempt to alter field data, after sampling is complete, can be readily identified. MECI keeps a carbon copy of the chain of custody after it is shipped to the lab. This copy is kept with the field work. If any change to the CoC are suspected, this original carbon copy can be use to identify potential changes.

3. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted?

Sample data acquisition software is reviewed periodically. The LIMS database is backed up daily and is able to be restored in the event of a system failure. These procedures are documented in laboratory SOP S-AD-003, LIMS. The IT Manager is responsible for these systems and procedures."

4. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).

Laboratory Hardcopy data stored off site is logged, maintained and archived by the Quality Assurance Department. Laboratory Electronic Data Reports are maintained through IT back up under the responsibility of the IT Systems Manager.

MECI keeps all field work and paper copies of reports in its in-house filing system. All paper copies are stored for a minimum of 5 years. Any file can be retrieved easily by going to the correct filing cabinet/box.

All electronic copies of reports generated are kept on the MECI server. This server is backed-up on a weekly basis. Any file stored on the MECI server can be retrieved instantly, by accessing the server. All electronic files are stored for a minimum of 5 years on the server.

Section C Assessment and Oversight

C1 Assessment and Response Actions

1. *The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. . Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?*

Field audits can be conducted on any field personnel at any time. MECI field audits can be conducted by the Field Manger, who will be responsible for ensuring that field personnel adhere to the QAPP. If during a random field audit, severe problems are found, work will be stopped by the field manager and the QA officer contacted to determine corrective action. All problems must be corrected prior to any additional work being performed. Should it be requested, an On-site Field Audit can be scheduled with the SCDHEC project manager. If severe problems are identified by the SCDHEC project manager, the project manager can stop the work until the problems are corrected.

2. *The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit? When or how often are these done? Who will the results be given to and who has the ability to stop work if problems are severe?*

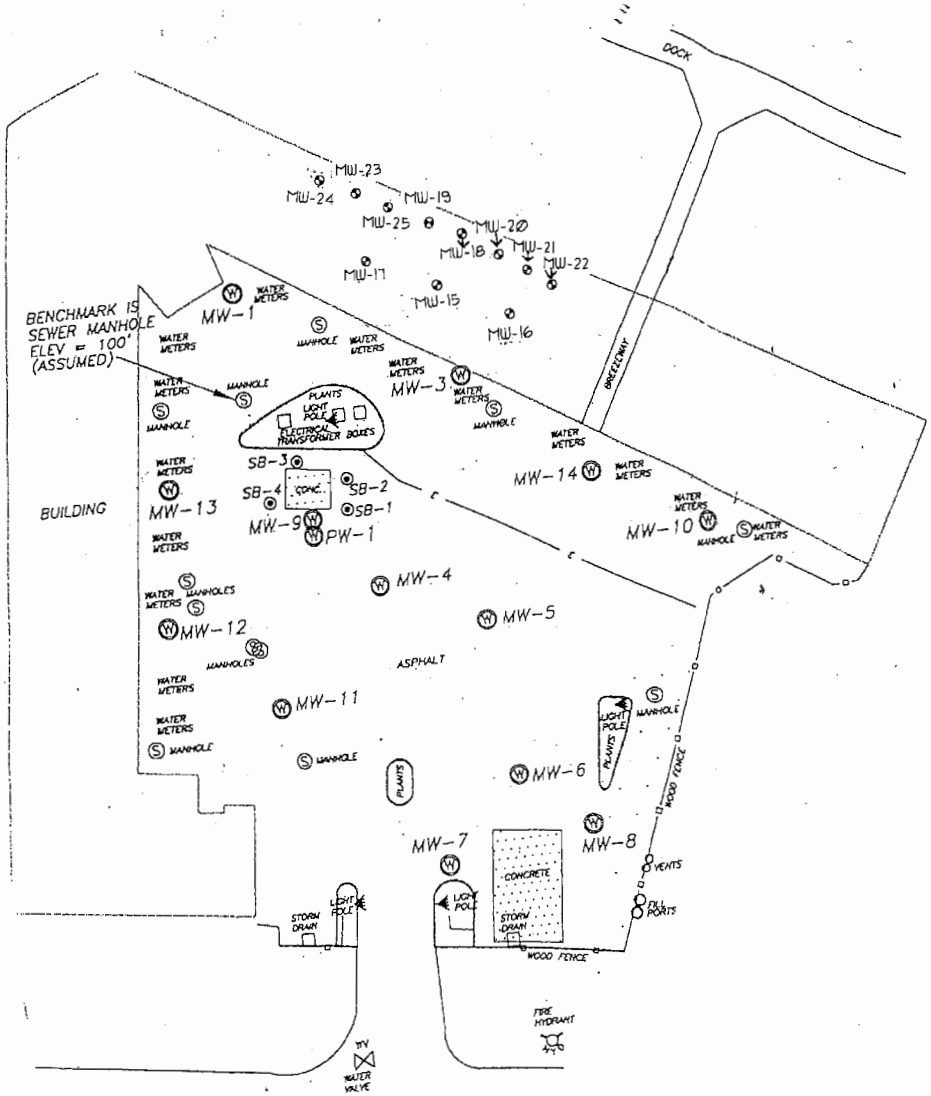
The laboratory participates in annual Proficiency Testing through an approved vendor, Wibby Environmental. If during a random audit, severe problems are found, work will be stopped by the according Wibby Environmental representative and the QA officer contacted to determine corrective action. Proficiency Testing results are provided to the Office of Environmental Laboratory Certification.

C2 Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).



Explanation:

⊗ Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1469
DATE January 31, 2008
FIGURE 2

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 27978

Client	Report to Contact	Sampler (Printed Name)	Quote No.
Address	Telephone No. / Fax No. / Email	Waybill No.	Page ___ of ___
City / State / Zip Code	Preservative 1. Unpres. 4. HNO3 7. NaOH 2. NaOH/ZnA 5. HCL 3. H2SO4 6. Na Thio.		Number of Containers Bottle (See Instructions on back) Preservative
Project Name			Lot No.
Project Number	P.O Number		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis												Remarks / Cooler ID

Turn Around Time Required (Prior lab approval required for expedited TAT) ☐ Standard ☐ Rush (Please Specify)	Sample Disposal ☐ Return to Client ☐ Disposal by Lab		QC Requirements (Specify)	Possible Hazard Identification ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown	
1. Relinquished by / Sampler	Date	Time	1. Received by	Date	Time
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by	Date	Time
Note: All samples are retained for six weeks from receipt unless other arrangements are made.			LAB USE ONLY Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack	Receipt Temp. _____ °C	Temp. Blank ☐ Y / ☐ N

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

OCT 1 8 2012

UST DOCKETING 138 tech

Re: **Notice to Proceed-Groundwater Sampling/QAPP Contractor Addendum Approval**
Groundwater Sampling Contract
Solicitation # IFB-5400002759, PO#4600088529
Bay Creek Villas, 3701 Dockside Rd., Edisto Beach, SC 29438
UST Permit # 18662; Midlands CA#44519; Shealy CA#44518
QAPP Addendum Received October 8, 2012
Release reported January 28, 2000
Colleton County

Dear Mr. Shane:

In accordance with bid solicitation # IFB-5400002759 and the UST Management Division Quality Assurance Program Plan (QAPP), the Site-Specific Contractor Addendum has been reviewed and approved. In accordance with the QAPP, a weekly status report of the project should be provided via e-mail. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division. **Note: For any wells with free product, plan to sample below product during this sampling event.**

MECI will perform services at the site on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

The final report should contain the requirements of Section III.2.15 of the bid solicitation and should be submitted to Debra Thoma, the contract manager.

If you have any site-specific questions, please contact me at (803) 896-6396 or via e-mail at ShullSS@dhec.sc.gov. If you have any contract specific questions, please contact Debra Thoma at (803) 896-6397 or via e-mail at thomadl@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Approved QAPP Contractor Addendum Signature Page
Approved Cost Agreements (both CAs)

cc: Debra Thoma, Corrective Action Section, UST Management Division
Peter Stipp, 210 King George Rd., Greenville, SC 29615 (w/o enc)
Kelly Maberry, Shealy Environmental, 106 Vantage Point Dr., West Columbia, SC, 29172 (w/ approved CA)
Technical Files (w/ enc)

Approved Cost Agreement 44518

Facility: 18662 BAY CREEK VILLAS
SHULLSS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A1	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	17.0000	35.00	595.00
		F	EDB	17.0000	20.00	340.00
				Total Amount		935.00

Approved Cost Agreement 44519

Facility: 18662 BAY CREEK VILLAS
SHULLSS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	2.0000	100.00	200.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	14.0000	4.50	63.00
		D	GROUNDWATER NO-PURGE	1.0000	4.50	4.50
		F	SAMPLE BELOW PRODUCT	1.0000	4.50	4.50
		H	FIELD BLANK	1.0000	2.00	2.00
17 DISPOSAL						
		A	WASTEWATER	55.0000	0.10	5.50
18 MISCELLANEOUS						
			QAPP PREP	1.0000	0.00	0.00
				Total Amount		279.50

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For

Bay Creek Villas, SCDHEC Site ID# 18662

3701 Dockside Road, Edisto Beach, 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: October 5, 2012

Approvals

Shane S. Shull SC DHEC Project Manager	Signature	Date 10-12-12
Courtney M. Sanders Contractor QA Manager	Signature	Date 10-8-12
Jeff L. Coleman Site Rehabilitation Contractor	Signature	Date 10/8/12
Michael Woodrum Laboratory Director	Signature	Date 10/04/2012

Midlands
Environmental
Consultants, Inc.

November 15, 2012

Ms. Debra Thoma, Hydrogeologist
Corrective Action Section
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
Vacant
DEC 06 2012
PROGRAM

Subject: Report of Groundwater Sampling
Bay Creek Villas
3701 Dockside Road
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662; CA # 44510
MECI Project Number 12-4176
Certified Site Rehabilitation Contractor UCC-0009

UST
139
DOCKETING

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 (Bay Creek Villas) is located at 3701 Dockside Road, Edisto Beach, Colleton County, South Carolina. The site formerly maintained one 1,000 gallon diesel underground storage tank (UST). The subject UST was abandoned by filling with concrete in December of 2000. The South Carolina Department of Health and Environmental Control (SCDHEC) reported and confirmed a release of petroleum product from the former UST in January of 2000. The subject site is currently rated a Class 2AA.

The above information is based on reports and correspondence obtained from MECI field notes and SCDHEC files.

MONITORING WELL SAMPLING AND CHEMICAL ANALYSIS

On November 14, 2012, MECI personnel collected groundwater samples from fourteen (14) monitoring wells. Monitoring wells, MW-16, MW-19, MW-21, and MW-25 were gauged at determined to contain free phase petroleum product. Based on a request by SCDHEC Project Manager samples were collected beneath the free phase petroleum product layer. MECI personnel

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

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 purged prior to sampling. Ten (10) monitoring wells were purged prior to sampling. 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 the 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-3R	X				X	X	X	X						
MW-4	X				X	X	X	X						
MW-9	X				X	X	X	X						
MW-15	X				X	X	X	X						
MW-16		X			X	X	X	X						
MW-17	X				X	X	X	X						
MW-18	X				X	X	X	X						
MW-19		X			X	X	X	X						
MW-20	X				X	X	X	X						
MW-21		X			X	X	X	X						
MW-22	X				X	X	X	X						
MW-23	X				X	X	X	X						
MW-24	X				X	X	X	X						
MW-25		X			X	X	X	X						
MW-16 Dup					X	X	X	X						
Field Blank					X	X	X	X						
Trip Blank					X		X	X						

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane
PAH = polycyclic aromatic hydrocarbons
Trip Blank provided by Shealy Environmental, temperature obtained upon receipt at Laboratory

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 5.5 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Staff Biologist

Courtney M. Sanders
Staff Biologist

Attachments:

Contractor Checklist

Item#	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?			X
3	Is name, address, & phone number of current property owner provided?			X
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?			X
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?			X
17	Has the method of well development been detailed?			X
18	Has justification been provided for the locations of the monitoring wells?			X
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?			X
20	Has the groundwater sampling methodology been detailed? See MECI SOP	X		
21	Have the groundwater sampling dates and groundwater measurements been provided? See attached Site Activity Summary Sheet	X		
22	Has the purging methodology been detailed? See MECI SOP	X		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete? See attached Field Data Information Sheets	X		
24	If free-product is present, has the thickness been provided? See attached Site Activity Summary Sheets	X		
25	Does the report include a brief discussion of the assessment done and the results?			X
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item#	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?			X
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			X
34	Has the current and historical laboratory data been provided in tabular format?			X
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 1)	X		
38	Has the site base map been provided with all required elements? (Figure 2)	X		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			X
40	Has the site potentiometric map been provided? (Figure 5)			X
41	Have the geologic cross-sections been provided? (Figure 6)			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements? (Appendix A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? See attached	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	X		

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek villas
County: Colleton
Field Personnel: D. Odom, B. Owen

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Initial Dissolved Oxygen (mg/l)	# Gals. Purged	Comments
MW-3R	Y	11/14/12	13:32	1.8-11.8	***	4.21	***	Sheen	0.5	Odor; Sheen
MW-4	Y	11/14/12	13:42	2.5-15	***	4.39	***	0.86	0.5	Odor
MW-9	Y	11/14/12	13:50	1.5-10	***	4.28	***	Sheen	1.0	Odor; Sheen
MW-15	Y	11/14/12	13:19	3-10	***	4.90	***	0.99	0.5	Odor
MW-16	Y	11/14/12	13:26	3-10	4.10	4.11	0.01	***	***	Sampled Collected Beneath Free Phase Petroleum Product
MW-17	Y	11/14/12	13:11	3-10	***	4.80	***	0.81	0.5	Odor
MW-18	Y	11/14/12	12:05	3-10	***	4.65	***	Sheen	0.5	Odor; Sheen
MW-19	Y	11/14/12	12:08	2.5-9.5	4.22	4.23	0.01	***	***	Sampled Collected Beneath Free Phase Petroleum Product
MW-20	Y	11/14/12	12:00	2-10	***	4.81	***	Sheen	0.5	Odor; Sheen
MW-21	Y	11/14/12	11:53	2.5-9.5	4.31	4.34	0.03	***	***	Sampled Collected Beneath Free Phase Petroleum Product
MW-22	Y	11/14/12	11:48	3-10	***	3.96	***	1.22	0.5	Odor
MW-23	Y	11/14/12	12:28	2.5-9.5	***	4.62	***	Sheen	0.5	Odor; Sheen
MW-24	Y	11/14/12	12:38	2.5-9.5	***	4.76	***	2.89	0.5	Odor
MW-25	Y	11/14/12	12:14	2.5-9.5	5.64	5.67	0.03	***	***	Sampled Collected Beneath Free Phase Petroleum Product
MW-16 Duplicate	Y	11/14/12	13:26	***	***	***	***	***	***	Duplicate Sample
									5.5	

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek villas
County: Colleton
Field Personnel: D. Odom, B. Owen

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Initial Dissolved Oxygen (mg/l)	# Gals. Purged	Comments
Field Blank	Y	11/14/12	14:00	***	***	***	***	***	***	Field Blank
Trip Blank	Y	11/14/12	14:01	***	***	***	***	***	***	Trip Blank
									5.5	

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 11/14/2012

Field Personnel: Darcie Odom, Brian Owen

General Weather Conditions: Overcast

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-3R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:		feet
Depth to Free Product (DFP)		feet
Depth to Ground Water (DGW)	4.21	feet
Total Well Depth (TWD)	11.8	feet
Length of the water column (LWC=TWD-DGW)	7.59	feet
1 casing volume (CV=LWC X C)= _____ X 0.163	1.24	gallons
3 casing volume (3 X CV)= 3	3.71	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:30	13:32						
pH (s.u.)	Sheen	Sheen						
Specific Conductivity (μmhos/cm)	Sheen	Sheen						
Water Temperature (°C)	Sheen	Sheen						
Dissolved Oxygen	Sheen	Sheen						
Turbidity (NTU)	Sheen	Sheen						
PID readings, if required								

Remarks: Sample Time: 13:32 **Dry at 0.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 11/14/2012

Field Personnel: Darcie Odom, Brian Owen

General Weather Conditions: Overcast

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-4

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.39			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			10.61	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.73	gallons
3 casing volume (3 X CV)=		3	5.19	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:40	13:42						
pH (s.u.)	5.24	5.23						
Specific Conductivity (μmhos/cm)	112.0	129.0						
Water Temperature (°C)	26.0	24.1						
Dissolved Oxygen	0.86	0.42						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 13:42 **Dry at 0.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 11/14/2012

Field Personnel: Darcie Odom, Brian Owen

General Weather Conditions: Overcast

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-9

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.28			feet
Total Well Depth (TWD)	10			feet
Length of the water column (LWC=TWD-DGW)			5.72	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.93	gallons
3 casing volume (3 X CV)=		3	2.80	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:50							
pH (s.u.)	Sheen							
Specific Conductivity (µmhos/cm)	Sheen							
Water Temperature (°C)	Sheen							
Dissolved Oxygen	Sheen							
Turbidity (NTU)	Sheen							
PID readings, if required								

Remarks: Sample Time: 13:50 **Dry at 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): 11/14/2012

Field Personnel: Darcie Odom, Brian Owen

General Weather Conditions: Overcast

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-15

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.90			feet
Total Well Depth (TWD)	10			feet
Length of the water column (LWC=TWD-DGW)			5.1	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.83	gallons
3 casing volume (3 X CV)=		3	2.49	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:17	13:19						
pH (s.u.)	5.88	5.84						
Specific Conductivity (µmhos/cm)	225.0	231.0						
Water Temperature (°C)	23.1	20.6						
Dissolved Oxygen	0.99	0.47						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 13:19 **Dry at 0.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 11/14/2012

Field Personnel: Darcie Odom, Brian Owen

General Weather Conditions: Overcast

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-17

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.80			feet
Total Well Depth (TWD)	10			feet
Length of the water column (LWC=TWD-DGW)			5.2	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.85	gallons
3 casing volume (3 X CV)=		3	2.54	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:08	13:11						
pH (s.u.)	6.10	6.04						
Specific Conductivity (µmhos/cm)	181.0	212.0						
Water Temperature (°C)	22.4	22.5						
Dissolved Oxygen	0.81	0.51						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 13:11 **Dry at 0.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 11/14/2012

Field Personnel: Darcie Odom, Brian Owen

General Weather Conditions: Overcast

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-18

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:			feet
Depth to Free Product (DFP)			feet
Depth to Ground Water (DGW)	4.65		feet
Total Well Depth (TWD)	10		feet
Length of the water column (LWC=TWD-DGW)		5.35	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	0.87	gallons
3 casing volume (3 X CV)=	3	2.62	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:05							
pH (s.u.)	Sheen							
Specific Conductivity (µmhos/cm)	Sheen							
Water Temperature (°C)	Sheen							
Dissolved Oxygen	Sheen							
Turbidity (NTU)	Sheen							
PID readings, if required								

Remarks: Sample Time: 12:05 **Dry at 0.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 11/14/2012

Field Personnel: Darcie Odom, Brian Owen

General Weather Conditions: Overcast

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-20

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)	4.81			feet
Total Well Depth (TWD)	10			feet
Length of the water column (LWC=TWD-DGW)			5.19	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.85	gallons
3 casing volume (3 X CV)=		3	2.54	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:00							
pH (s.u.)	Sheen							
Specific Conductivity (μmhos/cm)	Sheen							
Water Temperature (°C)	Sheen							
Dissolved Oxygen	Sheen							
Turbidity (NTU)	Sheen							
PID readings, if required								

Remarks: Sample Time: 12:00 **Dry at 0.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 11/14/2012

Field Personnel: Darcie Odom, Brian Owen

General Weather Conditions: Overcast

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-22

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	3.96			feet
Total Well Depth (TWD)	10			feet
Length of the water column (LWC=TWD-DGW)			6.04	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.98	gallons
3 casing volume (3 X CV)=		3	2.95	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:46	11:48						
pH (s.u.)	6.12	6.14						
Specific Conductivity (µmhos/cm)	399.0	178.0						
Water Temperature (°C)	20.7	21.5						
Dissolved Oxygen	1.22	1.61						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 11:48 **Dry at 0.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 11/14/2012

Field Personnel: Darcie Odom, Brian Owen

General Weather Conditions: Overcast

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-23

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)	4.62			feet
Total Well Depth (TWD)	9.5			feet
Length of the water column (LWC=TWD-DGW)			4.88	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.80	gallons
3 casing volume (3 X CV)=		3	2.39	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:28							
pH (s.u.)	Sheen							
Specific Conductivity (µmhos/cm)	Sheen							
Water Temperature (°C)	Sheen							
Dissolved Oxygen	Sheen							
Turbidity (NTU)	Sheen							
PID readings, if required								

Remarks: Sample Time: 12:28 **Dry at 0.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 11/14/2012

Field Personnel: Darcie Odom, Brian Owen

General Weather Conditions: Overcast

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		DO Meter	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-24

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

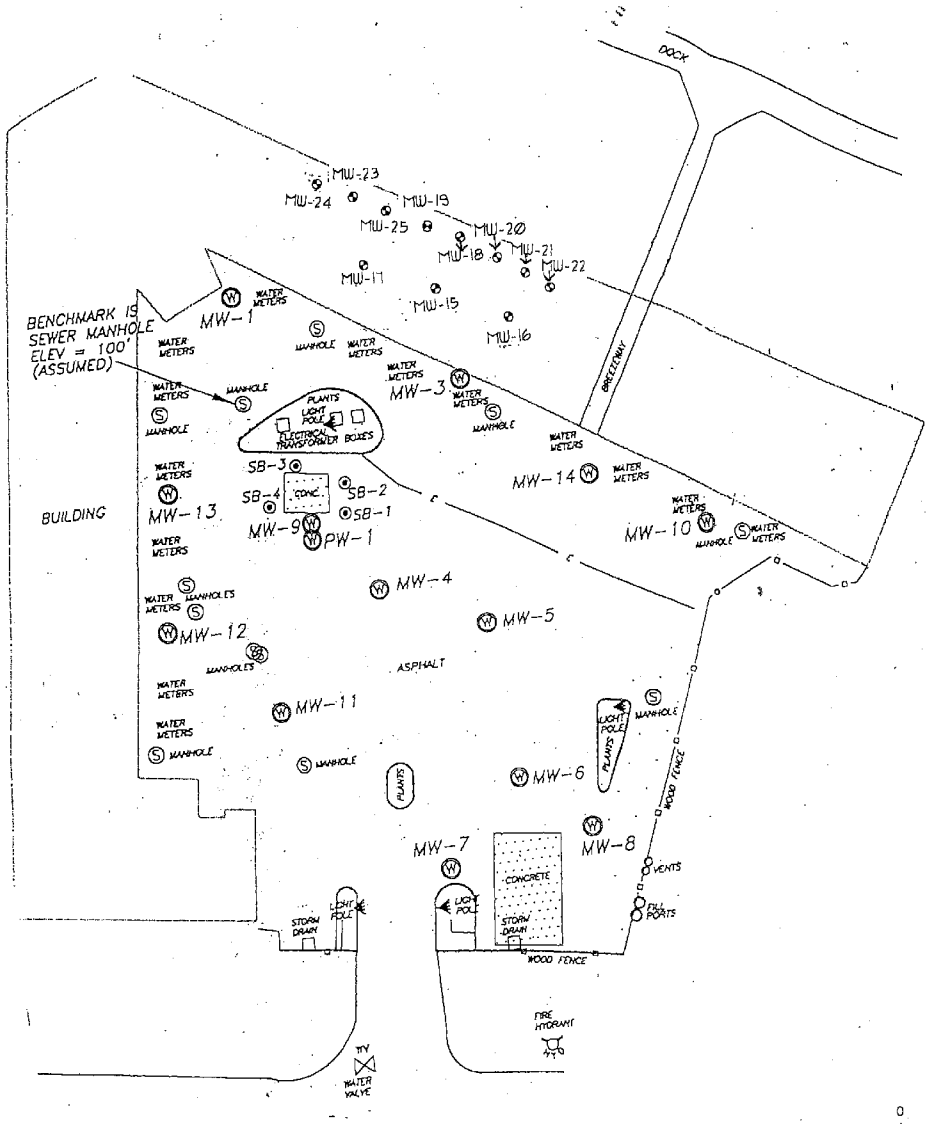
* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.76			feet
Total Well Depth (TWD)	9.5			feet
Length of the water column (LWC=TWD-DGW)			4.74	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.77	gallons
3 casing volume (3 X CV)=		3	2.32	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:35	12:38						
pH (s.u.)	5.94	6.02						
Specific Conductivity (µmhos/cm)	192.0	211.0						
Water Temperature (°C)	20.9	21.0						
Dissolved Oxygen	2.89	1.23						
Turbidity (NTU)	<5	<5						
PID readings, if required								

Remarks: Sample Time: 12:38 **Dry at 0.5 Gallons**



Explanation:

● Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** **Number** 30014

Client: SCDHEC	Report to Contact: D. Thomas	Sampler (Printed Name): Dallie Odom	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 1 of 2
City: Columbia State: SC Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		
Project Name: Dry Creek Villas			
Project Number: 196602/44518	P.O Number: 4600048659		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix GW	DW	WW	S	Other	Analysis: Total Metals Other specify	1,2 DCA	8-Gas	EDB									Remarks / Cooler ID
Number of Containers									3	3	3	3									
Bottle (See Instructions on back)									A	A	A	A									
Preservative									S	S	S	S									
Lot No.																					
MW-3R	11/14		G	X					X	X	X	X									[illegible]
MW-4	↓		↓	↓					↓	↓	↓	↓									[illegible]
MW-9																					[illegible]
MW-15																					[illegible]
MW-16																					[illegible]
MW-17																					[illegible]
MW-18																					[illegible]
MW-19																					[illegible]
MW-20																					[illegible]
MW-31	11/14		G	X					X	X	X	X									[illegible]

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	11/14/12	1830	1. Received by	11/14/12	1830
2. Relinquished by	11/15/12	1130	2. Received by	11/15/12	1130
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory Received by		

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack Receipt Temp. _____ °C Temp. Blank ☐ Y / ☐ N

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record**

Number 14313

Client: SCDHEC	Report to Contact: D. Thoma	Sampler (Printed Name): Darcie Adam	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 2 of 2
City: Columbia State: SC Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers
Project Name: Rocky Creek Villas			Bottle (See Instructions on back)
Project Number: 15662/44518	P.O Number: 4600058579		Preservative
			Lot No.

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: Metals	VOC	GRO	GRO	Remarks / Cooler ID
MW-32	11/1/1		G	X					X	X	X	X	[illegible]
MW-33	↓		↓	↓					↓	↓	↓	↓	[illegible]
MW-34	↓		↓	↓					↓	↓	↓	↓	[illegible]
MW-35	↓		↓	↓					↓	↓	↓	↓	[illegible]
MW-4W Dup	↓		↓	↓					↓	↓	↓	↓	[illegible]
Field Blank	↓		↓	↓					↓	↓	↓	↓	—
Trip Blank	11/1/1		G	X					X	X	X	X	—

Turn Around Time Required (Prior lab approval required for expedited TAT) ☐ Standard ☐ Rush (Please Specify)	Sample Disposal ☐ Return to Client ☐ Disposal by Lab		QC Requirements (Specify)	Possible Hazard Identification ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown	
1. Relinquished by / Sampler	Date 11/1/12	Time 1830	1. Received by	Date 11/1/12	Time 1830
2. Relinquished by	Date 11/5/12	Time 1130	2. Received by	Date 11/5/12	Time 1130
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by	Date	Time

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack Receipt Temp. _____ °C Temp. Blank ☐ Y / ☐ N

Midlands
Environmental
Consultants, Inc.

November 15, 2012

Re: Treatment of Purge Water
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 12-4176

To Whom It May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.

2. No free-product was detected in any of the purge water drums.

3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.

4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.

5. Record of usage is maintained by Contractor.

6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.

7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

A total of 5.5 gallons were treated on Novmeber 14, 2012 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

SC DHEC - UST Management
2600 Bull Street
Columbia, SC 29201
Attention: Debra Thoma

UST
DEC 0 4 2012
PROGRAM

Project Name: **Bay Creek Villas**

Project Number: **UST Permit #18662/CA #44518**

Lot Number: **NK15061**

Date Completed: **11/29/2012**

Kelly M. Maberry
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

Case Narrative
SC DHEC - UST Management
Lot Number: NK15061

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 times provided by MECI.

Several samples 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 RPD for ethanol exceeded method control limits in batch 98268; however, all other QA/QC criteria for this compound in the LCS/LCSD were within acceptance criteria and method control limits. The associated sample results were reported and no corrective action was required.

The MS associated with sample -002 had ethanol and tert-butyl formate recovered outside of the acceptance limits. The LCS/LCSD were recovered within the required acceptance limits; therefore, this demonstrates a matrix effect and data quality is not impacted.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
SC DHEC - UST Management
Lot Number: NK15061

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-3R	Aqueous	11/14/2012 1332	11/15/2012
002	MW-4	Aqueous	11/14/2012 1342	11/15/2012
003	MW-9	Aqueous	11/14/2012 1350	11/15/2012
004	MW-15	Aqueous	11/14/2012 1319	11/15/2012
005	MW-16	Aqueous	11/14/2012 1326	11/15/2012
006	MW-17	Aqueous	11/14/2012 1311	11/15/2012
007	MW-18	Aqueous	11/14/2012 1205	11/15/2012
008	MW-19	Aqueous	11/14/2012 1208	11/15/2012
009	MW-20	Aqueous	11/14/2012 1200	11/15/2012
010	MW-21	Aqueous	11/14/2012 1153	11/15/2012
011	MW-22	Aqueous	11/14/2012 1148	11/15/2012
012	MW-23	Aqueous	11/14/2012 1228	11/15/2012
013	MW-24	Aqueous	11/14/2012 1238	11/15/2012
014	MW-25	Aqueous	11/14/2012 1214	11/15/2012
015	MW-16 Dup	Aqueous	11/14/2012 1326	11/15/2012
016	Field Blank	Aqueous	11/14/2012 1400	11/15/2012
017	Trip Blank	Aqueous	11/14/2012 1401	11/15/2012

(17 samples)

Executive Summary
SC DHEC - UST Management
Lot Number: NK15061

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-3R	Aqueous	Benzene	8260B	390		ug/L	6
001	MW-3R	Aqueous	Ethylbenzene	8260B	390		ug/L	6
001	MW-3R	Aqueous	Naphthalene	8260B	200	J	ug/L	6
001	MW-3R	Aqueous	Xylenes (total)	8260B	94	J	ug/L	6
002	MW-4	Aqueous	Benzene	8260B	11	J	ug/L	8
002	MW-4	Aqueous	Ethylbenzene	8260B	190		ug/L	8
002	MW-4	Aqueous	Naphthalene	8260B	240		ug/L	8
003	MW-9	Aqueous	Benzene	8260B	150		ug/L	10
003	MW-9	Aqueous	Ethylbenzene	8260B	1000		ug/L	10
003	MW-9	Aqueous	Naphthalene	8260B	390		ug/L	10
003	MW-9	Aqueous	Toluene	8260B	38		ug/L	10
003	MW-9	Aqueous	Xylenes (total)	8260B	130		ug/L	10
003	MW-9	Aqueous	tert-Amyl alcohol (TAA)	8260B	45	J	ug/L	10
004	MW-15	Aqueous	Benzene	8260B	200		ug/L	12
004	MW-15	Aqueous	Ethylbenzene	8260B	81		ug/L	12
004	MW-15	Aqueous	Naphthalene	8260B	15	J	ug/L	12
005	MW-16	Aqueous	Benzene	8260B	2100		ug/L	14
005	MW-16	Aqueous	Ethylbenzene	8260B	1400		ug/L	14
005	MW-16	Aqueous	Naphthalene	8260B	640		ug/L	14
005	MW-16	Aqueous	Toluene	8260B	520		ug/L	14
005	MW-16	Aqueous	Xylenes (total)	8260B	5300		ug/L	14
006	MW-17	Aqueous	Benzene	8260B	130		ug/L	16
006	MW-17	Aqueous	Ethylbenzene	8260B	67		ug/L	16
006	MW-17	Aqueous	Naphthalene	8260B	2.2	J	ug/L	16
006	MW-17	Aqueous	Toluene	8260B	3.2	J	ug/L	16
006	MW-17	Aqueous	Xylenes (total)	8260B	23		ug/L	16
007	MW-18	Aqueous	Benzene	8260B	6600		ug/L	18
007	MW-18	Aqueous	Xylenes (total)	8260B	5100		ug/L	18
008	MW-19	Aqueous	Benzene	8260B	8500		ug/L	20
008	MW-19	Aqueous	Ethylbenzene	8260B	2000	J	ug/L	20
008	MW-19	Aqueous	Toluene	8260B	3700	J	ug/L	20
008	MW-19	Aqueous	Xylenes (total)	8260B	7800		ug/L	20
009	MW-20	Aqueous	Benzene	8260B	280	J	ug/L	22
009	MW-20	Aqueous	Naphthalene	8260B	500	J	ug/L	22
009	MW-20	Aqueous	Xylenes (total)	8260B	2400		ug/L	22
010	MW-21	Aqueous	Benzene	8260B	4600		ug/L	24
010	MW-21	Aqueous	Ethylbenzene	8260B	2000		ug/L	24
010	MW-21	Aqueous	Naphthalene	8260B	770		ug/L	24
010	MW-21	Aqueous	Toluene	8260B	2000		ug/L	24
010	MW-21	Aqueous	Xylenes (total)	8260B	6200		ug/L	24
012	MW-23	Aqueous	Naphthalene	8260B	6.5		ug/L	28
012	MW-23	Aqueous	Xylenes (total)	8260B	4.7	J	ug/L	28
013	MW-24	Aqueous	Naphthalene	8260B	2.1	J	ug/L	30
014	MW-25	Aqueous	Benzene	8260B	3900		ug/L	32
014	MW-25	Aqueous	Ethylbenzene	8260B	1400		ug/L	32

Executive Summary (Continued)

Lot Number: NK15061

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
014	MW-25	Aqueous	Naphthalene	8260B	160		ug/L	32
014	MW-25	Aqueous	Toluene	8260B	2800		ug/L	32
014	MW-25	Aqueous	Xylenes (total)	8260B	5300		ug/L	32
014	MW-25	Aqueous	tert-Amyl alcohol (TAA)	8260B	950		ug/L	32
015	MW-16 Dup	Aqueous	Benzene	8260B	1900		ug/L	34
015	MW-16 Dup	Aqueous	Ethylbenzene	8260B	1600		ug/L	34
015	MW-16 Dup	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.63	J	ug/L	34
015	MW-16 Dup	Aqueous	Naphthalene	8260B	630		ug/L	34
015	MW-16 Dup	Aqueous	Toluene	8260B	530		ug/L	34
015	MW-16 Dup	Aqueous	Xylenes (total)	8260B	6100		ug/L	34
015	MW-16 Dup	Aqueous	Diisopropyl ether (IPE)	8260B	0.68	J	ug/L	34
015	MW-16 Dup	Aqueous	tert-Amyl alcohol (TAA)	8260B	360		ug/L	34

(57 detections)

Client: **SC DHEC - UST Management**
Description: **MW-3R**
Date Sampled: **11/14/2012 1332**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	11/24/2012 1621	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**390**		**250**	**10**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		250	15	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**390**		**250**	**85**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		250	20	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**200**	**J**	**250**	**85**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		250	85	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**94**	**J**	**250**	**85**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	11/24/2012 1621	AMM1		98268

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	ND		5000	340	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		500	10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		5000	340	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5000	50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		106	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/20/2012 2256	RDR	11/16/2012 1150	97775

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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-3R**
Date Sampled: **11/14/2012 1332**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-001**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/20/2012 2256	RDR	11/16/2012 1150	97775

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-4**
Date Sampled: **11/14/2012 1342**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/24/2012 1856	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**11**	**J**	**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**	**190**		**100**	**34**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		100	8.0	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**240**		**100**	**34**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		100	34	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		100	34	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	11/24/2012 1856	AMM1		98268

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	S	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	ND		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	S	2000	20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/20/2012 2317	RDR	11/16/2012 1150	97775

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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-4**
Date Sampled: **11/14/2012 1342**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-002**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/20/2012 2317	RDR	11/16/2012 1150	97775

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		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-9**
Date Sampled: **11/14/2012 1350**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1303	AMM1		98268
2	5030B	8260B	20	11/27/2012 1359	AAC		98446

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**150**		**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**	**1000**		**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**	**390**		**100**	**34**	**ug/L**	**2**
Toluene	**108-88-3**	**8260B**	**38**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**130**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130		100	70-130
Bromofluorobenzene		99	70-130		101	70-130
Toluene-d8		107	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	11/24/2012 1303	AMM1		98268

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**	**45**	**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	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		99	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		107	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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-9**
Date Sampled: **11/14/2012 1350**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-003**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/20/2012 2339	RDR	11/16/2012 1150	97775

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		109	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-15**
Date Sampled: **11/14/2012 1319**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-004**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	11/24/2012 1812	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**200**		**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**	**81**		**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**	**15**	**J**	**25**	**8.5**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		25	8.5	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		25	8.5	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	11/24/2012 1812	AMM1		98268

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	ND		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		94	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0000	RDR	11/16/2012 1150	97775

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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-15**
Date Sampled: **11/14/2012 1319**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-004**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0000	RDR	11/16/2012 1150	97775

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		105	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-16**
Date Sampled: **11/14/2012 1326**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	11/24/2012 1643	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**2100**		**500**	**20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1400**		**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**	**640**		**500**	**170**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**520**		**500**	**170**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**5300**		**500**	**170**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	11/24/2012 1643	AMM1		98268

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	ND		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		96	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0021	RDR	11/16/2012 1150	97775

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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-16**
Date Sampled: **11/14/2012 1326**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-005**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0021	RDR	11/16/2012 1150	97775

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		126	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-17**
Date Sampled: **11/14/2012 1311**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-006**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1325	AMM1		98268
2	5030B	8260B	1	11/27/2012 1532	AAC		98446

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**130**		**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**	**67**		**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**	**2.2**	**J**	**5.0**	**1.7**	**ug/L**	**2**
Toluene	**108-88-3**	**8260B**	**3.2**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**23**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130		99	70-130
Bromofluorobenzene		95	70-130		103	70-130
Toluene-d8		106	70-130		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1325	AMM1		98268

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		95	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		106	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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-17**
Date Sampled: **11/14/2012 1311**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-006**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0042	RDR	11/16/2012 1150	97775

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		114	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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-18**
Date Sampled: **11/14/2012 1205**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-007**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1000	11/24/2012 1706	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**6600**		**5000**	**200**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		5000	300	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5000	1700	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5000	400	ug/L	1
Naphthalene	91-20-3	8260B	ND		5000	1700	ug/L	1
Toluene	108-88-3	8260B	ND		5000	1700	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**5100**		**5000**	**1700**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1000	11/24/2012 1706	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10000	400	ug/L	1
Ethanol	64-17-5	8260B	ND		1000000	33000	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100000	1000	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100000	200	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100000	6700	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10000	200	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100000	6700	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100000	1000	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0104	RDR	11/16/2012 1150	97775

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-18**
Date Sampled: **11/14/2012 1205**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-007**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0104	RDR	11/16/2012 1150	97775

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		119	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-19**
Date Sampled: **11/14/2012 1208**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-008**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1000	11/24/2012 1728	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**8500**		**5000**	**200**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		5000	300	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2000**	**J**	**5000**	**1700**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5000	400	ug/L	1
Naphthalene	91-20-3	8260B	ND		5000	1700	ug/L	1
Toluene	**108-88-3**	**8260B**	**3700**	**J**	**5000**	**1700**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**7800**		**5000**	**1700**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1000	11/24/2012 1728	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10000	400	ug/L	1
Ethanol	64-17-5	8260B	ND		1000000	33000	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100000	1000	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100000	200	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100000	6700	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10000	200	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100000	6700	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100000	1000	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0125	RDR	11/16/2012 1150	97775

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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-19**
Date Sampled: **11/14/2012 1208**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-008**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0125	RDR	11/16/2012 1150	97775

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		105	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-20**
Date Sampled: **11/14/2012 1200**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-009**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	11/24/2012 1750	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**280**	**J**	**1000**	**40**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		1000	60	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1000	340	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1000	80	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**500**	**J**	**1000**	**340**	**ug/L**	**1**
Toluene	108-88-3	8260B	ND		1000	340	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**2400**		**1000**	**340**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	11/24/2012 1750	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		2000	80	ug/L	1
Ethanol	64-17-5	8260B	ND		200000	6600	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20000	200	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20000	40	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20000	1300	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		2000	40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20000	1300	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		20000	200	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0146	RDR	11/16/2012 1150	97775

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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-20**
Date Sampled: **11/14/2012 1200**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-009**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0146	RDR	11/16/2012 1150	97775

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		125	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-21**
Date Sampled: **11/14/2012 1153**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-010**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1347	AMM1		98268
2	5030B	8260B	100	11/27/2012 1422	AAC		98446

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**4600**		**500**	**20**	**ug/L**	**2**
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**2000**		**500**	**170**	**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**	**770**		**500**	**170**	**ug/L**	**2**
Toluene	**108-88-3**	**8260B**	**2000**		**500**	**170**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**6200**		**500**	**170**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130		107	70-130
Bromofluorobenzene		106	70-130		109	70-130
Toluene-d8		103	70-130		106	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1347	AMM1		98268

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		106	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		103	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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-21**
Date Sampled: **11/14/2012 1153**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-010**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0207	RDR	11/16/2012 1150	97775

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		124	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-22**
Date Sampled: **11/14/2012 1148**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-011**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1409	AMM1		98268
2	5030B	8260B	1	11/27/2012 1556	AAC		98446

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	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	2
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	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130		98	70-130
Bromofluorobenzene		95	70-130		102	70-130
Toluene-d8		105	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	11/24/2012 1409	AMM1		98268

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		95	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		105	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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-22**
Date Sampled: **11/14/2012 1148**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-011**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0228	RDR	11/16/2012 1150	97775

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		104	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-23**
Date Sampled: **11/14/2012 1228**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-012**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1431	AMM1		98268

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**	**6.5**		**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**	**4.7**	**J**	**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1431	AMM1		98268

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		95	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0249	RDR	11/16/2012 1150	97775

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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-23**
Date Sampled: **11/14/2012 1228**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-012**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0249	RDR	11/16/2012 1150	97775

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		112	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-24**
Date Sampled: **11/14/2012 1238**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-013**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1453	AMM1		98268

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**	**2.1**	**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	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1453	AMM1		98268

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		95	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		106	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0414	RDR	11/18/2012 1813	97890

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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-24**
Date Sampled: **11/14/2012 1238**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-013**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0414	RDR	11/18/2012 1813	97890

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		126	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-25**
Date Sampled: **11/14/2012 1214**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-014**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1515	AMM1		98268
2	5030B	8260B	50	11/27/2012 1446	AAC		98446

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**3900**		**250**	**10**	**ug/L**	**2**
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1400**		**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**	**160**		**5.0**	**1.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**2800**		**250**	**85**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**5300**		**250**	**85**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130		101	70-130
Bromofluorobenzene		109	70-130		102	70-130
Toluene-d8		113	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	11/24/2012 1515	AMM1		98268

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**	**950**		**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		109	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		113	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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-25**
Date Sampled: **11/14/2012 1214**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-014**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0435	RDR	11/18/2012 1813	97890

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

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-16 Dup**
Date Sampled: **11/14/2012 1326**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-015**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1537	AMM1		98268
2	5030B	8260B	50	11/27/2012 1509	AAC		98446

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**1900**		**250**	**10**	**ug/L**	**2**
1,2-Dichloroethane	107-06-2	8260B	ND		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**	**0.63**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**630**		**250**	**85**	**ug/L**	**2**
Toluene	**108-88-3**	**8260B**	**530**		**250**	**85**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**6100**		**250**	**85**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130		100	70-130
Bromofluorobenzene		107	70-130		102	70-130
Toluene-d8		108	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	11/24/2012 1537	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**0.68**	**J**	**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**	**360**		**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		107	70-130
1,2-Dichloroethane-d4		89	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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" | * = Reportable rasult (only when report all runs) | S = MS/MSD failure

Client: **SC DHEC - UST Management**
Description: **MW-16 Dup**
Date Sampled: **11/14/2012 1326**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-015**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0456	RDR	11/18/2012 1813	97890

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		121	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **Field Blank**
Date Sampled: **11/14/2012 1400**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-016**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1155	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1155	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0517	RDR	11/18/2012 1813	97890

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **Field Blank**
Date Sampled: **11/14/2012 1400**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-016**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	11/21/2012 0517	RDR	11/18/2012 1813	97890

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		111	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Q = Surrogate failure
L = LCS/LCSD failure
S = MS/MSD failure
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **Trip Blank**
Date Sampled: **11/14/2012 1401**
Date Received: **11/15/2012**

Laboratory ID: **NK15061-017**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1218	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	11/24/2012 1218	AMM1		98268

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		106	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 | Q = Surrogate failure
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 | L = LCS/LCSD failure
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) | S = MS/MSD failure

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ98268-001
Batch: 98268
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	11/24/2012 1134
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	11/24/2012 1134
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	11/24/2012 1134
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	11/24/2012 1134
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	11/24/2012 1134
Ethanol	ND		1	1000	33	ug/L	11/24/2012 1134
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	11/24/2012 1134
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	11/24/2012 1134

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ98268-002
Batch: 98268
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	970		1	97	70-130	11/24/2012 1016
tert-Amyl methyl ether (TAME)	50	43		1	86	70-130	11/24/2012 1016
tert-Butyl formate (TBF)	250	200		1	78	70-130	11/24/2012 1016
Diisopropyl ether (IPE)	50	53		1	105	70-130	11/24/2012 1016
3,3-Dimethyl-1-butanol	1000	910		1	91	70-130	11/24/2012 1016
Ethanol	5000	4900		1	98	70-130	11/24/2012 1016
Ethyl-tert-butyl ether (ETBE)	50	45		1	89	70-130	11/24/2012 1016
tert-butyl alcohol (TBA)	1000	990		1	99	70-130	11/24/2012 1016

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		100	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ98268-003
Batch: 98268
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	930		1	93	4.0	70-130	20	11/24/2012 1038
tert-Amyl methyl ether (TAME)	50	45		1	90	4.0	70-130	20	11/24/2012 1038
tert-Butyl formate (TBF)	250	200		1	81	2.8	70-130	20	11/24/2012 1038
Diisopropyl ether (IPE)	50	54		1	108	2.6	70-130	20	11/24/2012 1038
3,3-Dimethyl-1-butanol	1000	880		1	88	2.9	70-130	20	11/24/2012 1038
Ethanol	5000	3900	+	1	77	23	70-130	20	11/24/2012 1038
Ethyl-tert-butyl ether (ETBE)	50	46		1	93	4.2	70-130	20	11/24/2012 1038
tert-butyl alcohol (TBA)	1000	990		1	99	0.076	70-130	20	11/24/2012 1038

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		100	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NK15061-004DU
Batch: 98268
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		5	0.00	20	11/24/2012 1834
Ethanol	ND	ND		5	0.00	20	11/24/2012 1834
3,3-Dimethyl-1-butanol	ND	ND		5	0.00	20	11/24/2012 1834
Ethyl-tert-butyl ether (ETBE)	ND	ND		5	0.00	20	11/24/2012 1834
tert-Amyl alcohol (TAA)	ND	ND		5	0.00	20	11/24/2012 1834
tert-Amyl methyl ether (TAME)	ND	ND		5	0.00	20	11/24/2012 1834
tert-butyl alcohol (TBA)	ND	ND		5	0.00	20	11/24/2012 1834
tert-Butyl formate (TBF)	ND	ND		5	0.00	20	11/24/2012 1834

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		107	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: NK15061-002MS
Batch: 98268
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Diisopropyl ether (IPE)	ND	1000	1100		20	113	70-130	11/24/2012 1918
Ethanol	ND	100000	68000	N	20	68	70-130	11/24/2012 1918
3,3-Dimethyl-1-butanol	ND	20000	15000		20	75	70-130	11/24/2012 1918
Ethyl-tert-butyl ether (ETBE)	ND	1000	960		20	96	70-130	11/24/2012 1918
tert-Amyl alcohol (TAA)	ND	20000	16000		20	81	70-130	11/24/2012 1918
tert-Amyl methyl ether (TAME)	ND	1000	900		20	90	70-130	11/24/2012 1918
tert-butyl alcohol (TBA)	ND	20000	17000		20	83	70-130	11/24/2012 1918
tert-Butyl formate (TBF)	ND	5000	2900	N	20	59	70-130	11/24/2012 1918

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		108	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ98268-001
Batch: 98268
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	11/24/2012 1134
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	11/24/2012 1134
Ethylbenzene	ND		1	5.0	1.7	ug/L	11/24/2012 1134
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	11/24/2012 1134
Naphthalene	ND		1	5.0	1.7	ug/L	11/24/2012 1134
Toluene	ND		1	5.0	1.7	ug/L	11/24/2012 1134
Xylenes (total)	ND		1	5.0	1.7	ug/L	11/24/2012 1134

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		105	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ98268-002
Batch: 98268
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	52		1	104	70-130	11/24/2012 1016
1,2-Dichloroethane	50	45		1	90	70-130	11/24/2012 1016
Ethylbenzene	50	44		1	89	70-130	11/24/2012 1016
Methyl tertiary butyl ether (MTBE)	50	50		1	100	70-130	11/24/2012 1016
Naphthalene	50	47		1	95	70-130	11/24/2012 1016
Toluene	50	48		1	95	70-130	11/24/2012 1016
Xylenes (total)	100	88		1	88	70-130	11/24/2012 1016

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		100	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ98268-003
Batch: 98268
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	53		1	107	3.2	70-130	20	11/24/2012 1038
1,2-Dichloroethane	50	46		1	92	2.5	70-130	20	11/24/2012 1038
Ethylbenzene	50	46		1	92	3.7	70-130	20	11/24/2012 1038
Methyl tertiary butyl ether (MTBE)	50	52		1	104	3.5	70-130	20	11/24/2012 1038
Naphthalene	50	48		1	95	0.77	70-130	20	11/24/2012 1038
Toluene	50	49		1	98	2.6	70-130	20	11/24/2012 1038
Xylenes (total)	100	91		1	91	2.6	70-130	20	11/24/2012 1038

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		100	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NK15061-004DU
Batch: 98268
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
Benzene	200	210		5	2.5	20	11/24/2012 1834
1,2-Dichloroethane	ND	ND		5	0.00	20	11/24/2012 1834
Ethylbenzene	81	83		5	2.8	20	11/24/2012 1834
Methyl tertiary butyl ether (MTBE)	ND	ND		5	0.00	20	11/24/2012 1834
Naphthalene	15	15	J	5	2.6	20	11/24/2012 1834
Toluene	ND	ND		5	1.3	20	11/24/2012 1834
Xylenes (total)	ND	ND		5	3.5	20	11/24/2012 1834

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS - MS

Sample ID: NK15061-002MS
Batch: 98268
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	11	1000	1100		20	113	70-130	11/24/2012 1918
1,2-Dichloroethane	ND	1000	920		20	92	70-130	11/24/2012 1918
Ethylbenzene	190	1000	1200		20	97	70-130	11/24/2012 1918
Methyl tertiary butyl ether (MTBE)	ND	1000	1100		20	107	70-130	11/24/2012 1918
Naphthalene	240	1000	1200		20	95	70-130	11/24/2012 1918
Toluene	ND	1000	1000		20	103	70-130	11/24/2012 1918
Xylenes (total)	ND	2000	1900		20	94	70-130	11/24/2012 1918

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		108	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ98446-001 **Matrix:** Aqueous
Batch: 98446 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	11/27/2012 1321
Ethylbenzene	ND		1	5.0	1.7	ug/L	11/27/2012 1321
Naphthalene	ND		1	5.0	1.7	ug/L	11/27/2012 1321
Toluene	ND		1	5.0	1.7	ug/L	11/27/2012 1321
Xylenes (total)	ND		1	5.0	1.7	ug/L	11/27/2012 1321

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ98446-002 **Matrix:** Aqueous
Batch: 98446 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	45		1	90	70-130	11/27/2012 1211
Ethylbenzene	50	50		1	101	70-130	11/27/2012 1211
Naphthalene	50	48		1	97	70-130	11/27/2012 1211
Toluene	50	47		1	94	70-130	11/27/2012 1211
Xylenes (total)	100	100		1	102	70-130	11/27/2012 1211

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ98446-003 **Matrix:** Aqueous
Batch: 98446 **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	6.0	70-130	20	11/27/2012 1235

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ98446-003
Batch: 98446
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
Ethylbenzene	50	52		1	105	3.7	70-130	20	11/27/2012 1235
Naphthalene	50	51		1	101	4.5	70-130	20	11/27/2012 1235
Toluene	50	50		1	100	6.0	70-130	20	11/27/2012 1235
Xylenes (total)	100	110		1	106	4.0	70-130	20	11/27/2012 1235

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: NQ97775-001 **Matrix:** Aqueous
Batch: 97775 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 11/16/2012 1150

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	11/20/2012 1841

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		112	57-137

EDB & DBCP by Microextraction - LCS

Sample ID: NQ97775-002 **Matrix:** Aqueous
Batch: 97775 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 11/16/2012 1150

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.25		1	100	60-140	11/20/2012 1902

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		116	57-137

EDB & DBCP by Microextraction - MB

Sample ID: NQ97890-001 **Matrix:** Aqueous
Batch: 97890 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 11/18/2012 1813

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	11/21/2012 0331

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - LCS

Sample ID: NQ97890-002
Batch: 97890
Analytical Method: 8011

Matrix: Aqueous
Prep Method: 8011
Prep Date: 11/18/2012 1813

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.25		1	101	60-140	11/21/2012 0353

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		113	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** **Number** 30014

Client: SCDHEC	Report to Contact: D. Thoma	Sampler (Printed Name): Darcie Odom	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 1 of 2
City: Columbia State: SC Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		
Project Name: Bay Creek Villas			
Project Number: 186662/44518	P.O Number: 4600088529		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: Btex, Naph, Mtbe, 8260B	1,2 DCA	8-Pcs	EDB									Remarks / Cooler ID
									Number of Containers	3	3	3									
									Bottle (See Instructions on back)	A	A	A									
									Preservative	S	S	S									
									Lot No.												NK15061
MW-3R	11/14		G	X						X	X	X	X								ODOR/Sheen
MW-4																					ODOR
MW-9																					ODOR
MW-15																					ODOR
MW-16																					PRODUCT/SAMPLED
MW-17																					ODOR
MW-18																					ODOR/Sheen
MW-19																					PRODUCT/SAMPLED
MW-20																					ODOR/Sheen
MW-21	11/14		G	X						X	X	X	X								PRODUCT/SAMPLED

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	11/14/12	1830	1. Received by	11-14-12	1830
2. Relinquished by	11-15-12	1130	2. Received by	11-15-12	1130
3. Relinquished by			3. Received by		
4. Relinquished by	11/15/12	1300	4. Laboratory Received by	11/15/12	1300

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. 10 °C
Temp. Blank ☑ Y / ☐ N

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** **Number** 14313

Client: SCDHEC	Report to Contact: D. Thoma	Sampler (Printed Name): Darcie Odom	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 2 of 2
City: Columbia State: SC Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers / Bottle (See Instructions on back) / Preservative
Project Name: Bay Creek Villas			Lot No. NK15041
Project Number: 13C002/44518	P.O Number: 4600088579		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix GW	DW	WW	S	Other	Analysis: BTEX, Naph, MTBE, EDB	1,2 DCA	8-oxs	EDB							Remarks / Cooler ID
MW-22	11/14		G	X					X	X	X	X							ODOR
MW-23																			ODOR/Sheen
MW-24																			ODOR
MW-25																			PRODUCT
MW-14 Dup																			ODOR
Field Blank												X							—
Trip Blank	11/14		G	X					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 / Sampler	Date 11/14/12	Time 1830	1. Received by		Date 11.14.12	Time 1830
2. Relinquished by	Date 11.15.12	Time 1130	2. Received by		Date 11.15.12	Time 1130
3. Relinquished by	Date	Time	3. Received by		Date	Time
4. Relinquished by	Date 11/15/12	Time 1300	4. Laboratory Received by		Date 11/15/12	Time 1300

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack Receipt Temp. 1.0 °C Temp. Blank ☐ Y / ☐ N

Sample Receipt Checklist (SRC)

Client: SC DHEC Cooler Inspected by/date: [illegible] / 11/15/12 Lot #: NK15061

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 1D °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 ☑	11/15/12	7. Was collection date & time listed? Not listed on COC or labels
Yes ☑	No ☐		8. Were tests to be performed listed on the COC?
Yes ☑	No ☐		9. Did all samples arrive in the proper containers for each test?
Yes ☑	No ☐		10. Did all container label information (ID, date, time) agree with COC?
Yes ☑	No ☐		11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		12. Was adequate sample volume available?
Yes ☑	No ☐		13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		14. Were any samples containers missing?
Yes ☐	No ☑		15. Were there any excess samples not listed on COC?
Yes ☑	No ☐	NA ☐	16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	20. Were collection temperatures documented on the COC for NC samples?
Yes ☑	No ☐	NA ☐	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc…) correctly transcribed from the COC into the comment section in LIMS?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s)_____were received incorrectly preserved and were adjusted accordingly in sample receiving with _____(H_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) -001(2) -002(4) -003(1) -007(2) -010(1) were received with bubbles >6 mm in diameter.

Sample(s) -011(1) · 013(1) -014(6) -017(2) 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:

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

UST 140 tech DOCKETING

PETER STIPP
210 KING GEORGE ROAD
GREENVILLE SC 29615

FEB 04 2013

Re: **Report of Groundwater Sampling Review & Site Status Update**
Bay Creek Villas, 3701 Docksite Rd., Edisto Beach, SC 29438
UST Permit #18662
Report of Groundwater Sampling Received December 6, 2012
Colleton County

Dear Mr. Stipp:

As per our phone conversation on Friday, February 1, 2013, I am providing you with this update on the environmental conditions at the referenced facility.

The most recent groundwater sampling event at this site was conducted on November 14, 2012. Groundwater samples from this event documented chemicals of concern (CoCs) above their respective Risk Based Screening Level (RBSL) in ten of fourteen site wells; MW-3R, MW-4, MW-9, MW- 15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21 and MW-25. Of these ten wells, four were observed to contain free phase petroleum product. These wells were MW-16, MW-19, MW-21 and MW-25. The four wells containing free product are all located in the covered garage area of the facility.

An extended, 96-hour Aggressive Fluid Vapor Recover (AFVR) event for the wells containing free product has been directed and is currently being scheduled. I have made a special request that this AFVR event be conducted as soon as possible to avoid the high traffic season at the facility. Once more information on scheduling of this event is available, I will be sure to notify you.

In the future, it is expected that additional, extended (24-96 hour) Aggressive Fluid Vapor Recovery events will be conducted until free phase petroleum product has been eliminated and dissolved CoC concentrations have been reduced to acceptable levels. The Underground Storage Tank Management Division will continue to coordinate with you to avoid scheduling AFVR events during the high traffic season at the facility and to keep you updated on site environmental conditions.

On all correspondence regarding this site, please reference UST Permit #18662. If you have any questions, please contact me at (803) 896-6396 or by e-mail at ShullSS@dhec.sc.gov.

Sincerely,

Shane S. Shull., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Report of Groundwater Sampling, Historical Data Tables, Annotated Site Map

cc: Brantley Padgett, Bay Creek Villas, 3701 Docksite Rd., Edisto Beach, SC 29438 (with enc)
Technical File (w/o enc)

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

18662

FEB 07 2013

UST 141 tech DOCKETING

MR RONNY LOWDER
EMERALD INC
P O BOX 3050
SUMTER SC 29151-3050

Re: AFVR
Contract #IFB-5400005023-11/8/12-EMW; PO #4600220167
Notice to proceed

Dear Mr. Lowder:

Under the terms and conditions of the referenced contract, and per the schedule submitted to the Underground Storage Tank (UST) Management Division on February 1, 2013, free-phase product (FPP) recovery using aggressive fluid vapor recovery (AFVR) has been approved for the UST facilities listed below. Emerald, Inc. may proceed upon receipt of this letter. Enclosed are packets containing necessary information to perform FPP recovery at each facility. Each facility has been assigned an individual cost agreement (CA) number, work scope, and report due date. As specified in the contract, a report and invoice must be submitted on or before the due date. The appropriate CA number and Purchase Order (PO) #4600220167 should be referenced on each invoice submitted.

UST Permit #	Facility	County	Work Scope	Cost Agreement	Due Date
02906	Strickland's Exxon	Dillon	1 24-hour event	44883	4/15/13
03754	B & H Grocery	Williamsburg	2 24-hour events	44305	4/15/13
05353	Red Hill Convenience Store	Lee	1 24-hour event	45176	4/15/13
05878	Purolator Courier Corp	Lexington	1 24-hour event	45145	4/15/13
07871	Constan	Richland	2 24-hour events	44260	4/15/13
12614	Frank's Amoco	Lexington	3 8-hour events	45125	5/1/13
03144	Ridgeway Section Shed	Fairfield	1 96-hour event	45122	5/15/13
14433	Town of Winnsboro	Fairfield	1 96-hour event	45060	5/15/13
19002	Former McCoy Oil Site	Fairfield	1 96-hour event	45133	5/15/13
00420	Cooley's Grocery	Anderson	1 96-hour event	45058	6/1/13

UST Permit #	Facility	County	Work Scope	Cost Agreement	Due Date
00479	Service Station	Anderson	1 96-hour event	45063	6/1/13
00487	Former Ford Specialist	Anderson	1 96-hour event	45053	6/1/13
06898	EP Johnson Grocery	Orangeburg	1 96-hour event	45064	6/1/13
06926	Quick Pantry 12	Orangeburg	1 96-hour event	45129	6/1/13
09012	F & T Service Center	Greenville	4 8-hour events	44097	6/1/13
09979	B & R Services	Orangeburg	1 96-hour event	45126	6/1/13
12036	Simpsonville Short Stop	Greenville	3 8-hour events	45212	6/1/13
16009	Mary Moorhead Property	Anderson	1 96-hour event	45052	6/1/13
16090	Former Ellison's Grocery	Greenville	3 8-hour events	45138	6/1/13
17195	H H Transfer and Storage	Orangeburg	1 24-hour event	45074	6/1/13
18662	Bay Creek Villas	Colleton	1 96-hour event	45086	6/1/13
18787	Blitchington's Grocery	Orangeburg	1 96-hour event	45065	6/1/13
19006	Former Orangeburg UST	Orangeburg	1 96-hour event	45175	6/1/13
19328	Phillips Rental Property	Orangeburg	1 96-hour event	45131	6/1/13
19426	Former Royal Petroleum	Richland	1 48-hour event	45227	6/1/13

The FPP recovery at each facility will be performed on behalf of the UST Owner/Operator (O/O) and payment will be made from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The O/O has no obligation to pay for the specified work scope. 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 South Carolina Department of Health and Environmental Control (Agency) is obtained.

Any changes to the work scope must be pre-approved by UST Management Division in order for Emerald to seek payment. Please contact the UST Project Manager for technical and/or financial approval. Any item that is not clearly or completely addressed in the report will not be compensated by SUPERB.

The Division grants pre-approval for transportation of FPP and petroleum-contaminated groundwater from the referenced UST facility to a permitted treatment facility. The FPP and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 896-6398, by fax at (803) 896-6245, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, Geologist/Hydrologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Information packets
AFVR schedule

cc: Technical file (w/o enc)

DHEC/UST/JPP/020513

State Lead AFVR Contract- Pending Events

Site Name	UST Permit #	Region	County	Event Duration	Due Date
Strickland's Exxon	02906	NE	Dillon	24	4/15/2013
Red Hill Convenience	05353	NE	Lee	24	4/15/2013
Constan	07871	NE	Richland	24 (2)	4/15/2013
Former Royal Petroleum	19426	NE	Richland	48	4/15/2013
B&H Grocery	03754	NE	Williamsburg	24 (2)	4/15/2013
Ridgeway Section Shed	03144	NW	Fairfield	96	5/15/2013
Town of Winnsboro	14433	NW	Fairfield	96	5/15/2013
Former McCoy Oil	19002	NW	Fairfield	96	5/15/2013
Bay Creek Villas	18662	SE	Colleton	96	6/1/2013
BP Johnson Grocery	06898	SE	Orangeburg	96	6/1/2013
Quick Pantry 12	06926	SE	Orangeburg	96	6/1/2013
B&R Services	09979	SE	Orangeburg	96	6/1/2013
H&H Transfer	17195	SE	Orangeburg	96	6/1/2013
Blitchington's Grocery	18787	SE	Orangeburg	96	6/1/2013
Former Orangeburg UST	19006	SE	Orangeburg	96	6/1/2013
Phillips Rental Property	19328	SE	Orangeburg	96	6/1/2013
					6/1/2013
Cooley's Grocery	00420	NW	Anderson	96	6/1/2013
Service Station	00479	NW	Anderson	96	6/1/2013
Former Ford Specialist	00487	NW	Anderson	96	6/1/2013
Mary Moorhead Property	16009	NW	Anderson	96	6/1/2013
F&T Service Center	09012	NW	Greenville	8 (4)	6/1/2013
Simpsonville Short Stop	12036	NW	Greenville	8 (3)	6/1/2013
Former Ellison's Grocery	16090	NW	Greenville	8 (3)	6/1/2013
Purolator Courier Corp	05878	NW	Lexington	24	4/15/2013
Frank's Amoco	12614	NW	Lexington	8 (3)	5/1/2013

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

May 20, 2013

Shane Shull, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Underground Storage Tank Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, SC 29201

Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
UST Permit #18662
Emerald Job 13-028

Mr. Shull,

Please find the attached Aggressive Fluid Vapor Recovery (AFVR) Report for the Bay Creek Villas site. A site reconnaissance was conducted on May 10, 2013 to locate each monitoring well, gauge extraction wells, and assess site conditions. Prior to conducting this AFVR event information gathered during the site reconnaissance was presented to the SCDHEC project manager for review.

AGGRESSIVE FLUID VAPOR RECOVERY EVENTS

On May 13 through 17, 2013, Emerald, Inc. personnel, utilizing a vacuum extraction trailer, performed a 96-hour AFVR event utilizing MW-16, MW-19, MW-21 and MW-25 as the extraction points. This 96-hour AFVR event was conducted to aid reducing chemicals of concern previously detected at the subject site. Free phase petroleum product was not detected prior to or at the conclusion of this event. Monitoring well locations are presented on the attached site map provided by SCDHEC.

Table 1 presents the recorded data for the off-gas concentrations (by PID), post treatment off-gas concentrations, off-gas velocity (by SCFM), knockout tank vacuum. Table 2 presents the stinger depths, wellhead vacuum measurements for each extraction well utilized during the event. Table 2 also contains water levels measurements and magnehelic readings for selected nearby monitoring wells. As requested by the SCDHEC project manager, the stingers were set at 8 feet for the duration of the event. Emerald, Inc. field personnel collected data at thirty minute intervals for the first eight hours of the event, then at one hour intervals from hours nine through twenty four and at two hour intervals from twenty four through ninety six hours of the event. During the hours of midnight to 8 AM event monitoring was suspended. Off-gas treatment was utilized at the site to limit exposure of the off-gas produced to the general public using an thermal oxidizer.

According to the calculations as presented on Table 1, a total of 61.08 pounds of hydrocarbons (as vapor) and 9.77 equivalent gallons of hydrocarbons were removed during this event. No product was measured in the knockout tank during this event. A total of 6,753 gallons of petroleum contaminated groundwater was transported to the City of Manning Wastewater Treatment Facility in Manning, SC for proper disposal. A copy of the disposal manifest for this event is included as an attachment.

If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,
Emerald, Inc.

William C. McClary/RB

William C. McClary, P.G.
Project Manager

Ronny L. Lowder
President

Attachments

TABLE 1
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #13-028

Extraction Wells	Date	Time (hh:mm)	Stinger Depth (ft)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM) *	Post-Treatment Concentration (PPM) *	Offgas Velocity (ft/min)	Flow Rate (SCFM)	CG:M (mg/dsm$^{3)}$	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-16	5/13/13	10:00	8	Start	7	544	6.7	N/A	100	2,893	1.81E-04	1.08	-
MW-19		10:30	8	0.5	8	503	6.5	N/A	100	2,675	1.67E-04	1.00	0.52
MW-21		11:00	8	0.5	7	686	5.7	N/A	100	3,648	2.28E-04	1.37	0.59
MW-25		11:30	8	0.5	7	808	4.9	N/A	100	4,297	2.68E-04	1.61	0.74
		12:00	8	0.5	7	684	4.4	N/A	100	3,637	2.27E-04	1.36	0.74
		12:30	8	0.5	10	859	6.0	N/A	70	4,568	2.85E-04	1.20	0.64
		13:00	8	0.5	11	921	6.2	N/A	70	4,898	3.06E-04	1.28	0.62
		13:30	8	0.5	12	924	6.9	N/A	70	4,914	3.07E-04	1.29	0.64
		14:00	8	0.5	12	884	6.8	N/A	70	4,701	2.93E-04	1.23	0.63
		14:30	8	0.5	12	707	7.1	N/A	70	3,760	2.35E-04	0.99	0.55
		15:00	8	0.5	12	494	5.9	N/A	70	2,627	1.64E-04	0.69	0.42
		15:30	8	0.5	11	384	4.4	N/A	70	2,042	1.27E-04	0.54	0.31
		16:00	8	0.5	11	344	10.1	N/A	70	1,829	1.14E-04	0.48	0.25
		16:30	8	0.5	11	333	6.8	N/A	70	1,771	1.11E-04	0.46	0.24
		17:00	8	0.5	11	448	10.4	N/A	70	2,382	1.49E-04	0.62	0.27
		17:30	8	0.5	13	724	14.9	N/A	70	3,850	2.40E-04	1.01	0.41
		18:00	8	0.5	13	689	20.4	N/A	70	3,664	2.29E-04	0.96	0.49
		19:00	8	1.0	13	704	42.1	N/A	70	3,744	2.34E-04	0.98	0.97
		20:00	8	1.0	13	655	45.7	N/A	70	3,483	2.17E-04	0.91	0.95
		21:00	8	1.0	13	419	65	N/A	70	2,228	1.39E-04	0.58	0.75
		22:00	8	1.0	13	357	25	N/A	70	1,898	1.19E-04	0.50	0.54
		23:00	8	1.0	13	697	61	N/A	70	3,706	2.31E-04	0.97	0.73
	5/14/13	0:00	8	1.0	13	642	67	N/A	70	3,414	2.13E-04	0.90	0.93
		8:00	8	8.0	10	641	40.5	N/A	70	3,409	2.13E-04	0.89	7.16
		9:00	8	1.0	10	561	21.9	N/A	70	2,983	1.86E-04	0.78	0.84
		10:00	8	1.0	10	497	89.5	N/A	70	2,643	1.65E-04	0.69	0.74
		12:00	8	2.0	10	522	51	N/A	70	2,776	1.73E-04	0.73	1.42
		14:00	8	2.0	10	471	32	N/A	70	2,505	1.56E-04	0.66	1.38
		16:00	8	2.0	10	336	14.9	N/A	70	1,787	1.12E-04	0.47	1.13
		18:00	8	2.0	10	361	15.9	N/A	70	1,920	1.20E-04	0.50	0.97
		20:00	8	2.0	10	330	8.8	N/A	70	1,755	1.10E-04	0.46	0.96
		22:00	8	2.0	10	365	7.9	N/A	70	1,941	1.21E-04	0.51	0.97
	5/15/13	0:00	8	2.0	10	462	8.4	N/A	70	2,457	1.53E-04	0.64	1.15
		8:00	8	8.0	11	319	6.1	N/A	70	1,696	1.06E-04	0.44	4.36
		10:00	8	2.0	11	447	12.3	N/A	70	2,377	1.48E-04	0.62	1.07
		12:00	8	2.0	11	397	13.1	N/A	70	2,111	1.32E-04	0.55	1.18

TABLE 1 Cont'd.
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #13-028

Extraction Wells	Date	Time (hh:mm)	Stinger Depth (ft)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM) *	Post-Treatment Concentration (PPM) *	Offgas Velocity (ft/min)	Flow Rate (SCFM)	CG:M (mg/dsm$^{3)}$	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-16	5/15/13	14:00	8	2.0	11	407	28.7	N/A	70	2,164	1.35E-04	0.57	1.12
MW-19		16:00	8	2.0	11	386	15.4	N/A	70	2,053	1.28E-04	0.54	1.11
MW-21		18:00	8	2.0	11	412	14.1	N/A	70	2,191	1.37E-04	0.57	1.11
MW-25		20:00	8	2.0	12	431	15.4	N/A	70	2,292	1.43E-04	0.60	1.18
		22:00	8	2.0	10	409	17.2	N/A	70	2,175	1.36E-04	0.57	1.17
	5/16/13	0:00	8	2.0	10	400	18.0	N/A	70	2,127	1.33E-04	0.56	1.13
		8:00	8	8.0	11	347	15.1	N/A	70	1,845	1.15E-04	0.48	4.17
		10:00	8	2.0	11	391	16.5	N/A	70	2,079	1.30E-04	0.55	1.03
		12:00	8	2.0	13	282	4.9	N/A	70	1,500	9.36E-05	0.39	0.94
		14:00	8	2.0	13	308	4.7	N/A	70	1,638	1.02E-04	0.43	0.82
		16:00	8	2.0	13	408	17	N/A	70	2,170	1.35E-04	0.57	1.00
		18:00	8	2.0	13	422	19	N/A	70	2,244	1.40E-04	0.59	1.16
		20:00	8	2.0	13	319	16	N/A	70	1,696	1.06E-04	0.44	1.03
		22:00	8	2.0	13	419	19.2	N/A	70	2,228	1.39E-04	0.58	1.03
	5/17/13	0:00	8	2.0	13	400	17.9	N/A	70	2,127	1.33E-04	0.56	1.14
		8:00	8	8.0	13	418	12.2	N/A	70	2,223	1.39E-04	0.58	4.56
		10:00	8	END	13	384	6.6	N/A	70	2,042	1.27E-04	0.54	1.12

Well Gauging Data:			Before AFVR Event			After AFVR Event		
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
MW-16	2	3-10	–	6.30	–	–	7.77	–
MW-19	2	2.5-9.5	–	6.21	–	–	8.15	–
MW-21	2	2.5-9.5	–	5.98	–	–	8.26	–
MW-25	2	2.5-9.5	–	5.51	–	–	7.39	–

Product Thickness	
Product observed in Sight Tube?	No
Product detected in Tanker?	No

Weather Conditions		Emerald, Inc. Personnel
5/13/13	Sunny, 55°F-75°F	L. Stogner
5/14/13	Sunny, 51°F-75°F	M. Gaylord
5/15/13	Sunny, 61°F-88°F	
5/16/13	Cloudy, 65°F-83°F	

Recovery / Disposal Information		
Hydrocarbons Removed (vapor):	61.08	Pounds
Hydrocarbons Removed (liquid):	0.00	Gallons
Total Hydrocarbons Removed:	9.77	Equivalent Gallons
Molecular Weight Utilized:	128	mg/mg-mole
Disposal Facility:	City of Manning Wastewater Treatment Facility	
Total Liquids Removed:	6,753	Gallons

Equations

Cg;m = PPMg*(Mg/K3)

Removal Rate = Cg * Flow Rate * 60Min/Hr

Interval Removal = $(T_1 + T_2)/2$

PPM = Part per Million (by PID)

Cg:m = mg/dsm3(mass concentration of gasoline emission)

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm^3/1E6 mg-mole, mass to volume conversion

Cg = lb/dcsf, mass concentration of gasoline by emission

Removal Rate = lb/hr,pollutant mass removal rate of emission

↑ = Stinger raised

↓ = Stinger lowered

TABLE 2
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #13-028

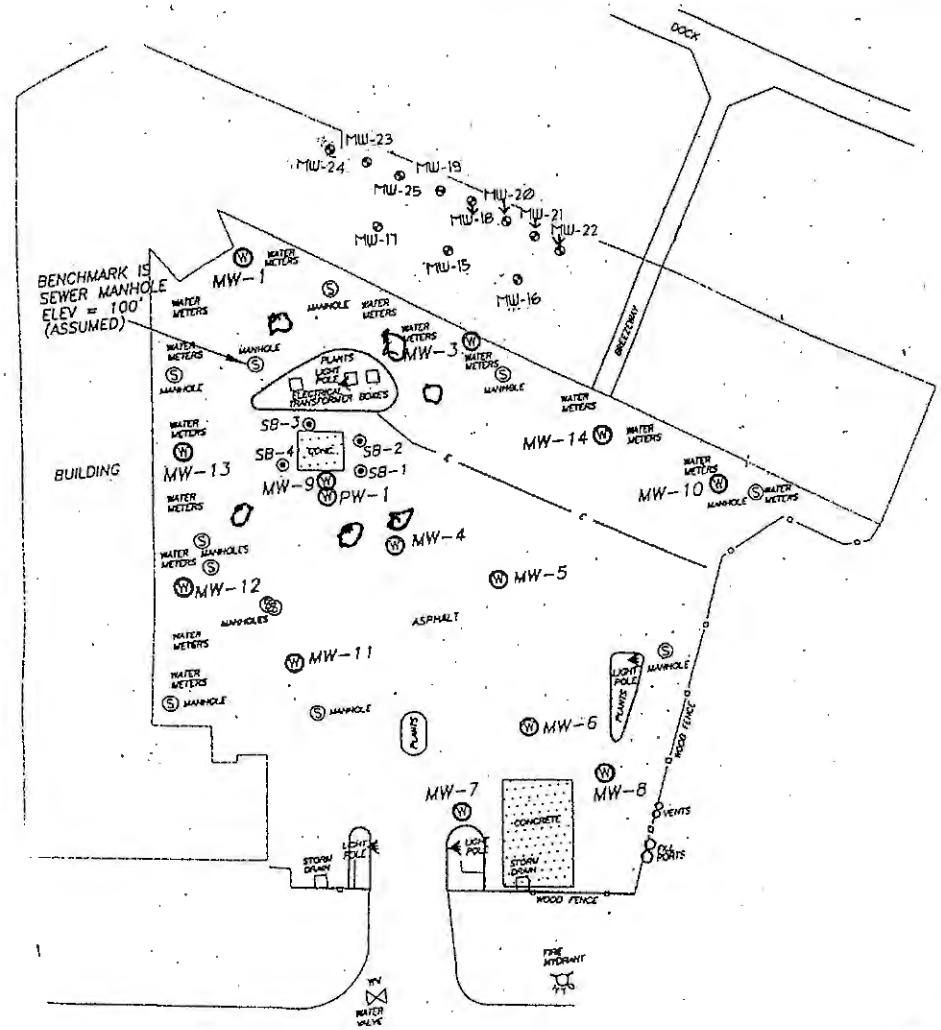
Date	Time (hh:mm)	Extraction Wells								Process Monitoring Well Readings					
		MW-16		MW-19		MW-21		MW-25		MW-3		MW-17		MW-22	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water
5/13/13	10:00	8	8	8	6	8	5	8	6	Pre	5.25	Pre	4.24	Pre	5.66
	10:30	8	7	8	6	8	6	8	6	<1	5.25	<1	4.24	<1	5.63
	11:00	8	7	8	6	8	6	8	6	<1	5.21	<1	4.25	<1	6.60
	11:30	8	7	8	6	8	6	8	6	<1	5.13	<1	4.25	<1	5.52
	12:00	8	7	8	6	8	6	8	6	<1	5.11	<1	4.24	<1	5.48
	12:30	8	10	8	8	8	8	8	8	<1	5.04	<1	4.24	<1	5.46
	13:00	8	10	8	8	8	8	8	8	<1	4.93	<1	4.24	<1	5.42
	13:30	8	10	8	8	8	8	8	8	<1	4.81	<1	4.24	<1	5.38
	14:00	8	10	8	8	8	8	8	8	<1	4.86	<1	4.24	<1	5.40
	14:30	8	10	8	8	8	6	8	8	<1	4.96	<1	4.23	<1	5.49
	15:00	8	10	8	8	8	6	8	8	<1	5.03	<1	4.22	<1	5.67
	15:30	8	10	8	7	8	6	8	8	<1	5.18	<1	4.22	<1	5.79
	16:00	8	11	8	7	8	6	8	8	<1	5.29	<1	4.22	<1	5.91
	16:30	8	11	8	7	8	6	8	8	<1	5.35	<1	4.21	<1	6.04
	17:00	8	14	8	9	8	8	8	10	<1	5.49	<1	4.21	<1	6.21
	17:30	8	14	8	9	8	8	8	10	<1	5.63	<1	4.21	<1	6.39
	18:00	8	14	8	9	8	8	8	10	<1	5.69	<1	4.21	<1	6.45
	19:00	8	14	8	9	8	8	8	10	<1	5.76	<1	4.21	<1	6.47
	20:00	8	14	8	9	8	8	8	10	<1	5.90	<1	4.39	<1	6.54
	21:00	8	14	8	9	8	8	8	10	<1	5.67	<1	4.31	<1	6.28
	22:00	8	14	8	9	8	8	8	10	<1	5.50	<1	4.32	<1	5.96
	23:00	8	14	8	9	8	8	8	10	<1	5.26	<1	4.31	<1	5.60
5/14/13	0:00	8	14	8	9	8	8	8	10	<1	5.19	<1	4.31	<1	5.37
	8:00	8	8	8	8	8	7	8	9	<1	6.01	<1	4.36	<1	6.54
	9:00	8	8	8	9	8	7	8	9	<1	5.90	<1	4.36	<1	6.41
	10:00	8	8	8	9	8	7	8	9	<1	5.86	<1	4.34	<1	6.31
	12:00	8	8	8	9	8	7	8	9	<1	5.80	<1	4.31	<1	6.28
	14:00	8	8	8	9	8	7	8	9	<1	5.74	<1	4.32	<1	6.20
	16:00	8	8	8	9	8	7	8	9	<1	5.35	<1	4.31	<1	6.01
	18:00	8	8	8	9	8	7	8	9	<1	5.59	<1	4.32	<1	6.28
	20:00	8	8	8	9	8	7	8	9	<1	5.87	<1	4.32	<1	6.58
	22:00	8	8	8	9	8	7	8	9	<1	5.76	<1	4.30	<1	6.38
5/15/13	0:00	8	8	8	9	8	7	8	9	<1	5.60	<1	4.31	<1	6.29
	8:00	8	8	8	9	8	7	8	9	<1	5.79	<1	4.33	<1	6.41
	10:00	8	9	8	10	8	8	8	9	<1	6.12	<1	4.33	<1	6.62
	12:00	8	9	8	10	8	9	8	9	<1	6.27	<1	4.33	<1	6.81

Notes:

TABLE 2 Cont'd.
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #13-028

Date	Time (hh:mm)	Extraction Wells								Process Monitoring Well Readings					
		MW-16		MW-19		MW-21		MW-25		MW-3		MW-17		MW-22	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water
5/15/13	14:00	8	13	8	9	8	9	8	10	<1	5.48	<1	4.30	<1	6.06
	16:00	8	13	8	9	8	9	8	10	<1	5.43	<1	4.31	<1	6.16
	18:00	8	13	8	9	8	9	8	10	<1	5.82	<1	4.32	<1	6.55
	20:00	8	13	8	9	8	9	8	10	<1	5.70	<1	4.30	<1	6.39
	22:00	8	13	8	9	8	9	8	10	<1	5.74	<1	4.32	<1	6.37
5/16/13	0:00	8	12	8	9	8	9	8	10	<1	5.77	<1	4.32	<1	6.29
	8:00	8	10	8	8	8	7	8	10	<1	6.36	<1	4.30	<1	6.87
	10:00	8	10	8	8	8	7	8	10	<1	6.42	<1	4.32	<1	6.98
	12:00	8	12	8	9	8	9	8	10	<1	6.43	<1	4.32	<1	6.94
	14:00	8	13	8	10	8	9	8	10	<1	5.99	<1	4.30	<1	6.54
	16:00	8	13	8	10	8	9	8	10	<1	5.77	<1	4.30	<1	6.39
	18:00	8	13	8	10	8	9	8	10	<1	5.61	<1	4.31	<1	6.31
	20:00	8	13	8	10	8	9	8	10	<1	5.69	<1	4.32	<1	6.42
	22:00	8	12	8	10	8	9	8	10	<1	5.80	<1	4.32	<1	6.42
5/17/13	0:00	8	11	8	10	8	9	8	10	<1	5.78	<1	4.33	<1	6.32
	8:00	8	10	8	10	8	9	8	10	<1	5.56	<1	4.31	<1	6.86
	10:00	8	11	8	10	8	8	8	10	<1	6.65	<1	4.32	<1	7.04

Notes:



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 76

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Beach, SC

4. Generator's Phone ( )

UST # 18662

5. Transporter 1 Company Name
EMERALD, INC.

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone 803-469-5454

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			1700	Gal
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

GENERATOR

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name | Signature | Date Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Lee Stogner | Signature | Date Month 5 Day 14 Year 13

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: PATRICK KELLY | Signature | Date Month 5 Day 14 Year 13

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 77

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Beach, SC
UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name
EMERALD, INC.

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone 803-469-5454

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			1570	
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

GENERATOR

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Date

Printed/Typed Name | Signature | Month | Day | Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Date

Printed/Typed Name: Lee Stagr | Signature | Month 5 | Day 15 | Year 13

18. Transporter 2 Acknowledgement of Receipt of Materials

Date

Printed/Typed Name | Signature | Month | Day | Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Date

Printed/Typed Name: James Bethea | Signature: James Bethea | Month 5 | Day 15 | Year 13

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 78

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Dockside Road
Edisto Beach, SC

4. Generator's Phone ( )

UST Permit #18662

5. Transporter 1 Company Name
EMERALD, INC.

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone 803-469-5454

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			3483	Gal
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name | Signature | Date: Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Lee Stagnki | Signature | Date: Month 5 Day 17 Year 13

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: JON EARGLE (HODGE) | Signature | Date: Month 5 Day 17 Year 13

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea | Date: Month 5 Day 17 Year 13

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

FEB 25 2014

MR RONNY LOWDER
EMERALD INC
P O BOX 3050
SUMTER SC 29151-3050

UST 143 tech DOCKETING

Re: AFVR
Contract #IFB-5400005023-11/8/12-EMW; PO #4600220167
Notice to proceed

Dear Mr. Lowder:

Under the terms and conditions of the referenced contract, and per the schedule submitted to the Underground Storage Tank (UST) Management Division on February 7, 2014, free-phase product (FPP) recovery using aggressive fluid vapor recovery (AFVR) has been approved for the UST facilities listed below. Emerald, Inc. may proceed upon receipt of this letter. Enclosed are packets containing necessary information to perform FPP recovery at each facility. Each facility has been assigned an individual cost agreement (CA) number, work scope, work scope start date, and report due date. As specified in the contract, a report and invoice must be submitted on or before the due date. The appropriate CA number and Purchase Order (PO) #4600220167 should be referenced on each invoice submitted.

Permit	Facility	County	Work Scope	CA	Start Date	Due Date
00036	7 Eleven #36851	Abbeville	1 48-hour event	46703	4/21/14	4/28/14
00487	Former Ford Specialist	Anderson	1 96-hour event	46925	5/5/14	5/15/14
00769	Anderson Patrol	Anderson	1 96-hour event	46945	5/5/14	5/15/14
01253	Mack's Camp	Berkeley	1 96-hour event	46742	4/14/14	4/28/14
02015	Pop's Corner	Cherokee	1 96-hour event	46992	5/12/14	5/19/14
02032	Southern Store 583	Cherokee	1 96-hour event	46892	5/12/14	5/19/14
02115	Griffin's Mart	Chester	3 48-hour events	46959	5/19/14	6/9/14
02607	Darlington Bus Shop	Darlington	2 24-hour events	46707	5/27/14	6/9/14
06346	Kountry Mart	Williamsburg	3 24-hour events	46915	4/21/14	6/16/14
06848	Stone Container	Orangeburg	1 96-hour event	46910	4/28/14	5/5/14
06992	Deas Gulf Service	Orangeburg	1 24-hour event	46907	4/14/14	4/28/14
07176	Zee Mart	Pickens	1 48-hour event	46784	4/21/14	4/28/14
07798	Pit Stop 36	Lexington	3 8-hour events	46839	4/21/14	6/9/14
07982	Jr Food Mart	Saluda	1 48-hour event	46909	4/21/14	4/28/14

Permit	Facility	County	Work Scope	CA	Start Date	Due Date
08392	Southern Grocery	Greenville	2 24-hour events	46814	4/21/14	6/2/14
08466	Crown SC-517	Spartanburg	2 48-hour events	46897	5/27/14	6/9/14
08795	Blue Ridge Transfer	Sumter	1 48-hour event	46954 46955	4/14/14	4/21/14
08911	Rembert Grocery	Sumter	2 48-hour events	46898	4/14/14	5/19/14
09089	Pressley & Son	Williamsburg	3 24-hour events	46903	4/14/14	6/2/14
09125	McCutcheon's Grocery	Williamsburg	2 24-hour events	46893	5/19/14	6/9/14
09340	Westbrook Grocery	York	1 96-hour event	46756	4/28/14	5/5/14
14469	Great Falls Exxon	Chester	1 48-hour event	46709	4/21/14	4/28/14
14597	Hoopers Auto Service	Anderson	1 96-hour event	46911	5/19/14	5/27/14
18662	Bay Creek Villas	Colleton	2 96-hour events	47531	4/28/14	5/27/14
19328	Phillips Rental Property	Orangeburg	1 96-hour event	47009	4/28/14	5/5/14
19346	Former Bulk Fuels Plant	Charleston	2 96-hour events	46894	6/2/14	6/16/14

The FPP recovery at each facility will be performed on behalf of the UST Owner/Operator (O/O) and payment will be made from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The O/O has no obligation to pay for the specified work scope. 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 South Carolina Department of Health and Environmental Control (Agency) is obtained.

Any changes to the work scope must be pre-approved by UST Management Division in order for Emerald to seek payment. Please contact the UST Project Manager for technical and/or financial approval. Any item that is not clearly or completely addressed in the report will not be compensated by SUPERB.

The Division grants pre-approval for transportation of FPP and petroleum-contaminated groundwater from the referenced UST facility to a permitted treatment facility. The FPP and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 898-0655, by fax at (803) 898-0673, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, Geologist/Hydrologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Information packets
AFVR Schedule 8
cc: Technical file (w/o enc)

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

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May 19, 2014

UST DOCKETING 144tech

UST MAY 22 2014 DIVISION

John Bryant, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Underground Storage Tank Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, SC 29201

Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
Colleton County
UST Permit #18662; CA #47531
Emerald Job 14-010B

Mr. Bryant,

Please find the attached Aggressive Fluid Vapor Recovery (AFVR) Report for the Bay Creek Villas site. Prior to conducting this AFVR event information gathered during the site reconnaissance was presented to the SCDHEC project manager for review.

AGGRESSIVE FLUID VAPOR RECOVERY EVENTS

On May 12 through 16, 2014, Emerald, Inc. personnel performed a 96-hour AFVR event utilizing MW-3R, MW-19, MW-23 and MW-25 as extraction locations. This 96-hour AFVR event was conducted to aid reducing dissolved levels of chemicals of concern previously detected at the subject site. Free phase petroleum product was not detected prior to initiation or at the conclusion of this event. Monitoring well locations are presented on the attached site map provided by SCDHEC.

Table 1 presents the off-gas concentrations (using a Photoionization Detector), post treatment off-gas concentrations, off-gas velocity, and knockout tank vacuum. Table 2 presents the stinger depths, wellhead vacuum measurements, water levels measurements and magnehelic readings obtained during the event. Emerald, Inc. field personnel normally record data at thirty minute intervals for the first eight hours of the event, then at one hour intervals from hours nine through twenty four and at two hour intervals from twenty four through ninety six hours of the event. During the hours of midnight to 8 AM event monitoring was suspended. Off-gas treatment was utilized during business hours at the site to limit exposure of the off-gas produced to the general public using a catalytic oxidizer.

According to the calculations as presented on Table 1, a total of 114.33 pounds of hydrocarbons (as vapor) and 18.28 equivalent gallons of hydrocarbons were removed during this event. No product was measured in the knockout tank during this event. A total of 4,248 gallons of petroleum contaminated groundwater was transported to the City of Manning Wastewater Treatment Facility in Manning, SC for proper disposal. A copy of the disposal manifest for this event is included as an attachment.

If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,
Emerald, Inc.

William C. McClary, P.G.
Project Manager

Ronny L. Lowder
President

Attachments

TABLE 1
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO ISLAND, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-010B

Extraction Wells	Date	Time (hh:mm)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM)	Post-Treatment Concentration (PPM)	Offgas Velocity (ft/min)	Flow Rate (SCFM)	CG:M (mg/dsm$^{3)}$	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-3R	5/12/14	12:00	Start	13	234	0.1	N/A	190	1,244	7.77E-05	0.89	-
MW-19		12:30	0.5	15	213	0.3	N/A	150	1,133	7.07E-05	0.64	0.38
MW-23		13:00	0.5	17	212	0.2	N/A	120	1,127	7.04E-05	0.51	0.29
MW-25		13:30	0.5	19	637	0.7	N/A	100	3,387	2.11E-04	1.27	0.44
		14:00	0.5	20	2,004	0.9	N/A	90	10,657	6.65E-04	3.59	1.22
		14:30	0.5	20	1,523	1	N/A	90	8,099	5.06E-04	2.73	1.58
		15:00	0.5	20	1,093	0.9	N/A	90	5,812	3.63E-04	1.96	1.17
		15:30	0.5	20	858	0.7	N/A	90	4,563	2.85E-04	1.54	0.87
		16:00	0.5	21	791	0.6	N/A	90	4,206	2.63E-04	1.42	0.74
		16:30	0.5	21	722	0.7	N/A	90	3,839	2.40E-04	1.29	0.68
		17:00	0.5	20	710	0.7	N/A	100	3,776	2.36E-04	1.41	0.68
		17:30	0.5	20	684	0.6	N/A	100	3,637	2.27E-04	1.36	0.69
		18:00	0.5	19	653	0.2	N/A	110	3,472	2.17E-04	1.43	0.70
		18:30	0.5	18	614	0.3	N/A	120	3,265	2.04E-04	1.47	0.72
		19:00	0.5	18	591	0.4	N/A	120	3,143	1.96E-04	1.41	0.72
		19:30	0.5	18	527	0.2	N/A	120	2,802	1.75E-04	1.26	0.67
		20:00	0.5	18	562	0.4	N/A	120	2,989	1.87E-04	1.34	0.65
		21:00	1.0	18	571	0.5	N/A	120	3,036	1.90E-04	1.36	1.35
		22:00	1.0	18	557	0.9	N/A	120	2,962	1.85E-04	1.33	1.35
		23:00	1.0	18	1,201	0.8	N/A	120	6,387	3.99E-04	2.87	2.10
	5/13/14	0:00	1.0	18	1,301	0.8	N/A	120	6,918	4.32E-04	3.11	2.99
		8:00	8.0	18	194	0.9	N/A	120	1,032	6.44E-05	0.46	14.29
		9:00	1.0	18	216	0.9	N/A	120	1,149	7.17E-05	0.52	0.49
		10:00	1.0	18	241	0.9	N/A	120	1,282	8.00E-05	0.58	0.55
		11:00	1.0	18	301	0.9	N/A	120	1,601	9.99E-05	0.72	0.65
		12:00	1.0	18	293	0.9	N/A	120	1,558	9.73E-05	0.70	0.71
		14:00	2.0	18	286	1	N/A	120	1,521	9.49E-05	0.68	1.38
		16:00	2.0	16	475	0.9	N/A	120	2,526	1.58E-04	1.14	1.82
		18:00	2.0	15	560	0.9	N/A	120	2,978	1.86E-04	1.34	2.47
		20:00	2.0	15	610	0.8	N/A	120	3,244	2.03E-04	1.46	2.80
		22:00	2.0	15	636	0.8	N/A	110	3,382	2.11E-04	1.39	2.85

TABLE 1 Cont'd.
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO ISLAND, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-010B

Extraction Wells	Date	Time (hh:mm)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM)	Post-Treatment Concentration (PPM)	Offgas Velocity (ft/min)	Flow Rate (CFM)	CG:M (mg/dsm^3)	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-3R	5/14/14	0:00	2.0	15	623	N/A	N/A	110	3,313	2.07E-04	1.37	2.76
MW-19		8:00	8.0	14	619	0.7	N/A	120	3,292	2.05E-04	1.48	11.38
MW-23		10:00	2.0	13	622	0.8	N/A	120	3,308	2.06E-04	1.49	2.97
MW-25		12:00	2.0	13	647	0.9	N/A	120	3,441	2.15E-04	1.55	3.03
		14:00	2.0	13	689	1	N/A	120	3,664	2.29E-04	1.65	3.19
		16:00	2.0	13.5	517	1	N/A	120	2,749	1.72E-04	1.24	2.88
		18:00	2.0	14	385	1	N/A	110	2,047	1.28E-04	0.84	2.08
		20:00	2.0	14	410	1	N/A	100	2,180	1.36E-04	0.82	1.66
		22:00	2.0	14	414	N/A	N/A	100	2,202	1.37E-04	0.82	1.64
	5/15/14	0:00	2.0	14	409	N/A	N/A	100	2,175	1.36E-04	0.81	1.64
		8:00	8.0	14	479	0.9	N/A	100	2,547	1.59E-04	0.95	7.08
		10:00	2.0	15	483	0.9	N/A	100	2,568	1.60E-04	0.96	1.92
		12:00	2.0	16	504	1	N/A	100	2,680	1.67E-04	1.00	1.97
		14:00 [1]	2.0	16	515	1	N/A	100	2,739	1.71E-04	1.03	2.03
		16:00	2.0	17	526	1.1	N/A	100	2,797	1.75E-04	1.05	2.07
		18:00	2.0	17	515	1.1	N/A	100	2,739	1.71E-04	1.03	2.07
		20:00	2.0	16	511	0.9	N/A	100	2,717	1.70E-04	1.02	2.04
		22:00	2.0	16	519	N/A	N/A	100	2,760	1.72E-04	1.03	2.05
	5/16/14	0:00	2.0	16	526	N/A	N/A	100	2,797	1.75E-04	1.05	2.08
		8:00	8.0	17	353	N/A	N/A	100	1,877	1.17E-04	0.70	7.00
		10:00	2.0	17	324	N/A	N/A	100	1,723	1.08E-04	0.65	1.35
		12:00	2.0	17	360	N/A	N/A	100	1,914	1.20E-04	0.72	1.42

Well Gauging Data:

Well No.	Diameter (in)	Screened Interval (ft)	Before AFVR Event: Depth to Product (ft)	Before AFVR Event: Depth to Water (ft)	Before AFVR Event: Product Thickness (ft)	After AFVR Event: Depth to Product (ft)	After AFVR Event: Depth to Water (ft)	After AFVR Event: Product Thickness (ft)
MW-3R	2	1.8-11.8	–	5.44	–	–	8.66	–
MW-19	2	2.5-9.5	–	5.92	–	–	8.89	–
MW-23	2	2.5-9.5	–	3.94	–	–	8.56	–
MW-25	2	2.5-9.5	–	4.67	–	–	8.29	–

Product Thickness

Product observed in Sight Tube? No

Product detected in Tanker? No

Weather Conditions		Emerald, Inc. Personnel
5/12/14	Sunny, 68-88°F	L. Bishop
5/13/14	Sunny, 66-88°F	C. Racer
5/14/14	Sunny, 67-85°F	L. Stogner
5/15/14	Rain, 68-79°F	
5/18/14	Sunny, 54-78°F	

Recovery / Disposal Information

Hydrocarbons Removed (vapor):	114.33	Pounds
Hydrocarbons Removed (liquid):	0.00	Gallons
Total Hydrocarbons Removed:	18.28	Equivalent Gallons
Molecular Weight Utilized:	128	mg/mg-mole
Disposal Facility:	City of Manning Wastewater Treatment Facility	
Total Liquids Removed:	4,248	Gallons

Equations

Cg;m = PPMg*(Mg/K3)

Removal Rate = Cg * Flow Rate * 60Min/Hr

Interval Removal = $(T_1 + T_2)/2$

PPM = Part per Million (by PID)

Cg:m = mg/dsm3(mass concentration of gasoline emission)

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm^3/1E6 mg-mole, mass to volume conversion

Cg = lb/dcsf, mass concentration of gasoline by emission

Removal Rate = lb/hr,pollutant mass removal rate of emission

Notes

↑ = Stinger raised ↓ = Stinger lowered

[1] Readings not recorded due to heavy rain. Average readings from 12:00 and 16:00 on 5/15/14 used for calculations.

TABLE 2
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO ISLAND, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-010B

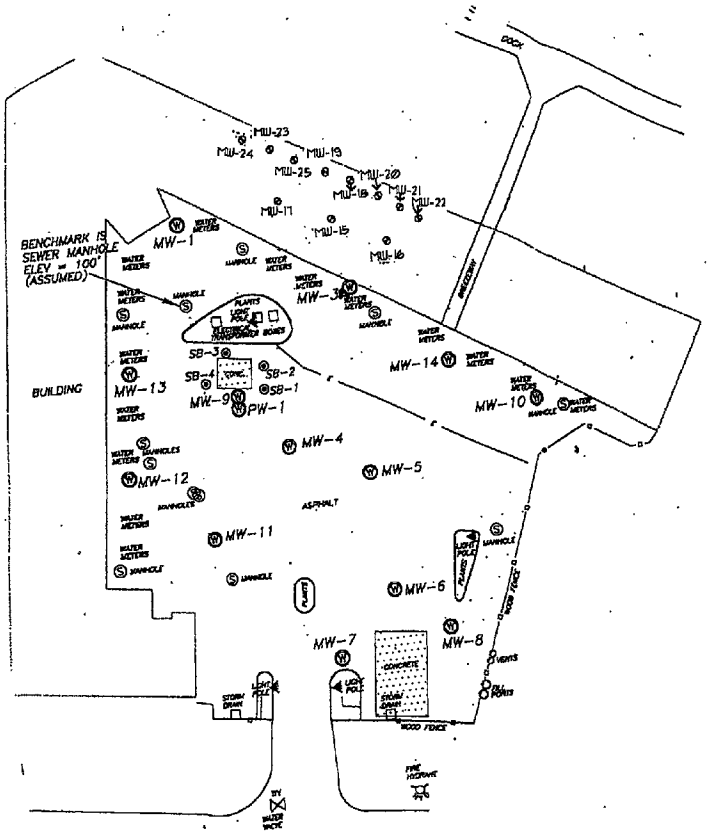
Date	Time (hh:mm)	Extraction Wells								Event Monitoring					
		MW-3R		MW-19		MW-23		MW-25		MW-15		MW-17		MW-22	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water
5/12/14	12:00	8.0	11	8.0	12	8.0	12	8.0	9	Pre	4.26	Pre	4.13	Pre	5.92
	12:30	8.0	12	8.0	12	8.0	12	8.0	10	<1	4.28	<1	4.18	<1	5.90
	13:00	8.0	13	8.0	13	8.0	12	8.0	10	<1	4.28	<1	4.27	<1	5.98
	13:30	8.0	13	8.0	15	8.0	13	8.0	11	<1	4.29	<1	4.32	<1	6.19
	14:00	8.0	14	8.0	15	8.0	14	8.0	12	<1	4.29	<1	4.39	<1	6.46
	14:30	8.0	14	8.0	15	8.0	16	8.0	14	<1	4.32	<1	4.48	<1	6.72
	15:00	8.0	14	8.0	15	8.0	16	8.0	14	<1	4.33	<1	4.49	<1	6.74
	15:30	8.0	15	8.0	16	8.0	17	8.0	14	<1	4.34	<1	4.51	<1	6.76
	16:00	8.0	15	8.0	17	8.0	18	8.0	16	<1	4.35	<1	4.52	<1	6.77
	16:30	8.0	15	8.0	17	8.0	19	8.0	19	<1	4.37	<1	4.52	<1	6.65
	17:00	8.0	16	8.0	18	8.0	19	8.0	19	<1	4.38	<1	4.53	<1	6.52
	17:30	8.0	15	8.0	18	8.0	18	8.0	19	<1	4.40	<1	4.54	<1	6.39
	18:00	8.0	15	8.0	18	8.0	18	8.0	18	<1	4.41	<1	4.55	<1	6.17
	18:30	8.0	15	8.0	18	8.0	17	8.0	17	<1	4.41	<1	4.56	<1	6.01
	19:00	8.0	15	8.0	17	8.0	16	8.0	15	<1	4.42	<1	4.66	<1	5.44
	19:30	8.0	14	8.0	17	8.0	16	8.0	14	<1	4.32	<1	4.72	<1	5.01
	20:00	8.0	14	8.0	16	8.0	15	8.0	15	<1	4.40	<1	4.89	<1	4.84
	21:00	8.0	14	8.0	16	8.0	15	8.0	15	<1	4.41	<1	4.95	<1	4.82
	22:00	8.0	14	8.0	15	8.0	14	8.0	15	<1	4.46	<1	4.96	<1	4.81
	23:00	8.0	14	8.0	15	8.0	14	8.0	15	<1	4.55	<1	4.92	<1	4.76
5/13/14	0:00	8.0	13	8.0	15	8.0	14	8.0	16	<1	4.59	<1	4.94	<1	4.71
	8:00	8.0	14	8.0	15	8.0	14	8.0	16	<1	4.25	<1	5.09	<1	4.63
	9:00	8.0	14	8.0	15	8.0	14	8.0	16	<1	4.23	<1	5.07	<1	4.79
	10:00	8.0	15	8.0	15	8.0	14	8.0	16	<1	4.21	<1	5.22	<1	4.84
	11:00	8.0	16	8.0	15	8.0	14	8.0	16	<1	4.25	<1	5.29	<1	4.93
	12:00	8.0	16	8.0	15	8.0	15	8.0	15	<1	4.29	<1	5.23	<1	4.99
	14:00	8.0	16	8.0	16	8.0	15	8.0	15	<1	4.37	<1	5.10	<1	5.06
	16:00	8.0	14	8.0	15	8.0	14	8.0	14	<1	4.46	<1	5.00	<1	5.11
	18:00	8.0	12	8.0	13	8.0	12.5	8.0	13	<1	4.55	<1	4.91	<1	5.17
	20:00	8.0	10	8.0	10	8.0	11	8.0	12.5	<1	4.65	<1	4.81	<1	5.23
	22:00	8.0	11	8.0	11	8.0	12	8.0	13	<1	4.71	<1	4.76	<1	5.28

Notes:

TABLE 2 Cont'd.
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO ISLAND, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-010B

Date	Time (hh:mm)	Extraction Wells								Event Monitoring					
		MW-3R		MW-19		MW-23		MW-25		MW-15		MW-17		MW-22	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water
5/14/14	0:00	8.0	12	8.0	12	8.0	13	8.0	13	<1	4.73	<1	4.71	<1	5.33
	8:00	8.0	12	8.0	12	8.0	13	8.0	13	<1	4.59	<1	5.03	<1	5.39
	10:00	8.0	12	8.0	12	8.0	13	8.0	13	<1	4.63	<1	5.14	<1	5.18
	12:00	8.0	12	8.0	12	8.0	13	8.0	14	<1	4.56	<1	5.57	<1	4.92
	14:00	8.0	12	8.0	12	8.0	13	8.0	14	<1	4.61	<1	5.41	<1	5.27
	16:00	8.0	13	8.0	12	8.0	13	8.0	14	<1	4.69	<1	5.18	<1	5.68
	18:00	8.0	13	8.0	13	8.0	14	8.0	16	<1	4.75	<1	4.95	<1	6.10
	20:00	8.0	14	8.0	13.5	8.0	15	8.0	17	<1	4.80	<1	5.00	<1	5.98
	22:00	8.0	14	8.0	13	8.0	15	8.0	17	<1	4.83	<1	5.06	<1	5.91
5/15/14	0:00	8.0	14	8.0	13	8.0	15	8.0	17	<1	4.87	<1	5.10	<1	5.88
	8:00	8.0	14	8.0	13	8.0	15	8.0	17	<1	4.89	<1	5.13	<1	6.12
	10:00	8.0	14	8.0	13	8.0	15	8.0	16	<1	4.86	<1	5.15	<1	6.13
	12:00	8.0	14	8.0	14	8.0	15	8.0	16	<1	4.84	<1	5.14	<1	6.15
	14:00	8.0	NR	8.0	NR	8.0	NR	8.0	NR	<1	NR	NR	NR	NR	NR
	16:00	8.0	15	8.0	14	8.0	15	8.0	16	<1	4.79	<1	5.17	<1	6.14
	18:00	8.0	15	8.0	14	8.0	15	8.0	16	<1	4.76	<1	5.18	<1	6.10
	20:00	8.0	15	8.0	14	8.0	14	8.0	16	<1	4.80	<1	5.16	<1	6.08
	22:00	8.0	15	8.0	14	8.0	14	8.0	17	<1	4.83	<1	5.18	<1	6.13
5/16/14	0:00	8.0	15	8.0	14	8.0	14	8.0	17	<1	4.85	<1	5.21	<1	6.16
	8:00	8.0	13	8.0	13	8.0	15	8.0	16	<1	5.05	<1	5.27	<1	6.62
	10:00	8.0	13.5	8.0	13	8.0	15	8.0	17	<1	5.07	<1	5.27	<1	5.88
	12:00	8.0	13.5	8.0	13	8.0	15	8.0	17	<1	5.10	<1	5.28	<1	5.81

Notes: NR = Not Recorded due to heavy rain.



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1408

DATE January 31, 2008

FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 467

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Island, SC UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number | A. State Transporter's ID | B. Transporter 1 Phone

7. Transporter 2 Company Name | 8. US EPA ID Number | C. State Transporter's ID | D. Transporter 2 Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number | E. State Facility's ID | F. Facility's Phone
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			5152	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Seth Hutcherson | Signature: [signature] | Date: Month 5 Day 19 Year 14

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Jon Eargle (Hodge) | Signature: [signature] | Date: Month 5 Day 14 Year 14

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea | Date: Month 5 Day 15 Year 14

521 Liftstation

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 468

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Island, SC UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name | 8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			4959	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Seth Hutcheson | Signature: [signature] | Date: Month 5 Day 15 Year 14

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: ERIC FORD T-3 | Signature: [signature] | Date: Month 5 Day 15 Year 14

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea | Date: Month 5 Day 16 Year 14

521 L. Flotation

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 469

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Rd.
Edisto Island, SC UST#18662

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number | A. State Transporter's ID | B. Transporter 1 Phone

7. Transporter 2 Company Name | 8. US EPA ID Number | C. State Transporter's ID | D. Transporter 2 Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number | E. State Facility's ID | F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			4387	
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Lee Stogner | Signature: [signature] | Date: Month 5 Day 16 Year 14

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: ERIC FORD T-1 | Signature: [signature] | Date: Month 5 Day 16 Year 14

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea | Date: Month 5 Day 18 Year 14

521 Lift Station

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

UST DOCKETING 145 feet

May 19, 2014

UST MAY 22 2014 DIVISION

John Bryant, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Underground Storage Tank Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, SC 29201

Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Island, South Carolina
Colleton County
UST Permit #18662; CA #47531
Emerald Job 14-010A

Mr. Bryant,

Please find the attached Aggressive Fluid Vapor Recovery (AFVR) Report for the Bay Creek Villas site. A site reconnaissance was conducted on February 18, 2014 to locate each monitoring well, gauge extraction wells, and assess site conditions. Prior to conducting this AFVR event information gathered during the site reconnaissance was presented to the SCDHEC project manager for review.

AGGRESSIVE FLUID VAPOR RECOVERY EVENTS

On May 12 through 16, 2014, Emerald, Inc. personnel performed a 96-hour AFVR event utilizing MW-16, MW-18, MW-20 and MW-21 as extraction locations. This 96-hour AFVR event was conducted to aid reducing dissolved levels of chemicals of concern previously detected at the subject site. Free phase petroleum product was not detected prior to initiation or at the

conclusion of this event. Monitoring well locations are presented on the attached site map provided by SCDHEC.

Table 1 presents the off-gas concentrations (using a Photoionization Detector), post treatment off-gas concentrations, off-gas velocity, and knockout tank vacuum. Table 2 presents the stinger depths, wellhead vacuum measurements, water levels measurements and magnehelic readings obtained during the event. Emerald, Inc. field personnel normally record data at thirty minute intervals for the first eight hours of the event, then at one hour intervals from hours nine through twenty four and at two hour intervals from twenty four through ninety six hours of the event. During the hours of midnight to 8 AM event monitoring was suspended. Off-gas treatment was utilized during business hours at the site to limit exposure of the off-gas produced to the general public using a thermal oxidizer.

According to the calculations as presented on Table 1, a total of 196.52 pounds of hydrocarbons (as vapor) and 31.42 equivalent gallons of hydrocarbons were removed during this event. No product was measured in the knockout tank during this event. A total of 10,250 gallons of petroleum contaminated groundwater was transported to the City of Manning Wastewater Treatment Facility in Manning, SC for proper disposal. A copy of the disposal manifest for this event is included as an attachment.

If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,
Emerald, Inc.

William C. McClary, P.G.
Project Manager

Ronny L. Lowder
President

Attachments

TABLE 1
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO ISLAND, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-010A

Extraction Wells	Date	Time (hh:mm)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM)	Post-Treatment Concentration (PPM)	Offgas Velocity (ft/min)	Flow Rate (CFM)	CG:M (mg/dsm$^{3)}$	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-16	5/12/14	12:00	Start	11	309	0.7	3,069	150.64	1,643	1.03E-04	0.93	-
MW-18		12:30	0.5	12	785	1.3	2901	142.40	4,174	2.61E-04	2.23	0.79
MW-20		13:00	0.5	13	1,824	1	2722	133.61	9,699	6.06E-04	4.85	1.77
MW-21		13:30	0.5	15	1,765	1.3	2701	132.58	9,386	5.86E-04	4.66	2.38
		14:00	0.5	15	2,533	2.7	2749	134.93	13,470	8.41E-04	6.81	2.87
		14:30	0.5	13	1,497	1.8	3066	150.49	7,961	4.97E-04	4.49	2.82
		15:00	0.5	13	773	1.1	3122	153.24	4,111	2.57E-04	2.36	1.71
		15:30	0.5	13	672	1	3109	152.61	3,573	2.23E-04	2.04	1.10
		16:00	0.5	13	1,101	1.7	3,108	152.56	5,855	3.66E-04	3.35	1.35
		16:30	0.5	13	1,113	1.5	3131	153.69	5,919	3.69E-04	3.41	1.69
		17:00	0.5	13	1,049	1.3	3154	154.81	5,578	3.48E-04	3.23	1.66
		17:30	0.5	13	1,016	1	3185	156.34	5,403	3.37E-04	3.16	1.60
		18:00	0.5	13	998	0.6	3081	151.23	5,307	3.31E-04	3.01	1.54
		18:30	0.5	12	946	0.4	3017	148.09	5,031	3.14E-04	2.79	1.45
		19:00	0.5	12	961	0.4	3010	147.75	5,110	3.19E-04	2.83	1.40
		19:30	0.5	12	932	0.4	3016	148.04	4,956	3.09E-04	2.75	1.39
		20:00	0.5	11	1,004	0.4	3031	148.78	5,339	3.33E-04	2.98	1.43
		21:00	1.0	11	1,009	N/A	3033	148.87	5,366	3.35E-04	2.99	2.98
		22:00	1.0	11	1,027	N/A	3031	148.78	5,461	3.41E-04	3.04	3.02
		23:00	1.0	11	1,043	N/A	2984	146.47	5,546	3.46E-04	3.04	3.04
	5/13/14	0:00	1.0	11	1,023	N/A	2933	143.97	5,440	3.40E-04	2.93	2.99
		8:00	8.0	10	1,042	0.6	2942	144.41	5,541	3.46E-04	3.00	23.72
		9:00	1.0	10	1,047	0.7	2099	103.03	5,568	3.48E-04	2.15	2.57
		10:00	1.0	10	1,036	0.7	2093	102.73	5,509	3.44E-04	2.12	2.13
		11:00	1.0	11	1,110	0.9	2031	99.69	5,903	3.69E-04	2.20	2.16
		12:00	1.0	11	1,214	1	2109	103.52	6,456	4.03E-04	2.50	2.35
		14:00	2.0	10	1,063	1.1	2127	104.40	5,653	3.53E-04	2.21	4.71
		16:00	2.0	10	1,093	0.6	2146	105.34	5,812	3.63E-04	2.29	4.50
		18:00	2.0	9	1,117	0.7	2185	107.25	5,940	3.71E-04	2.39	4.68
		20:00	2.0	9	1,231	0.6	2217	108.82	6,546	4.09E-04	2.67	5.05
		22:00	2.0	9	1,100	N/A	2193	107.64	5,849	3.65E-04	2.36	5.03

TABLE 1 Cont'd.
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO ISLAND, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-010A

Extraction Wells	Date	Time (hh:mm)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM)	Post-Treatment Concentration (PPM)	Offgas Velocity (ft/min)	Flow Rate (CFM)	CG:M (mg/dsm^3)	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-16	5/14/14	0:00	2.0	9	1,011	N/A	2,146	105.34	5,376	3.36E-04	2.12	4.48
MW-18		8:00	8.0	10	1,023	0.6	2,119	104.01	5,440	3.40E-04	2.12	16.96
MW-20		10:00	2.0	11	957	0.6	2,159	105.97	5,089	3.18E-04	2.02	4.14
MW-21		12:00	2.0	11	1,030	0.7	2,134	104.75	5,477	3.42E-04	2.15	4.17
		14:00	2.0	13	1,019	0.8	2,116	103.86	5,419	3.38E-04	2.11	4.26
		16:00	2.0	13	1,012	0.6	2,112	103.67	5,382	3.36E-04	2.09	4.20
		18:00	2.0	13	1,036	0.6	2,124	104.26	5,509	3.44E-04	2.15	4.24
		20:00	2.0	13	984	0.6	2,216	108.77	5,233	3.27E-04	2.13	4.28
		22:00	2.0	13	991	N/A	2,230	109.46	5,270	3.29E-04	2.16	4.29
	5/15/14	0:00	2.0	13	963	N/A	2,210	108.48	5,121	3.20E-04	2.08	4.24
		8:00	8.0	13	430	0.7	2,213	108.63	2,287	1.43E-04	0.93	12.04
		10:00	2.0	13	439	0.8	2,221	109.02	2,334	1.46E-04	0.95	1.88
		12:00	2.0	13	451	1	2,219	108.92	2,398	1.50E-04	0.98	1.93
		14:00 [1]	2.0	13	549	1	2,213	108.63	2,919	1.82E-04	1.19	2.17
		16:00	2.0	13	647	1	2,207	108.33	3,441	2.15E-04	1.40	2.68
		18:00	2.0	13	610	0.9	2,263	111.08	3,244	2.03E-04	1.35	2.75
		20:00	2.0	13	596	0.9	2,240	109.95	3,169	1.98E-04	1.31	2.65
		22:00	2.0	13	587	N/A	2,215	108.72	3,121	1.95E-04	1.27	2.68
	5/16/14	0:00	2.0	13	591	N/A	2,203	108.13	3,143	1.96E-04	1.27	2.54
		8:00	8.0	13	462	0.9	2,391	117.36	2,457	1.53E-04	1.08	9.41
		10:00	2.0	13	586	1.3	2,200	107.99	3,116	1.95E-04	1.26	2.34
		12:00	2.0	13	608	1.1	2,308	113.29	3,233	2.02E-04	1.37	2.45

Well Gauging Data:

Well No.	Diameter (in)	Screened Interval (ft)	Before AFVR Event: Depth to Product (ft)	Before AFVR Event: Depth to Water (ft)	Before AFVR Event: Product Thickness (ft)	After AFVR Event: Depth to Product (ft)	After AFVR Event: Depth to Water (ft)	After AFVR Event: Product Thickness (ft)
MW-16	2	3-10	-	5.90	-	-	7.81	-
MW-18	2	7.5-9.5	-	6.03	-	-	8.13	-
MW-20	2	2-10	-	5.89	-	-	8.20	-
MW-21	2	3-10	-	6.11	-	-	8.01	-

Product Thickness

Product observed in Sight Tube? No

Product detected in Tanker? No

Weather Conditions		Emerald, Inc. Personnel
5/12/14	Sunny, 68-88°F	L. Bishop
5/13/14	Sunny, 66-88°F	C. Racer
5/14/14	Sunny, 67-85°F	L. Stogner
5/15/14	Rain, 68-79°F	
5/16/14	Sunny, 54-78°F	

Recovery / Disposal Information

Hydrocarbons Removed (vapor):	196.52	Pounds
Hydrocarbons Removed (liquid):	0.00	Gallons
Total Hydrocarbons Removed:	31.42	Equivalent Gallons
Molecular Weight Utilized:	128	mg/mg-mole
Disposal Facility:	City of Manning Wastewater Treatment Facility	
Total Liquids Removed:	10,250	Gallons

Equations

Cg;m = PPMg*(Mg/K3)

Removal Rate = Cg * Flow Rate * 60Min/Hr

Interval Removal = $(T_1 + T_2)/2$

PPM = Part per Million (by PID)

Cg:m = mg/dsm3(mass concentration of gasoline emission)

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm^3/1E6 mg-mole, mass to volume conversion

Cg = lb/dcsf, mass concentration of gasoline by emission

Removal Rate = lb/hr,pollutant mass removal rate of emission

Notes

↑ = Stinger raised ↓ = Stinger lowered

[1] Readings not recorded due to heavy rain. Average readings from 12:00 and 16:00 on 5/15/14 used for calculations.

TABLE 2
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO ISLAND, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-010A

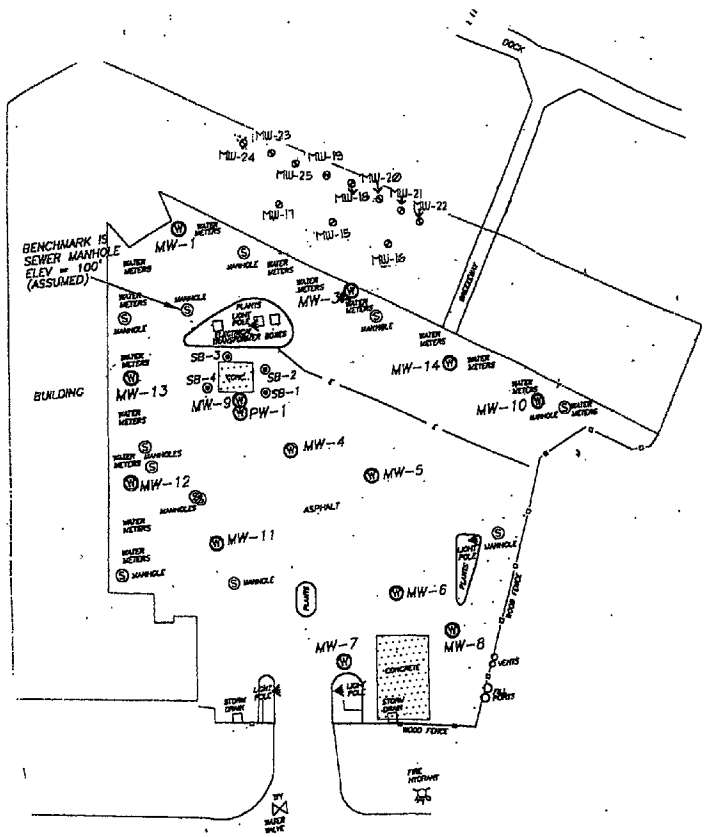
Date	Time (hh:mm)	Extraction Wells								Event Monitoring					
		MW-16		MW-18		MW-20		MW-21		MW-15		MW-17		MW-22	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water
5/12/14	12:00	8.0	10	8.0	8	8.0	9	8.0	8	Pre	4.26	Pre	4.13	Pre	5.92
	12:30	8.0	13	8.0	9	8.0	10	8.0	9	<1	4.28	<1	4.18	<1	5.9
	13:00	8.0	13	8.0	9	8.0	10	8.0	9	<1	4.28	<1	4.27	<1	5.98
	13:30	8.0	15	8.0	10	8.0	12	8.0	10	<1	4.29	<1	4.32	<1	6.19
	14:00	8.0	15	8.0	10	8.0	13	8.0	11	<1	4.29	<1	4.39	<1	6.46
	14:30	8.0	13	8.0	8	8.0	11	8.0	9	<1	4.32	<1	4.48	<1	6.72
	15:00	8.0	13	8.0	8	8.0	11	8.0	8	<1	4.33	<1	4.49	<1	6.74
	15:30	8.0	13	8.0	8	8.0	11	8.0	9	<1	4.34	<1	4.51	<1	6.76
	16:00	8.0	13	8.0	8	8.0	10	8.0	9	<1	4.35	<1	4.52	<1	6.77
	16:30	8.0	13	8.0	8	8.0	10	8.0	9	<1	4.37	<1	4.52	<1	6.65
	17:00	8.0	13	8.0	8	8.0	10	8.0	9	<1	4.38	<1	4.53	<1	6.52
	17:30	8.0	13	8.0	8	8.0	10	8.0	9	<1	4.40	<1	4.54	<1	6.39
	18:00	8.0	13	8.0	8	8.0	10	8.0	9	<1	4.41	<1	4.55	<1	6.17
	18:30	8.0	13	8.0	8	8.0	10	8.0	9	<1	4.41	<1	4.56	<1	6.01
	19:00	8.0	13	8.0	8	8.0	10	8.0	10	<1	4.42	<1	4.66	<1	5.44
	19:30	8.0	12	8.0	8	8.0	9	8.0	10	<1	4.32	<1	4.72	<1	5.01
	20:00	8.0	12	8.0	8	8.0	9	8.0	10	<1	4.40	<1	4.89	<1	4.84
	21:00	8.0	12	8.0	8	8.0	9	8.0	10	<1	4.41	<1	4.95	<1	4.82
	22:00	8.0	2	8.0	8	8.0	10	8.0	11	<1	4.46	<1	4.96	<1	4.81
	23:00	8.0	12	8.0	7	8.0	10	8.0	11	<1	4.55	<1	4.92	<1	4.76
5/13/14	0:00	8.0	12	8.0	7	8.0	10	8.0	11	<1	4.59	<1	4.94	<1	4.71
	8:00	8.0	11	8.0	7	8.0	9	8.0	9	<1	4.25	<1	5.09	<1	4.63
	9:00	8.0	12	8.0	8	8.0	9	8.0	9	<1	4.23	<1	5.07	<1	4.79
	10:00	8.0	13	8.0	8	8.0	9	8.0	10	<1	4.21	<1	5.22	<1	4.84
	11:00	8.0	13	8.0	8	8.0	10	8.0	10	<1	4.25	<1	5.29	<1	4.93
	12:00	8.0	13	8.0	8	8.0	10	8.0	11	<1	4.29	<1	5.23	<1	4.99
	14:00	8.0	13	8.0	8	8.0	10	8.0	11	<1	4.37	<1	5.10	<1	5.06
	16:00	8.0	11	8.0	8	8.0	9	8.0	10	<1	4.46	<1	5.00	<1	5.11
	18:00	8.0	9	8.0	7	8.0	8	8.0	8	<1	4.55	<1	4.91	<1	5.17
	20:00	8.0	8	8.0	7	8.0	7	8.0	6	<1	4.65	<1	4.81	<1	5.23
	22:00	8.0	7	8.0	7	8.0	6	8.0	6	<1	4.71	<1	4.76	<1	5.28

Notes:

TABLE 2 Cont'd.
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO ISLAND, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-010A

Date	Time (hh:mm)	Extraction Wells								Event Monitoring					
		MW-16		MW-18		MW-20		MW-21		MW-15		MW-17		MW-22	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water
5/14/14	0:00	8.0	7	8.0	7	8.0	6	8.0	6	<1	4.73	<1	4.71	<1	5.33
	8:00	8.0	7	8.0	7	8.0	6	8.0	6	<1	4.59	<1	5.03	<1	5.39
	10:00	8.0	6	8.0	7	8.0	7	8.0	7	<1	4.63	<1	5.14	<1	5.18
	12:00	8.0	6	8.0	7	8.0	7	8.0	7	<1	4.56	<1	5.57	<1	4.92
	14:00	8.0	7	8.0	9	8.0	7	8.0	7	<1	4.61	<1	5.41	<1	5.27
	16:00	8.0	9	8.0	10	8.0	9	8.0	8	<1	4.69	<1	5.18	<1	5.68
	18:00	8.0	12	8.0	11	8.0	11	8.0	9	<1	4.75	<1	4.95	<1	6.10
	20:00	8.0	14	8.0	12	8.0	12	8.0	10	<1	4.80	<1	5.00	<1	5.98
	22:00	8.0	14	8.0	12	8.0	12	8.0	10	<1	4.83	<1	5.06	<1	5.91
5/15/14	0:00	8.0	14	8.0	12	8.0	12	8.0	10	<1	4.87	<1	5.10	<1	5.88
	8:00	8.0	13	8.0	11	8.0	11	8.0	10	<1	4.89	<1	5.13	<1	6.12
	10:00	8.0	13	8.0	11	8.0	11	8.0	10	<1	4.86	<1	5.15	<1	6.13
	12:00	8.0	13	8.0	12	8.0	11	8.0	10	<1	4.84	<1	5.14	<1	6.15
	14:00	8.0	NR	8.0	NR	8.0	NR	8.0	NR	<1	NR	NR	NR	NR	NR
	16:00	8.0	13	8.0	12	8.0	11	8.0	10	<1	4.79	<1	5.17	<1	6.14
	18:00	8.0	13	8.0	12	8.0	11	8.0	10	<1	4.76	<1	5.18	<1	6.10
	20:00	8.0	13	8.0	12	8.0	11	8.0	10	<1	4.80	<1	5.16	<1	6.08
	22:00	8.0	13	8.0	12	8.0	12	8.0	10	<1	4.83	<1	5.18	<1	6.13
5/16/14	0:00	8.0	13	8.0	12	8.0	12	8.0	10	<1	4.85	<1	5.21	<1	6.16
	8:00	8.0	12	8.0	11	8.0	11	8.0	9	<1	5.05	<1	5.27	<1	6.62
	10:00	8.0	12	8.0	11	8.0	11	8.0	9	<1	5.07	<1	5.27	<1	5.88
	12:00	8.0	12	8.0	12	8.0	11	8.0	10	<1	5.10	<1	5.28	<1	5.81

Notes: NR = Not Recorded due to heavy rain.



Explanation:

⊗ Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features	
Bay Creek Villas Edisto Beach, South Carolina SCDHEC Site ID 18662	
Midlands Environmental Consultants, Inc.	JOB NO. 07-149 DATE January 31, 2008 FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 467

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Island, SC UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number | A. State Transporter's ID | B. Transporter 1 Phone

7. Transporter 2 Company Name | 8. US EPA ID Number | C. State Transporter's ID | D. Transporter 2 Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number | E. State Facility's ID | F. Facility's Phone
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			5152	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Seth Hutchison | Signature: [signature] | Date: Month 5 Day 19 Year 14

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Jon Eargle (Hobart) | Signature: [signature] | Date: Month 5 Day 14 Year 14

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea | Date: Month 5 Day 15 Year 14

521 Liftstation

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 468

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Island, SC UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number | A. State Transporter's ID | B. Transporter 1 Phone

7. Transporter 2 Company Name | 8. US EPA ID Number | C. State Transporter's ID | D. Transporter 2 Phone

9. Designated Facility Name and Site Address
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

10. US EPA ID Number | E. State Facility's ID | F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			4959	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Seth Hutcheson | Signature: [signature] | Date: Month 5 Day 15 Year 14

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Date: Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name: ERIC FORD T-3 | Signature: [signature] | Date: Month 5 Day 15 Year 14

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea | Date: Month 5 Day 16 Year 14

521 L. Flotation

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 464

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Rd.
Edisto Island, SC UST#18662

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number | A. State Transporter's ID | B. Transporter 1 Phone

7. Transporter 2 Company Name | 8. US EPA ID Number | C. State Transporter's ID | D. Transporter 2 Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number | E. State Facility's ID | F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			4387	
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Lee Stagner | Signature | Date: Month 5 Day 16 Year 14

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name: ERIC FORD T-1 | Signature | Date: Month 5 Day 16 Year 14

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea | Date: Month 5 Day 18 Year 14

521 Littlestation

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

OCT 09 2014

UST DOCKETING 146 Feet

Re: **Site Specific Work Plan Request**
Groundwater Sampling Contract
Solicitation # IFB-5400007403, PO#4600368640

Dear Mr. Shane:

In accordance with bid solicitation # IFB-5400007403 and the UST Management Division Quality Assurance Program Plan (QAPP), Revision 2.0 it is requested that you submit a Site Specific Work Plan for each site listed below. The plans must be submitted **within 15 business days** to my attention. The project manager for each site will issue a notice to proceed once the plan has been reviewed and approved.

UST Permit #	Site Name	County	# samples and requested analysis*	Project Manager
00858	Whittle Bros Texaco	Barnwell	21-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
00877	Sheltons Food Store	Barnwell	33-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
14935	Hartzog Farms	Barnwell	19-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
18038	Plantation Station	Beaufort	20-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
00990	Island Car Wash	Beaufort	16-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
18662	Bay Creek Villas	Colleton	31-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
02532	Wood Brothers St.	Colleton	24-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
17355	Annas Variety Shop	Colleton	25-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
04768	Boles Enterprises	Greenwood	31-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
00973	Point South BP	Greenwood	16-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
18234	Busseys Grocery	McCormick	28-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
06404	Mt Carmel Sect Shed	McCormick	33-BTEXMN, DCA, Oxygenates, & EDB	J. Bryant
04474	Stewart Sandwich	Greenville	13-BTEXMN, DCA, Oxygenates, & EDB	S. Utz
04224	Bowman Transport	Greenville	9-BTEXMN, DCA, Oxygenates, & EDB	S. Utz
16634	O&E Grocery	Charleston	21- BTEXMN, DCA, Oxygenates	J. Padgett
16666	Bob's Kuntry Corner	Dorchester	42- BTEXMN, DCA, Oxygenates, & EDB	J. Padgett

*The number of samples may not include trip blanks, field blanks, or field duplicates.

Please contact me with the sampling schedule before commencing work at these facilities. In addition, a weekly update for each site is required to be submitted via e-mail to the site's project manager and myself. If you have any questions or need further assistance, please contact me at (803) 898-0631 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

Enc: Site Information Packages

cc: Technical Files

Midlands Environmental Consultants, Inc.

UST OCT 30 2014 PROGRAM

October 28, 2014

UST 147 fee DOCKETING

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: Site-Specific Work Plan
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 14-4988
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Thoma,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Site-Specific Work Plan for the referenced site.

On October 27, 2014, MECI personnel performed a site visit to the subject site to evaluate site conditions, locate monitoring wells and identify potential problems for future sampling activities.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Project Biologist

Jeff L. Coleman
Senior Scientist

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Midlands Environmental Consultants, Inc.

D H E C

PROMOTE PROTECT PROSPER

Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division

To: Mr. John Bryant (SCDHEC Project Manager)
From: Mr. Jeff Coleman (Contractor Project Manager)
Contractor: Midlands Environmental Consultants, Inc. UST Contractor Certification Number: 009

Facility Name: Bay Creek Villas UST Permit #: 18662
Facility Address: 3701 Docksite Road, Edisto Beach, SC 29438
Responsible Party: Bay Creek Villas Phone: 843-869-4270
RP Address: 3701 Docksite Road, Edisto Beach, SC 29438
Property Owner (if different): N/A
Property Owner Address: N/A
Current Use of Property: Parking Lot for Condominiums

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ☐ Monitoring Well Installation
- ☑ Groundwater Sampling
- ☐ Other _____
- ☐ GAC

Analyses (Please check all that apply)

Groundwater/Surface Water:

- ☑ BTEXNMDCA (8260B)
- ☑ Oxygenates (8260B)
- ☑ EDB (8011)
- ☐ PAH (8270D)
- ☐ Lead
- ☐ 8 RCRA Metals
- ☐ TPH
- ☐ pH
- ☐ BOD
- ☐ Nitrate
- ☐ Sulfate
- ☐ Other _____
- ☐ Methane
- ☐ Ethanol
- ☐ Dissolved Iron

Soil:

- ☐ BTEXN
- ☐ PAH
- ☐ 8 RCRA Metals
- ☐ Oil & Grease (9071)
- ☐ TPH-DRO (3550B/8015B)
- ☐ TPH-GRO (5030B/8015B)
- ☐ Grain Size
- ☐ TOC

Air:

- ☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

____ Soil	____ Water Supply Wells	____ Air	1 Field Blank
19 Monitoring Wells	____ Surface Water	1 Duplicate	1 Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

# of shallow points proposed: _____ Estimated Footage: _____ feet per point
# of deep points proposed: _____ Estimated Footage: _____ feet per point
Field Screening Methodology: _____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

# of shallow wells: _____ Estimated Footage: _____ feet per point
# of deep wells: _____ Estimated Footage: _____ feet per point
# of recovery wells: _____ Estimated Footage: _____ feet per point
Monitoring Well development method (consistent with SOP): _____
Comments, if warranted:

_____
_____
_____

UST Permit #: 18662 Facility Name: Bay Creek Villas

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 11/11/2014 Field Work Completion: 12/11/2014
Report Submittal: 1/11/2015 # of Copies Provided to Property Owners: _____

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: 300.0 Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.
-During the initial site visit it was found that MW-6, MW-7, MW-8, and MW-11 are abandoned. Monitoring wells MW-12 and MW-13 were not located and possibly paved over.
-If any of these wells are found during the sampling event, they will be sampled accordingly.
-Monitoring well MW-5 needs three (3) bolts in order to be properly secured.
-All other wells were found to be in good condition.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
No Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: PACE Analytical Services, Inc.
SCDHEC Certification Number: 99006001
Name of Laboratory Director: Jeff Graham

N/A Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

Yes Other variations from ACQAP. Please describe below.
MECI has submitted ammended ACQAP for review. The ammeded ACQAP documents MECI's intention to utilize PACE Analytical Services, Inc. as our primary lab. This ammended ACQAP is still under review, however MECI is requesting approval to send samples collected from the above referenced site to PACE Analytical Services, Inc.

Attachments
1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:
   - North Arrow
   - Location of property lines
   - Location of buildings
   - Previous soil sampling locations
   - Previous monitoring well locations
   - Proposed soil boring locations
   - Proposed monitoring well locations
   - Legend with facility name and address, UST permit number, and bar scale
   - Streets or highways (indicate names and numbers)
   - Location of all present and former ASTs and USTs
   - Location of all potential receptors
3. Assessment Component Cost Agreement, SCDHEC Form D-3664

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA

Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account

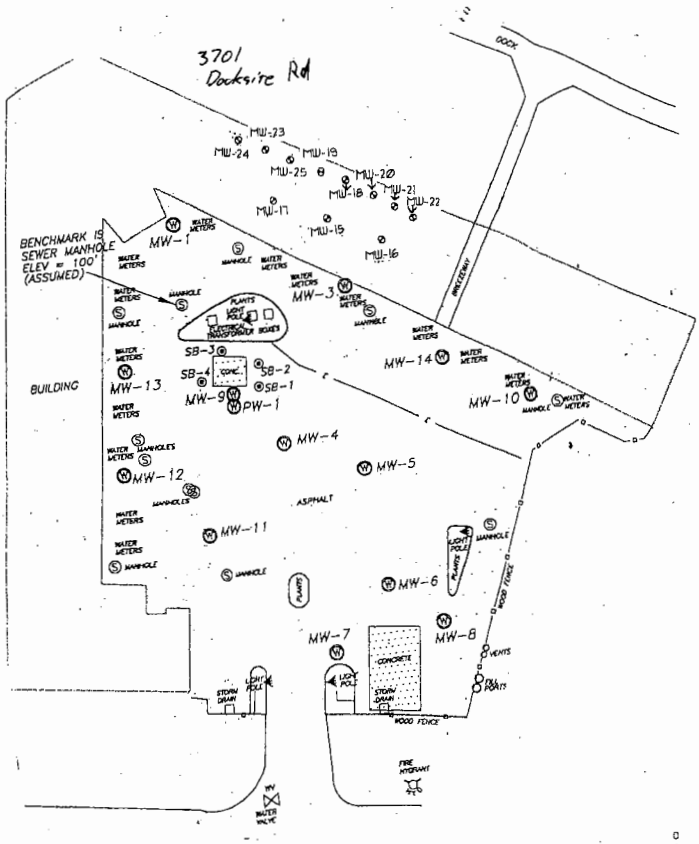
CONTRACT PO NUMBER 4600328425

Facility Name: Bay Creek Villas

UST Permit #: 18662 **Cost Agreement #:** Proposal

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
1. **Plan***					
A1. Site Specific Work Plan	1	each	$0.00		$0.00
C1. QAPP Appendix B		each	$0.00		$0.00
2. A1. Receptor Survey		each	$0.00		$0.00
4. **Mob/Demob**					
B1. Personnel	1	each	$350.00		$350.00
10. **Groundwater Sample Collection / Gauge Depth to Water or Product (Each)**					
A1. Groundwater Purge	19	per well	$16.00		$304.00
B1. Air or Vapors		samples	$0.00		$0.00
C1. Water Supply		samples	$5.00		$0.00
D1. Groundwater No Purge or Duplicate		per well	$8.00		$0.00
E1. Gauge Well only		per well	$0.00		$0.00
F1. Sample Below Product		per well	$0.00		$0.00
G1. Pasive Diffusion Bag		each	$20.00		$0.00
H1. Field Blank	1	each	$10.00		$10.00
17. **Disposal* (gallons or tons)**					
AA. Disposal/Water	300	gallons	$1.00		$300.00
BB. Free Product		gallons	$0.00		$0.00
Note: Rate includes costs or rental of suitable container(s)					
23. D. Site Reconnaissance	1	each	$0.00		$0.00
18. **Miscellaneous (attach receipts)**					
GW Contour Map		each	$25.00		$0.00
Isopleth Map		each	$25.00		$0.00
High-Strength Well Pad Replacement		each	$75.00		$0.00
Data Table		each	$25.00		$0.00
25. **Well Repair**					
B1. Repair 2x2 MW Pad		each	$75.00		$0.00
C1. Repair 4x4 MW Pad		each	$75.00		$0.00
D1. Replace Well Vault		each	$75.00		$0.00
E. Replace well cover		each	$25.00		$0.00
F1. Replace well cover bolts	3	each	$2.60		$7.80
G. Replace locking well cap & lock		each	$15.00		$0.00
K1. Replace Missing Well ID Plate		each	$10.00		$0.00
TOTAL					$971.80

*The appropriate mobilization cost can be added to complete these tasks, as necessary



Explanation:

⊗ Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1488
DATE January 31, 2008
FIGURE 2

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

UST 148tech DOCKETING

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

NOV 10 2014

Re: **Notice to Proceed-Site Specific Work Plan Approval**
Groundwater Sampling Contract
Solicitation # IFB-5400007403, PO#4600368640
Bay Creek Villas, 3701 Docksite Road, Edisto Road SC 29438
UST Permit #18662; CA #48962; Pace CA #48963
Colleton County

Dear Mr. Shane:

In accordance with bid solicitation #IFB-5400007403 and the UST Management Division Quality Assurance Program Plan (QAPP), the Site-Specific Work Plan has been reviewed and approved. In accordance with the approved ACQAP, a status report of the project should be provided on a weekly basis via e-mail. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division.

MECI will perform services at the site on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

Please note, sampling should be conducted within 15 calendar days from the date of this letter. The final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed. The final report should contain the requirements of Section III.2.15 of the bid solicitation. The final report should be submitted to Debra Thoma, the contract manager.

If you have any site-specific questions, please contact me at (803) 898-0606 or via e-mail at bryantjc@dhec.sc.gov. If you have any contract specific questions, please contact Debra Thoma at (803) 898-0631 or via e-mail at thomadl@dhec.sc.gov.

Sincerely,

John Bryant, Hydrogeologist
Assessment/Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Approved Cost Agreement (both CAs)

cc: Debra Thoma, Corrective Action Section, UST Management Division (w/o encs.)
Angela Baioni, Pace Analytical Services, 9800 Kincey Ave, Ste 100, Huntersville, NC, 28078 (w/ approved CA)
Technical Files (w/ encs.)

Approved Cost Agreement 48963

Facility: 18662 BAY CREEK VILLAS
BRYANTJC
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	22.0000	19.00	418.00
		F1	EDB BY 8011	21 0000	18.00	378.00
				Total Amount		796 00

Approved Cost Agreement 48962

Facility· 18662 BAY CREEK VILLAS

BRYANTJC

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B1	PERSONNEL	1 0000	350.00	350.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	19.0000	16.00	304.00
		D1	GROUNDWATER NO PURGE/DUPLICATE	2.0000	8.00	16.00
		H1	FIELD BLANK	1 0000	10 00	10 00
17 DISPOSAL						
		AA	WASTEWATER	300 0000	1.00	300 00
18 MISCELLANEOUS						
			SITE RECONNAISSANCE	1 0000	0.00	0 00
			SITE SPECIFIC WORK PLAN	1.0000	0.00	0 00
				Total Amount		980.00

Midlands
Environmental
Consultants, Inc.

January 13, 2015

Mr. John C. Bryant, Hydrogeologist
Corrective Action Section
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
John
JAN 15 2015
DIVISION

UST
149 tech
DOCKETING

Subject: Report of Groundwater Sampling
Bay Creek Villas
3701 Dockside Road
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662; CA # 48962
MECI Project Number 14-4988
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Bryant,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Groundwater Sampling for the referenced site. This report describes site activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control's (SCDHEC) Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP).

PROJECT INFORMATION

The subject site (Bay Creek Villas) is located at 3701 Dockside Road, Edisto Beach, Colleton County, South Carolina. The subject site previously maintained one 1,000 gallon diesel underground storage tank (UST). This UST was abandoned by filling with concrete in December of 2000. The South Carolina Department of Health and Environmental Control (SCDHEC) reported and confirmed a release of petroleum product from this UST in January of 2000. The subject site is currently rated a Class 2AA.

The above information is based on reports and correspondence obtained from MECI field notes and SCDHEC files.

MONITORING WELL SAMPLING AND CHEMICAL ANALYSIS

On January 8, 2015, MECI personnel collected groundwater samples from thirteen (13) monitoring wells at the subject site. Three (3) monitoring wells were gauged and determined to contain measurable free phase petroleum product. Monitoring wells MW-1, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13 and MW-14 were found to have been abandoned. MECI personnel

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

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 monitoring wells were to be purged prior to sample collection. Thirteen (13) monitoring wells were purged prior to sample collection. Purging was completed by bailing at least five well volumes of water from the well or until pH, conductivity, dissolved oxygen and turbidity stabilized, 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, and water temperature were obtained before well sampling process. MECI utilized YSI550A meter for DO (mg/L) and temperature readings (°C) and YSI63 meters for pH and conductivity (uS) 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, Revision 2.0) and MECI's Standard Operating Procedures (MECI SOP, January 2014).

Groundwater samples obtained were sent to PACE Analytical Services, Inc. of Huntersville, NC (SCDHEC Laboratory Certification #99006) for analysis.

The following sampling matrix contains well development and requested analyses for each well:

Monitoring Well	Purge	No Purge	Gauge Only	Abandoned	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-3R	X				X	X	X	X						
MW-4	X				X	X	X	X						
MW-5	X				X	X	X	X						
MW-6				X										
MW-7				X										
MW-8				X										
MW-9	X				X	X	X	X						
MW-10				X										
MW-11				X										
MW-12				X										
MW-13				X										
MW-14				X										
MW-15	X				X	X	X	X						
MW-16	X				X	X	X	X						
MW-17	X				X	X	X	X						
MW-18	X				X	X	X	X						
MW-19			X											
MW-20			X											
MW-21			X											

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane
PAH = polycyclic aromatic hydrocarbons
Trip Blank provided by Pace Analytical, temperature obtained upon receipt at Laboratory

Monitoring Well	Purge	No Purge	Gauge Only	Abandoned	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)	Ferrous Iron (Field Test)
					Analyte Sampled									
MW-22	X				X	X	X	X						
MW-23	X				X	X	X	X						
MW-24	X				X	X	X	X						
MW-25	X				X	X	X	X						
PW-1	X				X	X	X	X						
MW-3R Dup.					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 Pace Analytical, temperature obtained upon receipt at Laboratory

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 19.75 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Project Biologist

Jeff L. Coleman
Senior Scientist

Attachments:

Contractor Checklist

Item#	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?			X
3	Is name, address, & phone number of current property owner provided?			X
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?			X
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?			X
17	Has the method of well development been detailed?			X
18	Has justification been provided for the locations of the monitoring wells?			X
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?			X
20	Has the groundwater sampling methodology been detailed? See MECI SOP	X		
21	Have the groundwater sampling dates and groundwater measurements been provided? See attached Site Activity Summary Sheet	X		
22	Has the purging methodology been detailed? See MECI SOP	X		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete? See attached Field Data Information Sheets	X		
24	If free-product is present, has the thickness been provided? See attached Site Activity Summary Sheets	X		
25	Does the report include a brief discussion of the assessment done and the results?			X
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item#	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?			X
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			X
34	Has the current and historical laboratory data been provided in tabular format?			X
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 1)	X		
38	Has the site base map been provided with all required elements? (Figure 2)	X		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			X
40	Has the site potentiometric map been provided? (Figure 5)			X
41	Have the geologic cross-sections been provided? (Figure 6)			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements? (Appendix A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? See attached	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	X		

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: Frank Mitlin & Thad Abbott

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	1/8/15	Aban.	2.5-15	***	Aban.	***	Aban.	Aban.	Well Abandoned
MW-3R	Y	1/8/15	10:57	1.8-11.8	***	4.91	***	Sheen	1.75	Odor, Sheen
MW-4	Y	1/8/15	10:37	2.5-15	***	4.88	***	1.02	1.75	Odor
MW-5	Y	1/8/15	10:47	2.5-15	***	5.80	***	0.78	1.50	Sulfur Odor, 3 Bolts Added
MW-6	N	1/8/15	Aban.	2.5-15	***	Aban.	***	Aban.	Aban.	Well Abandoned
MW-7	N	1/8/15	Aban.	1.5-10	***	Aban.	***	Aban.	Aban.	Well Abandoned
MW-8	N	1/8/15	Aban.	1.5-10	***	Aban.	***	Aban.	Aban.	Well Abandoned
MW-9	Y	1/8/15	10:26	1.5-10	***	4.44	***	1.02	1.00	Odor
MW-10	N	1/8/15	Aban.	2-12	***	Aban.	***	Aban.	Aban.	Well Abandoned
MW-11	N	1/8/15	Aban.	2-12	***	Aban.	***	Aban.	Aban.	Well Abandoned
MW-12	N	1/8/15	Aban.	2-12	***	Aban.	***	Aban.	Aban.	Well Abandoned
MW-13	N	1/8/15	Aban.	2-12	***	Aban.	***	Aban.	Aban.	Well Abandoned
MW-14	N	1/8/15	Aban.	2-12	***	Aban.	***	Aban.	Aban.	Well Abandoned
MW-15	Y	1/8/15	11:19	3-10	***	4.43	***	1.68	1.00	Odor
MW-16	Y	1/8/15	11:31	3-10	***	4.78	***	Sheen	1.00	Odor, Sheen
									8.00	**TOTAL GALLONS PURGED**

Site Activity Summary

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: Frank Mitlin & Thad Abbott

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-17	Y	1/8/15	11:31	3-10	***	4.29	***	1.67	1.00	Odor
MW-18	Y	1/8/15	12:31	3-10	***	5.39	***	Sheen	1.00	Strong Odor
MW-19	N	1/8/15	PROD	2.5-9.5	4.87	4.88	0.01	PROD	PROD	Product Detected
MW-20	N	1/8/15	PROD	3-10	5.81	5.82	0.01	PROD	PROD	Product Detected
MW-21	N	1/8/15	PROD	2.5-9.5	4.90	4.91	0.01	PROD	PROD	Product Detected
MW-22	Y	1/8/15	13:01	3-10	***	4.90	***	1.89	1 00	Odor
MW-23	Y	1/8/15	11:51	2.5-9.5	***	4.17	***	1.94	1.00	Slight Odor
MW-24	Y	1/8/15	11:41	2.5-9.5	***	4.09	***	2.11	1.00	Sulfur Odor
MW-25	Y	1/8/15	12:01	2.5-9.5	***	5.21	***	1.52	0.75	Strong Odor, Sheen
PW-1	Y	1/8/15	10:20	TD:38.50	***	4.54	***	4.11	6.00	Sulfur Odor
MW-3R Dup.	Y	1/8/15	10:57	***	***	***	***	***	***	Duplicate Sample
Field Blank	Y	1/8/15	13:10	***	***	***	***	***	***	Field Blank
Trip Blank	Y	1/8/15	13:15	***	***	***	***	***	***	Laboratory Prepared Trip Blank
									11.75	**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): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-3R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.91			feet
Total Well Depth (TWD)	11.8			feet
Length of the water column (LWC=TWD-DGW)			6.89	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.12	gallons
3 casing volume (3 X CV)=		5	5.62	gallons

Total Volume of Water Purged Before Sampling 1.75 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:55	10:57						
pH (s.u.)	Sheen	Sheen						
Specific Conductivity (μmhos/cm)	Sheen	Sheen						
Water Temperature (℃)	Sheen	Sheen						
Dissolved Oxygen	Sheen	Sheen						
Turbidity (NTU)	Sheen	Sheen						
PID readings, if required								

Remarks: Sample Time: 10:57 **Dry @ 1.75 Gallons**
Duplicate Sample Collected

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-4

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.88			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			10.12	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.65	gallons
3 casing volume (3 X CV)=		5	8.25	gallons

Total Volume of Water Purged Before Sampling 1.75 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:35	10:37						
pH (s.u.)	7.47	7.56						
Specific Conductivity (µmhos/cm)	805.0	759.0						
Water Temperature (°C)	20.6	20.1						
Dissolved Oxygen	1.02	0.91						
Turbidity (NTU)	20.46	84.59						
PID readings, if required								

Remarks: Sample Time: 10:37 **Dry @ 1.75 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): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-5

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	5.80			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			9.2'	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.50	gallons
3 casing volume (3 X CV)=		5	7.50	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:45	10:47						
pH (s.u.)	6.81	6.57						
Specific Conductivity (μmhos/cm)	3,781.0	4,020.0						
Water Temperature (°C)	20.6	20.2						
Dissolved Oxygen	0.78	0.71						
Turbidity (NTU)	21.85	63.76						
PID readings, if required								

Remarks: Sample Time: 10:47 **Dry @ 1.50 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-9

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:			feet
Depth to Free Product (DFP)			feet
Depth to Ground Water (DGW)	4.44		feet
Total Well Depth (TWD)	10		feet
Length of the water column (LWC=TWD-DGW)		5.56	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	0.91	gallons
3 casing volume (3 X CV)=	5	4.53	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:25	10:26						
pH (s.u.)	7.58	7.49						
Specific Conductivity (μmhos/cm)	1,179.0	1,242.0						
Water Temperature (°C)	21.1	20.7						
Dissolved Oxygen	1.02	0.96						
Turbidity (NTU)	17.27	78.21						
PID readings, if required								

Remarks: Sample Time: 10:26 **Dry @ 1.00 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-15

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.43			feet
Total Well Depth (TWD)	10			feet
Length of the water column (LWC=TWD-DGW)			5.57	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.91	gallons
3 casing volume (3 X CV)=		5	4.54	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:18	11:19						
pH (s.u.)	7.48	7.27						
Specific Conductivity (µmhos/cm)	3,785.0	4,026.0						
Water Temperature (°C)	18.3	18.1						
Dissolved Oxygen	1.68	1.49						
Turbidity (NTU)	19.64	88.27						
PID readings, if required								

Remarks: Sample Time: 11:19 **Dry @ 1.00 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912Al	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **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)	4.78			feet
Total Well Depth (TWD)	10			feet
Length of the water column (LWC=TWD-DGW)			5.22	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.85	gallons
3 casing volume (3 X CV)=		5	4.25	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:10	11:11						
pH (s.u.)	Sheen	Sheen						
Specific Conductivity (μmhos/cm)	Sheen	Sheen						
Water Temperature (°C)	Sheen	Sheen						
Dissolved Oxygen	Sheen	Sheen						
Turbidity (NTU)	Sheen	Sheen						
PID readings, if required								

Remarks: Sample Time: 11:11 **Dry @ 1.00 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912A1	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-17

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.29			feet
Total Well Depth (TWD)	10			feet
Length of the water column (LWC=TWD-DGW)			5.71	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.93	gallons
3 casing volume (3 X CV)=		5	4.65	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:30	11:31						
pH (s.u.)	7.72	7.59						
Specific Conductivity (µmhos/cm)	3,913.0	3,796.0						
Water Temperature (°C)	18.2	18.0						
Dissolved Oxygen	1.67	1.52						
Turbidity (NTU)	21.29	89.06						
PID readings, if required								

Remarks: Sample Time: 11:31 **Dry @ 1.00 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-18

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	5.39			feet
Total Well Depth (TWD)	10			feet
Length of the water column (LWC=TWD-DGW)			4.61	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.75	gallons
3 casing volume (3 X CV)=		5	3.76	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:30	12:31						
pH (s.u.)	Sheen	Sheen						
Specific Conductivity (μmhos/cm)	Sheen	Sheen						
Water Temperature (°C)	Sheen	Sheen						
Dissolved Oxygen	Sheen	Sheen						
Turbidity (NTU)	Sheen	Sheen						
PID readings, if required								

Remarks: Sample Time: 12:31 **Dry @ 1.00 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-22

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.90			feet
Total Well Depth (TWD)	10			feet
Length of the water column (LWC=TWD-DGW)			5.1	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.83	gallons
3 casing volume (3 X CV)=		5	4.16	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:00	13:01						
pH (s.u.)	7.17	7.04						
Specific Conductivity (µmhos/cm)	139.8	206.7						
Water Temperature (°C)	17.1	17.0						
Dissolved Oxygen	1.89	2.06						
Turbidity (NTU)	21.49	102.90						
PID readings, if required								

Remarks: Sample Time: 13:01 **Dry @ 1.00 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-23

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.17			feet
Total Well Depth (TWD)	9.5			feet
Length of the water column (LWC=TWD-DGW)			5.33	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.87	gallons
3 casing volume (3 X CV)=		5	4.34	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:50	11:51						
pH (s.u.)	7.42	7.56						
Specific Conductivity (µmhos/cm)	76.9	78.8						
Water Temperature (°C)	16.8	16.6						
Dissolved Oxygen	1.94	1.86						
Turbidity (NTU)	16.96	42.99						
PID readings, if required								

Remarks: Sample Time: 11:51 **Dry @ 1.00 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-24

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.09			feet
Total Well Depth (TWD)	9.5			feet
Length of the water column (LWC=TWD-DGW)			5.41	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.88	gallons
3 casing volume (3 X CV)=		5	4.41	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:40	11:41						
pH (s.u.)	7.46	7.38						
Specific Conductivity (µmhos/cm)	4,027.0	4,271.0						
Water Temperature (°C)	15.9	15.9						
Dissolved Oxygen	2.11	2.02						
Turbidity (NTU)	18.26	75.09						
PID readings, if required								

Remarks: Sample Time: 11:41 **Dry @ 1.00 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** MW-25

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	5.21			feet
Total Well Depth (TWD)	9.5			feet
Length of the water column (LWC=TWD-DGW)			4.29	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.70	gallons
3 casing volume (3 X CV)=		5	3.50	gallons

Total Volume of Water Purged Before Sampling 0.75 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:00	12:01						
pH (s.u.)	8.08	Sheen						
Specific Conductivity (μmhos/cm)	576.0	Sheen						
Water Temperature (°C)	18.2	Sheen						
Dissolved Oxygen	1.52	Sheen						
Turbidity (NTU)	22.81	Sheen						
PID readings, if required								

Remarks: Sample Time: 12:01 **Dry @ 0.75 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): 1/8/2015

Field Personnel: Frank Mitlin & Thad Abbott

General Weather Conditions: Clear/Cold

Ambient Air Temperature: 1.6 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Bay Creek Villas

Site ID#: 18662 **Monitoring Well #** PW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	4.54			feet
Total Well Depth (TWD)	38.5			feet
Length of the water column (LWC=TWD-DGW)			33.96	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	5.54	gallons
3 casing volume (3 X CV)=		5	27.68	gallons

Total Volume of Water Purged Before Sampling 6 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:15	10:20						
pH (s.u.)	6.37	6.49						
Specific Conductivity (μmhos/cm)	149.3	2,162.0						
Water Temperature (°C)	16.2	16.1						
Dissolved Oxygen	4.11	3.79						
Turbidity (NTU)	19.37	82.66						
PID readings, if required								

Remarks: Sample Time: 10:20 **Dry @ 6.00 Gallons**

Midlands
Environmental
Consultants, Inc.

January 14, 2015

Re: Treatment of Purge Water
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 14-4988

To Whom It May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.

2. No free-product was detected in any of the purge water drums.

3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.

4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.

5. Record of usage is maintained by Contractor.

6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.

7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

A total of 19.75 gallons were treated on January 8, 2015 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Project Biologist

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 3

1887035

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC - UST	Report To: D. Thoma - UST	Attention:
Address: 2600 Bull St	Copy To:	Company Name:
Columbia, SC, 29201		Address:
Email To: thomadlwdhec.sc.gov	Purchase Order No.: 4600328425	Pace Quote Reference:
Phone: 803-898-2514 Fax: 803-898-0673	Project Name: Bay Creek Villas	Pace Project Manager: A. Baioni
Requested Due Date/TAT:	Project Number: UST#18667/PACE CA#48963	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☑ UST ☐ RORA ☐ OTHER

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	BTEX/Neth Mthe	1,2-DCA	5-Ox	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW 1																							Not Sampled
2	MW 3R	WT	G			1/8/15	10:57		6				6						X	X	X	X		Odor
3	MW 4	WT	G			1/8/15	10:37		6				6						X	X	X	X		Odor
4	MW 5	WT	G			1/8/15	10:47		6				6						X	X	X	X		Sulfur Odor
5	MW 6																							Not Sampled
6	MW 7																							Not Sampled
7	MW 8																							Not Sampled
8	MW 9	WT	G			1/8/15	10:26		6				6						X	X	X	X		Odor
9	MW 10																							Not Sampled
10	MW 11																							Not Sampled
11	MW 12																							Not Sampled
12	MW 13																							Not Sampled

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	1/8/15	09:20	D Moody Pace	01-09-15	09:20	

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Frank Mitlin

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/8/15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 3

1887036

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC - UST	Report To: D. Thoma - UST	Attention:
Address: 2600 Bull St	Copy To:	Company Name:
Columbia, SC, 29201		Address:
Email To: thomadl@dhec.sc.gov	Purchase Order No.: 4600328425	Pace Quote Reference:
803-898-2544 Fax: 803-898-0673	Project Name: Bay Creek Villas	Pace Project Manager: A. Baioni
Requested Due Date/TAT:	Project Number: UST#18662/Pace CA#48963	Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Collection

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	BTEX, Naph, MTBE	1,2-DCA	S-OXY	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW 14																							Not Sampled
2	MW 15	WT	G			1/8/15	11:19		6				6						X	X	X	X		Odor
3	MW 16	WT	G			1/8/15	11:11		6				6						X	X	X	X		Odor
4	MW 17	WT	G			1/8/15	11:31		6				6						X	X	X	X		Odor
5	MW 18	WT	G			1/8/15	12:31		6				6						X	X	X	X		Strong Odor
6	MW 19																							Product, Not Sampled
7	MW 20																							Product, Not Sampled
8	MW 21																							Product, Not Sampled
9	MW 22	WT	G			1/8/15	13:01		6				6						X	X	X	X		Odor
10	MW 23	↓	↓			↓	11:51		↓				↓						↓	↓	↓	↓		Slight Odor
11	MW 24	↓	↓			↓	11:41		↓				↓						↓	↓	↓	↓		Sulfur Odor
12	MW 25	WT	G			1/8/15	12:01		6				6						X	X	X	X		Strong Odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	1/8/15	09:20	B Moody Pace	01/09/15	09:20	

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Frank Mitlin

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/8/15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 3 of 3

1887031

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC - UST	Report To: D. Thomas - UST	Attention:
Address: 2600 Bull St	Copy To:	Company Name:
Columbia, SC, 29201		Address:
Email To: thomadl@dhec.sc.gov	Purchase Order No.: 4600328425	Pace Quote Reference:
Phone: 803-898-2544 Fax: 803-898-0673	Project Name: Bay Creek Villas	Pace Project Manager: A. Baioni
Requested Due Date/TAT:	Project Number: UST# 18662/VACE CA# 48963	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, Naph, Mtbe	1,2-DCA	8-OXY	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	PW 1	WT	G			1/8/15	10:20		6				6						X	X	X	X		Sulfur Odor
2	MW 3R Duplicate	WT	G			1/8/15	10:57		6				6						X	X	X	X		Duplicate
3	Field Blank	WT	G			1/8/15	13:10		6				6						X	X	X	X		Field Blank
4	Trip Blank	WT	G			1/8/15	13:15		2				2						X	X	X			Trip Blank
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	1/8/15	09:20	D Moody Pace	01-09-15	09:20	

2

SAMPLER NAME AND SIGNATURE

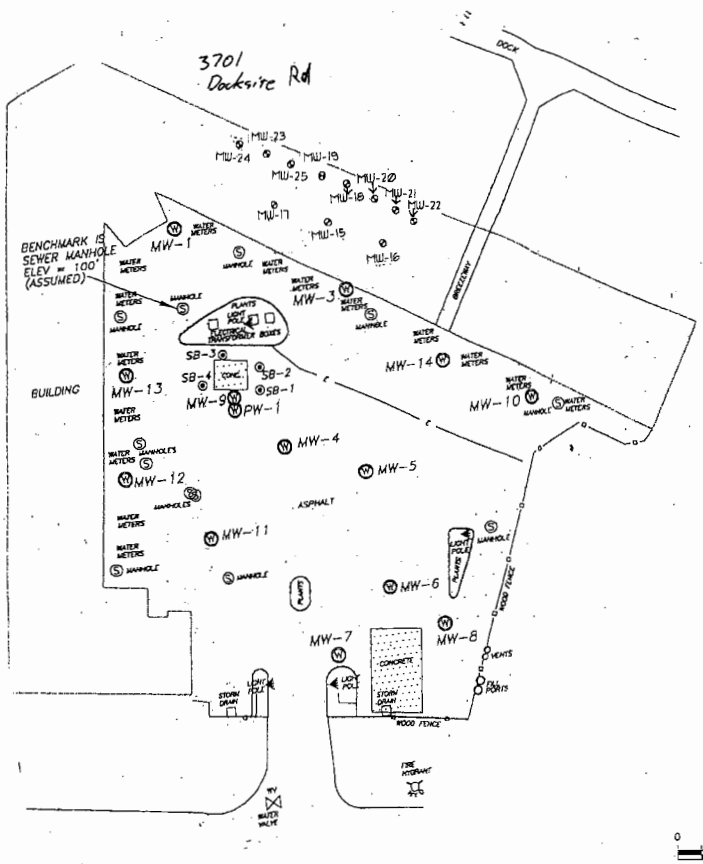
PRINT Name of SAMPLER: Frank Mitlin

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/8/15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007



Explanation:

⊗ Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1489
DATE January 31, 2008
FIGURE 2

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

UST
JAN 2 3 2015
PROGRAM

January 16, 2015

Mr. John Bryant
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Dear Mr. Bryant:
Enclosed are the analytical results for sample(s) received by the laboratory on January 09, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,
Angela Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92232779001	MW-3R	Water	01/08/15 10:57	01/09/15 16:05
92232779002	MW-4	Water	01/08/15 10:37	01/09/15 16:05
92232779003	MW-5	Water	01/08/15 10:47	01/09/15 16:05
92232779004	MW-9	Water	01/08/15 10:26	01/09/15 16:05
92232779005	MW-15	Water	01/08/15 11:19	01/09/15 16:05
92232779006	MW-16	Water	01/08/15 11:11	01/09/15 16:05
92232779007	MW-17	Water	01/08/15 11:31	01/09/15 16:05
92232779008	MW-18	Water	01/08/15 12:31	01/09/15 16:05
92232779009	MW-22	Water	01/08/15 13:01	01/09/15 16:05
92232779010	MW-23	Water	01/08/15 11:51	01/09/15 16:05
92232779011	MW-24	Water	01/08/15 11:41	01/09/15 16:05
92232779012	MW-25	Water	01/08/15 12:01	01/09/15 16:05
92232779013	PW-1	Water	01/08/15 10:20	01/09/15 16:05
92232779014	MW-3R DUPLICATE	Water	01/08/15 10:57	01/09/15 16:05
92232779015	FIELD BLANK	Water	01/08/15 13:10	01/09/15 16:05
92232779016	TRIP BLANK	Water	01/08/15 13:15	01/09/15 16:05

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SAMPLE ANALYTE COUNT

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92232779001	MW-3R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779002	MW-4	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779003	MW-5	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779004	MW-9	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92232779005	MW-15	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779006	MW-16	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779007	MW-17	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779008	MW-18	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779009	MW-22	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779010	MW-23	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779011	MW-24	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779012	MW-25	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779013	PW-1	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92232779014	MW-3R DUPLICATE	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779015	FIELD BLANK	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92232779016	TRIP BLANK	EPA 8260	CCL	20	PASI-C

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SUMMARY OF DETECTION

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92232779001	**MW-3R**					
EPA 8260	Benzene	4010	ug/L	125	01/15/15 19:55	
EPA 8260	Ethylbenzene	1350	ug/L	125	01/15/15 19:55	
EPA 8260	Naphthalene	570	ug/L	125	01/15/15 19:55	
EPA 8260	Toluene	55.7J	ug/L	125	01/15/15 19:55	
EPA 8260	m&p-Xylene	115J	ug/L	250	01/15/15 19:55	
92232779002	**MW-4**					
EPA 8260	Ethylbenzene	352	ug/L	50.0	01/15/15 20:12	
EPA 8260	Naphthalene	407	ug/L	50.0	01/15/15 20:12	
92232779004	**MW-9**					
EPA 8260	Benzene	30.2	ug/L	20.0	01/16/15 11:51	
EPA 8260	Ethylbenzene	487	ug/L	20.0	01/16/15 11:51	
EPA 8260	Naphthalene	157	ug/L	20.0	01/16/15 11:51	
EPA 8260	Toluene	10J	ug/L	20.0	01/16/15 11:51	
EPA 8260	m&p-Xylene	26.5J	ug/L	40.0	01/16/15 11:51	
92232779005	**MW-15**					
EPA 8260	Benzene	3.0J	ug/L	5.0	01/15/15 19:22	
92232779006	**MW-16**					
EPA 8260	Benzene	1200	ug/L	62.5	01/15/15 20:46	
EPA 8260	Ethylbenzene	665	ug/L	62.5	01/15/15 20:46	
EPA 8260	Naphthalene	476	ug/L	62.5	01/15/15 20:46	
EPA 8260	Toluene	31.0J	ug/L	62.5	01/15/15 20:46	
EPA 8260	Xylene (Total)	1810	ug/L	125	01/15/15 20:46	
EPA 8260	m&p-Xylene	1530	ug/L	125	01/15/15 20:46	
EPA 8260	o-Xylene	279	ug/L	62.5	01/15/15 20:46	
92232779007	**MW-17**					
EPA 8260	Benzene	2.3J	ug/L	5.0	01/15/15 21:03	
EPA 8260	3,3-Dimethyl-1-Butanol	45.6J	ug/L	100	01/15/15 21:03	
EPA 8260	Ethylbenzene	8.7	ug/L	5.0	01/15/15 21:03	
EPA 8260	Naphthalene	2.1J	ug/L	5.0	01/15/15 21:03	
92232779008	**MW-18**					
EPA 8260	Benzene	7680	ug/L	250	01/16/15 02:20	
EPA 8260	Ethylbenzene	1150	ug/L	250	01/16/15 02:20	
EPA 8260	Naphthalene	770	ug/L	250	01/16/15 02:20	
EPA 8260	Toluene	446	ug/L	250	01/16/15 02:20	
EPA 8260	Xylene (Total)	4720	ug/L	500	01/16/15 02:20	
EPA 8260	m&p-Xylene	3800	ug/L	500	01/16/15 02:20	
EPA 8260	o-Xylene	918	ug/L	250	01/16/15 02:20	
92232779012	**MW-25**					
EPA 8260	Benzene	2550	ug/L	250	01/16/15 02:37	
EPA 8260	3,3-Dimethyl-1-Butanol	2290J	ug/L	5000	01/16/15 02:37	
EPA 8260	Ethylbenzene	838	ug/L	250	01/16/15 02:37	
EPA 8260	Naphthalene	287	ug/L	250	01/16/15 02:37	
EPA 8260	Toluene	302	ug/L	250	01/16/15 02:37	

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SUMMARY OF DETECTION

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92232779012	**MW-25**					
EPA 8260	Xylene (Total)	1050	ug/L	500	01/16/15 02:37	
EPA 8260	m&p-Xylene	1050	ug/L	500	01/16/15 02:37	
EPA 8260	o-Xylene	109J	ug/L	250	01/16/15 02:37	
92232779014	**MW-3R DUPLICATE**					
EPA 8260	Benzene	3650	ug/L	125	01/16/15 03:11	
EPA 8260	Ethylbenzene	1230	ug/L	125	01/16/15 03:11	
EPA 8260	Naphthalene	561	ug/L	125	01/16/15 03:11	
EPA 8260	Toluene	51.7J	ug/L	125	01/16/15 03:11	
EPA 8260	m&p-Xylene	106J	ug/L	250	01/16/15 03:11	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-3R **Lab ID: 92232779001** Collected: 01/08/15 10:57 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/13/15 21:35	01/14/15 02:03	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	116	%	60-140		1	01/13/15 21:35	01/14/15 02:03	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	2500	1920	25		01/15/15 19:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		01/15/15 19:55	994-05-8	
Benzene	**4010**	ug/L	125	42.5	25		01/15/15 19:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		01/15/15 19:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		01/15/15 19:55	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		01/15/15 19:55	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	45.0	25		01/15/15 19:55	107-06-2	
Diisopropyl ether	ND	ug/L	125	42.5	25		01/15/15 19:55	108-20-3	
Ethanol	ND	ug/L	5000	3440	25		01/15/15 19:55	64-17-5	
Ethylbenzene	**1350**	ug/L	125	40.0	25		01/15/15 19:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		01/15/15 19:55	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	42.5	25		01/15/15 19:55	1634-04-4	
Naphthalene	**570**	ug/L	125	50.0	25		01/15/15 19:55	91-20-3	
Toluene	**55.7J**	ug/L	125	40.0	25		01/15/15 19:55	108-88-3	
Xylene (Total)	ND	ug/L	250	67.5	25		01/15/15 19:55	1330-20-7	
m&p-Xylene	**115J**	ug/L	250	77.5	25		01/15/15 19:55	179601-23-1	
o-Xylene	ND	ug/L	125	40.0	25		01/15/15 19:55	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		25		01/15/15 19:55	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		25		01/15/15 19:55	17060-07-0	
Toluene-d8 (S)	99	%	70-130		25		01/15/15 19:55	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-4 **Lab ID: 92232779002** Collected: 01/08/15 10:37 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/13/15 21:35	01/14/15 02:22	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	124	%	60-140		1	01/13/15 21:35	01/14/15 02:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1000	768	10		01/15/15 20:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	34.0	10		01/15/15 20:12	994-05-8	
Benzene	ND	ug/L	50.0	17.0	10		01/15/15 20:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		01/15/15 20:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	577	10		01/15/15 20:12	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		01/15/15 20:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	18.0	10		01/15/15 20:12	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	17.0	10		01/15/15 20:12	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		01/15/15 20:12	64-17-5	
Ethylbenzene	**352**	ug/L	50.0	16.0	10		01/15/15 20:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		01/15/15 20:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	17.0	10		01/15/15 20:12	1634-04-4	
Naphthalene	**407**	ug/L	50.0	20.0	10		01/15/15 20:12	91-20-3	
Toluene	ND	ug/L	50.0	16.0	10		01/15/15 20:12	108-88-3	
Xylene (Total)	ND	ug/L	100	27.0	10		01/15/15 20:12	1330-20-7	
m&p-Xylene	ND	ug/L	100	31.0	10		01/15/15 20:12	179601-23-1	
o-Xylene	ND	ug/L	50.0	16.0	10		01/15/15 20:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		10		01/15/15 20:12	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		10		01/15/15 20:12	17060-07-0	
Toluene-d8 (S)	100	%	70-130		10		01/15/15 20:12	2037-26-5	

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-5 **Lab ID: 92232779003** Collected: 01/08/15 10:47 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/12/15 16:36	01/13/15 09:37	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	01/12/15 16:36	01/13/15 09:37	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/15/15 19:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/15/15 19:05	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/15/15 19:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/15/15 19:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/15/15 19:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/15/15 19:05	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/15/15 19:05	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/15/15 19:05	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/15/15 19:05	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/15/15 19:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/15/15 19:05	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/15/15 19:05	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/15/15 19:05	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/15/15 19:05	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/15/15 19:05	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/15/15 19:05	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/15/15 19:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		01/15/15 19:05	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		01/15/15 19:05	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/15/15 19:05	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-9 **Lab ID: 92232779004** Collected: 01/08/15 10:26 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/12/15 16:36	01/13/15 09:56	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	01/12/15 16:36	01/13/15 09:56	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	400	307	4		01/16/15 11:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	40.0	13.6	4		01/16/15 11:51	994-05-8	
Benzene	**30.2**	ug/L	20.0	6.8	4		01/16/15 11:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	400	128	4		01/16/15 11:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	400	231	4		01/16/15 11:51	75-65-0	
tert-Butyl Formate	ND	ug/L	200	29.2	4		01/16/15 11:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	20.0	7.2	4		01/16/15 11:51	107-06-2	
Diisopropyl ether	ND	ug/L	20.0	6.8	4		01/16/15 11:51	108-20-3	
Ethanol	ND	ug/L	800	551	4		01/16/15 11:51	64-17-5	
Ethylbenzene	**487**	ug/L	20.0	6.4	4		01/16/15 11:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	40.0	14.4	4		01/16/15 11:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	20.0	6.8	4		01/16/15 11:51	1634-04-4	
Naphthalene	**157**	ug/L	20.0	8.0	4		01/16/15 11:51	91-20-3	
Toluene	**10J**	ug/L	20.0	6.4	4		01/16/15 11:51	108-88-3	
Xylene (Total)	ND	ug/L	40.0	10.8	4		01/16/15 11:51	1330-20-7	
m&p-Xylene	**26.5J**	ug/L	40.0	12.4	4		01/16/15 11:51	179601-23-1	
o-Xylene	ND	ug/L	20.0	6.4	4		01/16/15 11:51	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	94	%	70-130		4		01/16/15 11:51	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		4		01/16/15 11:51	17060-07-0	
Toluene-d8 (S)	96	%	70-130		4		01/16/15 11:51	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-15 **Lab ID: 92232779005** Collected: 01/08/15 11:19 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/12/15 16:36	01/13/15 10:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	01/12/15 16:36	01/13/15 10:15	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/15/15 19:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/15/15 19:22	994-05-8	
Benzene	**3.0J**	ug/L	5.0	1.7	1		01/15/15 19:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/15/15 19:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/15/15 19:22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/15/15 19:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/15/15 19:22	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/15/15 19:22	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/15/15 19:22	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/15/15 19:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/15/15 19:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/15/15 19:22	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/15/15 19:22	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/15/15 19:22	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/15/15 19:22	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/15/15 19:22	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/15/15 19:22	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		1		01/15/15 19:22	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		01/15/15 19:22	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/15/15 19:22	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-16 **Lab ID: 92232779006** Collected: 01/08/15 11:11 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/12/15 16:36	01/13/15 10:34	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	129	%	60-140		1	01/12/15 16:36	01/13/15 10:34	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1250	960	12.5		01/15/15 20:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	125	42.5	12.5		01/15/15 20:46	994-05-8	
Benzene	**1200**	ug/L	62.5	21.2	12.5		01/15/15 20:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1250	401	12.5		01/15/15 20:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1250	721	12.5		01/15/15 20:46	75-65-0	
tert-Butyl Formate	ND	ug/L	625	91.2	12.5		01/15/15 20:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	62.5	22.5	12.5		01/15/15 20:46	107-06-2	
Diisopropyl ether	ND	ug/L	62.5	21.2	12.5		01/15/15 20:46	108-20-3	
Ethanol	ND	ug/L	2500	1720	12.5		01/15/15 20:46	64-17-5	
Ethylbenzene	**665**	ug/L	62.5	20.0	12.5		01/15/15 20:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	125	45.0	12.5		01/15/15 20:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	62.5	21.2	12.5		01/15/15 20:46	1634-04-4	
Naphthalene	**476**	ug/L	62.5	25.0	12.5		01/15/15 20:46	91-20-3	
Toluene	**31.0J**	ug/L	62.5	20.0	12.5		01/15/15 20:46	108-88-3	
Xylene (Total)	**1810**	ug/L	125	33.8	12.5		01/15/15 20:46	1330-20-7	
m&p-Xylene	**1530**	ug/L	125	38.8	12.5		01/15/15 20:46	179601-23-1	
o-Xylene	**279**	ug/L	62.5	20.0	12.5		01/15/15 20:46	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		12.5		01/15/15 20:46	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		12.5		01/15/15 20:46	17060-07-0	
Toluene-d8 (S)	100	%	70-130		12.5		01/15/15 20:46	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-17 **Lab ID: 92232779007** Collected: 01/08/15 11:31 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/12/15 16:36	01/13/15 10:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	116	%	60-140		1	01/12/15 16:36	01/13/15 10:54	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/15/15 21:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/15/15 21:03	994-05-8	
Benzene	**2.3J**	ug/L	5.0	1.7	1		01/15/15 21:03	71-43-2	
3,3-Dimethyl-1-Butanol	**45.6J**	ug/L	100	32.1	1		01/15/15 21:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/15/15 21:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/15/15 21:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/15/15 21:03	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/15/15 21:03	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/15/15 21:03	64-17-5	
Ethylbenzene	**8.7**	ug/L	5.0	1.6	1		01/15/15 21:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/15/15 21:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/15/15 21:03	1634-04-4	
Naphthalene	**2.1J**	ug/L	5.0	2.0	1		01/15/15 21:03	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/15/15 21:03	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/15/15 21:03	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/15/15 21:03	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/15/15 21:03	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		01/15/15 21:03	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		01/15/15 21:03	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/15/15 21:03	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-18 **Lab ID: 92232779008** Collected: 01/08/15 12:31 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/12/15 16:36	01/13/15 11:13	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	118	%	60-140		1	01/12/15 16:36	01/13/15 11:13	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3840	50		01/16/15 02:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		01/16/15 02:20	994-05-8	
Benzene	**7680**	ug/L	250	85.0	50		01/16/15 02:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		01/16/15 02:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		01/16/15 02:20	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		01/16/15 02:20	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		01/16/15 02:20	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		01/16/15 02:20	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		01/16/15 02:20	64-17-5	
Ethylbenzene	**1150**	ug/L	250	80.0	50		01/16/15 02:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		01/16/15 02:20	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		01/16/15 02:20	1634-04-4	
Naphthalene	**770**	ug/L	250	100	50		01/16/15 02:20	91-20-3	
Toluene	**446**	ug/L	250	80.0	50		01/16/15 02:20	108-88-3	
Xylene (Total)	**4720**	ug/L	500	135	50		01/16/15 02:20	1330-20-7	
m&p-Xylene	**3800**	ug/L	500	155	50		01/16/15 02:20	179601-23-1	
o-Xylene	**918**	ug/L	250	80.0	50		01/16/15 02:20	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		50		01/16/15 02:20	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		50		01/16/15 02:20	17060-07-0	
Toluene-d8 (S)	101	%	70-130		50		01/16/15 02:20	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-22 **Lab ID: 92232779009** Collected: 01/08/15 13:01 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	01/12/15 16:36	01/13/15 11:32	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	105	%	60-140		1	01/12/15 16:36	01/13/15 11:32	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/15 00:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/15 00:23	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/15 00:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/15 00:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/15 00:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/15 00:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/15 00:23	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/15 00:23	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/15 00:23	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/15 00:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/15 00:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/15 00:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/15 00:23	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/15 00:23	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/15 00:23	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/15 00:23	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/15 00:23	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		1		01/16/15 00:23	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		01/16/15 00:23	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/16/15 00:23	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-23 **Lab ID: 92232779010** Collected: 01/08/15 11:51 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/12/15 16:36	01/13/15 11:51	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	01/12/15 16:36	01/13/15 11:51	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/15 00:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/15 00:40	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/15 00:40	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/15 00:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/15 00:40	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/15 00:40	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/15 00:40	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/15 00:40	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/15 00:40	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/15 00:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/15 00:40	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/15 00:40	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/15 00:40	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/15 00:40	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/15 00:40	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/15 00:40	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/15 00:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		01/16/15 00:40	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		01/16/15 00:40	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/16/15 00:40	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-24 **Lab ID: 92232779011** Collected: 01/08/15 11:41 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	01/13/15 15:10	01/14/15 00:45	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	01/13/15 15:10	01/14/15 00:45	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/15 00:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/15 00:57	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/15 00:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/15 00:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/15 00:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/15 00:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/15 00:57	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/15 00:57	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/15 00:57	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/15 00:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/15 00:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/15 00:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/15 00:57	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/15 00:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/15 00:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/15 00:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/15 00:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		01/16/15 00:57	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		01/16/15 00:57	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/16/15 00:57	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-25 **Lab ID: 92232779012** Collected: 01/08/15 12:01 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/13/15 15:10	01/14/15 01:04	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	115	%	60-140		1	01/13/15 15:10	01/14/15 01:04	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3840	50		01/16/15 02:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		01/16/15 02:37	994-05-8	
Benzene	**2550**	ug/L	250	85.0	50		01/16/15 02:37	71-43-2	
3,3-Dimethyl-1-Butanol	**2290J**	ug/L	5000	1600	50		01/16/15 02:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		01/16/15 02:37	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		01/16/15 02:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		01/16/15 02:37	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		01/16/15 02:37	108-20-3	
Ethanol	ND	ug/L	10000	6890	50		01/16/15 02:37	64-17-5	
Ethylbenzene	**838**	ug/L	250	80.0	50		01/16/15 02:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		01/16/15 02:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		01/16/15 02:37	1634-04-4	
Naphthalene	**287**	ug/L	250	100	50		01/16/15 02:37	91-20-3	
Toluene	**302**	ug/L	250	80.0	50		01/16/15 02:37	108-88-3	
Xylene (Total)	**1050**	ug/L	500	135	50		01/16/15 02:37	1330-20-7	
m&p-Xylene	**1050**	ug/L	500	155	50		01/16/15 02:37	179601-23-1	
o-Xylene	**109J**	ug/L	250	80.0	50		01/16/15 02:37	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		50		01/16/15 02:37	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		50		01/16/15 02:37	17060-07-0	
Toluene-d8 (S)	100	%	70-130		50		01/16/15 02:37	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: PW-1 **Lab ID: 92232779013** Collected: 01/08/15 10:20 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/13/15 15:10	01/14/15 01:24	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	01/13/15 15:10	01/14/15 01:24	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/15 11:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/15 11:35	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/15 11:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/15 11:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/15 11:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/15 11:35	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/15 11:35	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/15 11:35	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/15 11:35	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/15 11:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/15 11:35	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/15 11:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/15 11:35	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/15 11:35	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/15 11:35	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/15 11:35	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/15 11:35	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		01/16/15 11:35	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		01/16/15 11:35	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		01/16/15 11:35	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: MW-3R DUPLICATE **Lab ID: 92232779014** Collected: 01/08/15 10:57 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/13/15 15:10	01/14/15 02:22	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	120	%	60-140		1	01/13/15 15:10	01/14/15 02:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	2500	1920	25		01/16/15 03:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		01/16/15 03:11	994-05-8	
Benzene	**3650**	ug/L	125	42.5	25		01/16/15 03:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		01/16/15 03:11	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		01/16/15 03:11	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		01/16/15 03:11	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	45.0	25		01/16/15 03:11	107-06-2	
Diisopropyl ether	ND	ug/L	125	42.5	25		01/16/15 03:11	108-20-3	
Ethanol	ND	ug/L	5000	3440	25		01/16/15 03:11	64-17-5	
Ethylbenzene	**1230**	ug/L	125	40.0	25		01/16/15 03:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		01/16/15 03:11	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	42.5	25		01/16/15 03:11	1634-04-4	
Naphthalene	**561**	ug/L	125	50.0	25		01/16/15 03:11	91-20-3	
Toluene	**51.7J**	ug/L	125	40.0	25		01/16/15 03:11	108-88-3	
Xylene (Total)	ND	ug/L	250	67.5	25		01/16/15 03:11	1330-20-7	
m&p-Xylene	**106J**	ug/L	250	77.5	25		01/16/15 03:11	179601-23-1	
o-Xylene	ND	ug/L	125	40.0	25		01/16/15 03:11	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		25		01/16/15 03:11	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		25		01/16/15 03:11	17060-07-0	
Toluene-d8 (S)	100	%	70-130		25		01/16/15 03:11	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: FIELD BLANK **Lab ID: 92232779015** Collected: 01/08/15 13:10 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	01/13/15 15:10	01/14/15 03:01	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	01/13/15 15:10	01/14/15 03:01	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/15 01:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/15 01:30	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/15 01:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/15 01:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/15 01:30	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/15 01:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/15 01:30	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/15 01:30	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/15 01:30	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/15 01:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/15 01:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/15 01:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/15 01:30	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/15 01:30	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/15 01:30	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/15 01:30	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/15 01:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		01/16/15 01:30	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		01/16/15 01:30	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		01/16/15 01:30	2037-26-5	

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ANALYTICAL RESULTS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Sample: TRIP BLANK **Lab ID: 92232779016** Collected: 01/08/15 13:15 Received: 01/09/15 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		01/16/15 01:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		01/16/15 01:47	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		01/16/15 01:47	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		01/16/15 01:47	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		01/16/15 01:47	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		01/16/15 01:47	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		01/16/15 01:47	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		01/16/15 01:47	108-20-3	
Ethanol	ND	ug/L	200	138	1		01/16/15 01:47	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		01/16/15 01:47	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		01/16/15 01:47	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		01/16/15 01:47	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		01/16/15 01:47	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		01/16/15 01:47	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		01/16/15 01:47	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		01/16/15 01:47	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		01/16/15 01:47	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		01/16/15 01:47	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		01/16/15 01:47	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		01/16/15 01:47	2037-26-5	

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

QC Batch: MSV/29999 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92232779001, 92232779002, 92232779003, 92232779005, 92232779006, 92232779007

METHOD BLANK: 1370865 Matrix: Water
Associated Lab Samples: 92232779001, 92232779002, 92232779003, 92232779005, 92232779006, 92232779007

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/15/15 14:55	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/15/15 14:55	
Benzene	ug/L	ND	5.0	01/15/15 14:55	
Diisopropyl ether	ug/L	ND	5.0	01/15/15 14:55	
Ethanol	ug/L	ND	200	01/15/15 14:55	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/15/15 14:55	
Ethylbenzene	ug/L	ND	5.0	01/15/15 14:55	
m&p-Xylene	ug/L	ND	10.0	01/15/15 14:55	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/15/15 14:55	
Naphthalene	ug/L	ND	5.0	01/15/15 14:55	
o-Xylene	ug/L	ND	5.0	01/15/15 14:55	
tert-Amyl Alcohol	ug/L	ND	100	01/15/15 14:55	
tert-Amylmethyl ether	ug/L	ND	10.0	01/15/15 14:55	
tert-Butyl Alcohol	ug/L	ND	100	01/15/15 14:55	
tert-Butyl Formate	ug/L	ND	50.0	01/15/15 14:55	
Toluene	ug/L	ND	5.0	01/15/15 14:55	
Xylene (Total)	ug/L	ND	10.0	01/15/15 14:55	
1,2-Dichloroethane-d4 (S)	%	106	70-130	01/15/15 14:55	
4-Bromofluorobenzene (S)	%	101	70-130	01/15/15 14:55	
Toluene-d8 (S)	%	100	70-130	01/15/15 14:55	

LABORATORY CONTROL SAMPLE: 1370866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	53.7	107	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	965	97	70-130	
Benzene	ug/L	50	60.2	120	70-130	
Diisopropyl ether	ug/L	50	52.4	105	70-130	
Ethanol	ug/L	2000	2560	128	70-130	
Ethyl-tert-butyl ether	ug/L	100	116	116	70-130	
Ethylbenzene	ug/L	50	54.9	110	70-130	
m&p-Xylene	ug/L	100	108	108	70-130	
Methyl-tert-butyl ether	ug/L	50	51.8	104	70-130	
Naphthalene	ug/L	50	54.2	108	70-130	
o-Xylene	ug/L	50	52.5	105	70-130	
tert-Amyl Alcohol	ug/L	1000	1040	104	70-130	
tert-Amylmethyl ether	ug/L	100	108	108	70-130	
tert-Butyl Alcohol	ug/L	500	523	105	70-130	
tert-Butyl Formate	ug/L	400	520	130	70-130	
Toluene	ug/L	50	55.6	111	70-130	

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

LABORATORY CONTROL SAMPLE: 1370866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	161	107	70-130	
1,2-Dichloroethane-d4 (S)	%			96	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 1370867

Parameter	Units	92232779003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	23.0	115	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	461	115	70-130	
Benzene	ug/L	ND	20	25.7	129	70-130	
Diisopropyl ether	ug/L	ND	20	22.2	111	70-130	
Ethanol	ug/L	ND	800	1610	201	70-130	M0
Ethyl-tert-butyl ether	ug/L	ND	40	48.6	121	70-130	
Ethylbenzene	ug/L	ND	20	23.2	116	70-130	
m&p-Xylene	ug/L	ND	40	46.7	117	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.5	107	70-130	
Naphthalene	ug/L	ND	20	23.3	117	70-130	
o-Xylene	ug/L	ND	20	22.5	112	70-130	
tert-Amyl Alcohol	ug/L	ND	400	489	122	70-130	
tert-Amylmethyl ether	ug/L	ND	40	44.0	110	70-130	
tert-Butyl Alcohol	ug/L	ND	200	345	172	70-130	M0
tert-Butyl Formate	ug/L	ND	160	52.3	33	70-130	P5
Toluene	ug/L	ND	20	23.4	117	70-130	
1,2-Dichloroethane-d4 (S)	%				102	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1370868

Parameter	Units	92232779005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	3.0J	5.3		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	1.7J		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

SAMPLE DUPLICATE: 1370868

Parameter	Units	92232779005 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	101	104	2		
4-Bromofluorobenzene (S)	%	100	99	0		
Toluene-d8 (S)	%	100	100	0		

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

QC Batch: MSV/30000 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92232779008, 92232779009, 92232779010, 92232779011, 92232779012, 92232779014, 92232779015, 92232779016

METHOD BLANK: 1370888 Matrix: Water
Associated Lab Samples: 92232779008, 92232779009, 92232779010, 92232779011, 92232779012, 92232779014, 92232779015, 92232779016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/15/15 23:50	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/15/15 23:50	
Benzene	ug/L	ND	5.0	01/15/15 23:50	
Diisopropyl ether	ug/L	ND	5.0	01/15/15 23:50	
Ethanol	ug/L	ND	200	01/15/15 23:50	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/15/15 23:50	
Ethylbenzene	ug/L	ND	5.0	01/15/15 23:50	
m&p-Xylene	ug/L	ND	10.0	01/15/15 23:50	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/15/15 23:50	
Naphthalene	ug/L	ND	5.0	01/15/15 23:50	
o-Xylene	ug/L	ND	5.0	01/15/15 23:50	
tert-Amyl Alcohol	ug/L	ND	100	01/15/15 23:50	
tert-Amylmethyl ether	ug/L	ND	10.0	01/15/15 23:50	
tert-Butyl Alcohol	ug/L	ND	100	01/15/15 23:50	
tert-Butyl Formate	ug/L	ND	50.0	01/15/15 23:50	
Toluene	ug/L	ND	5.0	01/15/15 23:50	
Xylene (Total)	ug/L	ND	10.0	01/15/15 23:50	
1,2-Dichloroethane-d4 (S)	%	104	70-130	01/15/15 23:50	
4-Bromofluorobenzene (S)	%	98	70-130	01/15/15 23:50	
Toluene-d8 (S)	%	100	70-130	01/15/15 23:50	

LABORATORY CONTROL SAMPLE: 1370889

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	54.8	110	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1020	102	70-130	
Benzene	ug/L	50	60.8	122	70-130	
Diisopropyl ether	ug/L	50	54.3	109	70-130	
Ethanol	ug/L	2000	2880	144	70-130	L0
Ethyl-tert-butyl ether	ug/L	100	119	119	70-130	
Ethylbenzene	ug/L	50	54.9	110	70-130	
m&p-Xylene	ug/L	100	110	110	70-130	
Methyl-tert-butyl ether	ug/L	50	52.8	106	70-130	
Naphthalene	ug/L	50	54.5	109	70-130	
o-Xylene	ug/L	50	53.1	106	70-130	
tert-Amyl Alcohol	ug/L	1000	1120	112	70-130	
tert-Amylmethyl ether	ug/L	100	111	111	70-130	
tert-Butyl Alcohol	ug/L	500	559	112	70-130	

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

LABORATORY CONTROL SAMPLE: 1370889

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	485	121	70-130	
Toluene	ug/L	50	56.7	113	70-130	
Xylene (Total)	ug/L	150	163	109	70-130	
1,2-Dichloroethane-d4 (S)	%			96	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 1370890

Parameter	Units	92232779010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.8	109	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	393	98	70-130	
Benzene	ug/L	ND	20	24.2	121	70-130	
Diisopropyl ether	ug/L	ND	20	20.6	103	70-130	
Ethanol	ug/L	ND	800	1130	142	70-130	M0
Ethyl-tert-butyl ether	ug/L	ND	40	45.7	114	70-130	
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	
m&p-Xylene	ug/L	ND	40	44.2	111	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	20.2	101	70-130	
Naphthalene	ug/L	ND	20	20.6	102	70-130	
o-Xylene	ug/L	ND	20	21.3	106	70-130	
tert-Amyl Alcohol	ug/L	ND	400	402	100	70-130	
tert-Amylmethyl ether	ug/L	ND	40	40.1	100	70-130	
tert-Butyl Alcohol	ug/L	ND	200	323	161	70-130	M0
tert-Butyl Formate	ug/L	ND	160	26.8J	17	70-130	P5
Toluene	ug/L	ND	20	21.8	109	70-130	
1,2-Dichloroethane-d4 (S)	%				103	70-130	
4-Bromofluorobenzene (S)	%				103	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1370891

Parameter	Units	92232779011 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

SAMPLE DUPLICATE: 1370891

Parameter	Units	92232779011 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	105	106	1		
4-Bromofluorobenzene (S)	%	101	102	1		
Toluene-d8 (S)	%	100	102	3		

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

QC Batch: MSV/30017 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV SC
Associated Lab Samples: 92232779004, 92232779013

METHOD BLANK: 1371925 | Matrix: Water
Associated Lab Samples: 92232779004, 92232779013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/16/15 10:11	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	01/16/15 10:11	
Benzene	ug/L	ND	5.0	01/16/15 10:11	
Diisopropyl ether	ug/L	ND	5.0	01/16/15 10:11	
Ethanol	ug/L	ND	200	01/16/15 10:11	
Ethyl-tert-butyl ether	ug/L	ND	10.0	01/16/15 10:11	
Ethylbenzene	ug/L	ND	5.0	01/16/15 10:11	
m&p-Xylene	ug/L	ND	10.0	01/16/15 10:11	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/16/15 10:11	
Naphthalene	ug/L	ND	5.0	01/16/15 10:11	
o-Xylene	ug/L	ND	5.0	01/16/15 10:11	
tert-Amyl Alcohol	ug/L	ND	100	01/16/15 10:11	
tert-Amylmethyl ether	ug/L	ND	10.0	01/16/15 10:11	
tert-Butyl Alcohol	ug/L	ND	100	01/16/15 10:11	
tert-Butyl Formate	ug/L	ND	50.0	01/16/15 10:11	
Toluene	ug/L	ND	5.0	01/16/15 10:11	
Xylene (Total)	ug/L	ND	10.0	01/16/15 10:11	
1,2-Dichloroethane-d4 (S)	%	99	70-130	01/16/15 10:11	
4-Bromofluorobenzene (S)	%	104	70-130	01/16/15 10:11	
Toluene-d8 (S)	%	94	70-130	01/16/15 10:11	

LABORATORY CONTROL SAMPLE: 1371926

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	46.6	93	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1000	100	70-130	
Benzene	ug/L	50	53.2	106	70-130	
Diisopropyl ether	ug/L	50	50.7	101	70-130	
Ethanol	ug/L	2000	1790	90	70-130	
Ethyl-tert-butyl ether	ug/L	100	107	107	70-130	
Ethylbenzene	ug/L	50	50.7	101	70-130	
m&p-Xylene	ug/L	100	100	100	70-130	
Methyl-tert-butyl ether	ug/L	50	45.6	91	70-130	
Naphthalene	ug/L	50	52.2	104	70-130	
o-Xylene	ug/L	50	50.8	102	70-130	
tert-Amyl Alcohol	ug/L	1000	1020	102	70-130	
tert-Amylmethyl ether	ug/L	100	97.5	97	70-130	
tert-Butyl Alcohol	ug/L	500	499	100	70-130	
tert-Butyl Formate	ug/L	400	416	104	70-130	
Toluene	ug/L	50	51.5	103	70-130	

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

LABORATORY CONTROL SAMPLE: 1371926

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	151	101	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Toluene-d8 (S)	%			97	70-130	

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

QC Batch: OEXT/32223 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92232779003, 92232779004, 92232779005, 92232779006, 92232779007, 92232779008, 92232779009, 92232779010

METHOD BLANK: 1368266 Matrix: Water
Associated Lab Samples: 92232779003, 92232779004, 92232779005, 92232779006, 92232779007, 92232779008, 92232779009, 92232779010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	01/13/15 03:53	
1-Chloro-2-bromopropane (S)	%	98	60-140	01/13/15 03:53	

LABORATORY CONTROL SAMPLE & LCSD: 1368267 1368268

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.28	0.27	96	96	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				98	99	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1368269 1368270

Parameter	Units	92232772002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.28	0.27	98	94	60-140	4	20	
1-Chloro-2-bromopropane (S)	%						97	96	60-140			

SAMPLE DUPLICATE: 1368271

Parameter	Units	92232772003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	82	86	6		

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

QC Batch: OEXT/32240 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92232779011, 92232779012, 92232779013, 92232779014, 92232779015

METHOD BLANK: 1368748 Matrix: Water
Associated Lab Samples: 92232779011, 92232779012, 92232779013, 92232779014, 92232779015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	01/13/15 23:27	
1-Chloro-2-bromopropane (S)	%	97	60-140	01/13/15 23:27	

LABORATORY CONTROL SAMPLE & LCSD: 1368749 1368750

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.25	0.27	88	94	60-140	7	20	
1-Chloro-2-bromopropane (S)	%				96	99	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1368751 1368752

Parameter	Units	92232779013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.26	0.26	92	92	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						97	98	60-140			

SAMPLE DUPLICATE: 1368753

Parameter	Units	92232779014 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	120	110	10		

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QUALITY CONTROL DATA

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

QC Batch: OEXT/32256 | Analysis Method: EPA 8011
QC Batch Method: EPA 8011 | Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92232779001, 92232779002

METHOD BLANK: 1369519 | Matrix: Water
Associated Lab Samples: 92232779001, 92232779002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	01/13/15 22:55	
1-Chloro-2-bromopropane (S)	%	107	60-140	01/13/15 22:55	

LABORATORY CONTROL SAMPLE & LCSD: 1369520 1369521

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.28	0.30	100	106	60-140	7	20	
1-Chloro-2-bromopropane (S)	%				109	110	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1369522 1369523

Parameter	Units	92232987001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.37	0.39	132	136	60-140	4	20	
1-Chloro-2-bromopropane (S)	%						115	121	60-140			

SAMPLE DUPLICATE: 1369524

Parameter	Units	92232987002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	126	137	10		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Bay Creek Villas 18662/48963
Pace Project No.: 92232779

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92232779001	MW-3R	EPA 8011	OEXT/32256	EPA 8011	GCSV/20058
92232779002	MW-4	EPA 8011	OEXT/32256	EPA 8011	GCSV/20058
92232779003	MW-5	EPA 8011	OEXT/32223	EPA 8011	GCSV/20045
92232779004	MW-9	EPA 8011	OEXT/32223	EPA 8011	GCSV/20045
92232779005	MW-15	EPA 8011	OEXT/32223	EPA 8011	GCSV/20045
92232779006	MW-16	EPA 8011	OEXT/32223	EPA 8011	GCSV/20045
92232779007	MW-17	EPA 8011	OEXT/32223	EPA 8011	GCSV/20045
92232779008	MW-18	EPA 8011	OEXT/32223	EPA 8011	GCSV/20045
92232779009	MW-22	EPA 8011	OEXT/32223	EPA 8011	GCSV/20045
92232779010	MW-23	EPA 8011	OEXT/32223	EPA 8011	GCSV/20045
92232779011	MW-24	EPA 8011	OEXT/32240	EPA 8011	GCSV/20054
92232779012	MW-25	EPA 8011	OEXT/32240	EPA 8011	GCSV/20054
92232779013	PW-1	EPA 8011	OEXT/32240	EPA 8011	GCSV/20054
92232779014	MW-3R DUPLICATE	EPA 8011	OEXT/32240	EPA 8011	GCSV/20054
92232779015	FIELD BLANK	EPA 8011	OEXT/32240	EPA 8011	GCSV/20054
92232779001	MW-3R	EPA 8260	MSV/29999		
92232779002	MW-4	EPA 8260	MSV/29999		
92232779003	MW-5	EPA 8260	MSV/29999		
92232779004	MW-9	EPA 8260	MSV/30017		
92232779005	MW-15	EPA 8260	MSV/29999		
92232779006	MW-16	EPA 8260	MSV/29999		
92232779007	MW-17	EPA 8260	MSV/29999		
92232779008	MW-18	EPA 8260	MSV/30000		
92232779009	MW-22	EPA 8260	MSV/30000		
92232779010	MW-23	EPA 8260	MSV/30000		
92232779011	MW-24	EPA 8260	MSV/30000		
92232779012	MW-25	EPA 8260	MSV/30000		
92232779013	PW-1	EPA 8260	MSV/30017		
92232779014	MW-3R DUPLICATE	EPA 8260	MSV/30000		
92232779015	FIELD BLANK	EPA 8260	MSV/30000		
92232779016	TRIP BLANK	EPA 8260	MSV/30000		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: September 22, 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.15**	Issuing Authority: Pace Huntersville Quality Office

Client Name: SCDHEC

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ (Pace) Other_____

Custody Seal on Cooler/Box Present: ☐ yes (☐) no Seals intact: ☐ yes ☐ no

Optional: Proj. Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ (Bubble Bags) ☐ None ☐ Other_____

Thermometer Used: IR Gun (T1401) Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 2.4 °C Biological Tissue is Frozen: Yes No (N/A)

Temp should be above freezing to 6°C

Date and initials of person examining contents: PS 1/9/15

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☐Yes ☑No ☐N/A	12. no time listed on labels
-Includes date/time/ID/Analysis Matrix:_____		#2 labeled MW-3 on sample
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☑Yes ☐No ☐N/A	15. MW-5 - 3 vials; MW-17 - 1 vial;
Trip Blank Present:	☐Yes ☐No ☐N/A	16. NW18 - 1 vial; PW1 - 6 vials
Trip Blank Custody Seals Present	☐Yes ☐No ☐N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	AMB	Date:	1-9-15
SRF Review:	TC	Date:	1/12/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92232779

92232779

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 3

1887035

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC-UST	Report To: D. Thoma - UST	Attention:
Address: 2600 Bull St Columbia, SC, 29201	Copy To:	Company Name:
		Address:
Email To: thomadlwdhec.sc.gov	Purchase Order No.: 4600328425	Pace Quote Reference:
Phone: 803-898-2544 Fax: 803-898-0673	Project Name: Bay Creek Villas	Pace Project Manager: A. Baioni
Requested Due Date/TAT:	Project Number: UST#18662/PACE CA#48963	Pace Profile #: 849-1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, Napth, Mtbe	1,2-DCA	8-Oxy	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92232779
1	MW 1																							Not Sampled
2	MW 3R	WT	G			1/8/15	10:57		6				6						X	X	X	X		Odor 001
3	MW 4	WT	G			1/8/15	10:37		6				6						X	X	X	X		Odor 002
4	MW 5	WT	G			1/8/15	10:47		6				6						X	X	X	X		Sulfur Odor 003
5	MW 6																							Not Sampled
6	MW 7																							Not Sampled
7	MW 8																							Not Sampled
8	MW 9	WT	G			1/8/15	10:26		6				6						X	X	X	X		Odor 004
9	MW 10																							Not Sampled
10	MW 11																							Not Sampled
11	MW 12																							Not Sampled
12	MW 13																							Not Sampled

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	1/8/15	09:20	G Moody - Pace	01-09-15	09:20				
	[signature]	01-09-15	16:05	P. Lim / PACE	1/9/15	1605	2.4	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Frank Mithin

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/8/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev 07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3

1887036

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull St
Columbia, SC, 29201
Email To: thomadla@dhec.sc.gov
Phone: 803-898-2544 Fax: 803-898-0673
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma-UST
Copy To:
Purchase Order No.: 4600328425
Project Name: Bay Creek Villas
Project Number: UST#18662/PACE CA#48963

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: A. Baioni
Pace Profile #

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): BTEX, Napth, MTBE, 1,2-DCA, 1,8-Dxy, EDB

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX, Napth, MTBE	1,2-DCA	1,8-Dxy	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92232779
1	MW 14																						Not Sampled
2	MW 15	WT	G			1/8/15	11:19		6				6					X	X	X	X		Odor 005
3	MW 16	WT	G			1/8/15	11:11		6				6					X	X	X	X		Odor 006
4	MW 17	WT	G			1/8/15	11:31		6				6					X	X	X	X		Odor 007
5	MW 18	WT	G			1/8/15	12:31		6				6					X	X	X	X		Strong Odor 008
6	MW 19																						Product; Not Sampled
7	MW 20																						Product; Not Sampled
8	MW 21																						Product; Not Sampled
9	MW 22	WT	G			1/8/15	13:01		6				6					X	X	X	X		Odor 009
10	MW 23	1	1			1	11:51		1				1					1	1	1	1		Slight Odor 010
11	MW 24	↓	↓			↓	11:41		↓				↓					↓	↓	↓	↓		Sulfur Odor 011
12	MW 25	WT	G			1/8/15	12:01		6				6					X	X	X	X		Strong Odor 012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	[signature]	1/8/15	09:20	B Moody Pace	01-09-15	09:20				
	B Moody	01-09-15	16:05	D. Lunn PACE	1/9/15	1605	2.4	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Frank Martin
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/8/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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Page: 3 of 3

1887031

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC-UST	Report To: D. Thoma - UST	Attention:
Address: 2600 Bull St	Copy To:	Company Name:
Columbia, SC, 29201		Address:
Email To: thomadl@dhec.sc.gov	Purchase Order No.: 4600328425	Pace Quote Reference:
Phone: 803-898-2544 Fax: 803-898-0673	Project Name: Bay Creek Villas	Pace Project Manager: A. Baioni
Requested Due Date/TAT:	Project Number: UST# 18662 / PACE CA# 48963	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): BTEX, Naph, MTBE; 1,2-DCA; 8-Oxy; EDB

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	BTEX, Naph, MTBE	1,2-DCA	8-Oxy	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	PW 1	WT	G			1/8/15	10:20		6				6						X	X	X	X		Sulfur Odor 013
2	MW 32 Duplicate	WT	G			1/8/15	10:57		6				6						X	X	X	X		Duplicate 014
3	Field Blank	WT	G			1/8/15	13:10		6				6						X	X	X	X		Field Blank 015
4	Trip Blank	WT	G			1/8/15	13:15		2				2						X	X	X			Trip Blank 016
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	1/8/15	09:20	[signature] Pace	01-09-15	09:20				
	[signature]	01-09-15	16:05	D. Lum / PACE	1/9/15	1605	2.4	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Frank Martin

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 1/8/15

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days

D H E C

PROMOTE PROTECT PROSPER

W. Marshall Taylor Jr., Acting Director

Promoting and protecting the health of the public and the environment

UST DOCKETING 150 tech

MR RONNY LOWDER
EMERALD INC
P O BOX 3050
SUMTER SC 29151-3050

JAN 3 0 2015

Re: AFVR
Contract #IFB-5400005023-11/8/12-EMW; PO #4600368892
Notice to proceed

Dear Mr. Lowder:

Under the terms and conditions of the referenced contract, and per the schedule submitted to the Underground Storage Tank (UST) Management Division on January 28, 2015, free-phase product (FPP) recovery using aggressive fluid vapor recovery (AFVR) has been approved for the UST facilities listed below. Emerald, Inc. may proceed upon receipt of this letter. Enclosed are packets containing necessary information to perform FPP recovery at each facility. Each facility has been assigned an individual cost agreement (CA) number, work scope, work scope start date, and report due date. As specified in the contract, a report and invoice must be submitted on or before the due date. The appropriate CA number and Purchase Order (PO) #4600368892 should be referenced on each invoice submitted.

Permit	Facility	County	Work Scope	CA	Start Date	Due Date
18662	Bay Creek Villas	Colleton	1 96-hour event	49674	5/4/15	5/18/15

The FPP recovery at each facility will be performed on behalf of the UST Owner/Operator (O/O) and payment will be made from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The O/O has no obligation to pay for the specified work scope. 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 South Carolina Department of Health and Environmental Control (Agency) is obtained.

Any changes to the work scope must be pre-approved by UST Management Division in order for Emerald to seek payment. Please contact the UST Project Manager for technical and/or financial approval. Any item that is not clearly or completely addressed in the report will not be compensated by SUPERB.

The Division grants pre-approval for transportation of FPP and petroleum-contaminated groundwater from the referenced UST facility to a permitted treatment facility. The FPP and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 898-0655, by fax at (803) 898-0673, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, Geologist/Hydrologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Information packets
AFVR Schedule 14
cc: Technical file (w/o enc)

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

April 20, 2015

UST
APR 2 3 2015
PROGRAM

UST
151 tech
DOCKETING

John Bryant, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Underground Storage Tank Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, SC 29201

Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
Colleton County
UST Permit #18662; CA# 49674
Emerald Job 14-108A

Mr. Bryant,

Please find the attached Aggressive Fluid Vapor Recovery (AFVR) Report for the Bay Creek Villas site. A site reconnaissance was conducted on March 23, 2015 to locate monitoring wells, gauge extraction wells, and assess site conditions. Prior to conducting this AFVR event information gathered during the site reconnaissance was presented to the SCDHEC project manager for review.

AGGRESSIVE FLUID VAPOR RECOVERY EVENTS

On April 13 through 17, 2015, Emerald, Inc. personnel performed a 96-hour AFVR event utilizing MW-19, MW-20 and MW-21 as extraction locations. This 96-hour AFVR event was conducted to aid reducing dissolved levels of chemicals of concern previously detected at the subject site. Free phase petroleum product was not detected prior to initiation or at the

conclusion of this event. Monitoring well locations are presented on the attached site map provided by SCDHEC.

Table 1 presents the off-gas concentrations (using a Photoionization Detector), post treatment off-gas concentrations, off-gas velocity, and knockout tank vacuum. Table 2 presents the stinger depths, wellhead vacuum measurements, water levels measurements and magnehelic readings obtained during the event. Emerald, Inc. field personnel normally record data at thirty minute intervals for the first eight hours of the event, then at one hour intervals from hours nine through twenty four and at two hour intervals from twenty four until the conclusion of the event. During the hours of midnight to 8 AM event monitoring was suspended. Off-gas treatment was utilized during business hours to limit exposure of the off-gas to the general public using a thermal oxidizer.

According to the calculations as presented on Table 1, a total of 50.33 pounds of hydrocarbons (as vapor) and 8.05 equivalent gallons of hydrocarbons were removed during this event. Free phase product was not detected in the knockout tank. A total of 6,453 gallons of petroleum contaminated groundwater was transported to the City of Manning Wastewater Treatment Facility in Manning, SC for proper disposal. A copy of the disposal manifests for this event are included as an attachment.

If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,
Emerald, Inc.

William C. McClary/RB

William C. McClary, P.G.
Project Manager

Ronny L. Lowder
President

Attachments

TABLE 1
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-108A

Extraction Wells	Date	Time (hh:mm)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM)	Post-Treatment Concentration (PPM)	Offgas Velocity (ft/min)	Flow Rate (CFM)	CG:M (mg/dsm$^{3)}$	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-19	4/13/15	10:00	Start	13	404	3.1	2,404	118.00	2,148	1.34E-04	0.95	-
MW-20		10:30	0.5	14	499	1.2	2,328	114.27	2,654	1.66E-04	1.14	0.52
MW-21		11:00	0.5	14	380	0.8	2,545	124.92	2,021	1.26E-04	0.95	0.52
		11:30	0.5	15	1,599	0.6	2,294	112.60	8,503	5.31E-04	3.59	1.13
		12:00 ↑	0.5	15	695	1.3	2,391	117.36	3,696	2.31E-04	1.62	1.30
		12:30	0.5	14	868	1.9	2,241	110.00	4,616	2.88E-04	1.90	0.88
		13:00 ↓	0.5	14	850	2.0	2,237	109.80	4,520	2.82E-04	1.86	0.94
		13:30	0.5	14	1,880	2.1	2,481	121.78	9,997	6.24E-04	4.56	1.60
		14:00	0.5	14	1,766	1.3	2,333	114.52	9,391	5.86E-04	4.03	2.15
		14:30	0.5	14	464	1.1	2,520	123.69	2,467	1.54E-04	1.14	1.29
		15:00	0.5	14	330	0.5	2,466	121.04	1,755	1.10E-04	0.80	0.48
		15:30	0.5	13	339	0.9	2,433	119.42	1,803	1.13E-04	0.81	0.40
		16:00	0.5	13	340	1.4	2,461	120.80	1,808	1.13E-04	0.82	0.41
		16:30	0.5	13	356	1.4	2,414	118.49	1,893	1.18E-04	0.84	0.41
		17:00	0.5	13	236	1.2	2,404	118.00	1,255	7.83E-05	0.55	0.35
		17:30	0.5	12	237	0.8	2,491	122.27	1,260	7.87E-05	0.58	0.28
		18:00	0.5	12	186	1.6	2,509	123.15	989	6.17E-05	0.46	0.26
		19:00	1.0	12	255	1.0	2,530	124.19	1,356	8.47E-05	0.63	0.54
		20:00	1.0	12	252	1.1	2,400	117.80	1,340	8.37E-05	0.59	0.61
		21:00	1.0	12	241	N/A	1,802	88.45	1,282	8.00E-05	0.42	0.51
		22:00	1.0	12	235	N/A	1,566	76.87	1,250	7.80E-05	0.36	0.39
		23:00	1.0	12	195	N/A	1,670	81.97	1,037	6.47E-05	0.32	0.34
	4/14/15	0:00	1.0	12	261	N/A	1,997	98.02	1,388	8.66E-05	0.51	0.41
		8:00	8.0	11	281	1.2	2,635	129.34	1,494	9.33E-05	0.72	4.93
		9:00	1.0	13	388	0.4	2,200	107.99	2,063	1.29E-04	0.83	0.78
		10:00	1.0	15	296	1.1	2,901	142.40	1,574	9.83E-05	0.84	0.84
		12:00 ↑	2.0	14	238	1.8	2,854	140.09	1,266	7.90E-05	0.66	1.50
		14:00 ↓	2.0	14	282	1.0	2,507	123.06	1,500	9.36E-05	0.69	1.36
		16:00	2.0	14	173	1.8	3,002	147.35	920	5.74E-05	0.51	1.20
		18:00	2.0	14	187	1.2	2,979	146.22	994	6.21E-05	0.54	1.05
		20:00	2.0	14	183	1.1	1,669	81.92	973	6.08E-05	0.30	0.84
		22:00	2.0	14	212	1.2	2,197	107.84	1,127	7.04E-05	0.46	0.75

TABLE 1 Cont'd.
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-108A

Extraction Wells	Date	Time (hh:mm)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM)	Post-Treatment Concentration (PPM)	Offgas Velocity (ft/min)	Flow Rate (CFM)	CG:M (mg/dsm$^{3)}$	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-19	4/15/15	0:00	2.0	14	179	1.0	2,266	111.23	952	5.94E-05	0.40	0.85
MW-20		8:00	8.0	13	264	1.3	2,545	124.92	1,404	8.76E-05	0.66	4.21
MW-21		10:00	2.0	13	425	1.7	2,647	129.93	2,260	1.41E-04	1.10	1.76
		12:00	2.0	14	380	1.0	2,880	141.36	2,021	1.26E-04	1.07	2.17
		14:00	2.0	14	110	0.8	3,108	152.56	585	3.65E-05	0.33	1.40
		16:00	2.0	14	115	0.9	3,009	147.70	612	3.82E-05	0.34	0.67
		18:00	2.0	14	113	0.7	2,097	102.93	601	3.75E-05	0.23	0.57
		20:00	2.0	14	110	0.5	2,001	98.22	585	3.65E-05	0.22	0.45
		22:00	2.0	14	107	0.6	2,155	105.78	569	3.55E-05	0.23	0.44
	4/16/15	0:00	2.0	14	112	0.5	1,678	82.36	596	3.72E-05	0.18	0.41
		8:00	8.0	14	115	0.4	1,702	83.54	612	3.82E-05	0.19	1.50
		10:00	2.0	13	163	0.3	2,170	106.51	867	5.41E-05	0.35	0.54
		12:00	2.0	13	170	0.4	2,174	106.71	904	5.64E-05	0.36	0.71
		14:00	2.0	13	166	0.3	2,098	102.98	883	5.51E-05	0.34	0.70
		16:00	2.0	13	161	0.3	1,987	97.53	856	5.34E-05	0.31	0.65
		18:00	2.0	13	149	0.2	2,113	103.72	792	4.95E-05	0.31	0.62
		20:00	2.0	13	133	0.2	2,001	98.22	707	4.42E-05	0.26	0.57
		22:00	2.0	13	127	0.3	1,983	97.34	675	4.22E-05	0.25	0.51
	4/17/15	0:00	2.0	13	123	0.2	1,862	91.40	654	4.08E-05	0.22	0.47
		8:00	8.0	14	113	0.3	2,005	98.42	601	3.75E-05	0.22	1.78
		10:00	2.0	14	111	0.2	1,098	53.90	590	3.69E-05	0.12	0.34

Well Gauging Data			Before AFVR Event			After AFVR Event		
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
MW-19	2	2.5-9.5	–	6.11	–	–	5.88	–
MW-20	2	3-10	–	4.80	–	–	7.65	–
MW-21	2	2.5-9.5	–	6.74	–	–	6.30	–

Product Thickness

Product observed in Sight Tube? No

Product detected in Tanker? No

Weather Conditions		Emerald, Inc. Personnel
4/13/15	Rain, 68-80°F	C. Clark
4/14/15	Sunny, 69-82°F	M. Rivers
4/15/15	Rain, 64-82°F	L. Stogner
4/16/15	Sunny, 55-64°F	
4/17/15	Sunny, 59-73°F	

Recovery / Disposal Information

Hydrocarbons Removed (vapor):	50.33	Pounds
Hydrocarbons Removed (liquid):	0.00	Gallons
Total Hydrocarbons Removed:	8.05	Equivalent Gallons
Molecular Weight Utilized:	128	mg/mg-mole
Disposal Facility:	City of Manning Wastewater Treatment Facility	
Total Liquids Removed:	6,453	Gallons

Equations

Cg;m = PPMg*(Mg/K3)

Removal Rate = Cg * Flow Rate * 60Min/Hr

Interval Removal = $(T_1 + T_2)/2$

PPM = Part per Million (by PID)

Cg:m = mg/dsm3(mass concentration of gasoline emission)

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm^3/1E6 mg-mole, mass to volume conversion

Cg = lb/dcsf, mass concentration of gasoline by emission

Removal Rate = lb/hr,pollutant mass removal rate of emission

Notes

↑ = Stinger raised ↓ = Stinger lowered

TABLE 2
EVENT MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-108A

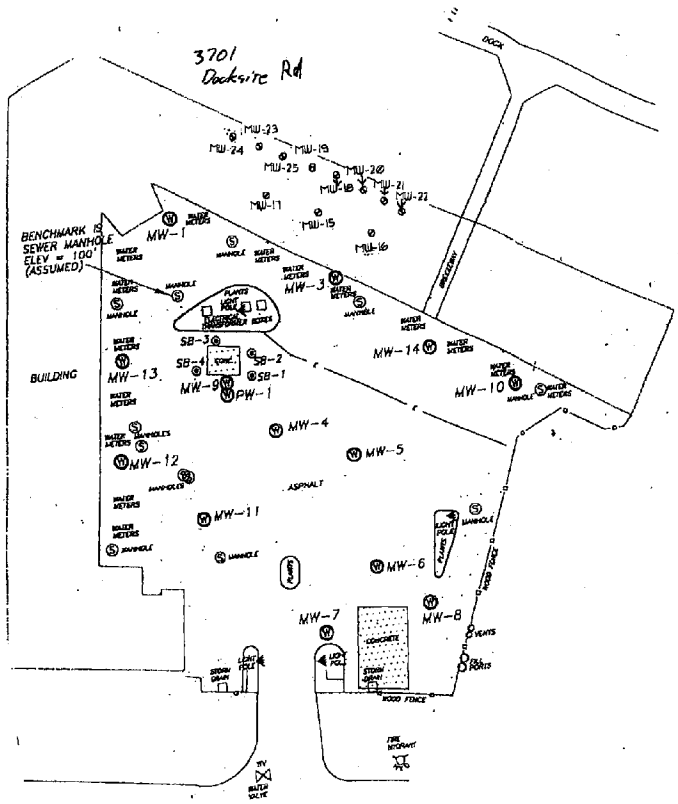
Date	Time (hh:mm)	Extraction Wells						Event Monitoring					
		MW-19		MW-20		MW-21		MW-15		MW-17		MW-22	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water
4/13/15	10:00	8.0	11	8.0	13	8.0	11	Pre	4.53	Pre	4.44	Pre	6.06
	10:30	8.0	12	8.0	13	8.0	12	<1	4.55	<1	4.46	<1	6.08
	11:00	8.0	11	8.0	14	8.0	11	<1	4.53	<1	4.45	<1	6.19
	11:30	8.0	11	8.0	14	8.0	12	<1	4.51	<1	4.45	<1	6.38
	12:00	6.0	13	6.0	14	6.0	13	<1	4.51	<1	4.45	<1	6.43
	12:30	6.0	13	6.0	14	6.0	12	<1	4.51	<1	4.44	<1	6.47
	13:00	8.0	13	8.0	13	8.0	12	<1	4.52	<1	4.42	<1	6.50
	13:30	8.0	12	8.0	14	8.0	12	<1	4.51	<1	4.40	<1	6.53
	14:00	8.0	11	8.0	14	8.0	12	<1	4.50	<1	4.39	<1	6.48
	14:30	8.0	12	8.0	14	8.0	12	<1	4.50	<1	4.39	<1	6.26
	15:00	8.0	12	8.0	13	8.0	12	<1	4.50	<1	4.39	<1	6.16
	15:30	8.0	11	8.0	13	8.0	12	<1	4.50	<1	4.39	<1	6.02
	16:00	8.0	11	8.0	12	8.0	12	<1	4.50	<1	4.40	<1	5.95
	16:30	8.0	12	8.0	13	8.0	12	<1	4.50	<1	4.40	<1	5.80
	17:00	8.0	12	8.0	12	8.0	12	<1	4.51	<1	4.39	<1	5.68
	17:30	8.0	12	8.0	12	8.0	12	<1	4.51	<1	4.39	<1	5.54
	18:00	8.0	12	8.0	12	8.0	12	<1	4.50	<1	4.41	<1	5.66
	19:00	8.0	11	8.0	12	8.0	11	<1	4.51	<1	4.44	<1	5.79
	20:00	8.0	11	8.0	11	8.0	11	<1	4.58	<1	4.45	<1	5.99
	21:00	8.0	11	8.0	13	8.0	11	<1	4.60	<1	4.47	<1	6.30
	22:00	8.0	11	8.0	12	8.0	11	<1	4.63	<1	4.49	<1	6.57
	23:00	8.0	11	8.0	13	8.0	11	<1	4.64	<1	4.52	<1	6.79
4/14/15	0:00	8.0	11	8.0	13	8.0	11	<1	4.62	<1	4.47	<1	6.93
	8:00	8.0	11	8.0	11	8.0	11	<1	4.60	<1	4.49	<1	5.65
	9:00	8.0	12	8.0	12	8.0	13	<1	4.59	<1	4.50	<1	5.79
	10:00	8.0	14	8.0	14	8.0	14	<1	4.61	<1	4.49	<1	6.15
	12:00	5.0	13	5.0	14	5.0	14	<1	4.63	<1	4.51	<1	6.80
	14:00	8.0	13	8.0	14	8.0	14	<1	4.61	<1	4.47	<1	6.92
	16:00	8.0	13	8.0	14	8.0	14	<1	4.59	<1	4.45	<1	6.60
	18:00	8.0	13	8.0	14	8.0	14	<1	4.61	<1	4.46	<1	5.95
	20:00	8.0	13	8.0	14	8.0	13	<1	4.63	<1	4.49	<1	5.87
	22:00	8.0	13	8.0	14	8.0	13	<1	4.69	<1	4.52	<1	6.36

Notes:

TABLE 2 Cont'd.
EVENT MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-108A

Date	Time (hh:mm)	Extraction Wells						Event Monitoring					
		MW-19		MW-20		MW-21		MW-15		MW-17		MW-22	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water
4/15/15	0:00	8.0	13	8.0	14	8.0	13	<1	4.67	<1	4.53	<1	6.92
	8:00	8.0	12	8.0	13	8.0	13	<1	4.72	<1	4.56	<1	5.74
	10:00	8.0	12	8.0	13	8.0	13	<1	4.72	<1	4.55	<1	6.05
	12:00	8.0	13	8.0	14	8.0	14	<1	4.72	<1	4.54	<1	6.33
	14:00	8.0	13	8.0	13	8.0	13	<1	4.69	<1	4.55	<1	7.20
	16:00	8.0	13	8.0	13	8.0	13	<1	4.70	<1	4.55	<1	6.96
	18:00	8.0	13	8.0	13	8.0	13	<1	4.73	<1	4.58	<1	6.24
	20:00	8.0	13	8.0	13	8.0	13	<1	4.74	<1	4.60	<1	5.61
	22:00	8.0	13	8.0	13	8.0	13	<1	4.78	<1	4.56	<1	5.29
4/16/15	0:00	8.0	13	8.0	13	8.0	13	<1	4.79	<1	4.63	<1	6.41
	8:00	8.0	13	8.0	13	8.0	13	<1	4.78	<1	4.56	<1	5.29
	10:00	8.0	13	8.0	13	8.0	13	<1	4.78	<1	4.61	<1	5.44
	12:00	8.0	13	8.0	13	8.0	13	<1	4.77	<1	4.63	<1	6.04
	14:00	8.0	13	8.0	13	8.0	13	<1	4.74	<1	4.56	<1	6.73
	16:00	8.0	13	8.0	13	8.0	13	<1	4.73	<1	4.54	<1	6.17
	18:00	8.0	13	8.0	13	8.0	13	<1	4.75	<1	4.52	<1	5.17
	20:00	8.0	13	8.0	13	8.0	13	<1	4.77	<1	4.53	<1	6.09
	22:00	8.0	13	8.0	13	8.0	13	<1	4.77	<1	4.53	<1	6.09
4/17/15	0:00	8.0	13	8.0	13	8.0	13	<1	4.73	<1	4.52	<1	5.67
	8:00	8.0	13	8.0	13	8.0	13	<1	4.72	<1	4.54	<1	5.43
	10:00	8.0	13	8.0	13	8.0	13	<1	4.76	<1	4.56	<1	5.13

Notes:



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1488
DATE January 31, 2008
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 753-1

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Beach, SC UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name | 8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			6009	GAL
b.				
c.				
d.				

GENERATOR

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Lee Stagner | Signature | Date: Month 4 Day 15 Year 15

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: HAL Knopf | Signature | Date: Month 4 Day 15 Year 15

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea | Date: Month 4 Day 17 Year 15

5212 Asbestos

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 753-2

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Beach, SC UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name | 8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			6065	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Michael Rivers | Signature: Michael Rivers | Date: Month 4 Day 17 Year 15

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: HAL KNUPF | Signature: Hal K | Date: Month 4 Day 17 Year 15

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea 521 Lift Station | Date: Month 4 Day 20 Year 15

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 753-3

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Beach, SC UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number | A. State Transporter's ID | B. Transporter 1 Phone

7. Transporter 2 Company Name | 8. US EPA ID Number | C. State Transporter's ID | D. Transporter 2 Phone

9. Designated Facility Name and Site Address
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

10. US EPA ID Number | E. State Facility's ID | F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			864	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Michael Rivers | Signature: Michael Rivers | Date: Month 4 Day 17 Year 15

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Date: Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea 521 Liftstation | Date: Month 4 Day 20 Year 15

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

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April 20, 2015

UST
APR 2 3 2015
PROGRAM

UST
152 tech
DOCKETING

John Bryant, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Underground Storage Tank Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, SC 29201

Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
Colleton County
UST Permit #18662; CA# 49674
Emerald Job 14-108B

Mr. Bryant,

Please find the attached Aggressive Fluid Vapor Recovery (AFVR) Report for the Bay Creek Villas site. Prior to conducting this AFVR event information gathered during the site reconnaissance was presented to the SCDHEC project manager for review.

AGGRESSIVE FLUID VAPOR RECOVERY EVENTS

On April 13 through 17, 2015, Emerald, Inc. personnel performed a 96-hour AFVR event utilizing MW-3R, MW-16 and MW-18 as extraction locations. After consultation with the SCDHEC project manager, this 48-hour event was allowed to be conducted as a 96-hour event. This 96-hour AFVR event was conducted to aid reducing dissolved levels of chemicals of concern previously detected at the subject site. Monitoring well MW-18 was utilized as an

extraction well on April 14 from hours 17:00 through 20:00, and on April 15 from hours 14:00 through 18:00. MW -18 was used for extraction in an attempt to increase off removal of hydrocarbons. Free phase petroleum product was not detected prior to initiation or at the conclusion of this event. Monitoring well locations are presented on the attached site map provided by SCDHEC.

Table 1 presents the off-gas concentrations (using a Photoionization Detector), post treatment off-gas concentrations, off-gas velocity, and knockout tank vacuum. Table 2 presents the stinger depths, wellhead vacuum measurements, water levels measurements and magnehelic readings obtained during the event. Emerald, Inc. field personnel normally record data at thirty minute intervals for the first eight hours of the event, then at one hour intervals from hours nine through twenty four and at two hour intervals from twenty four until the conclusion of the event. During the hours of midnight to 8 AM event monitoring was suspended. Off-gas treatment was utilized during business hours to limit exposure of the off-gas to the general public using a catalytic oxidizer.

According to the calculations as presented on Table 1, a total of 15.36 pounds of hydrocarbons (as vapor) and 2.46 equivalent gallons of hydrocarbons were removed during this event. Free phase product was not detected in the knockout tank. A total of 6,485 gallons of petroleum contaminated groundwater was transported to the City of Manning Wastewater Treatment Facility in Manning, SC for proper disposal. A copy of the disposal manifests for this event are included as an attachment.

If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,
Emerald, Inc.

William C. McClary/RB

William C. McClary, P.G.
Project Manager

Ronny L. Lowder
President

Attachments

TABLE 1
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-108B

Extraction Wells	Date	Time (hh:mm)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM)	Post-Treatment Concentration (PPM)	Offgas Velocity (ft/min)	Flow Rate (SCFM)	CG:M (mg/dsm$^{3)}$	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-3R	4/13/15	10:00	Start	16	287	0.3	N/A	110	1,526	9.53E-05	0.63	-
MW-16		10:30	0.5	16	315	0.3	N/A	110	1,675	1.05E-04	0.69	0.33
MW-18[1]		11:00	0.5	16	262	0.2	N/A	110	1,393	8.70E-05	0.57	0.32
		11:30	0.5	16	148	0.2	N/A	110	787	4.91E-05	0.32	0.22
		12:00 ↑	0.5	16	92	0.1	N/A	110	489	3.05E-05	0.20	0.13
		12:30 ↓	0.5	16	122	0.2	N/A	110	649	4.05E-05	0.27	0.12
		13:00	0.5	16	64	0.1	N/A	110	340	2.12E-05	0.14	0.10
		13:30	0.5	16	114	0.2	N/A	110	606	3.78E-05	0.25	0.10
		14:00	0.5	16	147	0.2	N/A	110	782	4.88E-05	0.32	0.14
		14:30	0.5	16	170	0.2	N/A	110	904	5.64E-05	0.37	0.17
		15:00	0.5	16	131	0.2	N/A	110	697	4.35E-05	0.29	0.16
		15:30	0.5	16	152	0.2	N/A	110	808	5.05E-05	0.33	0.16
		16:00	0.5	20	137	0.3	N/A	90	729	4.55E-05	0.25	0.14
		16:30	0.5	20	60	0.3	N/A	90	319	1.99E-05	0.11	0.09
		17:00	0.5	20	194	0.2	N/A	80	1,032	6.44E-05	0.31	0.10
		17:30	0.5	20	208	0.2	N/A	80	1,106	6.91E-05	0.33	0.16
		18:00	0.5	20	286	0.3	N/A	80	1,521	9.49E-05	0.46	0.20
		19:00	1.0	20	338	0.3	N/A	80	1,797	1.12E-04	0.54	0.50
		20:00	1.0	20	99	0.2	N/A	80	526	3.29E-05	0.16	0.35
		21:00	1.0	20	101	0.2	N/A	90	537	3.35E-05	0.18	0.17
		22:00	1.0	20	87	0.3	N/A	90	463	2.89E-05	0.16	0.17
		23:00	1.0	20	93	0.3	N/A	90	495	3.09E-05	0.17	0.16
	4/14/15	0:00	1.0	20	107	0.4	N/A	90	569	3.55E-05	0.19	0.18
		8:00	8.0	20	136	0.5	N/A	80	723	4.51E-05	0.22	1.63
		9:00	1.0	20	189	0.3	N/A	90	1,005	6.27E-05	0.34	0.28
		10:00	1.0	20	155	0.5	N/A	90	824	5.15E-05	0.28	0.31
		12:00 ↑	2.0	20	136	0.3	N/A	90	723	4.51E-05	0.24	0.52
		14:00	2.0	20	237	0.3	N/A	90	1,260	7.87E-05	0.42	0.67
		16:00	2.0	20	156	0.3	N/A	90	830	5.18E-05	0.28	0.70
		18:00	2.0	20	107	0.2	N/A	90	569	3.55E-05	0.19	0.47
		20:00	2.0	20	112	0.2	N/A	80	596	3.72E-05	0.18	0.37
		22:00	2.0	20	89	0.2	N/A	80	473	2.95E-05	0.14	0.32

TABLE 1 Cont'd.
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-108B

Extraction Wells	Date	Time (hh:mm)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM)	Post-Treatment Concentration (PPM)	Offgas Velocity (ft/min)	Flow Rate (SCFM)	CG:M (mg/dsm$^{3)}$	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-3R	4/15/15	0:00	2.0	20	93	0.2	N/A	80	495	3.09E-05	0.15	0.29
MW-16		8:00	8.0	20	101	0.3	N/A	90	537	3.35E-05	0.18	1.32
MW-18[1]		10:00	2.0	20	69	0.2	N/A	90	367	2.29E-05	0.12	0.30
		12:00	2.0	20	60	0.3	N/A	90	319	1.99E-05	0.11	0.23
		14:00	2.0	20	59	0.2	N/A	90	314	1.96E-05	0.11	0.21
		16:00	2.0	20	46	0.0	N/A	90	245	1.53E-05	0.08	0.19
		18:00	2.0	20	50	0.3	N/A	90	266	1.66E-05	0.09	0.17
		20:00	2.0	20	53	0.2	N/A	90	282	1.76E-05	0.10	0.18
		22:00	2.0	20	57	0.2	N/A	80	303	1.89E-05	0.09	0.19
	4/16/15	0:00	2.0	20	61	0.3	N/A	80	324	2.03E-05	0.10	0.19
		8:00	8.0	20	43	0.1	N/A	90	229	1.43E-05	0.08	0.70
		10:00	2.0	20	48	0.2	N/A	90	255	1.59E-05	0.09	0.16
		12:00	2.0	20	46	0.3	N/A	80	245	1.53E-05	0.07	0.16
		14:00	2.0	20	57	0.5	N/A	80	303	1.89E-05	0.09	0.16
		16:00	2.0	20	53	0.3	N/A	80	282	1.76E-05	0.08	0.18
		18:00	2.0	20	48	0.2	N/A	80	255	1.59E-05	0.08	0.16
		20:00	2.0	20	51	0.2	N/A	80	271	1.69E-05	0.08	0.16
		22:00	2.0	20	43	0.3	N/A	80	229	1.43E-05	0.07	0.15
	4/17/15	0:00	2.0	20	47	0.2	N/A	80	250	1.56E-05	0.07	0.14
		8:00	8.0	20	37	0.2	N/A	80	197	1.23E-05	0.06	0.54
		10:00	2.0	20	41	0.1	N/A	80	218	1.36E-05	0.07	0.12

Well Gauging Data			Before AFVR Event			After AFVR Event		
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
MW-3R	2	1.8-11.8	–	5.56	–	–	5.11	–
MW-16	2	3-10	–	6.41	–	–	5.70	–
MW-18[1]	2	3-10	–	6.30	–	–	6.06	–

Product Thickness	
Product observed in Sight Tube?	No
Product detected in Tanker?	No

Weather Conditions		Emerald, Inc. Personnel
4/13/15	Rain, 68-80°F	C. Clark
4/14/15	Sunny, 69-82°F	L. Stogner
4/15/15	Rain, 64-82°F	M. Rivers
4/16/15	Sunny, 55-64°F	
4/17/15	Sunny, 59-73°F	

Recovery / Disposal Information		
Hydrocarbons Removed (vapor):	15.36	Pounds
Hydrocarbons Removed (liquid):	0.00	Gallons
Total Hydrocarbons Removed:	2.46	Equivalent Gallons
Molecular Weight Utilized:	128	mg/mg-mole
Disposal Facility:	City of Manning Wastewater Treatment Facility	
Total Liquids Removed:	6,485	Gallons

Equations

Cg;m = PPMg*(Mg/K3)

Removal Rate = Cg * Flow Rate * 60Min/Hr

Interval Removal = $(T_1 + T_2)/2$

PPM = Part per Million (by PID)

Cg:m = mg/dsm3(mass concentration of gasoline emission)

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm^3/1E6 mg-mole, mass to volume conversion

Cg = lb/dcsf, mass concentration of gasoline by emission

Removal Rate = lb/hr,pollutant mass removal rate of emission

Notes

↑ = Stinger raised ↓ = Stinger lowered

[1] MW-18 was utilized as an extraction well only on 4/14/15 from 17:00 through 20:00, and on 4/15/15 from 14:00 through 18:00.

TABLE 2
EVENT MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-108B

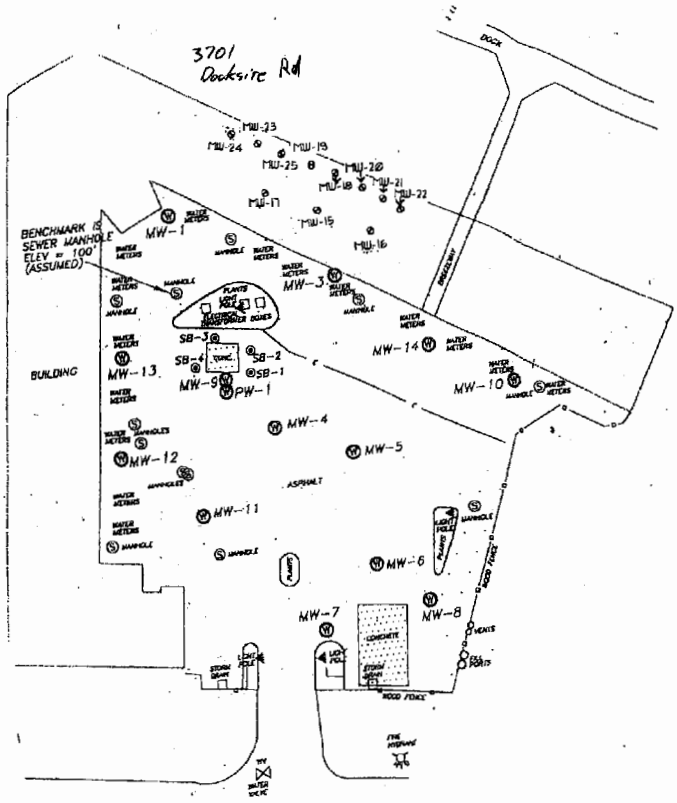
Date	Time (hh:mm)	Extraction Wells						Event Monitoring					
		MW-3R		MW-16		MW-18[1]		MW-15		MW-17		MW-22	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water
4/13/15	10:00	8.0	15	8.0	15	–	–	Pre	4.53	Pre	4.44	Pre	6.06
	10:30	8.0	15	8.0	15	–	–	<1	4.55	<1	4.46	<1	6.08
	11:00	8.0	15	8.0	15	–	–	<1	4.53	<1	4.45	<1	6.19
	11:30	8.0	15	8.0	15	–	–	<1	4.51	<1	4.45	<1	6.38
	12:00	6.0	15	6.0	15	–	–	<1	4.51	<1	4.45	<1	6.43
	12:30	6.0	15	6.0	15	–	–	<1	4.51	<1	4.44	<1	6.47
	13:00	8.0	15	8.0	15	–	–	<1	4.52	<1	4.42	<1	6.50
	13:30	8.0	15	8.0	15	–	–	<1	4.51	<1	4.40	<1	6.53
	14:00	8.0	15	8.0	15	–	–	<1	4.50	<1	4.39	<1	6.48
	14:30	8.0	15	8.0	15	–	–	<1	4.50	<1	4.39	<1	6.26
	15:00	8.0	15	8.0	15	–	–	<1	4.50	<1	4.39	<1	6.16
	15:30	8.0	15	8.0	15	–	–	<1	4.50	<1	4.39	<1	6.02
	16:00	8.0	15	8.0	15	–	–	<1	4.50	<1	4.40	<1	5.95
	16:30	8.0	15	8.0	15	–	–	<1	4.50	<1	4.40	<1	5.80
	17:00	8.0	19	8.0	19	8.0	19	<1	4.51	<1	4.39	<1	5.68
	17:30	8.0	19	8.0	19	8.0	19	<1	4.51	<1	4.39	<1	5.54
	18:00	8.0	19	8.0	19	8.0	19	<1	4.50	<1	4.41	<1	5.66
	19:00	8.0	19	8.0	19	8.0	19	<1	4.51	<1	4.44	<1	5.79
	20:00	8.0	19	8.0	19	8.0	19	<1	4.58	<1	4.45	<1	5.99
	21:00	8.0	19	8.0	19	–	–	<1	4.60	<1	4.47	<1	6.30
	22:00	8.0	19	8.0	19	–	–	<1	4.63	<1	4.49	<1	6.57
	23:00	8.0	19	8.0	19	–	–	<1	4.64	<1	4.52	<1	6.79
4/14/15	0:00	8.0	19	8.0	19	–	–	<1	4.62	<1	4.47	<1	6.93
	8:00	8.0	19	8.0	19	–	–	<1	4.60	<1	4.49	<1	5.65
	9:00	8.0	19	8.0	19	–	–	<1	4.59	<1	4.50	<1	5.79
	10:00	8.0	19	8.0	19	–	–	<1	4.61	<1	4.49	<1	6.15
	12:00	5.0	18	5.0	17	–	–	<1	4.63	<1	4.51	<1	6.80
	14:00	8.0	18	8.0	18	8.0	19	<1	4.61	<1	4.47	<1	6.92
	16:00	8.0	18	8.0	18	8.0	19	<1	4.59	<1	4.45	<1	6.60
	18:00	8.0	18	8.0	18	8.0	19	<1	4.61	<1	4.46	<1	5.95
	20:00	8.0	18	8.0	18	–	–	<1	4.63	<1	4.49	<1	5.87
	22:00	8.0	18	8.0	18	–	–	<1	4.69	<1	4.52	<1	6.36

Notes: [1] MW-18 was utilized as an extraction well only on 4/14/15 from 17:00 through 20:00, and on 4/15/15 from 14:00 through 18:00.

TABLE 2 Cont'd.
EVENT MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB #14-108B

Date	Time (hh:mm)	Extraction Wells						Event Monitoring					
		MW-3R		MW-16		MW-18[1]		MW-15		MW-17		MW-22	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water	Magnehelic Reading (inches of water)	Depth to Water
4/15/15	0:00	8.0	18	8.0	18	–	–	<1	4.67	<1	4.53	<1	6.92
	8:00	8.0	18	8.0	18	–	–	<1	4.72	<1	4.56	<1	5.74
	10:00	8.0	18	8.0	18	–	–	<1	4.72	<1	4.55	<1	6.05
	12:00	8.0	18	8.0	18	–	–	<1	4.72	<1	4.54	<1	6.33
	14:00	8.0	18	8.0	18	–	–	<1	4.69	<1	4.55	<1	7.20
	16:00	8.0	18	8.0	18	–	–	<1	4.70	<1	4.55	<1	6.96
	18:00	8.0	18	8.0	18	–	–	<1	4.73	<1	4.58	<1	6.24
	20:00	8.0	18	8.0	18	–	–	<1	4.74	<1	4.60	<1	5.61
	22:00	8.0	18	8.0	18	–	–	<1	4.78	<1	4.56	<1	5.29
4/16/15	0:00	8.0	18	8.0	18	–	–	<1	4.79	<1	4.63	<1	6.41
	8:00	8.0	18	8.0	18	–	–	<1	4.78	<1	4.56	<1	5.29
	10:00	8.0	18	8.0	18	–	–	<1	4.78	<1	4.61	<1	5.44
	12:00	8.0	18	8.0	18	–	–	<1	4.77	<1	4.63	<1	6.04
	14:00	8.0	18	8.0	18	–	–	<1	4.74	<1	4.56	<1	6.73
	16:00	8.0	18	8.0	18	–	–	<1	4.73	<1	4.54	<1	6.17
	18:00	8.0	18	8.0	18	–	–	<1	4.75	<1	4.52	<1	5.17
	20:00	8.0	18	8.0	18	–	–	<1	4.77	<1	4.53	<1	6.09
	22:00	8.0	18	8.0	18	–	–	<1	4.77	<1	4.53	<1	6.09
4/17/15	0:00	8.0	18	8.0	18	–	–	<1	4.73	<1	4.52	<1	5.67
	8:00	8.0	18	8.0	18	–	–	<1	4.72	<1	4.54	<1	5.43
	10:00	8.0	18	8.0	18	–	–	<1	4.76	<1	4.56	<1	5.13

Notes: [1] MW-1 was utilized as an extraction well only during non-business hours (10pm-7:30am) to allow for customer access to the property.



Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 07-1429
DATE January 31, 2008
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 753-1

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Beach, SC UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name | 6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name | 8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			6009	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

GENERATOR

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Lee Stagner | Signature | Date: Month 4 Day 15 Year 15

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: HAL Kaapf | Signature | Date: Month 4 Day 15 Year 15

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea | Date: Month 4 Day 17 Year 15

521 L. Abstation

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 753-2

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Beach, SC UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			6065	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

GENERATOR

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Michael Rivers
Signature: Michael Rivers
Date: Month 4 Day 17 Year 15

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: HAL KNUPF
Signature: Hal Knupf
Date: Month 4 Day 17 Year 15

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name:
Signature:
Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: James Bethea
Signature: James Bethea
Date: Month 4 Day 20 Year 15

521 Lift Station

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 753-3

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
3701 Docksite Road
Edisto Beach, SC UST #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name — 6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone

7. Transporter 2 Company Name — 8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address — 10. US EPA ID Number
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

E. State Facility's ID

F. Facility's Phone

GENERATOR

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER-PROFILE #			864	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Michael Rivers — Signature: Michael Rivers — Date: Month 4 Day 17 Year 15

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Date: Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name — Signature — Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in item 19.

Printed/Typed Name: James Bethea — Signature: James Bethea 521 Liftstation — Date: Month 4 Day 20 Year 15

D H E C
PROMOTE PROTECT PROSPER

AFVR Audit Form
Underground Storage Tank Management Division

RESULTS:
- [x] Satisfactory
- [ ] Issues

Date: 4/15/15 Project Manager: John Bryant DHEC Field Staff: John Bryant

Contractor: Emerald Contractor Field Staff: Lee Stogner

Site Number: 18662 Site Name: Bay Creek Villas

Time Arrived at Site: 11:52 Time Leaving Site: _____ Weather Conditions: 80°F / sunny

1. Operator on site? ..... ☑ YES ○ NO
2. Proper safety devices employed (e.g. traffic cones, barriers, etc.)? ... ☑ YES ○ NO
3. Correct extraction well(s) being used? ..... ☑ YES ○ NO
4. Vacuum gauge(s) installed on extraction well(s)? ..... ☑ YES ○ NO
5. Vacuum gauge(s) installed on adjacent monitoring well(s)? ..... ☑ YES ○ NO
6. AFVR unit connected to grounded metal object? ..... ☑ YES ○ NO
7. Stinger(s) set at target depth(s)? ..... ☑ YES ○ NO
8. Other extraction and monitoring well(s) sealed? ..... ☑ YES ○ NO
9. Data recorded at appropriate time intervals? ..... ☑ YES ○ NO Last two recorded times? ☑ YES ○ NO
10. Off-gas treatment (if applicable)? ..... ☑ YES ○ NO
11. Complete Data Records:
    - [ ] Stinger Depth
    - [ ] Airflow Rate/Velocity
    - [ ] Vacuum Readings for Extraction Well(s)
    - [ ] Vacuum Readings for Adjacent Monitoring Well(s)
    - [ ] Water Level Measurement for Adjacent Monitoring Well(s)
    - [ ] Pre-treatment Vapor Concentration Measurements
    - [ ] Post-treatment Vapor Concentration Measurements

UST 153 DOCKETING

Signature: _____ Date: 4/15/15

Notes: * Everything looked good. Stingers were adjusted some to verify PID readings were stable, PID's pretty low. ≈ 10,000 gals produced so far.

Midlands Environmental Consultants, Inc.

April 13, 2016

UST PROGRAM APR 14 2016

UST DOCKETING 154 ken

Mr. John Bryant, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Site-Specific Work Plan
Bay Creek Villas
Edisto Island, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 16-5522
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Bryant,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Site-Specific Work Plan for the referenced site.

On April 12, 2016, MECI personnel performed a site visit to the subject site to evaluate site conditions, locate monitoring wells and identify potential problems for future sampling activities.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

For Kyle V. Pudney
Project Biologist

Jeff L. Coleman
Senior Scientist

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Midlands Environmental Consultants, Inc.

D H E C
PROMOTE PROTECT PROSPER

Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division

To: Mr. John Bryant (SCDHEC Project Manager)
From: Mr. Jeff Coleman (Contractor Project Manager)
Contractor: Midlands Environmental Consultants, Inc. UST Contractor Certification Number: 009

Facility Name: Bay Creek Villas UST Permit #: 18662
Facility Address: 3701 Docksite Road, Edisto Beach, SC 29438
Responsible Party: Bay Creek Villas Phone: 843-869-4270
RP Address: 3701 Docksite Road, Edisto Beach, SC 29438
Property Owner (if different): SAA
Property Owner Address: SAA
Current Use of Property: Villas

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ☐ Monitoring Well Installation
- ☑ Groundwater Sampling
- ☐ Other _____
- ☐ GAC

Analyses (Please check all that apply)

Groundwater/Surface Water:

- ☑ BTEXNMDCA (8260B)
- ☑ Oxygenates (8260B)
- ☑ EDB (8011)
- ☐ PAH (8270D)
- ☐ Lead
- ☐ 8 RCRA Metals
- ☐ TPH
- ☐ pH
- ☐ BOD
- ☐ Nitrate
- ☐ Sulfate
- ☐ Other _____
- ☐ Methane
- ☐ Ethanol
- ☐ Dissolved Iron

Soil:

- ☐ BTEXN
- ☐ PAH
- ☐ 8 RCRA Metals
- ☐ Oil & Grease (9071)
- ☐ TPH-DRO (3550B/8015B)
- ☐ TPH-GRO (5030B/8015B)
- ☐ Grain Size
- ☐ TOC

Air:

- ☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

____ Soil	____ Water Supply Wells	____ Air	1 Field Blank
16 Monitoring Wells	____ Surface Water	1 Duplicate	1 Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.
# of shallow points proposed: _____ Estimated Footage: _____ feet per point
# of deep points proposed: _____ Estimated Footage: _____ feet per point
Field Screening Methodology: _____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.
# of shallow wells: _____ Estimated Footage: _____ feet per point
# of deep wells: _____ Estimated Footage. _____ feet per point
# of recovery wells: _____ Estimated Footage: _____ feet per point
Monitoring Well development method (consistent with SOP): _____
Comments, if warranted:

_____
_____
_____

UST Permit #: 18662 Facility Name: Bay Creek Villas

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 4/15/16 Field Work Completion: 5/15/16
Report Submittal: 6/15/16 # of Copies Provided to Property Owners: _____

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: 50.0 Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.
-All monitoring wells installed at the site were located.
-It should be noted that monitoring wells MW-1, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, and MW-14 have been abandoned.
-All monitoring wells will be purged prior to sample collection.
-All monitoring wells will be analyzed for BTEXNM, DCA, Oxy's and EDB.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
YES Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

N/A Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

N/A Other variations from ACQAP. Please describe below.

Attachments
1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:
   - North Arrow
   - Location of property lines
   - Location of buildings
   - Previous soil sampling locations
   - Previous monitoring well locations
   - Proposed soil boring locations
   - Proposed monitoring well locations
   - Legend with facility name and address, UST permit number, and bar scale
   - Streets or highways (indicate names and numbers)
   - Location of all present and former ASTs and USTs
   - Location of all potential receptors
3. Assessment Component Cost Agreement, SCDHEC Form D-3664

D H E C

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South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
CONTRACT PO NUMBER 4600328425

Facility Name: Bay Creek Villas

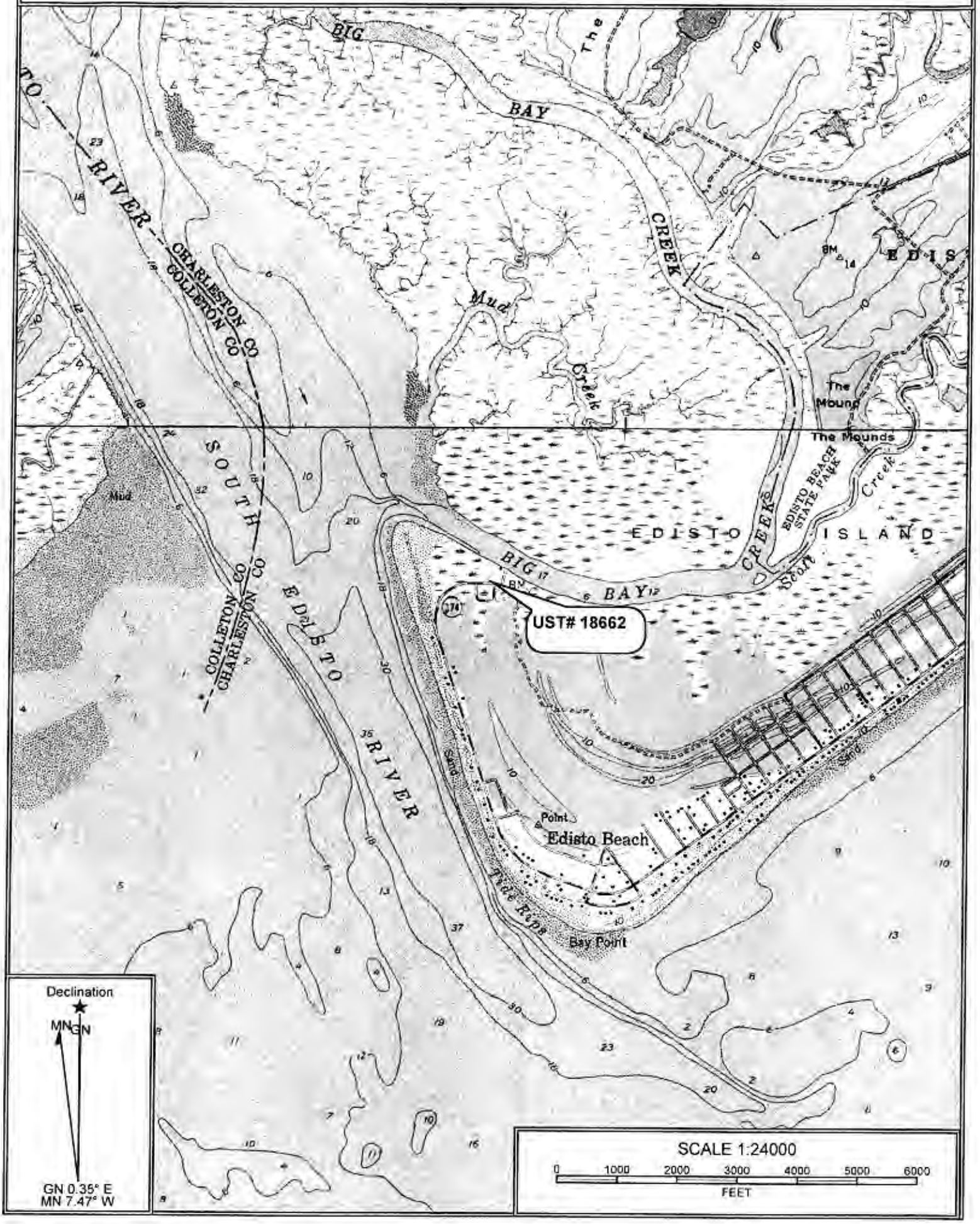
UST Permit #: 18662 **Cost Agreement #:** Proposal

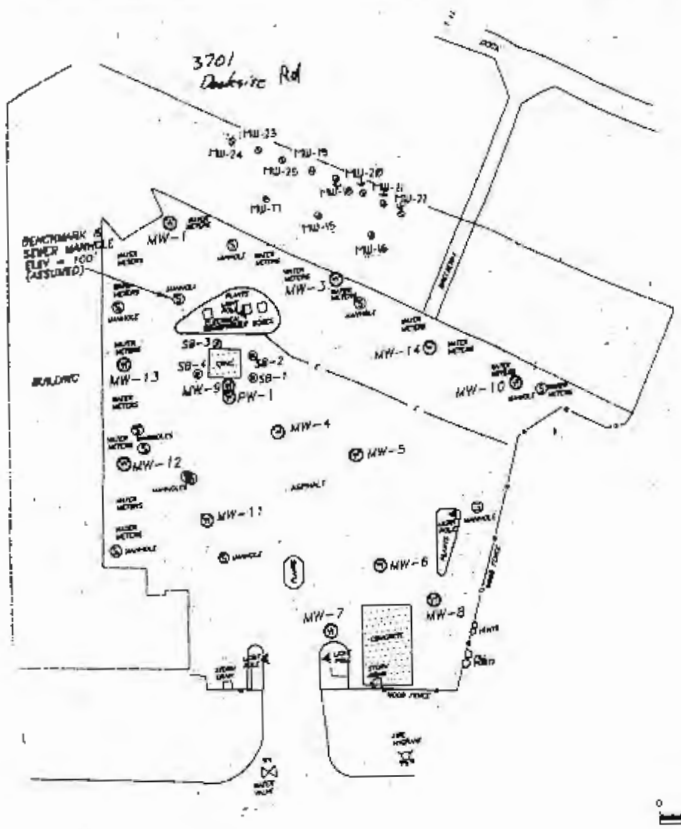
ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
1. **Plan***					
A1. Site Specific Work Plan	1	each	$0.00		$0.00
C1. QAPP Appendix B		each	$0.00		$0.00
2. A1. Receptor Survey		each	$0.00		$0.00
4. **Mob/Demob**					
B1. Personnel	1	each	$350.00		$350.00
10. **Groundwater Sample Collection / Gauge Depth to Water or Product (Each)**					
A1. Groundwater Purge	16	per well	$16.00		$256.00
B1. Air or Vapors		samples	$0.00		$0.00
C1. Water Supply		samples	$5.00		$0.00
D1. Groundwater No Purge		per well	$8.00		$0.00
E1. Gauge Well only		per well	$0.00		$0.00
F1. Sample Below Product		per well	$0.00		$0.00
G1. Pasive Diffusion Bag		each	$20.00		$0.00
H1. Field Blank	1	each	$10.00		$10.00
17. **Disposal* (gallons or tons)**					
AA. Disposal/Water	50	gallons	$1.00		$50.00
BB. Free Product		gallons	$0.00		$0.00
Note: Rate includes costs or rental of suitable container(s)					
23. D. Site Reconnaissance		each	$0.00		$0.00
18. **Miscellaneous (attach receipts)**					
GW Contour Map		each	$25.00		$0.00
Isopleth Map		each	$25.00		$0.00
High-Strength Well Pad Replacement		each	$75.00		$0.00
Trip Blank	1	each	$10.00		$10.00
Data Table		each	$25.00		$0.00
25. **Well Repair**					
B1. Repair 2x2 MW Pad		each	$75.00		$0.00
C1. Repair 4x4 MW Pad		each	$75.00		$0.00
D1. Replace Well Vault		each	$75.00		$0.00
E. Replace well cover		each	$25.00		$0.00
F1. Replace well cover bolts		each	$2.60		$0.00
G. Replace locking well cap & lock		each	$15.00		$0.00
K1. Replace Missing Well ID Plate		each	$10.00		$0.00
TOTAL					$676.00

Map Name: EDISTO BEACH
Print Date: 04/14/16

Scale: 1 inch = 2,000 ft.
Map Center: 032° 29' 34.80" N, 080° 20'

Horizontal Datum: NAD27





Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 80 160

1 IN = 40 FT

ALL LOCATIONS ARE APPROXIMATE

Site Features

Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662

Midlands Environmental Consultants, Inc.

JOB NO. 97-149
DATE January 31, 1998
FIGURE 2

D H E C

PROMOTE PROTECT PROSPER

Catherine E. Heigel, Director

Promoting and protecting the health of the public and the environment

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

APR 2 2 2016

UST 155 tech DOCKETING

Re: **Notice to Proceed-Site Specific Work Plan Approval**
Groundwater Sampling Contract
Solicitation # IFB-5400007403, PO#4600484321
Bay Creek Villas, 3701 Docksite Road, Edisto Beach, SC 29438
UST Permit #18662; CA #52259 (Pace CA #52260)
Colleton County

Dear Mr. Shane:

In accordance with bid solicitation #IFB-5400007403 and the UST Management Division Quality Assurance Program Plan (QAPP), the Site-Specific Work Plan has been reviewed and approved. In accordance with the approved ACQAP, a status report of the project should be provided on a weekly basis via e-mail. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division.

MECI will perform services at the site on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

Please note, sampling should be conducted within 15 calendar days from the date of this letter. The final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed. The final report should contain the requirements of Section III.2.15 of the bid solicitation. The final report should be submitted to John Bryant, the contract manager.

If you have any site-specific or contract questions, please contact me at (803) 898-0606 or via e-mail at bryantjc@dhec.sc.gov.

Sincerely,

John Bryant, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Approved Cost Agreement (both CAs)

cc: John Bryant, Corrective Action Section, UST Management Division (w/o encs.)
Trey Carter, Pace Analytical Services, 9800 Kincey Ave, Ste 100, Huntersville, NC, 28078 (w/ approved CA)
Technical Files (w/ encs.)

Approved Cost Agreement 52260

Facility. 18662 BAY CREEK VILLAS
BRYANTJC
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	19.0000	$19 000	361 00
		F1	EDB BY 8011	18 0000	$18 000	324.00
				Total Amount		685 00

Approved Cost Agreement 52259

Facility: 18662 BAY CREEK VILLAS
BRYANTJC
PO Number:

Task / Description Categories	Item Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB				
	B1 PERSONNEL	1 0000	$350 000	350.00
10 SAMPLE COLLECTION				
	A1 GROUNDWATER (PURGE)	16 0000	$16 000	256.00
	H1 FIELD BLANK	1.0000	$10 000	10.00
17 DISPOSAL				
	AA WASTEWATER	150.0000	$1.000	150.00
18 MISCELLANEOUS				
	SITE RECONNAISSANE	1 0000	$0 000	0.00
	SITE SPECIFIC WORK PLAN	1.0000	$0.000	0.00
	TRIP BLANK	1 0000	$10 000	10 00
		Total Amount		776.00

Midlands
Environmental
Consultants, Inc.

April 29, 2016

Mr. John C. Bryant, Hydrogeologist
Corrective Action Section
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
John
MAY 09 2016
PROGRAM

Subject: Report of Groundwater Sampling
Bay Creek Villas
3701 Docksite Road
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662, CA # 52259
MECI Project Number 16-5522
Certified Site Rehabilitation Contractor UCC-0009

UST
156
DOCKETING

Dear Mr. Bryant,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Groundwater Sampling for the referenced site. This report describes site activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control's (SCDHEC) Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP).

PROJECT INFORMATION

The subject site (Bay Creek Villas) is located at 3701 Docksite Road in Edisto Beach, Colleton County, South Carolina. The subject site formerly maintained one 1,000 gallon diesel underground storage tank (UST). According to the South Carolina Department of Health and Environmental Control's (SCDHEC) UST Registry, the one 1,000 gallon diesel UST was abandoned by being filled with concrete in December of 2000. A release of petroleum product was reported to and confirmed by the South Carolina Department of Health and Environmental Control (SCDHEC) in January of 2008. The subject site is currently rated a Class 2AA.

The above information is based on reports and correspondence obtained from MECI field notes and SCDHEC files.

MONITORING WELL SAMPLING AND CHEMICAL ANALYSIS

On April 28, 2016, MECI personnel collected groundwater samples from sixteen (16) monitoring wells at the subject site. Nine (9) monitoring wells (MW-1, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14) were found to be abandoned. Based on a request by SCDHEC personnel,

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

all monitoring wells were to be purged prior to sample collection. Sixteen (16) monitoring wells were purged prior to sampling.

Prior to sampling, 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. Purging was completed by bailing at least five well volumes of water from the well, or until 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 YSI Pro20 meter for DO (mg/L) and temperature readings (°C), YSI Pro1030 meter for pH and conductivity (uS) readings and a MicroTPI turbidimeter for turbidity readings (NTU). The wells were sampled in accordance with the most recent revision of SCDHEC's Quality Assurance Program Plan for the Underground Storage Tank Management Division and the most recent revision of MECI's Standard Operating Procedures.

Groundwater samples obtained were sent to Pace Analytical Services, Inc. of Huntersville, NC (SCDHEC Laboratory Certification #99006001) for analysis.

The following sampling matrix contains well development and requested analyses for each well:

Monitoring Well	Purge	No Purge	Gauge Only	Abandoned	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-3R	X				X	X	X	X						
MW-4	X				X	X	X	X						
MW-5	X				X	X	X	X						
MW-6				X										
MW-7				X										
MW-8				X										
MW-9	X				X	X	X	X						
MW-10				X										
MW-11				X										
MW-12				X										
MW-13				X										
MW-14				X										
MW-15	X				X	X	X	X						
MW-16	X				X	X	X	X						
MW-17	X				X	X	X	X						
MW-18	X				X	X	X	X						
MW-19			X											
MW-20			X											
MW-21			X											

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane
PAH = polycyclic aromatic hydrocarbons
Trip Blank provided by Pace Analytical, temperature obtained upon receipt at Laboratory

Monitoring Well	Purge	No Purge	Gauge Only	Abandoned	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)	Ferrous Iron (Field Test)
					Analyte Sampled									
MW-22	X				X	X	X	X						
MW-23	X				X	X	X	X						
MW-24	X				X	X	X	X						
MW-25	X				X	X	X	X						
PW-1	X				X	X	X	X						
DUP-1 (MW-21)					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 Pace Analytical, temperature obtained upon receipt at Laboratory

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 24.5 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,

Midlands Environmental Consultants, Inc.

Todd D. Elder
Staff Hydrogeologist

Jeff L. Coleman
Senior Scientist

Attachments:

Contractor Checklist

Item#	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?			X
3	Is name, address, & phone number of current property owner provided?			X
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?			X
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?			X
17	Has the method of well development been detailed?			X
18	Has justification been provided for the locations of the monitoring wells?			X
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?			X
20	Has the groundwater sampling methodology been detailed? See MECI SOP	X		
21	Have the groundwater sampling dates and groundwater measurements been provided? See attached Site Activity Summary Sheet	X		
22	Has the purging methodology been detailed? See MECI SOP	X		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete? See attached Field Data Information Sheets	X		
24	If free-product is present, has the thickness been provided? See attached Site Activity Summary Sheets	X		
25	Does the report include a brief discussion of the assessment done and the results?			X
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item#	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?			X
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			X
34	Has the current and historical laboratory data been provided in tabular format?			X
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 1)	X		
38	Has the site base map been provided with all required elements? (Figure 2)	X		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			X
40	Has the site potentiometric map been provided? (Figure 5)			X
41	Have the geologic cross-sections been provided? (Figure 6)			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements? (Appendix A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? See attached	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	X		

Site Activity Summary

Midlands Environmental Consultants, Inc.

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: J Floyd, C. Phillips

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Intial Dissolved Oxygen (mg/L)	# Gals. Purged	Comments
MW-1	N	4/28/16	ABAN	2.5-15	***	ABAN	***	ABAN	ABAN	Abandoned
MW-3R	Y	4/28/16	13:55	1.8-11.8	***	5.62	***	SHEEN	1 50	Odor; SHEEN=noticable petroleum sheen on samples, field readings not taken; Dry @ 1.5 gallons
MW-4	Y	4/28/16	13:40	2 5-15	***	5.45	***	0.76	2 50	No Odor
MW-5	Y	4/28/16	13:15	2 5-15	***	5.72	***	0 23	2.00	No Odor
MW-6	N	4/28/16	ABAN	2.5-15	***	ABAN	***	ABAN	ABAN	Abandoned
MW-7	N	4/28/16	ABAN	1.5-10	***	ABAN	***	ABAN	ABAN	Abandoned
MW-8	N	4/28/16	ABAN	1.5-10	***	ABAN	***	ABAN	ABAN	Abandoned
MW-9	Y	4/28/16	11:26	1.5-10	***	5.12	***	1.67	1.50	Odor; Dry @ 1 50 gallons
MW-10	N	4/28/16	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-11	N	4/28/16	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-12	N	4/28/16	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-13	N	4/28/16	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-14	N	4/28/16	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-15	Y	4/28/16	11:39	3-10	***	4.39	***	1.99	1.00	Slight Odor; Dry @ 1.0 gallons
MW-16	Y	4/28/16	12 00	3-10	***	5.82	***	SHEEN	1.00	Strong Odor; SHEEN=noticable petroleum sheen on samples, field readings not taken; Dry @ 1.0 gallons
									9.50	**TOTAL GALLONS PURGED**

Site Activity Summary

Midlands Environmental Consultants, Inc.

UST Permit #:	18662
Facility Name:	Bay Creek Villas
County:	Colleton
Field Personnel:	J Floyd, C. Phillips

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Intial Dissolved Oxygen (mg/L)	# Gals. Purged	Comments
MW-17	Y	4/28/16	12:19	3-10	***	4.23	***	2.34	1.00	No Odor; Dry @ 1 0 gallons
MW-18	Y	4/28/16	12:27	3-10	***	5.97	***	SHEEN	1.00	Odor; SHEEN=noticable petroleum sheen on samples, field readings not taken; Dry @ 1.0 gallons
MW-19	Y	4/28/16	12:12	2.5-9 5	***	5 90	***	SHEEN	1.50	Odor; SHEEN=noticable petroleum sheen on samples, field readings not taken; Dry @ 1.5 gallons
MW-20	Y	4/28/16	12:07	3-10	***	4.87	***	SHEEN	1.00	Odor; SHEEN=noticable petroleum sheen on samples, field readings not taken; Dry @ 1.0 gallons
MW-21	Y	4/28/16	11.52	2.5-9.5	***	5 92	***	2.31	1.50	Strong Odor; Duplicated as DUP-1; Dry @ 1.50 gallons
MW-22	Y	4/28/16	11:46	3-10	***	5.66	***	2 53	1.50	Odor; Dry @ 1 50 gallons
MW-23	Y	4/28/16	12 41	2.5-905	***	4 05	***	SHEEN	1.00	Odor; SHEEN=noticable petroleum sheen on samples, field readings not taken; Dry @ 1.0 gallons
MW-24	Y	4/28/16	12:48	2.5-9.5	***	4.37	***	2.69	1.00	Odor; Dry @ 1.0 gallons
MW-25	Y	4/28/16	12:33	2.5-9.5	***	5.72	***	1.98	0.50	Odor; Dry @ 0 5 gallons
PW-1	Y	4/28/16	11 20	TD: 38.50	***	4.93	***	2.3	5.00	Sulfur Odor; Dry @ 5.0 gallons
DUP-1	Y	4/28/16	11:52	***	***	***	***	***	***	Taken From MW-21
Field Blank	Y	4/28/16	13 00	***	***	***	***	***	***	Field Blank
Trip Blank	Y	4/28/16	13:01	***	***	***	***	***	***	Trip Blank
									15.00	**TOTAL GALLONS PURGED**

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date	4/28/2016	Site ID #	18662	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101446	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102876	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-3R	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	1.8-11.8	Total Well Depth (TWD) (ft.):	11.80
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	5.62	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	6.18	1 casing volume (CV = LWC x C) (gals.):	1.01	5 casing volumes (5 x CV) (gals.):	5.04

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	1.01	2.01	3.02	4.03	5.04		
Time (military)	11:30	11:31						11:32
PH (s.u.)	SHEEN	SHEEN						SHEEN
Specific Conductivity (µS/cm)	SHEEN	SHEEN						SHEEN
Water Temperature (°C)	SHEEN	SHEEN						SHEEN
Dissolved Oxygen (mg/L)	SHEEN	SHEEN						SHEEN
Turbidity (NTU)	SHEEN	SHEEN						SHEEN

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	11:32	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	1.50

Notes: Odor; SHEEN=noticable petroleum sheen on samples, field readings not taken

Dry @ 1.50 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/25/2016	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, C. Phillips
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	75

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-4	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	2.5-15	*Total Well Depth (TWD) (ft.):*	15.00
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	5.72	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	9.28	*1 casing volume (CV = LWC x C) (gals.):*	1.51	*5 casing volumes (5 x CV) (gals.):*	7.55

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	1.51	3.03	4.54	6.05	7.56		
Time (military)	11:05	11:06						11:07
PH (s.u.)	8.56	8.67						8.71
Specific Conductivity (µS/cm)	2007	2001						1993
Water Temperature (°C)	24.1	24.3						24.5
Dissolved Oxygen (mg/L)	0.76	0.81						0.93
Turbidity (NTU)	74.91	109.6						132.7

Sampling Data

Sampled By:	J. Floyd, C. Phillips	*Sampling Time:*	11:07	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	2.50

Notes: Odor; Dry @ 2.50 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	Site ID #:	18652	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID	MW-5	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	2.5-15	Total Well Depth (TWD) (ft.):	15.00
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	5.72	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	9.28	1 casing volume (CV = LWC x C) (gals.):	1.51	5 casing volumes (5 x CV) (gals.):	7.56

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	1.51	3.03	4.54	6.05	7.56		
Time (military)	11:00	11:01						11:02
PH (s.u.)	7.22	7.15						7.10
Specific Conductivity (µS/cm)	2153	2062						2062
Water Temperature (°C)	25.3	25.4						25.6
Dissolved Oxygen (mg/L)	0.23	0.26						0.29
Turbidity (NTU)	62.51	162.1						174.3

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	11:02	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	2.00

Notes: Odor; Dry @ 2.0 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/26/2016	Site ID #:	18662	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Collelon	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101446	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102876	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-9	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	1.5-10	Total Well Depth (TWD) (ft.):	10.00
Depth to Free Product (DFP) (ft.):	NO	Depth to Groundwater (DGW) (ft.):	5.12	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	4.88	1 casing volume (CV = LWC x C) (gals.):	0.80	5 casing volumes (5 x CV) (gals.):	3.98

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.80	1.59	2.39	3.18	3.98		
Time (military)	11:24	11:25						11:26
PH (s.u.)	7.52	7.63						7.60
Specific Conductivity (µS/cm)	2112	2100						2097
Water Temperature (°C)	25.4	25.5						25.6
Dissolved Oxygen (mg/L)	1.67	1.60						1.61
Turbidity (NTU)	57.89	63.71						64.91

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	11:26	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	1.50

Notes: Odor; Dry @ 1.50 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	Site ID #:	18662	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0; Y or N	Y	pH 7.0; Y or N	Y	pH 10.0; Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12E102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU; Y or N	Y	1.0 NTU; Y or N	Y	10.0 NTU; Y or N	Y		

Well Information

Well ID:	MW-15	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type. (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	3-10	Total Well Depth (TWD) (ft.):	10.00
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundweter (DGW) (ft.):	4.39	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	5.61	1 casing volume (CV = LWC x C) (gals.):	0.91	5 casing volumes (5 x CV) (gals.):	4.57

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.91	1.83	2.74	3.66	4.57		
Time (military)	11:37	11:38						11:39
PH (s.u.)	7.24	7.23						7.28
Specific Conductivity (µS/cm)	1016	1015						1014
Water Temperature (°C)	22.0	22.2						22.3
Dissolved Oxygen (mg/L)	1.90	2.02						2.09
Turbidity (NTU)	173.2	178.9						206.3

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	11:39	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	1.00

Notes: Slight Odor; Dry @ 1.0 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	Site ID #:	18662	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-16	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type. (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	3-10	Total Well Depth (TWD) (ft.):	10.00
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	5.82	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	4.18	1 casing volume (CV = LWC x C) (gals.):	0.68	5 casing volumes (5 x CV) (gals.):	3.41

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.68	1.36	2.04	2.73	3.41		
Time (military)	11:58	11:59						12:00
PH (s.u.)	SHEEN	SHEEN						SHEEN
Specific Conductivity (µS/cm)	SHEEN	SHEEN						SHEEN
Water Temperature (°C)	SHEEN	SHEEN						SHEEN
Dissolved Oxygen (mg/L)	SHEEN	SHEEN						SHEEN
Turbidity (NTU)	SHEEN	SHEEN						SHEEN

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	11:39	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	1.00

Notes: Strong Odor; Dry @ 1.0 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date	4/28/2016	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, C. Phillips
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	75

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-17	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	5-10	*Total Well Depth (TWD) (ft.):*	10.00
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	4.23	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	5.77	*1 casing volume (CV = LWC x C) (gals.):*	0.94	*5 casing volumes (5 x CV) (gals.):*	4.70

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	0.94	1.88	2.82	3.76	4.70		
Time (military)	12:17	12:18						12:19
PH (s.u.)	8.14	8.19						8.22
Specific Conductivity (µS/cm)	795	801						801
Water Temperature (°C)	21.8	22.0						22.1
Dissolved Oxygen (mg/L)	2.34	2.47						2.49
Turbidity (NTU)	127.6	146.9						172.5

Sampling Data

Sampled By:	J. Floyd, C. Phillips	*Sampling Time:*	11:39	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	1.00

Notes: No Odor; Dry @ 1.0 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	Site ID #:	18682	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101446	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-18	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	3-10	Total Well Depth (TWD) (ft.):	10.00
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	5.97	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	4.03	1 casing volume (CV = LWC x C) (gals.):	0.66	5 casing volumes (5 x CV) (gals.):	3.28

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.66	1.31	1.97	2.63	3.28		
Time (military)	12:25	12:26						12:27
PH (s.u.)	SHEEN	SHEEN						SHEEN
Specific Conductivity (µS/cm)	SHEEN	SHEEN						SHEEN
Water Temperature (°C)	SHEEN	SHEEN						SHEEN
Dissolved Oxygen (mg/L)	SHEEN	SHEEN						SHEEN
Turbidity (NTU)	SHEEN	SHEEN						SHEEN

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	12:27	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	1.00

Notes: Odor; Dry @ 1.0 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	Site ID #:	18662	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-19	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	2.5-9.5	Total Well Depth (TWD) (ft.):	9.50
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	5.90	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	3.6	1 casing volume (CV = LWC x C) (gals.):	0.59	5 casing volumes (5 x CV) (gals.):	2.93

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.59	1.17	1.76	2.35	2.93		
Time (military)	12:10	12:11						12:12
PH (s.u.)	SHEEN	SHEEN						SHEEN
Specific Conductivity (µS/cm)	SHEEN	SHEEN						SHEEN
Water Temperature (°C)	SHEEN	SHEEN						SHEEN
Dissolved Oxygen (mg/L)	SHEEN	SHEEN						SHEEN
Turbidity (NTU)	SHEEN	SHEEN						SHEEN

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	12:12	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	1.50

Notes: Odor; SHEEN=noticable petroleum sheen on samples, field readings not taken

Dry @ 1.50 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	*Site ID #:*	18882	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, C. Phillips
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	75

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-20	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	5-10	*Total Well Depth (TWD) (ft.):*	10.00
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	4.87	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	5.13	*1 casing volume (CV = LWC x C) (gals.):*	0.84	*5 casing volumes (5 x CV) (gals.):*	4.18

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	0.84	1.67	2.51	3.34	4.18		
Time (military)	12:05	12:06						12:07
PH (s.u.)	SHEEN	SHEEN						SHEEN
Specific Conductivity (µS/cm)	SHEEN	SHEEN						SHEEN
Water Temperature (°C)	SHEEN	SHEEN						SHEEN
Dissolved Oxygen (mg/L)	SHEEN	SHEEN						SHEEN
Turbidity (NTU)	SHEEN	SHEEN						SHEEN

Sampling Data

Sampled By:	J. Floyd, C. Phillips	*Sampling Time:*	12:07	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	1.00

Notes: Odor; SHEEN=noticable petroleum sheen on samples, field readings not taken

Dry @ 1.0 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	Site ID #:	18662	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-21	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	2.5-9.5	Total Well Depth (TWD) (ft.):	9.50
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	5.92	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	3.58	1 casing volume (CV = LWC x C) (gals.):	0.58	5 casing volumes (5 x CV) (gals.):	2.92

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.58	1.17	1.75	2.33	2.92		
Time (military)	11:49	11:50	11:51					11:52
PH (s.u.)	7.69	7.70	7.72					7.73
Specific Conductivity (µS/cm)	981	987	987					988
Water Temperature (°C)	20.9	21.0	21.2					21.3
Dissolved Oxygen (mg/L)	7.31	2.34	2.39					2.38
Turbidity (NTU)	62.49	124.9	162.8					179.2

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	11:52	Duplicate: Y or N	Y	If yes, Duplicate Time:	11:52	Total Gallons Purged:	1.50

Notes: Strong Odor; Duplicated as DUP 1

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	Site ID #:	18562	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-22	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	3-10	Total Well Depth (TWD) (ft.):	10.00
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	5.92	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	4.08	1 casing volume (CV = LWC x C) (gals.):	0.67	5 casing volumes (5 x CV) (gals.):	3.33

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.67	1.33	2.00	2.66	3.33		
Time (military)	11:43	11:44	11:45					11:46
PH (s.u.)	7.03	7.09	7.12					7.14
Specific Conductivity (µS/cm)	2537	2540	2544					2541
Water Temperature (°C)	20.8	20.9	20.9					21.0
Dissolved Oxygen (mg/L)	2.53	2.57	2.59					2.62
Turbidity (NTU)	35.62	62.17	147.9					166.7

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	11:46	Duplicate: Y or N	Y	If yes, Duplicate Time:	11:52	Total Gallons Purged:	1.50

Notes: Odor; Dry @ 1.50 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	Site ID #:	18562	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102678	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-23	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	2.5-9.5	Total Well Depth (TWD) (ft.):	9.50
Depth to Free Product (DFP) (ft.)	ND	Depth to Groundwater (DGW) (ft.):	4.05	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	5.45	1 casing volume (CV = LWC x C) (gals.):	0.89	5 casing volumes (5 x CV) (gals.):	4.44

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.89	1.78	2.67	3.55	4.44		
Time (military)	12:39	12:40						12:41
PH (s.u.)	SHEEN	SHEEN						SHEEN
Specific Conductivity (µS/cm)	SHEEN	SHEEN						SHEEN
Water Temperature (°C)	SHEEN	SHEEN						SHEEN
Dissolved Oxygen (mg/L)	SHEEN	SHEEN						SHEEN
Turbidity (NTU)	SHEEN	SHEEN						SHEEN

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	12:41	Duplicate: Y or N	Y	If yes, Duplicate Time:	11:52	Total Gallons Purged:	1.50

Notes: Odor; SHEEN=noticable petroleum sheen on samples, field readings not taken

Dry @ 1.50 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/26/2016	Site ID #:	18862	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102678	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID	MW-24	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	2.5-9.5	Total Well Depth (TWD) (ft.):	9.50
Depth to Free Product (DFP) (ft.):	NO	Depth to Groundwater (DGW) (ft.):	4.37	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	5.13	1 casing volume (CV = LWC x C) (gals.):	0.84	5 casing volumes (5 x CV) (gals.):	4.18

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.84	1.67	2.51	3.34	4.18		
Time (military)	12:46	12:47						12:48
PH (s.u.)	7.29	7.34						7.39
Specific Conductivity (µS/cm)	1560	1565						1561
Water Temperature (°C)	20.50	20.70						20.90
Dissolved Oxygen (mg/L)	2.69	2.74						2.79
Turbidity (NTU)	47.23	62.82						124.9

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	12:48	Duplicate: Y or N	Y	If yes, Duplicate Time:	11:52	Total Gallons Purged:	1.00

Notes: Odor; Dry @ 1.0 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, C. Phillips
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	75

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102876	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301153	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-25	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	2.5-9.5	*Total Well Depth (TWD) (ft.):*	9.50
Depth to Free Product (DFP) (ft.)	ND	*Depth to Groundwater (DGW) (ft.):*	5.72	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	3.78	*1 casing volume (CV = LWC x C) (gals.):*	0.62	*5 casing volumes (5 x CV) (gals.):*	3.08

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	0.62	1.23	1.85	2.46	3.08		
Time (military)	12:32							12:33
PH (s.u.)	7.65							7.69
Specific Conductivity (µS/cm)	805							811
Water Temperature (°C)	23.6							23.8
Dissolved Oxygen (mg/L)	1.98							2.01
Turbidity (NTU)	68.20							75.62

Sampling Data

Sampled By:	J. Floyd, C. Phillips	*Sampling Time:*	12:33	*Duplicate: Y or N*	Y	*If yes, Duplicate Time:*	11:52	*Total Gallons Purged:*	0.50

Notes: Odor; Dry @ 0.5 gallons

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	4/28/2016	Site ID #:	18662	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, C. Phillips
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	75

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101446	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102876	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	PW-1	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	UNK	Total Well Depth (TWD) (ft.):	38.50
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	4.93	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	33.57	1 casing volume (CV = LWC x C) (gals.):	5.47	5 casing volumes (5 x CV) (gals.):	27.36

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	5.47	10.94	16.42	21.89	27.36		
Time (military)	11:15							11:20
PH (s.u.)	8.10							8.15
Specific Conductivity (µS/cm)	624							629
Water Temperature (°C)	24.5							24.1
Dissolved Oxygen (mg/L)	2.30							2.41
Turbidity (NTU)	75.54							224.9

Sampling Data

Sampled By:	J. Floyd, C. Phillips	Sampling Time:	11:20	Duplicate: Y or N	Y	If yes, Duplicate Time:	11:52	Total Gallons Purged:	5.00

Note: Odor; Dry @ 5.0 gallons

April 29, 2016

Midlands Environmental Consultants, Inc.

Re: Treatment of Purge Water
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 16-5522

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 80 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

A total of 24.5 gallons were treated on April 28, 2016 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

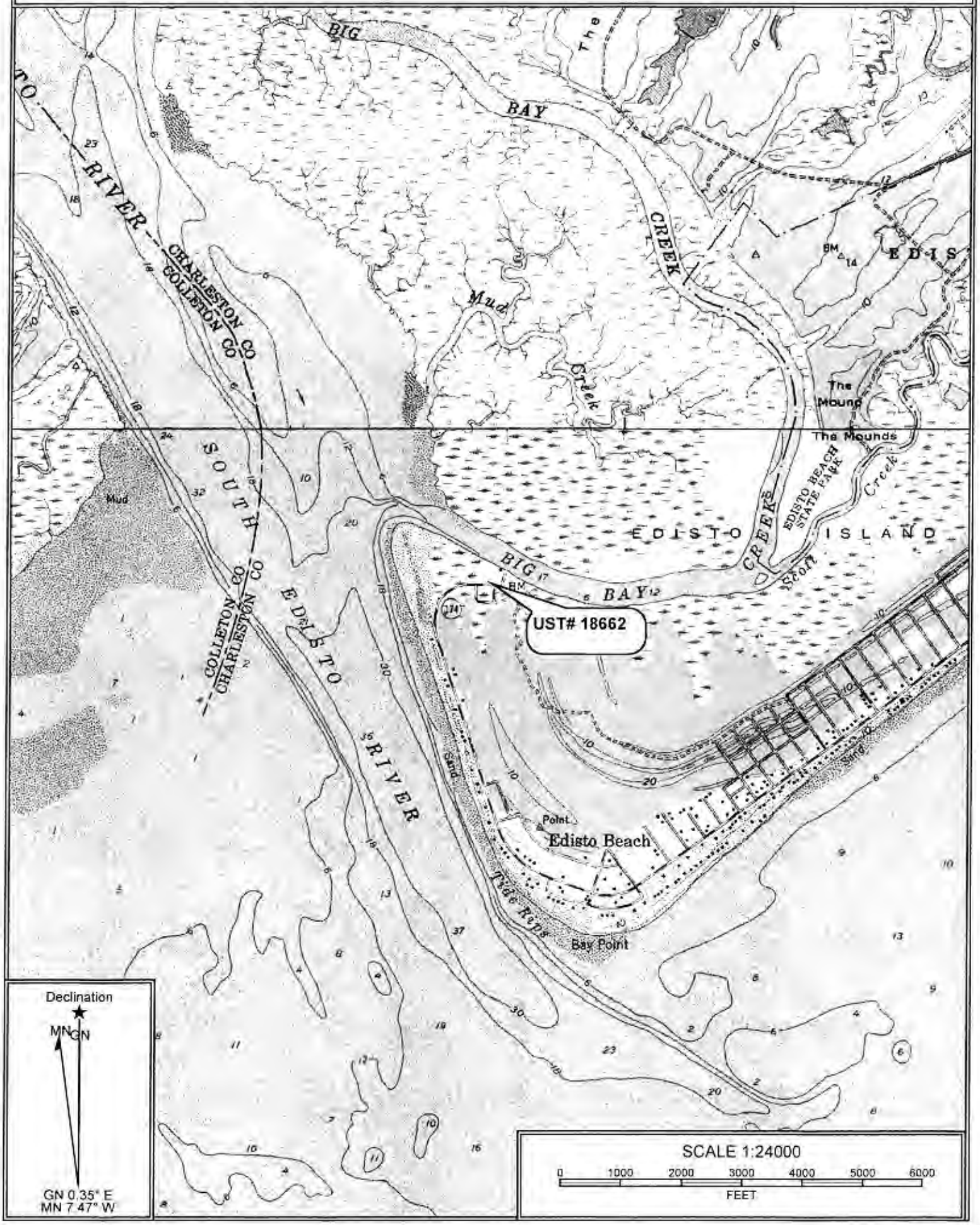
Sincerely,
Midlands Environmental Consultants, Inc.

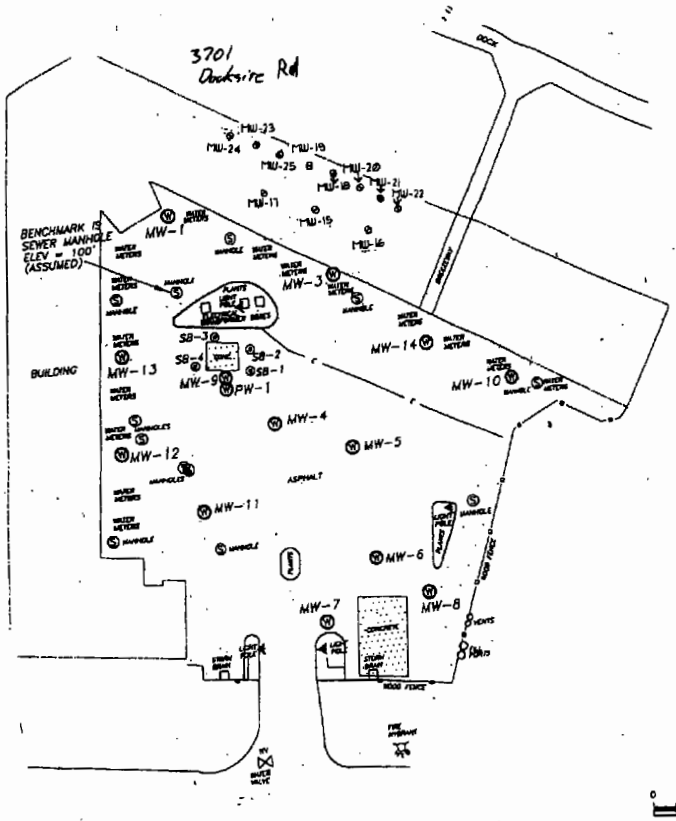
Todd D. Elder
Staff Hydrogeologist

Map Name: EDISTO BEACH
Print Date: 04/14/16

Scale: 1 inch = 2,000 ft.
Map Center: 032° 29' 34.80" N, 080° 20' :

Horizontal Datum: NAD27





Explanation:

- Location of Water Table Bracketing Monitoring Well

GRAPHIC SCALE

0 20 40 60 80

1IN = 40FT

ALL LOCATIONS ARE APPROXIMATE

Site Features	
Bay Creek Villas Edisto Beach, South Carolina SCDHEC Site ID 18662	
Midlands Environmental Consultants, Inc.	JOB NO. 07-1480 DATE January 21, 2008 FIGURE 2

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of 2

1996865

Section A Required Client Information:

Company: SCDHEC - UST
Address: 2600 Bull Street
Columbia, SC 29201
Email To: [illegible]
Phone: 803-898-0676 Fax: 803-898-0673
Requested Due Date/TAT:

Section B Required Project Information:

Report To: J Bryant - UST
Copy To:
Purchase Order No.: 4600422513
Project Name: Bay Creek Villas
Project Number: UST 18662 / Pace CAS2260

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: T. Carter
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): BTEX MA 8260B	1,2-DCA 8260B	8260 Full List	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1																						No Sample
2	MW-3R	WT	G			4/28/16	11:22		6				6					X	X	X	X		Odor, Sheen
3	MW-4	WT	G			"	11:07		6				6					X	X	X	X		Odor
4	MW-5	WT	G			4/28/16	11:02		6				6					X	X	X	X		Sulfur Odor
5	MW-6																						No Sample
6	MW-7																						No Sample
7	MW-8																						No Sample
8	MW-9	WT	G			4/28/16	11:26		6				6					X	X	X	X		Odor
9	MW-10																						No Sample
10	MW-11																						No Sample
11	MW-12																						No Sample
12	MW-13																						No Sample

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	4/29/16	8:52	[signature]	4-29-16	8:52	

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colin Phillips
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/28/16

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

1996866

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull Street, Columbia, SC 29201
Email To: bryantjr@dhec.sc.gov
Phone: 803-898-0606 Fax: 803-898-0673
Requested Due Date/TAT:

Section B Required Project Information:

Report To: J. Bryant - UST
Copy To:
Purchase Order No.: 4600422513
Project Name: Bay Creek Villas
Project Number: UST 18662 / Pace CAS2760

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: T. Carter
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): MTBE X, NJ M8260B; 1,2-DCA 8260B; 8260X4; EDB 8011

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-14																			No Sample
2	MW-15	WT	G			4/28/16	11:39		6				6					X X X X		Slight Odor
3	MW-16						12:00													Strong Odor
4	MW-17						12:19													Strong Odor
5	MW-18						12:37													Odor
6	MW-19						12:52													Sheen, Odor
7	MW-20						12:07													Sheen, Odor
8	MW-21						11:56													Strong Odor
9	MW-22						11:46													Odor
10	MW-23						12:41													Odor, Sheen
11	MW-24						12:48													Odor
12	MW-25	WT	G			4/28/16	12:33		6				6					X X X X		Odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	4/29/16	8:52	[signature]	4-29-16	852	

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Colin Phillips
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/28/16

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

2

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Page: 3 of 3

1996867

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC - UST	Report To: J. Bryant UST	Attention:
Address: 2600 Bull Street Columbia SC 29201	Copy To:	Company Name:
		Address:
Email To: bryantjk@dhec.sc.gov	Purchase Order No.: 4600472513	Pace Quote Reference:
Phone: 803-898-0606 Fax: 803-898-0673	Project Name: Bay Creek Villas	Pace Project Manager: T. Carter
Requested Due Date/TAT:	Project Number: UST 18667 / Pace CA 52260	Pace Profile #:

REGULATORY AGENCY

- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX NM 8260B	1,2DCA 8260B	8OKI 8260B	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	PW-1	WT	G			4/28/16	1120		6				6						X	X	X	X		Sulfur Odor
2	Dup 1	↓	↓			↓	1152		6				6						X	X	X	X		Strong Odor
3	Field Blank	↓	↓			↓	1300		6				6						X	X	X	X		FB
4	Trip Blank	WT	G			4/28/16	1301		2				2						X	X	X			TB
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	4/29/16	8:52	[signature]	4-29-16	852	

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colin Phillips

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/22/16

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical Services, Inc.
9800 Kincey Ave Suite 100
Huntersville, NC 28078
(704)875-9092

May 09, 2016

UST
MAY 16 2016
PROGRAM

Mr. John Bryant
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

Dear Mr. Bryant:
Enclosed are the analytical results for sample(s) received by the laboratory on April 29, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Trey Carter
trey.carter@pacelabs.com
Project Manager

Enclosures

cc. Ashleigh Thrash, SCHDEC

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification # 12
South Carolina Certification # 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification # 84
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project BAY CREEK 18662/52260
Pace Project No 92295791

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92295791001	MW-3R	Water	04/28/16 11:32	04/29/16 08:52
92295791002	MW-4	Water	04/28/16 11:07	04/29/16 08:52
92295791003	MW-5	Water	04/28/16 11 02	04/29/16 08:52
92295791004	MW-9	Water	04/28/16 11:26	04/29/16 08 52
92295791005	MW-15	Water	04/28/16 11 39	04/29/16 08 52
92295791006	MW-16	Water	04/28/16 12:00	04/29/16 08:52
92295791007	MW-17	Water	04/28/16 12 19	04/29/16 08:52
92295791008	MW-18	Water	04/28/16 12 27	04/29/16 08:52
92295791009	MW-19	Water	04/28/16 12:12	04/29/16 08:52
92295791010	MW-20	Water	04/28/16 12:07	04/29/16 08:52
92295791011	MW-21	Water	04/28/16 11:52	04/29/16 08 52
92295791012	MW-22	Water	04/28/16 11:46	04/29/16 08.52
92295791013	MW-23	Water	04/28/16 12 41	04/29/16 08:52
92295791014	MW-24	Water	04/28/16 12 48	04/29/16 08:52
92295791015	MW-25	Water	04/28/16 12:33	04/29/16 08:52
92295791016	PW-1	Water	04/28/16 11.20	04/29/16 08:52
92295791017	DUP 1	Water	04/28/16 11:52	04/29/16 08:52
92295791018	FIELD BLANK	Water	04/28/16 13 00	04/29/16 08:52
92295791019	TRIP BLANK	Water	04/28/16 13 01	04/29/16 08:52

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SAMPLE ANALYTE COUNT

Project BAY CREEK 18662/52260
Pace Project No.: 92295791

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92295791001	MW-3R	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791002	MW-4	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791003	MW-5	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791004	MW-9	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791005	MW-15	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791006	MW-16	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791007	MW-17	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791008	MW-18	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791009	MW-19	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791010	MW-20	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791011	MW-21	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791012	MW-22	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791013	MW-23	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791014	MW-24	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791015	MW-25	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791016	PW-1	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791017	DUP 1	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791018	FIELD BLANK	EPA 8011	HSK	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92295791019	TRIP BLANK	EPA 8260	CCL	20	PASI-C

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SUMMARY OF DETECTION

Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92295791001	**MW-3R**					
EPA 8260	Benzene	3680	ug/L	125	05/03/16 21 50	
EPA 8260	Ethylbenzene	1250	ug/L	125	05/03/16 21.50	
EPA 8260	Naphthalene	531	ug/L	125	05/03/16 21:50	
EPA 8260	Toluene	48.6J	ug/L	125	05/03/16 21:50	
EPA 8260	m&p-Xylene	114J	ug/L	250	05/03/16 21:50	
92295791002	**MW-4**					
EPA 8260	Benzene	15.0	ug/L	10.0	05/04/16 15 08	
EPA 8260	Ethylbenzene	281	ug/L	10.0	05/04/16 15 08	
EPA 8260	Naphthalene	204	ug/L	10.0	05/04/16 15 08	
EPA 8260	m&p-Xylene	7 7J	ug/L	20 0	05/04/16 15.08	
92295791004	**MW-9**					
EPA 8260	Benzene	2.1J	ug/L	5.0	05/04/16 18 45	
EPA 8260	Ethylbenzene	18.2	ug/L	5.0	05/04/16 18:45	
EPA 8260	Naphthalene	2.5J	ug/L	5.0	05/04/16 18:45	
92295791005	**MW-15**					
EPA 8260	Benzene	313	ug/L	12.5	05/04/16 15:24	
EPA 8260	Ethylbenzene	53 4	ug/L	12.5	05/04/16 15:24	
EPA 8260	Naphthalene	9 0J	ug/L	12.5	05/04/16 15:24	
EPA 8260	m&p-Xylene	8.1J	ug/L	25.0	05/04/16 15 24	
92295791006	**MW-16**					
EPA 8260	tert-Amyl Alcohol	757	ug/L	500	05/04/16 15 41	
EPA 8260	Benzene	995	ug/L	25 0	05/04/16 15 41	
EPA 8260	Ethylbenzene	457	ug/L	25 0	05/04/16 15 41	
EPA 8260	Naphthalene	466	ug/L	25.0	05/04/16 15:41	
EPA 8260	Toluene	25.6	ug/L	25 0	05/04/16 15:41	
EPA 8260	Xylene (Total)	433	ug/L	50 0	05/04/16 15:41	
EPA 8260	m&p-Xylene	406	ug/L	50.0	05/04/16 15:41	
EPA 8260	o-Xylene	26 9	ug/L	25.0	05/04/16 15:41	
92295791007	**MW-17**					
EPA 8260	Benzene	4.4J	ug/L	5 0	05/03/16 20 26	
EPA 8260	Ethylbenzene	3.2J	ug/L	5 0	05/03/16 20 26	
92295791008	**MW-18**					
EPA 8260	Benzene	6580	ug/L	250	05/03/16 22 56	
EPA 8260	Ethylbenzene	1690	ug/L	250	05/03/16 22:56	
EPA 8260	Naphthalene	1100	ug/L	250	05/03/16 22:56	
EPA 8260	Toluene	314	ug/L	250	05/03/16 22:56	
EPA 8260	Xylene (Total)	3380	ug/L	500	05/03/16 22:56	
EPA 8260	m&p-Xylene	3070	ug/L	500	05/03/16 22:56	
EPA 8260	o-Xylene	313	ug/L	250	05/03/16 22:56	
92295791009	**MW-19**					
EPA 8260	Benzene	3990	ug/L	125	05/04/16 15 58	
EPA 8260	Ethylbenzene	922	ug/L	125	05/04/16 15 58	
EPA 8260	Naphthalene	1320	ug/L	125	05/04/16 15 58	

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SUMMARY OF DETECTION

Project BAY CREEK 18662/52260
Pace Project No.: 92295791

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92295791009	**MW-19**					
EPA 8260	Toluene	636	ug/L	125	05/04/16 15:58	
EPA 8260	Xylene (Total)	3460	ug/L	250	05/04/16 15:58	
EPA 8260	m&p-Xylene	2830	ug/L	250	05/04/16 15:58	
EPA 8260	o-Xylene	635	ug/L	125	05/04/16 15.58	
92295791010	**MW-20**					
EPA 8260	Benzene	123	ug/L	10 0	05/04/16 16 15	
EPA 8260	Ethylbenzene	264	ug/L	10.0	05/04/16 16:15	
EPA 8260	Naphthalene	214	ug/L	10.0	05/04/16 16:15	
EPA 8260	Toluene	4.1J	ug/L	10.0	05/04/16 16:15	
EPA 8260	Xylene (Total)	312	ug/L	20 0	05/04/16 16 15	
EPA 8260	m&p-Xylene	244	ug/L	20 0	05/04/16 16 15	
EPA 8260	o-Xylene	68 1	ug/L	10.0	05/04/16 16:15	
92295791011	**MW-21**					
EPA 8260	Benzene	2090	ug/L	62.5	05/04/16 16:32	
EPA 8260	Ethylbenzene	688	ug/L	62 5	05/04/16 16:32	
EPA 8260	Naphthalene	781	ug/L	62 5	05/04/16 16:32	
EPA 8260	Toluene	213	ug/L	62.5	05/04/16 16:32	
EPA 8260	Xylene (Total)	3730	ug/L	125	05/04/16 16:32	
EPA 8260	m&p-Xylene	3060	ug/L	125	05/04/16 16:32	
EPA 8260	o-Xylene	672	ug/L	62 5	05/04/16 16:32	
92295791015	**MW-25**					
EPA 8260	Benzene	1890	ug/L	62.5	05/04/16 16:48	
EPA 8260	Ethylbenzene	632	ug/L	62.5	05/04/16 16.48	
EPA 8260	Naphthalene	182	ug/L	62 5	05/04/16 16.48	
EPA 8260	Toluene	118	ug/L	62.5	05/04/16 16.48	
EPA 8260	Xylene (Total)	264	ug/L	125	05/04/16 16:48	
EPA 8260	m&p-Xylene	264	ug/L	125	05/04/16 16:48	
92295791017	**DUP 1**					
EPA 8260	Benzene	2140	ug/L	100	05/04/16 07:02	
EPA 8260	Ethylbenzene	700	ug/L	100	05/04/16 07:02	
EPA 8260	Naphthalene	583	ug/L	100	05/04/16 07:02	
EPA 8260	Toluene	200	ug/L	100	05/04/16 07:02	
EPA 8260	Xylene (Total)	2920	ug/L	200	05/04/16 07 02	
EPA 8260	m&p-Xylene	2440	ug/L	200	05/04/16 07:02	
EPA 8260	o-Xylene	483	ug/L	100	05/04/16 07:02	

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PROJECT NARRATIVE

Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

Method: **EPA 8011**
Description: 8011 GCS EDB and DBCP
Client: SCDHEC
Date: May 09, 2016

General Information:
18 samples were analyzed for EPA 8011 All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 8011 with any exceptions noted below

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

QC Batch: OEXT/42312

S3: Surrogate recovery exceeded laboratory control limits Analyte presence below reporting limits in associated samples Results unaffected by high bias.

- MW-16 (Lab ID 92295791006)
  - 1-Chloro-2-bromopropane (S)
- MW-19 (Lab ID: 92295791009)
  - 1-Chloro-2-bromopropane (S)

QC Batch OEXT/42313

S3: Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples Results unaffected by high bias.

- FIELD BLANK (Lab ID· 92295791018)
  - 1-Chloro-2-bromopropane (S)
- MW-21 (Lab ID: 92295791011)
  - 1-Chloro-2-bromopropane (S)
- MW-25 (Lab ID: 92295791015)
  - 1-Chloro-2-bromopropane (S)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

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PROJECT NARRATIVE

Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

Method: **EPA 8011**
Description: 8011 GCS EDB and DBCP
Client: SCDHEC
Date: May 09, 2016

QC Batch OEXT/42313

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92295791013

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1723536)
  - 1,2-Dibromoethane (EDB)
- MSD (Lab ID: 1723537)
  - 1,2-Dibromoethane (EDB)

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below

Additional Comments:

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Huntersville, NC 28078
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PROJECT NARRATIVE

Project: BAY CREEK 18662/52260
Pace Project No. 92295791

Method: **EPA 8260**
Description: 8260 MSV
Client: SCDHEC
Date: May 09, 2016

General Information:
19 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch MSV/36656

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s) 92295791013

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery

- MS (Lab ID 1724641)
  - 3,3-Dimethyl-1-Butanol
  - Ethanol
  - tert-Butyl Alcohol

P5 The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

- MS (Lab ID· 1724641)
  - tert-Butyl Formate

QC Batch· MSV/36658

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s)· 92295830001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery

- MS (Lab ID 1724661)

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PROJECT NARRATIVE

Project. BAY CREEK 18662/52260
Pace Project No.: 92295791

Method: **EPA 8260**
Description: 8260 MSV
Client: SCDHEC
Date: May 09, 2016

QC Batch: MSV/36658

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92295830001

M1: Matrix spike recovery exceeded QC limits Batch accepted based on laboratory control sample (LCS) recovery.

- Ethanol
- tert-Butyl Alcohol

P5: The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes

- MS (Lab ID: 1724661)
  - tert-Butyl Formate

QC Batch: MSV/36678

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s). 92295826003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1725645)
  - tert-Amyl Alcohol
  - tert-Butyl Alcohol

P5: The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

- MS (Lab ID: 1725645)
  - tert-Butyl Formate

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release

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ANALYTICAL RESULTS

Project. BAY CREEK 18662/52260
Pace Project No 92295791

Sample: MW-3R **Lab ID: 92295791001** Collected 04/28/16 11:32 Received. 04/29/16 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/02/16 11:57	05/02/16 18:40	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	121	%	60-140		1	05/02/16 11:57	05/02/16 18 40	301-79-56	
8260 MSV	Analytical Method EPA 8260								
tert-Amyl Alcohol	ND	ug/L	2500	1920	25		05/03/16 21.50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85 0	25		05/03/16 21 50	994-05-8	
Benzene	**3680**	ug/L	125	42.5	25		05/03/16 21:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		05/03/16 21:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		05/03/16 21:50	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		05/03/16 21 50	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	45.0	25		05/03/16 21 50	107-06-2	
Diisopropyl ether	ND	ug/L	125	42.5	25		05/03/16 21.50	108-20-3	
Ethanol	ND	ug/L	5000	3280	25		05/03/16 21 50	64-17-5	
Ethylbenzene	**1250**	ug/L	125	40 0	25		05/03/16 21 50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		05/03/16 21.50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	42 5	25		05/03/16 21:50	1634-04-4	
Naphthalene	**531**	ug/L	125	50 0	25		05/03/16 21:50	91-20-3	
Toluene	**48.6J**	ug/L	125	40 0	25		05/03/16 21 50	108-88-3	
Xylene (Total)	ND	ug/L	250	67.5	25		05/03/16 21:50	1330-20-7	
m&p-Xylene	**114J**	ug/L	250	77.5	25		05/03/16 21 50	179601-23-1	
o-Xylene	ND	ug/L	125	40.0	25		05/03/16 21 50	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		25		05/03/16 21.50	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		25		05/03/16 21:50	17060-07-0	
Toluene-d8 (S)	105	%	70-130		25		05/03/16 21:50	2037-26-5	

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ANALYTICAL RESULTS

Project. BAY CREEK 18662/52260
Pace Project No.: 92295791

Sample: MW-4 **Lab ID: 92295791002** Collected: 04/28/16 11:07 Received 04/29/16 08 52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/02/16 11 57	05/02/16 19:19	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	05/02/16 11 57	05/02/16 19 19	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	200	154	2		05/04/16 15:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20.0	6.8	2		05/04/16 15:08	994-05-8	
Benzene	**15.0**	ug/L	10 0	3.4	2		05/04/16 15:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	64 2	2		05/04/16 15:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	200	115	2		05/04/16 15 08	75-65-0	
tert-Butyl Formate	ND	ug/L	100	14.6	2		05/04/16 15 08	762-75-4	
1,2-Dichloroethane	ND	ug/L	10 0	3.6	2		05/04/16 15:08	107-06-2	
Diisopropyl ether	ND	ug/L	10 0	3.4	2		05/04/16 15:08	108-20-3	
Ethanol	ND	ug/L	400	262	2		05/04/16 15:08	64-17-5	
Ethylbenzene	**281**	ug/L	10.0	3.2	2		05/04/16 15:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	7 2	2		05/04/16 15.08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	10.0	3.4	2		05/04/16 15 08	1634-04-4	
Naphthalene	**204**	ug/L	10.0	4 0	2		05/04/16 15:08	91-20-3	
Toluene	ND	ug/L	10 0	3 2	2		05/04/16 15:08	108-88-3	
Xylene (Total)	ND	ug/L	20 0	5.4	2		05/04/16 15:08	1330-20-7	
m&p-Xylene	**7.7J**	ug/L	20.0	6.2	2		05/04/16 15 08	179601-23-1	
o-Xylene	ND	ug/L	10.0	3 2	2		05/04/16 15 08	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		2		05/04/16 15:08	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		2		05/04/16 15:08	17060-07-0	
Toluene-d8 (S)	103	%	70-130		2		05/04/16 15 08	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No 92295791

Sample: MW-5 **Lab ID: 92295791003** Collected: 04/28/16 11:02 Received: 04/29/16 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/02/16 11:57	05/02/16 19:37	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	114	%	60-140		1	05/02/16 11:57	05/02/16 19:37	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/03/16 19:53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/03/16 19:53	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/03/16 19:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/03/16 19:53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/03/16 19:53	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/03/16 19:53	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/03/16 19:53	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/03/16 19:53	108-20-3	
Ethanol	ND	ug/L	200	131	1		05/03/16 19:53	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/03/16 19:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/03/16 19:53	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/03/16 19:53	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/03/16 19:53	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/03/16 19:53	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/03/16 19:53	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/03/16 19:53	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/03/16 19:53	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	108	%	70-130		1		05/03/16 19:53	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		05/03/16 19:53	17060-07-0	
Toluene-d8 (S)	108	%	70-130		1		05/03/16 19:53	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

Sample: MW-9 **Lab ID: 92295791004** Collected: 04/28/16 11:26 Received: 04/29/16 08.52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0 021	0 021	1	05/02/16 11:58	05/02/16 19:57	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	114	%	60-140		1	05/02/16 11:58	05/02/16 19:57	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/04/16 18:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3 4	1		05/04/16 18:45	994-05-8	
Benzene	**2.1J**	ug/L	5.0	1 7	1		05/04/16 18:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/04/16 18 45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57 7	1		05/04/16 18:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7 3	1		05/04/16 18:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1 8	1		05/04/16 18:45	107-06-2	
Diisopropyl ether	ND	ug/L	5 0	1.7	1		05/04/16 18 45	108-20-3	
Ethanol	ND	ug/L	200	131	1		05/04/16 18.45	64-17-5	
Ethylbenzene	**18.2**	ug/L	5.0	1 6	1		05/04/16 18:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3 6	1		05/04/16 18:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/04/16 18 45	1634-04-4	
Naphthalene	**2.5J**	ug/L	5 0	2.0	1		05/04/16 18:45	91-20-3	
Toluene	ND	ug/L	5 0	1.6	1		05/04/16 18:45	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2 7	1		05/04/16 18:45	1330-20-7	
m&p-Xylene	ND	ug/L	10 0	3.1	1		05/04/16 18 45	179601-23-1	
o-Xylene	ND	ug/L	5.0	1 6	1		05/04/16 18:45	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	114	%	70-130		1		05/04/16 18:45	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		05/04/16 18 45	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/04/16 18:45	2037-26-5	

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ANALYTICAL RESULTS

Project BAY CREEK 18662/52260
Pace Project No.: 92295791

Sample: MW-15 **Lab ID: 92295791005** Collected 04/28/16 11:39 Received: 04/29/16 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0 020	1	05/02/16 11:58	05/02/16 20:16	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	119	%	60-140		1	05/02/16 11:58	05/02/16 20:16	301-79-56	
8260 MSV	Analytical Method. EPA 8260								
tert-Amyl Alcohol	ND	ug/L	250	192	2.5		05/04/16 15 24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	25.0	8 5	2.5		05/04/16 15.24	994-05-8	
Benzene	**313**	ug/L	12.5	4.2	2.5		05/04/16 15 24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	80.2	2.5		05/04/16 15 24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	250	144	2.5		05/04/16 15 24	75-65-0	
tert-Butyl Formate	ND	ug/L	125	18 2	2.5		05/04/16 15:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	12.5	4 5	2 5		05/04/16 15:24	107-06-2	
Diisopropyl ether	ND	ug/L	12 5	4 2	2 5		05/04/16 15:24	108-20-3	
Ethanol	ND	ug/L	500	328	2.5		05/04/16 15:24	64-17-5	
Ethylbenzene	**53.4**	ug/L	12 5	4 0	2.5		05/04/16 15:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	9.0	2.5		05/04/16 15:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	12.5	4.2	2.5		05/04/16 15 24	1634-04-4	
Naphthalene	**9.0J**	ug/L	12.5	5.0	2 5		05/04/16 15 24	91-20-3	
Toluene	ND	ug/L	12.5	4.0	2 5		05/04/16 15 24	108-88-3	
Xylene (Total)	ND	ug/L	25.0	6.8	2 5		05/04/16 15:24	1330-20-7	
m&p-Xylene	**8.1J**	ug/L	25.0	7 8	2 5		05/04/16 15:24	179601-23-1	
o-Xylene	ND	ug/L	12 5	4 0	2 5		05/04/16 15:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	108	%	70-130		2.5		05/04/16 15:24	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		2.5		05/04/16 15:24	17060-07-0	
Toluene-d8 (S)	104	%	70-130		2.5		05/04/16 15 24	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

Sample: MW-16 **Lab ID: 92295791006** Collected: 04/28/16 12:00 Received: 04/29/16 08 52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0 020	1	05/02/16 11:58	05/02/16 20:36	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	179	%	60-140		1	05/02/16 11 58	05/02/16 20 36	301-79-56	S3
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**757**	ug/L	500	384	5		05/04/16 15:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	50 0	17.0	5		05/04/16 15:41	994-05-8	
Benzene	**995**	ug/L	25.0	8 5	5		05/04/16 15:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	160	5		05/04/16 15.41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	288	5		05/04/16 15 41	75-65-0	
tert-Butyl Formate	ND	ug/L	250	36.5	5		05/04/16 15:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	25 0	9.0	5		05/04/16 15:41	107-06-2	
Diisopropyl ether	ND	ug/L	25.0	8 5	5		05/04/16 15:41	108-20-3	
Ethanol	ND	ug/L	1000	655	5		05/04/16 15:41	64-17-5	
Ethylbenzene	**457**	ug/L	25 0	8.0	5		05/04/16 15:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50 0	18 0	5		05/04/16 15:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	25 0	8 5	5		05/04/16 15:41	1634-04-4	
Naphthalene	**466**	ug/L	25.0	10.0	5		05/04/16 15:41	91-20-3	
Toluene	**25.6**	ug/L	25.0	8 0	5		05/04/16 15.41	108-88-3	
Xylene (Total)	**433**	ug/L	50.0	13.5	5		05/04/16 15 41	1330-20-7	
m&p-Xylene	**406**	ug/L	50 0	15 5	5		05/04/16 15:41	179601-23-1	
o-Xylene	**26.9**	ug/L	25 0	8.0	5		05/04/16 15:41	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		5		05/04/16 15 41	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		5		05/04/16 15.41	17060-07-0	
Toluene-d8 (S)	103	%	70-130		5		05/04/16 15:41	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No . 92295791

Sample: MW-17 **Lab ID: 92295791007** Collected: 04/28/16 12:19 Received 04/29/16 08:52 Matrix Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0 020	0.020	1	05/02/16 11:58	05/02/16 20 55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	104	%	60-140		1	05/02/16 11.58	05/02/16 20:55	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/03/16 20:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3 4	1		05/03/16 20:26	994-05-8	
Benzene	**4.4J**	ug/L	5.0	1 7	1		05/03/16 20:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32 1	1		05/03/16 20 26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/03/16 20.26	75-65-0	
tert-Butyl Formate	ND	ug/L	50 0	7.3	1		05/03/16 20.26	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/03/16 20:26	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/03/16 20:26	108-20-3	
Ethanol	ND	ug/L	200	131	1		05/03/16 20:26	64-17-5	
Ethylbenzene	**3.2J**	ug/L	5 0	1 6	1		05/03/16 20:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3 6	1		05/03/16 20:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1 7	1		05/03/16 20 26	1634-04-4	
Naphthalene	ND	ug/L	5.0	2 0	1		05/03/16 20 26	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/03/16 20:26	108-88-3	
Xylene (Total)	ND	ug/L	10 0	2.7	1		05/03/16 20:26	1330-20-7	
m&p-Xylene	ND	ug/L	10 0	3.1	1		05/03/16 20:26	179601-23-1	
o-Xylene	ND	ug/L	5 0	1.6	1		05/03/16 20:26	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	108	%	70-130		1		05/03/16 20:26	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		1		05/03/16 20:26	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		05/03/16 20:26	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No 92295791

Sample: MW-18 **Lab ID: 92295791008** Collected 04/28/16 12:27 Received 04/29/16 08:52 Matrix Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0 020	1	05/02/16 11:58	05/02/16 21:14	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	139	%	60-140		1	05/02/16 11:58	05/02/16 21:14	301-79-56	
8260 MSV	Analytical Method EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3840	50		05/03/16 22 56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		05/03/16 22 56	994-05-8	
Benzene	**6580**	ug/L	250	85.0	50		05/03/16 22:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		05/03/16 22:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		05/03/16 22:56	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		05/03/16 22:56	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		05/03/16 22:56	107-06-2	
Diisopropyl ether	ND	ug/L	250	85 0	50		05/03/16 22 56	108-20-3	
Ethanol	ND	ug/L	10000	6550	50		05/03/16 22:56	64-17-5	
Ethylbenzene	**1690**	ug/L	250	80 0	50		05/03/16 22:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		05/03/16 22:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		05/03/16 22:56	1634-04-4	
Naphthalene	**1100**	ug/L	250	100	50		05/03/16 22:56	91-20-3	
Toluene	**314**	ug/L	250	80 0	50		05/03/16 22:56	108-88-3	
Xylene (Total)	**3380**	ug/L	500	135	50		05/03/16 22 56	1330-20-7	
m&p-Xylene	**3070**	ug/L	500	155	50		05/03/16 22 56	179601-23-1	
o-Xylene	**313**	ug/L	250	80.0	50		05/03/16 22:56	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		50		05/03/16 22:56	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		50		05/03/16 22:56	17060-07-0	
Toluene-d8 (S)	101	%	70-130		50		05/03/16 22 56	2037-26-5	

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ANALYTICAL RESULTS

Project BAY CREEK 18662/52260
Pace Project No.: 92295791

Sample: MW-19 **Lab ID: 92295791009** Collected: 04/28/16 12:12 Received: 04/29/16 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method EPA 8011 Preparation Method EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/02/16 11 58	05/02/16 21:33	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	142	%	60-140		1	05/02/16 11:58	05/02/16 21 33	301-79-56	S3
8260 MSV	Analytical Method EPA 8260								
tert-Amyl Alcohol	ND	ug/L	2500	1920	25		05/04/16 15:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85 0	25		05/04/16 15:58	994-05-8	
Benzene	**3990**	ug/L	125	42.5	25		05/04/16 15:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		05/04/16 15 58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		05/04/16 15 58	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		05/04/16 15 58	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	45 0	25		05/04/16 15:58	107-06-2	
Diisopropyl ether	ND	ug/L	125	42 5	25		05/04/16 15:58	108-20-3	
Ethanol	ND	ug/L	5000	3280	25		05/04/16 15:58	64-17-5	
Ethylbenzene	**922**	ug/L	125	40 0	25		05/04/16 15:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		05/04/16 15:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	42.5	25		05/04/16 15:58	1634-04-4	
Naphthalene	**1320**	ug/L	125	50.0	25		05/04/16 15 58	91-20-3	
Toluene	**636**	ug/L	125	40.0	25		05/04/16 15 58	108-88-3	
Xylene (Total)	**3460**	ug/L	250	67 5	25		05/04/16 15 58	1330-20-7	
m&p-Xylene	**2830**	ug/L	250	77.5	25		05/04/16 15:58	179601-23-1	
o-Xylene	**635**	ug/L	125	40 0	25		05/04/16 15:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		25		05/04/16 15:58	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		25		05/04/16 15:58	17060-07-0	
Toluene-d8 (S)	97	%	70-130		25		05/04/16 15 58	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No 92295791

Sample: MW-20 **Lab ID: 92295791010** Collected 04/28/16 12 07 Received: 04/29/16 08:52 Matrix Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0 020	1	05/02/16 11:59	05/02/16 23:10	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	127	%	60-140		1	05/02/16 11:59	05/02/16 23:10	301-79-56	
8260 MSV	Analytical Method EPA 8260								
tert-Amyl Alcohol	ND	ug/L	200	154	2		05/04/16 16.15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20 0	6 8	2		05/04/16 16 15	994-05-8	
Benzene	**123**	ug/L	10.0	3 4	2		05/04/16 16:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	64.2	2		05/04/16 16:15	624-95-3	
tert-Butyl Alcohol	ND	ug/L	200	115	2		05/04/16 16:15	75-65-0	
tert-Butyl Formate	ND	ug/L	100	14 6	2		05/04/16 16:15	762-75-4	
1,2-Dichloroethane	ND	ug/L	10.0	3.6	2		05/04/16 16 15	107-06-2	
Diisopropyl ether	ND	ug/L	10 0	3.4	2		05/04/16 16 15	108-20-3	
Ethanol	ND	ug/L	400	262	2		05/04/16 16 15	64-17-5	
Ethylbenzene	**264**	ug/L	10.0	3 2	2		05/04/16 16.15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	7 2	2		05/04/16 16:15	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	10 0	3.4	2		05/04/16 16:15	1634-04-4	
Naphthalene	**214**	ug/L	10 0	4.0	2		05/04/16 16:15	91-20-3	
Toluene	**4.1J**	ug/L	10 0	3.2	2		05/04/16 16 15	108-88-3	
Xylene (Total)	**312**	ug/L	20 0	5 4	2		05/04/16 16 15	1330-20-7	
m&p-Xylene	**244**	ug/L	20.0	6 2	2		05/04/16 16.15	179601-23-1	
o-Xylene	**68.1**	ug/L	10.0	3 2	2		05/04/16 16:15	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		2		05/04/16 16:15	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		2		05/04/16 16 15	17060-07-0	
Toluene-d8 (S)	99	%	70-130		2		05/04/16 16:15	2037-26-5	

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ANALYTICAL RESULTS

Project BAY CREEK 18662/52260
Pace Project No 92295791

Sample: MW-21 **Lab ID: 92295791011** Collected: 04/28/16 11 52 Received: 04/29/16 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0 020	0.020	1	05/02/16 11:59	05/02/16 23:29	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	147	%	60-140		1	05/02/16 11 59	05/02/16 23 29	301-79-56	S3
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1250	960	12.5		05/04/16 16:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	125	42.5	12 5		05/04/16 16:32	994-05-8	
Benzene	**2090**	ug/L	62 5	21 2	12 5		05/04/16 16 32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1250	401	12.5		05/04/16 16 32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1250	721	12.5		05/04/16 16.32	75-65-0	
tert-Butyl Formate	ND	ug/L	625	91.2	12.5		05/04/16 16.32	762-75-4	
1,2-Dichloroethane	ND	ug/L	62.5	22.5	12 5		05/04/16 16 32	107-06-2	
Diisopropyl ether	ND	ug/L	62 5	21.2	12 5		05/04/16 16:32	108-20-3	
Ethanol	ND	ug/L	2500	1640	12 5		05/04/16 16:32	64-17-5	
Ethylbenzene	**688**	ug/L	62 5	20 0	12 5		05/04/16 16.32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	125	45 0	12 5		05/04/16 16 32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	62.5	21 2	12.5		05/04/16 16:32	1634-04-4	
Naphthalene	**781**	ug/L	62.5	25.0	12.5		05/04/16 16:32	91-20-3	
Toluene	**213**	ug/L	62.5	20.0	12.5		05/04/16 16:32	108-88-3	
Xylene (Total)	**3730**	ug/L	125	33.8	12 5		05/04/16 16:32	1330-20-7	
m&p-Xylene	**3060**	ug/L	125	38 8	12 5		05/04/16 16 32	179601-23-1	
o-Xylene	**672**	ug/L	62 5	20 0	12 5		05/04/16 16 32	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		12.5		05/04/16 16 32	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		12.5		05/04/16 16.32	17060-07-0	
Toluene-d8 (S)	100	%	70-130		12 5		05/04/16 16:32	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No. 92295791

Sample: MW-22 **Lab ID: 92295791012** Collected: 04/28/16 11.46 Received: 04/29/16 08:52 Matrix Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0 020	0 020	1	05/02/16 11:59	05/03/16 00 26	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	121	%	60-140		1	05/02/16 11:59	05/03/16 00:26	301-79-56	
8260 MSV	Analytical Method EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/03/16 20:43	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10 0	3 4	1		05/03/16 20:43	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/03/16 20:43	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/03/16 20:43	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57 7	1		05/03/16 20 43	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/03/16 20 43	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/03/16 20:43	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/03/16 20:43	108-20-3	
Ethanol	ND	ug/L	200	131	1		05/03/16 20:43	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1 6	1		05/03/16 20:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10 0	3 6	1		05/03/16 20 43	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5 0	1 7	1		05/03/16 20:43	1634-04-4	
Naphthalene	ND	ug/L	5 0	2.0	1		05/03/16 20 43	91-20-3	
Toluene	ND	ug/L	5 0	1.6	1		05/03/16 20:43	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/03/16 20:43	1330-20-7	
m&p-Xylene	ND	ug/L	10 0	3 1	1		05/03/16 20:43	179601-23-1	
o-Xylene	ND	ug/L	5.0	1 6	1		05/03/16 20:43	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		05/03/16 20:43	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130		1		05/03/16 20:43	17060-07-0	
Toluene-d8 (S)	110	%	70-130		1		05/03/16 20:43	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

Sample: MW-23 **Lab ID: 92295791013** Collected 04/28/16 12:41 Received 04/29/16 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/02/16 11:59	05/03/16 00:46	106-93-4	M1
Surrogates									
1-Chloro-2-bromopropane (S)	119	%	60-140		1	05/02/16 11:59	05/03/16 00:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/03/16 20:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/03/16 20:59	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/03/16 20:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/03/16 20:59	624-95-3	M1
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/03/16 20:59	75-65-0	M1
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/03/16 20:59	762-75-4	P5
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/03/16 20:59	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/03/16 20:59	108-20-3	
Ethanol	ND	ug/L	200	131	1		05/03/16 20:59	64-17-5	M1
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/03/16 20:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/03/16 20:59	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/03/16 20:59	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/03/16 20:59	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/03/16 20:59	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/03/16 20:59	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/03/16 20:59	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/03/16 20:59	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		05/03/16 20:59	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		05/03/16 20:59	17060-07-0	
Toluene-d8 (S)	109	%	70-130		1		05/03/16 20:59	2037-26-5	

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ANALYTICAL RESULTS

Project BAY CREEK 18662/52260
Pace Project No.. 92295791

Sample: MW-24 **Lab ID: 92295791014** Collected. 04/28/16 12:48 Received: 04/29/16 08 52 Matrix. Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method. EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0 021	0 021	1	05/02/16 11:59	05/03/16 01:44	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	113	%	60-140		1	05/02/16 11 59	05/03/16 01:44	301-79-56	
8260 MSV	Analytical Method· EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76 8	1		05/03/16 21:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3 4	1		05/03/16 21 16	994-05-8	
Benzene	ND	ug/L	5.0	1 7	1		05/03/16 21:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/03/16 21:16	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57 7	1		05/03/16 21.16	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/03/16 21 16	762-75-4	
1,2-Dichloroethane	ND	ug/L	5 0	1.8	1		05/03/16 21 16	107-06-2	
Diisopropyl ether	ND	ug/L	5 0	1 7	1		05/03/16 21 16	108-20-3	
Ethanol	ND	ug/L	200	131	1		05/03/16 21:16	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1 6	1		05/03/16 21:16	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10 0	3 6	1		05/03/16 21·16	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5 0	1.7	1		05/03/16 21 16	1634-04-4	
Naphthalene	ND	ug/L	5 0	2.0	1		05/03/16 21.16	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/03/16 21.16	108-88-3	
Xylene (Total)	ND	ug/L	10 0	2 7	1		05/03/16 21:16	1330-20-7	
m&p-Xylene	ND	ug/L	10 0	3 1	1		05/03/16 21:16	179601-23-1	
o-Xylene	ND	ug/L	5.0	1 6	1		05/03/16 21·16	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	109	%	70-130		1		05/03/16 21 16	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130		1		05/03/16 21:16	17060-07-0	
Toluene-d8 (S)	106	%	70-130		1		05/03/16 21:16	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

Sample: MW-25 **Lab ID: 92295791015** Collected: 04/28/16 12 33 Received: 04/29/16 08 52 Matrix Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0 020	1	05/02/16 11:59	05/03/16 02 03	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	157	%	60-140		1	05/02/16 11.59	05/03/16 02:03	301-79-56	S3
8260 MSV	Analytical Method. EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1250	960	12.5		05/04/16 16:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	125	42 5	12 5		05/04/16 16:48	994-05-8	
Benzene	**1890**	ug/L	62.5	21.2	12 5		05/04/16 16 48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1250	401	12 5		05/04/16 16.48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1250	721	12 5		05/04/16 16 48	75-65-0	
tert-Butyl Formate	ND	ug/L	625	91 2	12.5		05/04/16 16 48	762-75-4	
1,2-Dichloroethane	ND	ug/L	62.5	22.5	12.5		05/04/16 16:48	107-06-2	
Diisopropyl ether	ND	ug/L	62 5	21.2	12.5		05/04/16 16:48	108-20-3	
Ethanol	ND	ug/L	2500	1640	12.5		05/04/16 16:48	64-17-5	
Ethylbenzene	**632**	ug/L	62.5	20.0	12 5		05/04/16 16:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	125	45 0	12 5		05/04/16 16:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	62.5	21.2	12 5		05/04/16 16:48	1634-04-4	
Naphthalene	**182**	ug/L	62.5	25.0	12 5		05/04/16 16:48	91-20-3	
Toluene	**118**	ug/L	62.5	20 0	12.5		05/04/16 16 48	108-88-3	
Xylene (Total)	**264**	ug/L	125	33 8	12.5		05/04/16 16 48	1330-20-7	
m&p-Xylene	**264**	ug/L	125	38.8	12.5		05/04/16 16:48	179601-23-1	
o-Xylene	ND	ug/L	62 5	20.0	12.5		05/04/16 16:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		12 5		05/04/16 16:48	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		12 5		05/04/16 16:48	17060-07-0	
Toluene-d8 (S)	99	%	70-130		12.5		05/04/16 16:48	2037-26-5	

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ANALYTICAL RESULTS

Project BAY CREEK 18662/52260
Pace Project No 92295791

Sample: PW-1 **Lab ID: 92295791016** Collected: 04/28/16 11:20 Received: 04/29/16 08:52 Matrix Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/02/16 12 00	05/03/16 03 01	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	115	%	60-140		1	05/02/16 12.00	05/03/16 03:01	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/04/16 04:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3 4	1		05/04/16 04.31	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/04/16 04:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32 1	1		05/04/16 04:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/04/16 04:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/04/16 04:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1 8	1		05/04/16 04:31	107-06-2	
Diisopropyl ether	ND	ug/L	5 0	1.7	1		05/04/16 04:31	108-20-3	
Ethanol	ND	ug/L	200	131	1		05/04/16 04.31	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/04/16 04:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3 6	1		05/04/16 04:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5 0	1 7	1		05/04/16 04.31	1634-04-4	
Naphthalene	ND	ug/L	5 0	2 0	1		05/04/16 04 31	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/04/16 04.31	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/04/16 04:31	1330-20-7	
m&p-Xylene	ND	ug/L	10 0	3.1	1		05/04/16 04:31	179601-23-1	
o-Xylene	ND	ug/L	5 0	1 6	1		05/04/16 04 31	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		05/04/16 04 31	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		05/04/16 04:31	17060-07-0	
Toluene-d8 (S)	110	%	70-130		1		05/04/16 04:31	2037-26-5	

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ANALYTICAL RESULTS

Project BAY CREEK 18662/52260
Pace Project No 92295791

Sample: DUP 1 **Lab ID: 92295791017** Collected: 04/28/16 11:52 Received 04/29/16 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0 021	0.021	1	05/02/16 12 00	05/03/16 03 39	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	120	%	60-140		1	05/02/16 12 00	05/03/16 03 39	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	2000	1540	20		05/04/16 07.02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	68.0	20		05/04/16 07:02	994-05-8	
Benzene	**2140**	ug/L	100	34 0	20		05/04/16 07:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	642	20		05/04/16 07:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	1150	20		05/04/16 07.02	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	146	20		05/04/16 07 02	762-75-4	
1,2-Dichloroethane	ND	ug/L	100	36.0	20		05/04/16 07.02	107-06-2	
Diisopropyl ether	ND	ug/L	100	34.0	20		05/04/16 07 02	108-20-3	
Ethanol	ND	ug/L	4000	2620	20		05/04/16 07.02	64-17-5	
Ethylbenzene	**700**	ug/L	100	32 0	20		05/04/16 07:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	72 0	20		05/04/16 07:02	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	100	34 0	20		05/04/16 07:02	1634-04-4	
Naphthalene	**583**	ug/L	100	40 0	20		05/04/16 07 02	91-20-3	
Toluene	**200**	ug/L	100	32.0	20		05/04/16 07:02	108-88-3	
Xylene (Total)	**2920**	ug/L	200	54.0	20		05/04/16 07:02	1330-20-7	
m&p-Xylene	**2440**	ug/L	200	62.0	20		05/04/16 07 02	179601-23-1	
o-Xylene	**483**	ug/L	100	32.0	20		05/04/16 07:02	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		20		05/04/16 07:02	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		20		05/04/16 07:02	17060-07-0	
Toluene-d8 (S)	102	%	70-130		20		05/04/16 07:02	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No 92295791

Sample: FIELD BLANK **Lab ID: 92295791018** Collected: 04/28/16 13:00 Received: 04/29/16 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/02/16 12 00	05/03/16 03:58	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	165	%	60-140		1	05/02/16 12 00	05/03/16 03 58	301-79-56	S3
8260 MSV	Analytical Method EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/04/16 03:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10 0	3.4	1		05/04/16 03:07	994-05-8	
Benzene	ND	ug/L	5 0	1.7	1		05/04/16 03:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/04/16 03 07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/04/16 03.07	75-65-0	
tert-Butyl Formate	ND	ug/L	50 0	7 3	1		05/04/16 03:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/04/16 03:07	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/04/16 03:07	108-20-3	
Ethanol	ND	ug/L	200	131	1		05/04/16 03:07	64-17-5	
Ethylbenzene	ND	ug/L	5 0	1.6	1		05/04/16 03:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3 6	1		05/04/16 03 07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/04/16 03:07	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/04/16 03:07	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/04/16 03:07	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/04/16 03:07	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3 1	1		05/04/16 03:07	179601-23-1	
o-Xylene	ND	ug/L	5 0	1 6	1		05/04/16 03:07	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		05/04/16 03:07	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	70-130		1		05/04/16 03 07	17060-07-0	
Toluene-d8 (S)	113	%	70-130		1		05/04/16 03 07	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK 18662/52260
Pace Project No: 92295791

Sample: TRIP BLANK **Lab ID: 92295791019** Collected: 04/28/16 13:01 Received: 04/29/16 08:52 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/04/16 03:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/04/16 03.24	994-05-8	
Benzene	ND	ug/L	5 0	1 7	1		05/04/16 03 24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/04/16 03 24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57 7	1		05/04/16 03:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50 0	7.3	1		05/04/16 03:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/04/16 03:24	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/04/16 03:24	108-20-3	
Ethanol	ND	ug/L	200	131	1		05/04/16 03:24	64-17-5	
Ethylbenzene	ND	ug/L	5 0	1 6	1		05/04/16 03 24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3 6	1		05/04/16 03 24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/04/16 03 24	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/04/16 03 24	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/04/16 03:24	108-88-3	
Xylene (Total)	ND	ug/L	10 0	2 7	1		05/04/16 03:24	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3 1	1		05/04/16 03:24	179601-23-1	
o-Xylene	ND	ug/L	5 0	1 6	1		05/04/16 03:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		05/04/16 03:24	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130		1		05/04/16 03 24	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		05/04/16 03 24	2037-26-5	

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QUALITY CONTROL DATA

Project: BAY CREEK 18662/52260
Pace Project No . 92295791

QC Batch MSV/36656 Analysis Method: EPA 8260
QC Batch Method EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92295791001, 92295791003, 92295791007, 92295791008, 92295791012, 92295791013, 92295791014

METHOD BLANK: 1724579 Matrix: Water
Associated Lab Samples: 92295791001, 92295791003, 92295791007, 92295791008, 92295791012, 92295791013, 92295791014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5 0	1.8	05/03/16 13.45	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	05/03/16 13:45	
Benzene	ug/L	ND	5.0	1 7	05/03/16 13.45	
Diisopropyl ether	ug/L	ND	5.0	1 7	05/03/16 13 45	
Ethanol	ug/L	ND	200	131	05/03/16 13:45	
Ethyl-tert-butyl ether	ug/L	ND	10 0	3.6	05/03/16 13:45	
Ethylbenzene	ug/L	ND	5 0	1.6	05/03/16 13:45	
m&p-Xylene	ug/L	ND	10 0	3 1	05/03/16 13 45	
Methyl-tert-butyl ether	ug/L	ND	5.0	1 7	05/03/16 13 45	
Naphthalene	ug/L	ND	5.0	2 0	05/03/16 13.45	
o-Xylene	ug/L	ND	5.0	1 6	05/03/16 13:45	
tert-Amyl Alcohol	ug/L	ND	100	76.8	05/03/16 13:45	
tert-Amylmethyl ether	ug/L	ND	10 0	3.4	05/03/16 13:45	
tert-Butyl Alcohol	ug/L	ND	100	57.7	05/03/16 13 45	
tert-Butyl Formate	ug/L	ND	50.0	7.3	05/03/16 13.45	
Toluene	ug/L	ND	5 0	1 6	05/03/16 13 45	
Xylene (Total)	ug/L	ND	10.0	2 7	05/03/16 13:45	
1,2-Dichloroethane-d4 (S)	%	89	70-130		05/03/16 13:45	
4-Bromofluorobenzene (S)	%	104	70-130		05/03/16 13:45	
Toluene-d8 (S)	%	110	70-130		05/03/16 13:45	

LABORATORY CONTROL SAMPLE: 1724580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	42.8	86	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	981	98	70-130	
Benzene	ug/L	50	45 5	91	70-130	
Diisopropyl ether	ug/L	50	45 0	90	70-130	
Ethanol	ug/L	2000	1950	98	70-130	
Ethyl-tert-butyl ether	ug/L	100	98.2	98	70-130	
Ethylbenzene	ug/L	50	44.2	88	70-130	
m&p-Xylene	ug/L	100	86 8	87	70-130	
Methyl-tert-butyl ether	ug/L	50	48.7	97	70-130	
Naphthalene	ug/L	50	47 6	95	70-130	
o-Xylene	ug/L	50	43 5	87	70-130	
tert-Amyl Alcohol	ug/L	1000	918	92	70-130	
tert-Amylmethyl ether	ug/L	100	88.9	89	70-130	
tert-Butyl Alcohol	ug/L	500	455	91	70-130	
tert-Butyl Formate	ug/L	400	363	91	70-130	
Toluene	ug/L	50	42 3	85	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project BAY CREEK 18662/52260
Pace Project No : 92295791

LABORATORY CONTROL SAMPLE: 1724580

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	130	87	70-130	
1,2-Dichloroethane-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 1724641

Parameter	Units	92295791013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.5	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	563	141	70-130	M1
Benzene	ug/L	ND	20	21.7	108	70-130	
Diisopropyl ether	ug/L	ND	20	18.8	94	70-130	
Ethanol	ug/L	ND	800	1050	131	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	40 3	101	70-130	
Ethylbenzene	ug/L	ND	20	21 2	106	70-130	
m&p-Xylene	ug/L	ND	40	43 6	109	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	19 5	98	70-130	
Naphthalene	ug/L	ND	20	22 1	110	70-130	
o-Xylene	ug/L	ND	20	21 6	108	70-130	
tert-Amyl Alcohol	ug/L	ND	400	484	121	70-130	
tert-Amylmethyl ether	ug/L	ND	40	39.2	98	70-130	
tert-Butyl Alcohol	ug/L	ND	200	351	176	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	20 8	104	70-130	
1,2-Dichloroethane-d4 (S)	%				103	70-130	
4-Bromofluorobenzene (S)	%				103	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE 1724642

Parameter	Units	92295791014 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: BAY CREEK 18662/52260
Pace Project No 92295791

SAMPLE DUPLICATE: 1724642

Parameter	Units	92295791014 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	92	94	1		
4-Bromofluorobenzene (S)	%	109	104	5		
Toluene-d8 (S)	%	106	106	0		

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QUALITY CONTROL DATA

Project BAY CREEK 18662/52260
Pace Project No.: 92295791

QC Batch: MSV/36658 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description. 8260 MSV SC
Associated Lab Samples. 92295791016, 92295791017, 92295791018, 92295791019

METHOD BLANK: 1724659 Matrix Water
Associated Lab Samples: 92295791016, 92295791017, 92295791018, 92295791019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5 0	1 8	05/04/16 02:17	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32 1	05/04/16 02 17	
Benzene	ug/L	ND	5 0	1.7	05/04/16 02 17	
Diisopropyl ether	ug/L	ND	5 0	1.7	05/04/16 02 17	
Ethanol	ug/L	ND	200	131	05/04/16 02 17	
Ethyl-tert-butyl ether	ug/L	ND	10 0	3 6	05/04/16 02:17	
Ethylbenzene	ug/L	ND	5.0	1 6	05/04/16 02:17	
m&p-Xylene	ug/L	ND	10.0	3 1	05/04/16 02:17	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	05/04/16 02:17	
Naphthalene	ug/L	ND	5.0	2 0	05/04/16 02:17	
o-Xylene	ug/L	ND	5.0	1.6	05/04/16 02 17	
tert-Amyl Alcohol	ug/L	ND	100	76.8	05/04/16 02 17	
tert-Amylmethyl ether	ug/L	ND	10 0	3.4	05/04/16 02 17	
tert-Butyl Alcohol	ug/L	ND	100	57.7	05/04/16 02:17	
tert-Butyl Formate	ug/L	ND	50.0	7.3	05/04/16 02 17	
Toluene	ug/L	ND	5.0	1 6	05/04/16 02:17	
Xylene (Total)	ug/L	ND	10.0	2 7	05/04/16 02:17	
1,2-Dichloroethane-d4 (S)	%	88	70-130		05/04/16 02:17	
4-Bromofluorobenzene (S)	%	106	70-130		05/04/16 02 17	
Toluene-d8 (S)	%	112	70-130		05/04/16 02 17	

LABORATORY CONTROL SAMPLE: 1724660

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.9	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1100	110	70-130	
Benzene	ug/L	50	51 7	103	70-130	
Diisopropyl ether	ug/L	50	50.5	101	70-130	
Ethanol	ug/L	2000	2090	104	70-130	
Ethyl-tert-butyl ether	ug/L	100	107	107	70-130	
Ethylbenzene	ug/L	50	49.2	98	70-130	
m&p-Xylene	ug/L	100	98.3	98	70-130	
Methyl-tert-butyl ether	ug/L	50	52 6	105	70-130	
Naphthalene	ug/L	50	52 3	105	70-130	
o-Xylene	ug/L	50	49 1	98	70-130	
tert-Amyl Alcohol	ug/L	1000	993	99	70-130	
tert-Amylmethyl ether	ug/L	100	98.4	98	70-130	
tert-Butyl Alcohol	ug/L	500	482	96	70-130	
tert-Butyl Formate	ug/L	400	400	100	70-130	
Toluene	ug/L	50	48.2	96	70-130	

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QUALITY CONTROL DATA

Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

LABORATORY CONTROL SAMPLE 1724660

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	147	98	70-130	
1,2-Dichloroethane-d4 (S)	%			104	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 1724661

Parameter	Units	92295830001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19 3	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	505	126	70-130	
Benzene	ug/L	ND	20	20 5	102	70-130	
Diisopropyl ether	ug/L	ND	20	17.6	88	70-130	
Ethanol	ug/L	ND	800	1760	220	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	37.8	94	70-130	
Ethylbenzene	ug/L	ND	20	21 2	106	70-130	
m&p-Xylene	ug/L	ND	40	44 1	110	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	18 1	90	70-130	
Naphthalene	ug/L	ND	20	20.5	103	70-130	
o-Xylene	ug/L	ND	20	22.0	110	70-130	
tert-Amyl Alcohol	ug/L	ND	400	440	110	70-130	
tert-Amylmethyl ether	ug/L	ND	40	36 7	92	70-130	
tert-Butyl Alcohol	ug/L	ND	200	298	149	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	20.9	104	70-130	
1,2-Dichloroethane-d4 (S)	%				100	70-130	
4-Bromofluorobenzene (S)	%				107	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE 1724662

Parameter	Units	92295830002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project BAY CREEK 18662/52260
Pace Project No.. 92295791

SAMPLE DUPLICATE: 1724662

Parameter	Units	92295830002 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	92	88	4		
4-Bromofluorobenzene (S)	%	108	104	4		
Toluene-d8 (S)	%	111	108	3		

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QUALITY CONTROL DATA

Project BAY CREEK 18662/52260
Pace Project No.: 92295791

QC Batch MSV/36678 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples 92295791002, 92295791004, 92295791005, 92295791006, 92295791009, 92295791010, 92295791011, 92295791015

METHOD BLANK: 1725643 Matrix Water
Associated Lab Samples: 92295791002, 92295791004, 92295791005, 92295791006, 92295791009, 92295791010, 92295791011, 92295791015

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	05/04/16 14 01	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32 1	05/04/16 14 01	
Benzene	ug/L	ND	5 0	1 7	05/04/16 14:01	
Diisopropyl ether	ug/L	ND	5.0	1 7	05/04/16 14:01	
Ethanol	ug/L	ND	200	131	05/04/16 14:01	
Ethyl-tert-butyl ether	ug/L	ND	10 0	3.6	05/04/16 14:01	
Ethylbenzene	ug/L	ND	5 0	1.6	05/04/16 14 01	
m&p-Xylene	ug/L	ND	10 0	3.1	05/04/16 14.01	
Methyl-tert-butyl ether	ug/L	ND	5.0	1 7	05/04/16 14.01	
Naphthalene	ug/L	ND	5.0	2.0	05/04/16 14:01	
o-Xylene	ug/L	ND	5 0	1.6	05/04/16 14:01	
tert-Amyl Alcohol	ug/L	ND	100	76.8	05/04/16 14 01	
tert-Amylmethyl ether	ug/L	ND	10 0	3.4	05/04/16 14 01	
tert-Butyl Alcohol	ug/L	ND	100	57 7	05/04/16 14:01	
tert-Butyl Formate	ug/L	ND	50.0	7 3	05/04/16 14:01	
Toluene	ug/L	ND	5.0	1.6	05/04/16 14:01	
Xylene (Total)	ug/L	ND	10 0	2.7	05/04/16 14 01	
1,2-Dichloroethane-d4 (S)	%	90	70-130		05/04/16 14:01	
4-Bromofluorobenzene (S)	%	109	70-130		05/04/16 14:01	
Toluene-d8 (S)	%	118	70-130		05/04/16 14:01	

LABORATORY CONTROL SAMPLE 1725644

Parameter	Units	Spike Conc	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	45.5	91	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1040	104	70-130	
Benzene	ug/L	50	48 3	97	70-130	
Diisopropyl ether	ug/L	50	47 6	95	70-130	
Ethanol	ug/L	2000	1860	93	70-130	
Ethyl-tert-butyl ether	ug/L	100	103	103	70-130	
Ethylbenzene	ug/L	50	46.5	93	70-130	
m&p-Xylene	ug/L	100	95 2	95	70-130	
Methyl-tert-butyl ether	ug/L	50	51 1	102	70-130	
Naphthalene	ug/L	50	47 6	95	70-130	
o-Xylene	ug/L	50	47 4	95	70-130	
tert-Amyl Alcohol	ug/L	1000	934	93	70-130	
tert-Amylmethyl ether	ug/L	100	91.3	91	70-130	
tert-Butyl Alcohol	ug/L	500	459	92	70-130	

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QUALITY CONTROL DATA

Project: BAY CREEK 18662/52260
Pace Project No.: 92295791

LABORATORY CONTROL SAMPLE: 1725644

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	383	96	70-130	
Toluene	ug/L	50	43 5	87	70-130	
Xylene (Total)	ug/L	150	143	95	70-130	
1,2-Dichloroethane-d4 (S)	%			108	70-130	
4-Bromofluorobenzene (S)	%			103	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE SAMPLE: 1725645

Parameter	Units	92295826003 Result	Spike Conc	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19 2	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	439	110	70-130	
Benzene	ug/L	ND	20	20 0	100	70-130	
Diisopropyl ether	ug/L	ND	20	18.1	90	70-130	
Ethanol	ug/L	ND	800	641	80	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	38.1	95	70-130	
Ethylbenzene	ug/L	ND	20	20.7	103	70-130	
m&p-Xylene	ug/L	ND	40	41 6	103	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	18 9	95	70-130	
Naphthalene	ug/L	ND	20	19 7	96	70-130	
o-Xylene	ug/L	ND	20	20 6	102	70-130	
tert-Amyl Alcohol	ug/L	143	400	887	186	70-130	M1
tert-Amylmethyl ether	ug/L	ND	40	37 0	92	70-130	
tert-Butyl Alcohol	ug/L	ND	200	360	180	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	20.4	102	70-130	
1,2-Dichloroethane-d4 (S)	%				99	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE: 1725646

Parameter	Units	92295826004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project. BAY CREEK 18662/52260
Pace Project No 92295791

SAMPLE DUPLICATE 1725646

Parameter	Units	92295826004 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	93	88	5		
4-Bromofluorobenzene (S)	%	113	114	1		
Toluene-d8 (S)	%	114	109	5		

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QUALITY CONTROL DATA

Project BAY CREEK 18662/52260
Pace Project No . 92295791

QC Batch. OEXT/42312 Analysis Method: EPA 8011
QC Batch Method EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples 92295791001, 92295791002, 92295791003, 92295791004, 92295791005, 92295791006, 92295791007, 92295791008, 92295791009

METHOD BLANK: 1723526 Matrix: Water
Associated Lab Samples. 92295791001, 92295791002, 92295791003, 92295791004, 92295791005, 92295791006, 92295791007, 92295791008, 92295791009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0 020	0.020	05/02/16 13.31	
1-Chloro-2-bromopropane (S)	%	111	60-140		05/02/16 13.31	

LABORATORY CONTROL SAMPLE & LCSD. 1723527 1723528

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	29	0 32	0.32	110	114	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				109	115	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE 1723529 1723530

Parameter	Units	92295706003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	28	28	0.27	0 26	96	94	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						123	127	60-140			

SAMPLE DUPLICATE: 1723531

Parameter	Units	92295791001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	121	107	15		

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QUALITY CONTROL DATA

Project BAY CREEK 18662/52260
Pace Project No 92295791

QC Batch OEXT/42313 Analysis Method: EPA 8011
QC Batch Method EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92295791010, 92295791011, 92295791012, 92295791013, 92295791014, 92295791015, 92295791016, 92295791017, 92295791018

METHOD BLANK: 1723532 Matrix: Water
Associated Lab Samples 92295791010, 92295791011, 92295791012, 92295791013, 92295791014, 92295791015, 92295791016, 92295791017, 92295791018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0 020	05/02/16 22:11	
1-Chloro-2-bromopropane (S)	%	121	60-140		05/02/16 22:11	

LABORATORY CONTROL SAMPLE & LCSD: 1723533 1723534

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.26	0.25	92	86	60-140	6	20	
1-Chloro-2-bromopropane (S)	%				129	118	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1723536 1723537

Parameter	Units	92295791013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	31	.31	0.031	0.031	10	10	60-140	0	20	M1
1-Chloro-2-bromopropane (S)	%						109	109	60-140			

SAMPLE DUPLICATE: 1723535

Parameter	Units	92295794001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	120	115	4		

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QUALIFIERS

Project BAY CREEK 18662/52260
Pace Project No . 92295791

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit

RL - Reporting Limit

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270 The result reported for each analyte is a combined concentration

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TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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Pace Analytical Services, Inc.
9800 Kincey Ave Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BAY CREEK 18662/52260
Pace Project No 92295791

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92295791001	MW-3R	EPA 8011	OEXT/42312	EPA 8011	GCSV/24859
92295791002	MW-4	EPA 8011	OEXT/42312	EPA 8011	GCSV/24859
92295791003	MW-5	EPA 8011	OEXT/42312	EPA 8011	GCSV/24859
92295791004	MW-9	EPA 8011	OEXT/42312	EPA 8011	GCSV/24859
92295791005	MW-15	EPA 8011	OEXT/42312	EPA 8011	GCSV/24859
92295791006	MW-16	EPA 8011	OEXT/42312	EPA 8011	GCSV/24859
92295791007	MW-17	EPA 8011	OEXT/42312	EPA 8011	GCSV/24859
92295791008	MW-18	EPA 8011	OEXT/42312	EPA 8011	GCSV/24859
92295791009	MW-19	EPA 8011	OEXT/42312	EPA 8011	GCSV/24859
92295791010	MW-20	EPA 8011	OEXT/42313	EPA 8011	GCSV/24860
92295791011	MW-21	EPA 8011	OEXT/42313	EPA 8011	GCSV/24860
92295791012	MW-22	EPA 8011	OEXT/42313	EPA 8011	GCSV/24860
92295791013	MW-23	EPA 8011	OEXT/42313	EPA 8011	GCSV/24860
92295791014	MW-24	EPA 8011	OEXT/42313	EPA 8011	GCSV/24860
92295791015	MW-25	EPA 8011	OEXT/42313	EPA 8011	GCSV/24860
92295791016	PW-1	EPA 8011	OEXT/42313	EPA 8011	GCSV/24860
92295791017	DUP 1	EPA 8011	OEXT/42313	EPA 8011	GCSV/24860
92295791018	FIELD BLANK	EPA 8011	OEXT/42313	EPA 8011	GCSV/24860
92295791001	MW-3R	EPA 8260	MSV/36656		
92295791002	MW-4	EPA 8260	MSV/36678		
92295791003	MW-5	EPA 8260	MSV/36656		
92295791004	MW-9	EPA 8260	MSV/36678		
92295791005	MW-15	EPA 8260	MSV/36678		
92295791006	MW-16	EPA 8260	MSV/36678		
92295791007	MW-17	EPA 8260	MSV/36656		
92295791008	MW-18	EPA 8260	MSV/36656		
92295791009	MW-19	EPA 8260	MSV/36678		
92295791010	MW-20	EPA 8260	MSV/36678		
92295791011	MW-21	EPA 8260	MSV/36678		
92295791012	MW-22	EPA 8260	MSV/36656		
92295791013	MW-23	EPA 8260	MSV/36656		
92295791014	MW-24	EPA 8260	MSV/36656		
92295791015	MW-25	EPA 8260	MSV/36678		
92295791016	PW-1	EPA 8260	MSV/36658		
92295791017	DUP 1	EPA 8260	MSV/36658		
92295791018	FIELD BLANK	EPA 8260	MSV/36658		
92295791019	TRIP BLANK	EPA 8260	MSV/36658		

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Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: 18FEB2016 Page 1 of 2
	Document No.: F-CHR-CS-003-rev.18	Issuing Authority: Pace Huntersville Quality Office

Sample Condition Upon Receipt

Client Name: Midlands / SCDHEC **Projec**

WO# : 92295791

92295791

Courier: ☐ Commercial ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☑ Pace ☐ Other:____

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Date/Initials Person Examining Contents: 4/29/16

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other:____

Thermometer: ☑ T1505 ☐ **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☑ Samples on ice, cooling process has begun

Correction Factor: 0.0°C **Cooler Temp Corrected (°C):** 3.5 **Biological Tissue Frozen?** ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☐ Yes ☑ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				COMMENTS:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☑ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix:____	☐ Yes	☑ No	☐ N/A	12. No date/time on bottle
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☑ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☐ Yes	☐ No	☑ N/A	
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC,LLHg	☐ Yes	☐ No	☑ N/A	
Samples checked for dechlorination	☐ Yes	☐ No	☑ N/A	14.
Headspace in VOA Vials (>5-6mm)?	☑ Yes	☐ No	☐ N/A	15. [illegible]
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	16.
Trip Blank Custody Seals Present?	☐ Yes	☑ No	☐ N/A	
Pace Trip Blank Lot # (if purchased):____				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager SCURF Review: TC **Date:** 4/29/16

Project Manager SRF Review: TC **Date:** 5/2/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers)

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 3 of 3

1996865

Section A Required Client Information:
Company: SCDHEC - UST
Address: 2600 Bull Street, Columbia, SC 29201
Email To: bryantjr@dhec.sc.gov
Phone: 803-898-0606 Fax: 803-578-0673
Requested Due Date/TAT:

Section B Required Project Information:
Report To: J. Bryant - UST
Copy To:
Purchase Order No.: 4600422813
Project Name: Bay Creek Villas
Project Number: UST 18662 / Pace QN 82260

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: J. Carter
Pace Profile #: 849-1

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER
Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): BTEX, MA 8260B; BTEX-DCA, MA 8260B; 8260B; EDB, SW 8011

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	BTEX, MA 8260B	BTEX-DCA, MA 8260B	8260B	EDB, SW 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92295791
1	MW-1																							No Sample —
2	MW-3R	WT	G			4/28/16	11:32		6				6						X	X	X	X		Odor, Sheen 001
3	MW-4	WT	G			4/28/16	11:07		6				6						X	X	X	X		Odor 002
4	MW-5	WT	G			4/28/16	11:02		6				6						X	X	X	X		Sulfur Odor 003
5	MW-6																							No Sample —
6	MW-7																							No Sample —
7	MW-8																							No Sample —
8	MW-9	WT	G			4/28/16	11:26		6				6						X	X	X	X		Odor 004
9	MW-10																							No Sample —
10	MW-11																							No Sample —
11	MW-12																							No Sample —
12	MW-13																							No Sample —

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	4/28/16	8:52	[signature]	4/28/16	8:52				
	[signature]	4/28/16	1447	[signature]	4/28/16	1447	25	yes	no	yes

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Colin Phillips
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/28/16

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 3

1996866

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC-UST	Report To: J. Bryant - UST	Attention:
Address: 2600 Bull Street Columbia, SC 29201	Copy To:	Company Name:
		Address:
Email To: bryantjc@dhec.sc.gov	Purchase Order No.: 4600422513	Pace Quote Reference:
Phone: 803-898-0606 Fax: 803-898-0673	Project Name: Bay Creek Villas	Pace Project Manager: T. Carter
Requested Due Date/TAT:	Project Number: UST 18662 / Pace CA 52260	Pace Profile #:

REGULATORY AGENCY

- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	DTEX N, M 8260B	1,2-DCA 8260B	8 Oxys 8260B	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-14																							No Sample
2	MW-15	WT	G			4/28/16	11:39		6				6						X	X	X	X		Slight Odor 005
3	MW-16						12:00																	Strong Odor 006
4	MW-17						12:19																	Strong Odor 007
5	MW-18						12:27																	Odor 008
6	MW-19						12:32																	Sheen, Odor 009
7	MW-20						12:07																	Sheen, Odor 010
8	MW-21						11:52																	Strong Odor 011
9	MW-22						11:46																	Odor 012
10	MW-23						12:41																	Odor, Sheen 013
11	MW-24						12:48																	Odor 014
12	MW-25	WT	G			4/28/16	12:53		6				6						X	X	X	X		Odor 015

92295791

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	4/29/16	8:52	James Johns	4-29-16	852				
	James Johns	4-29-16	1447	[signature]	4/29/16	14:47	35	yes	no	yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colin Phillips

SIGNATURE of SAMPLER: Colin Phillips DATE Signed (MM/DD/YY): 4/28/16

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 of 3

1996867

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC-UST	Report To: J. Bryant UST	Attention:
Address: 2600 Bull Street Columbia, SC 29201	Copy To:	Company Name:
		Address:
Email To: bryantjc@dhec.sc.gov	Purchase Order No.: 4600422513	Pace Quote Reference:
Phone: 803-898-0606 Fax: 803-898-0675	Project Name: Bay Creek Villas	Pace Project Manager: T. Carter
Requested Due Date/TAT:	Project Number: UST 18662 / Pace CA 52260	Pace Profile #:

REGULATORY AGENCY

- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX N/M 8260B	12DCA 8260B	8Oxy's 8260B	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	PW-1	WT	G			4/28/16	11:20		6				6						X	X	X	X		Sulfur Odor 016
2	Dup 1	↓	↓			↓	11:52		6				6						X	X	X	X		Strong Odor 017
3	Field Blank	↓	↓			↓	13:00		6				6						X	X	X	X		FB 018
4	Trip Blank	WT	G			4/28/16	13:01		2				2						X	X	X			TB 019
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

92295791

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	4/29/16	8:52	[signature]	4-29-16	852	3.5
	[signature]	4-29-16	1447	[signature]	4/29/16	14:47	[signature]

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colin Phillips

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/28/16

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

UST 157 DOCKETING

dhec

SC Department of Health and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Telephone: 803-898-2544

MEMORANDUM

TO: Midlands Environmental Consultants, Inc.

FROM: John Bryant

RE: **Site Specific Work Plan Request**

Facility Name: Bay Creek Villas

Permit Number: 18662

County: Colleton

Work To Be Completed: Purge and sample all monitoring wells associated with the site.

Total Number of Monitoring Well Samples: 17

Analysis Being Requested: BTEXNM, 1,2-DCA, 8-Oxys and EDB (8260 & 8011)

dhec

Healthy People. Healthy Communities.

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

FEB 0 1 2017

Re: **Site Specific Work Plan Request**
Groundwater Sampling Contract
Solicitation # IFB-5400007403, PO#4600529921

Dear Mr. Shane:

In accordance with bid solicitation # IFB-5400007403 and the UST Management Division Quality Assurance Program Plan (QAPP), Revision 3.1 it is requested that you submit a Site Specific Work Plan for each site attached. The plans must be submitted **within 15 business days** to my attention. The project manager for each site will issue a notice to proceed once the plan has been reviewed and approved.

Please contact me with the sampling schedule before commencing work at these facilities. In addition, a weekly update for each site is required to be submitted via e-mail to the site's project manager and myself. If you have any questions or need further assistance, please contact me at (803) 898-0606 or bryantjc@dhec.sc.gov.

Sincerely,

John C. Bryant, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Site Information Packages

cc: Technical Files

Midlands
Environmental
Consultants, Inc.

February 10, 2017

UST
FEB 10 2017
PROGRAM

UST
158
DOCKETING

Mr. John Bryant, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Site-Specific Work Plan
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 17-5862
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Bryant,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Site-Specific Work Plan for the referenced site.

On February 9, 2017, 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.

Kyle V. Pudney
Project Biologist

Jeff L. Coleman
Senior Scientist

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • Fax: (803) 808-2048

Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division

To: Mr. John Bryant (SCDHEC Project Manager)
From: Jeff L. Coleman (Contractor Project Manager)
Contractor: Midlands Environmental Consultants, Inc. UST Contractor Certification Number: 009

Facility Name: Bay Creek Villas UST Permit #: 16662
Facility Address: 3701 Docksite Road, Edisto Beach, SC 29438
Responsible Party: Bay Creek Villas Phone: N/A
RP Address: 3701 Docksite Road, Edisto Beach, SC 29438
Property Owner (if different): N/A
Property Owner Address: N/A
Current Use of Property: Condos

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ☐ Monitoring Well Installation
- ☑ Groundwater Sampling
- ☐ Other
- ☐ GAC

Analyses (Please check all that apply)

Groundwater/Surface Water:

- ☑ BTEXNMDCA (8260B)
- ☑ Oxygenates (8260B)
- ☑ EDB (8011)
- ☐ PAH (8270D)
- ☐ Lead
- ☐ 8 RCRA Metals
- ☐ TPH
- ☐ pH
- ☐ BOD
- ☐ Nitrate
- ☐ Sulfate
- ☐ Other
- ☐ Methane
- ☐ Ethanol
- ☐ Dissolved Iron

Drinking Water Supply Wells:

- ☐ BTEXNMDCA (524.2)
- ☐ Oxygenates & Ethanol (8260B)
- ☐ Mecury (200.8 245.1 or 245.2)
- ☐ RCRA Metals (200.8)
- ☐ EDB (504.1)

Soil:

- ☐ BTEXNM
- ☐ Lead
- ☐ PAH
- ☐ RCRA Metals
- ☐ Oil & Grease (9071)
- ☐ TPH-DRO (3550B/8015B)
- ☐ TPH-GRO (5030B/8015B)
- ☐ Grain Size
- ☐ TOC

Air:

- ☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

____ Soil	____ Water Supply Wells	____ Air	1 Field Blank
16 Monitoring Wells	____ Surface Water	1 Duplicate	1 Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.
# of shallow points proposed: ____ Estimated Footage: ____ feet per point
# of deep points proposed: ____ Estimated Footage: ____ feet per point
Field Screening Methodology: ____

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.
# of shallow wells: ____ Estimated Footage: ____ feet per point
# of deep wells: ____ Estimated Footage: ____ feet per point
# of recovery wells: ____ Estimated Footage: ____ feet per point
Comments, if warranted:

UST Permit #: 18662 Facility Name: Bay Creek Villas

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 2/8/2017 Field Work Completion: 3/8/2017

Report Submittal: 4/8/2017 # of Copies Provided to Property Owners: 0

Aquifer Characterization

Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

Investigation Derived Waste Disposal

Soil: _____ Tons Purge Water: 200.0 Gallons

Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work

For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.

-During the initial site visit, all monitoring wells were located and found to be in good condition.

-All monitoring wells will be purged prior to sample collection.

-Monitoring well samples will be analyzed for BTEXNM, 1,2-DCA, 6-OXY, and EDB.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)

Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: _____

SCDHEC Certification Number: _____

Name of Laboratory Director: _____

N/A Well Driller as indicated in ACQAP? (Yes/No) If no, indicate driller information below.

Name of Well Driller: _____

SCLLR Certification Number: _____

None 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

S.C. Department of Health and Environmental Control

ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA

Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
CONTRACT PO NUMBER 4600497949

Facility Name: Bay Creek Villas

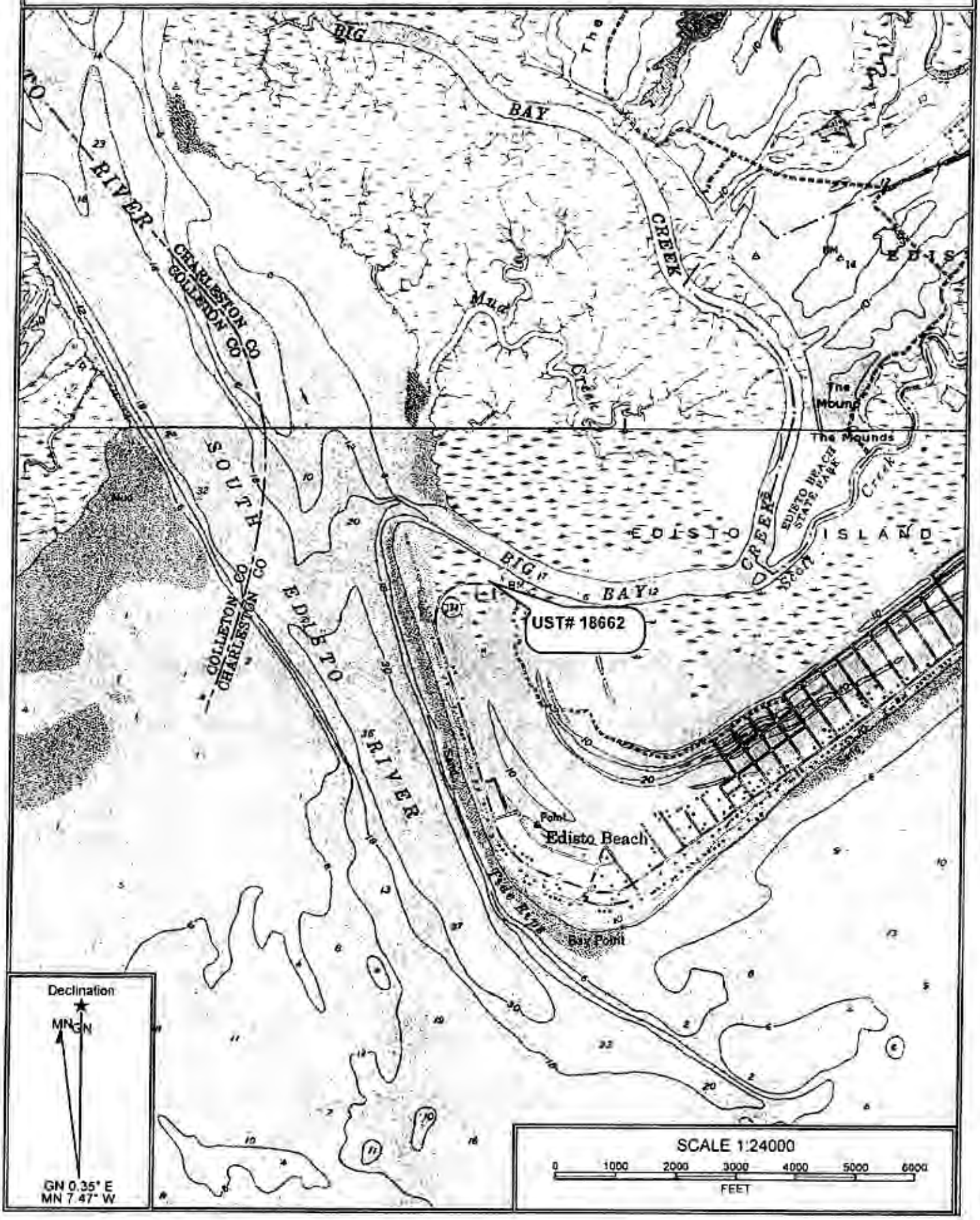
UST Permit #: 18662 **Cost Agreement #:** Proposal

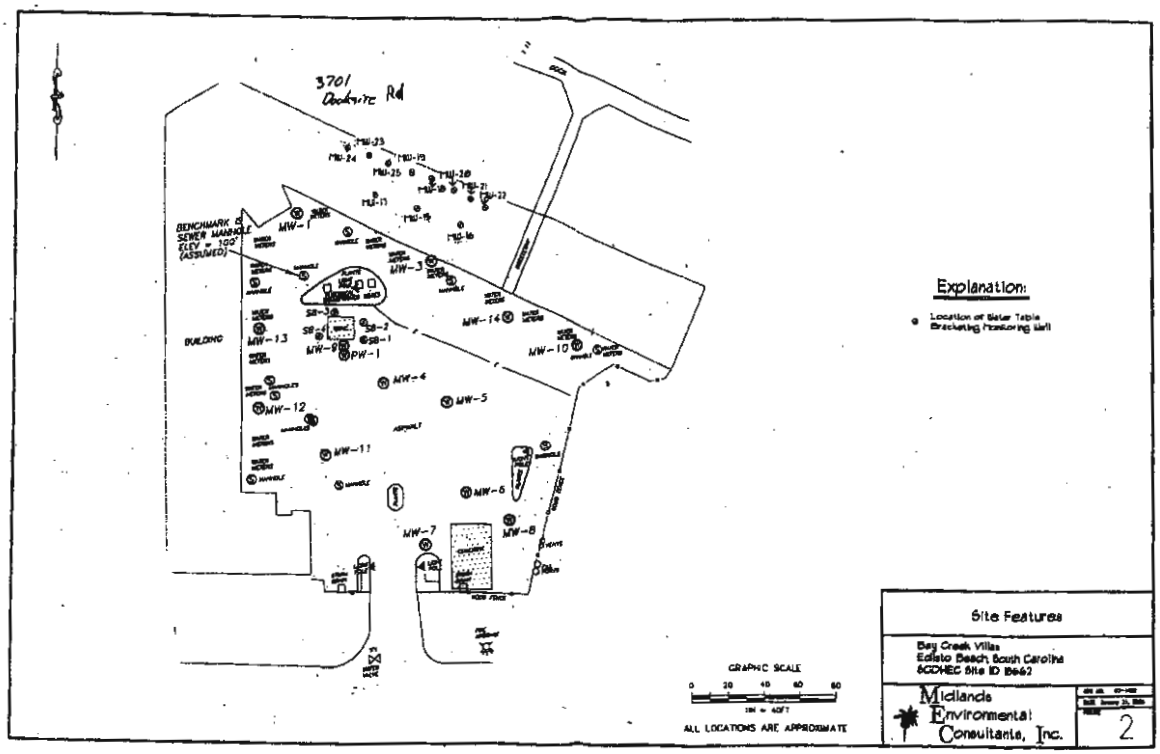
ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
1. **Plan***					
A1. Site Specific Work Plan	1	each	$0.00		$0.00
C1. QAPP Appendix B		each	$0.00		$0.00
2. A1. Receptor Survey		each	$0.00		$0.00
4. **Mob/Demob**					
B1. Personnel	1	each	$350.00		$350.00
10. **Groundwater Sample Collection / Gauge Depth to Water or Product (Each)**					
A1. Groundwater Purge	16	per well	$16.00		$256.00
B1. Air or Vapors		samples	$0.00		$0.00
C1. Water Supply		samples	$10.00		$0.00
D1. Groundwater No Purge		per well	$8.00		$0.00
E1. Gauge Well only		per well	$0.00		$0.00
F1. Sample Below Product		per well	$0.00		$0.00
G1. Pasive Diffusion Bag		each	$20.00		$0.00
H1. Field Blank	1	each	$10.00		$10.00
17. **Disposal* (gallons or tons)**					
AA. Disposal/Water	200	gallons	$1.00		$200.00
BB. Free Product		gallons	$0.00		$0.00
Note: Rate includes costs or rental of suitable container(s)					
23. D. Site Reconnaissance		each	$0.00		$0.00
18. **Miscellaneous (attach receipts)**					
GW Contour Map		each	$25.00		$0.00
Isopleth Map		each	$25.00		$0.00
High-Strength Well Pad Replacement		each	$75.00		$0.00
Trip Blank	1	each	$10.00		$10.00
Low Flow Sampling		per well	$65.00		$0.00
Data Table		each	$25.00		$0.00
25. **Well Repair**					
B1. Repair 2x2 MW Pad		each	$75.00		$0.00
C1. Repair 4x4 MW Pad		each	$75.00		$0.00
D1. Replace Well Vault		each	$75.00		$0.00
E. Replace well cover		each	$25.00		$0.00
F1. Replace well cover bolts		each	$2.60		$0.00
G. Replace locking well cap & lock		each	$15.00		$0.00
K1. Replace Missing Well ID Plate		each	$10.00		$0.00
TOTAL					$826.00

Map Name: EDISTO BEACH
Print Date: 04/14/16

Scale: 1 inch = 2,000 ft.
Map Center: 032° 29' 34.80" N, 080° 20'

Horizontal Datum: NAD27




3701 Dockside Rd
BENCHMARK SEWER MANHOLE ELEV = 100' (ASSUMED)
BUILDING
MW-1
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-10
MW-11
MW-12
MW-13
MW-14
PW-1
SB-1
SB-2
SB-3
Explanation:
Location of Water Table Monitoring Well
GRAPHIC SCALE
0 20 40 60 80
1IN = 40FT
ALL LOCATIONS ARE APPROXIMATE
Site Features
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 8662
Midlands Environmental Consultants, Inc.
2

dhec

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

FEB 2 1 2017

UST DOCKETING 1591

Re: **Notice to Proceed-Site Specific Work Plan Approval**
Groundwater Sampling Contract
Solicitation # IFB-5400007403, PO#4600529921
Bay Creek Villas, 3701 Docksite Road, Edisto Beach, SC
UST Permit #18662; CA #54174 (Pace CA #54175)
Colleton County

Dear Mr. Shane:

In accordance with bid solicitation #IFB-5400007403 and the UST Management Division Quality Assurance Program Plan (QAPP), the Site-Specific Work Plan has been reviewed and approved. In accordance with the approved ACQAP, a status report of the project should be provided on a weekly basis via e-mail. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division.

MECI will perform services at the site on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

Please note, sampling should be conducted within 15 calendar days from the date of this letter. The final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed. The final report should contain the requirements of Section III.2.15 of the bid solicitation. The final report should be submitted to John Bryant, the contract manager.

If you have any site-specific or contract questions, please contact me at (803) 898-0606 or via e-mail at bryantjc@dhec.sc.gov.

Sincerely,

John Bryant, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Approved Cost Agreement (both CAs)

cc: John Bryant, Corrective Action Section, UST Management Division (w/o enc)
Trey Carter, Pace Analytical Services, 9800 Kincey Ave, Ste 100, Huntersville, NC, 28078 (with approved CA)
Technical Files (w/enc)

Approved Cost Agreement 54175

Facility: 18662 BAY CREEK VILLAS
BRYANT,IC
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
11 ANALYSES					
	GW GROUNDWATER	A2 BTEXMM+OXYGS+1,2-DCA+ETH-8260B	19.0000	$19.000	361.00
		F1 EDB BY 8011	18.0000	$18.000	324.00
			Total Amount		685.00

Approved Cost Agreement 54174

Facility 18662 BAY CREEK VILLAS
BRYANTJC
PO Number

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB					
		B1 PERSONNEL	1.0000	$350.000	350.00
10 SAMPLE COLLECTION					
		A1 GROUNDWATER (PURGE)	16.0000	$16.000	256.00
		H1 FIELD BLANK	1.0000	$10.000	10.00
17 DISPOSAL					
		AA WASTEWATER	200.0000	$1.000	200.00
18 MISCELLANEOUS					
		SITE SPECIFIC WORK PLAN	1.0000	$0.000	0.00
		TRIP BLANK	1.0000	$10.000	10.00
			Total Amount		826.00

Midlands
Environmental
Consultants, Inc.

March 15, 2017

Mr. John C. Bryant, Hydrogeologist
Corrective Action Section
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
John
MAR 17 2017
DIVISION

Subject: Report of Groundwater Sampling
Bay Creek Villas
3701 Docksite Road
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662, CA # 54174
MECI Project Number 17-5862
Certified Site Rehabilitation Contractor UCC-0009

UST
16
DOCKETING

Dear Mr. Bryant,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Groundwater Sampling for the referenced site. This report describes site activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control's (SCDHEC) Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP).

PROJECT INFORMATION

The subject site (Bay Creek Villas) is located at 3701 Docksite Road in Edisto Beach, Colleton County, South Carolina. The subject site formerly maintained one 1,000 gallon diesel underground storage tank (UST). According to the South Carolina Department of Health and Environmental Control's (SCDHEC) UST Registry, the one 1,000 gallon diesel UST was abandoned by being filled with concrete in December of 2000. A release of petroleum product was reported to and confirmed by the South Carolina Department of Health and Environmental Control (SCDHEC) in January of 2008. The subject site is currently rated a Class 2AA.

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 3, 2017, MECI personnel collected groundwater samples from sixteen (16) monitoring wells at the subject site. Nine (9) monitoring wells (MW-1, MW-6, MW-7, MW-8, MW-10, MW-11, MW-12, MW-13, MW-14) were found to be abandoned. Based on a request by SCDHEC personnel,

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

all monitoring wells were to be purged prior to sample collection. Sixteen (16) monitoring wells were purged prior to sampling.

Prior to sampling, 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. Purging was completed by bailing at least five well volumes of water from the well, until pH, conductivity, dissolved oxygen and turbidity stabilized, 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 YSI Pro20 meter for DO (mg/L) and temperature readings (°C), YSI Pro1030 meter for pH and conductivity (uS) readings and a MicroTPI/TPW turbidimeter for turbidity readings (NTU). The attached Field Data Information Sheets presents the results of the field measurements obtained. The wells were sampled in accordance with SCDHEC's most recent revision of the Quality Assurance Program Plan for the Underground Storage Tank Management Division and MECI's most recent revision of Standard Operating Procedures.

Groundwater samples obtained were sent to PACE Analytical Services, Inc. of Huntersville, NC (SCDHEC Laboratory Certification #99006) for analysis.

The following sampling matrix contains well development and requested analyses for each well:

Sample ID	Purge	No Purge	Gauge Only	Low-Flow Sampling	Not Sampled	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)	BTEX, Naphthalene, MTBE, 1,2 DCA (EPA Method 524.2)	EDB (EPA Method 504.1)
							Analyte Sampled						
MW-1						X							
MW-3R	X						X	X	X	X			
MW-4	X						X	X	X	X			
MW-5	X						X	X	X	X			
MW-6						X							
MW-7						X							
MW-8						X							
MW-9	X						X	X	X	X			
MW-10						X							
MW-11						X							
MW-12						X							
MW-13						X							
MW-14						X							
MW-15	X						X	X	X	X			
MW-16	X						X	X	X	X			

Notes: BTEX = Benzene, Toluene, Ethylbenzene, & Total Xylenes
MTBE=Methyl tertiary butyl ether
1,2 DCA = 1,2 Dicloroethane
EDB = Ethylene Dibromide

Sample ID	Purge	No Purge	Gauge Only	Low-Flow Sampling	Not Sampled	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)	BTEX, Naphthalene, MTBE, 1,2 DCA (EPA Method 524.2)	EDB (EPA Method 504.1)
							Analyte Sampled						
MW-17	X						X	X	X	X			
MW-18	X						X	X	X	X			
MW-19	X						X	X	X	X			
MW-20	X						X	X	X	X			
MW-21	X						X	X	X	X			
MW-22	X						X	X	X	X			
MW-23	X						X	X	X	X			
MW-24	X						X	X	X	X			
MW-25	X						X	X	X	X			
PW-1	X						X	X	X	X			
DUP-1 (MW-16)							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
EDB = Ethylene Dibromide

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 43.5 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,

Midlands Environmental Consultants, Inc.

Kyle V. Pudner
Project Biologist

Jeff L. Coleman
Senior Scientist

Attachments:

Contractor Checklist

Item#	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?			X
3	Is name, address, & phone number of current property owner provided?			X
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?			X
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?			X
17	Has the method of well development been detailed?			X
18	Has justification been provided for the locations of the monitoring wells?			X
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?			X
20	Has the groundwater sampling methodology been detailed? See MECI SOP	X		
21	Have the groundwater sampling dates and groundwater measurements been provided? See attached Site Activity Summary Sheet	X		
22	Has the purging methodology been detailed? See MECI SOP	X		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete? See attached Field Data Information Sheets	X		
24	If free-product is present, has the thickness been provided? See attached Site Activity Summary Sheets	X		
25	Does the report include a brief discussion of the assessment done and the results?			X
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item#	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?			X
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			X
34	Has the current and historical laboratory data been provided in tabular format?			X
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 1)	X		
38	Has the site base map been provided with all required elements? (Figure 2)	X		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			X
40	Has the site potentiometric map been provided? (Figure 5)			X
41	Have the geologic cross-sections been provided? (Figure 6)			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements? (Appendix A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? See attached	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	X		

Site Activity Summary

Midlands Environmental Consultants, Inc.

UST Permit #:	18662
Facility Name:	Bay Creek Villas
County:	Colleton
Field Personnel:	J. Floyd, B. Garner, C. Phillips, P. Wylie

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Intial Dissolved Oxygen (mg/L)	# Gals. Purged	Comments
MW-1	N	3/3/17	ABAN	2.5-15	***	ABAN	***	ABAN	ABAN	Abandoned
MW-3R	Y	3/3/17	8:46	1.8-11.8	***	5.78	***	1.61	1.50	Sulfuric Odor
MW-4	Y	3/3/17	8:35	2.5-15	***	6.21	***	1.49	0.50	No Odor
MW-5	Y	3/3/17	8:38	2.5-15	***	6.43	***	1.51	2.00	Organic Odor
MW-6	N	3/3/17	ABAN	2.5-15	***	ABAN	***	ABAN	ABAN	Abandoned
MW-7	N	3/3/17	ABAN	1.5-10	***	ABAN	***	ABAN	ABAN	Abandoned
MW-8	N	3/3/17	ABAN	1.5-10	***	ABAN	***	ABAN	ABAN	Abandoned
MW-9	Y	3/3/17	8:45	1.5-10	***	5.96	***	1.12	1.50	No Odor
MW-10	N	3/3/17	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-11	N	3/3/17	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-12	N	3/3/17	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-13	N	3/3/17	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-14	N	3/3/17	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-15	Y	3/3/17	8:52	3-10	***	5.11	***	1.69	1.00	Slight Odor
MW-16	Y	3/3/17	9:07	3-10	***	7.29	***	1.17	0.50	Odor
									7.00	TOTAL GALLONS PURGED

Site Activity Summary

Midlands Environmental Consultants, Inc.

UST Permit #:	18662
Facility Name:	Bay Creek Villas
County:	Colleton
Field Personnel:	J. Floyd, B. Garner, C. Phillips, P. Wylie

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Intial Dissolved Oxygen (mg/L)	# Gals. Purged	Comments
MW-17	Y	3/3/17	9:22	3-10	***	3.00	***	1.67	1.50	Sulfuric Odor
MW-18	Y	3/3/17	10:04	3-10	***	7.03	***	Sheen	1.00	Odor/Sheen
MW-19	Y	3/3/17	9:37	2.5-9.5	***	7.20	***	Sheen	1.00	Odor/Sheen
MW-20	Y	3/3/17	9:53	3-10	***	6.15	***	Sheen	1.00	Odor/Sheen
MW-21	Y	3/3/17	9:50	2.5-9.5	***	6.97	***	Sheen	1.00	Odor/Sheen
MW-22	Y	3/3/17	9:38	3-10	***	7.00	***	2.13	1.00	Odor
MW-23	Y	3/3/17	9:08	2.5-905	***	4.79	***	1.03	1.00	Odor
MW-24	Y	3/3/17	8:52	2.5-9.5	***	5.91	***	1.34	1.00	Odor
MW-25	Y	3/3/17	9:21	2.5-9.5	***	6.39	***	Sheen	1.00	Odor/Sheen
PW-1	Y	3/3/17	9:01	TD: 38.50	***	5.58	***	1.53	27.00	Slight Odor
DUP-1	Y	3/3/17	9:10	***	***	***	***	***	***	Duplicate sample of MW-16
Field Blank	Y	3/3/17	10:01	***	***	***	***	***	***	Field Blank
Trip Blank	Y	3/3/17	10:02	***	***	***	***	***	***	Trip Blank
									36.50	**TOTAL GALLONS PURGED**

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	Site ID #:	18662	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	55

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-3R	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	1.8-11.8	Total Well Depth (TWD) (ft.):	11.80
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	5.62	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	6.18	1 casing volume (CV = LWC x C) (gals.):	1.01	5 casing volumes (5 x CV) (gals.):	5.04

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	1.01	2.01	3.02	4.03	5.04		1.50
Time (military)	8:40	8:41						8:46
PH (s.u.)	7.36	7.22						7.13
Specific Conductivity (µS/cm)	14,110	14,092						13,224
Water Temperature (°C)	23.1	23.4						23.6
Dissolved Oxygen (mg/L)	1.61	1.72						1.89
Turbidity (NTU)	52.18	79.16						42.11

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	Sampling Time:	8:46	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	1.50

Notes: Dry @ 1.50 Gallons, Sulfuric Odor

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	55

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-4	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	2.5-15	*Total Well Depth (TWD) (ft.):*	15.00
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	6.21	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	8.79	*1 casing volume (CV = LWC x C) (gals.):*	1.43	*5 casing volumes (5 x CV) (gals.):*	7.16

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	1.43	2.87	4.30	5.73	7.16		0.50
Time (military)	8:30	8:31						8:35
PH (s.u.)	7.55	7.43						7.41
Specific Conductivity (µS/cm)	3,074	3,248						3,421
Water Temperature (°C)	22.1	22.4						22.7
Dissolved Oxygen (mg/L)	1.49	1.61						1.67
Turbidity (NTU)	69.94	74.16						42.17

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	*Sampling Time:*	8:35	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	0.50

Notes: Dry @ 0.50 Gallons, No Odor

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	**Site ID #:**	18662	**Site Name:**	Bay Creek Villas	**Field Personnel:**	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	**Project Manager:**	John Bryant	**General Weather Conditions:**	Clear	**Ambient Air Temp (°F):**	55

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-5	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	2.5-15	Total Well Depth (TWD) (ft.):	15.00
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	6.43	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	8.57	1 casing volume (CV = LWC x C) (gals.):	1.40	5 casing volumes (5 x CV) (gals.):	6.98

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	1.40	2.79	4.19	5.59	6.98		2.00
Time (military)	8:30	8:31						8:36
PH (s.u.)	7.47	7.56						7.59
Specific Conductivity (µS/cm)	12,397	12,147						13,244
Water Temperature (°C)	22.5	22.7						22.8
Dissolved Oxygen (mg/L)	1.51	1.60						1.69
Turbidity (NTU)	57.25	84.15						42.81

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	Sampling Time:	8:35	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	2.00

Notes: Dry @ 2.00 Gallons, Organic Odor

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	55

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-9	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	1.5-10	*Total Well Depth (TWD) (ft.):*	10.00
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	5.96	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	4.04	*1 casing volume (CV = LWC x C) (gals.):*	0.66	*5 casing volumes (5 x CV) (gals.):*	3.29

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	0.66	1.32	1.98	2.63	3.29		1.50
Time (military)	8:35	8:36	8:37					8:45
PH (s.u.)	6.84	6.95	7.04					7.09
Specific Conductivity (µS/cm)	18,245	17,328	16,849					16,531
Water Temperature (°C)	22.7	22.9	23.2					23.4
Dissolved Oxygen (mg/L)	1.12	1.31	1.42					1.5
Turbidity (NTU)	61.17	104.90	123.60					65.41

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	*Sampling Time:*	8:45	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	1.50

Notes: Dry @ 1.50 Gallons, No Odor

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	**Site ID #:**	18662	**Site Name:**	Bay Creek Villas	**Field Personnel:**	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	**Project Manager:**	John Bryant	**General Weather Conditions:**	Clear	**Ambient Air Temp (°F):**	55

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-15	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	3-10	Total Well Depth (TWD) (ft.):	10.00
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	5.11	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	4.89	1 casing volume (CV = LWC x C) (gals.):	0.80	5 casing volumes (5 x CV) (gals.):	3.99

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.80	1.59	2.39	3.19	3.99		1.00
Time (military)	8:45	8:46						8:52
PH (s.u.)	7.66	7.52						7.41
Specific Conductivity (µS/cm)	10,106	10,244						10,308
Water Temperature (°C)	20.8	21.2						21.5
Dissolved Oxygen (mg/L)	1.69	1.78						1.84
Turbidity (NTU)	52.19	87.24						37.42

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	Sampling Time:	8:52	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	1.00

Notes: Dry @ 1.00 Gallon, Slight Odor

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	55

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-16	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	3-10	*Total Well Depth (TWD) (ft.):*	10.00
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	7.29	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	2.71	*1 casing volume (CV = LWC x C) (gals.):*	0.44	*5 casing volumes (5 x CV) (gals.):*	2.21

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	0.44	0.88	1.33	1.77	2.21		0.50
Time (military)	8:57	8:58						9:07
PH (s.u.)	7.46	7.58						7.61
Specific Conductivity (µS/cm)	11,248	11,421						11,615
Water Temperature (°C)	21.1	21.3						21.4
Dissolved Oxygen (mg/L)	1.17	1.24						1.32
Turbidity (NTU)	55.41	79.11						42.43

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	*Sampling Time:*	9:07	*Duplicate: Y or N*	Y	*If yes, Duplicate Time:*	9:10	*Total Gallons Purged:*	0.50

Notes: Dry @ 0.50 Gallons, Odor

Duplicated as DUP-1

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	55

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-17	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	3-10	*Total Well Depth (TWD) (ft.):*	10.00
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	3.00	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	7	*1 casing volume (CV = LWC x C) (gals.):*	1.14	*5 casing volumes (5 x CV) (gals.):*	5.71

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	1.14	2.28	3.42	4.56	5.71		1.50
Time (military)	9:14	9:15						9:22
PH (s.u.)	7.42	7.34						7.28
Specific Conductivity (µS/cm)	8,412	8,125						8,014
Water Temperature (°C)	19.7	19.9						20.1
Dissolved Oxygen (mg/L)	1.67	1.74						1.86
Turbidity (NTU)	51.29	73.41						42.11

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	*Sampling Time:*	9:22	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	1.50

Notes: Dry @ 1.50 Gallons, Sulfuric Odor

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	55

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-18	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	3-10	*Total Well Depth (TWD) (ft.):*	10.00
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	7.03	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	2.97	*1 casing volume (CV = LWC x C) (gals.):*	0.48	*5 casing volumes (5 x CV) (gals.):*	2.42

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	0.48	0.97	1.45	1.94	2.42		1.00
Time (military)	9:55	9:56	9:57					10:04
PH (s.u.)	Sheen	Sheen	Sheen					Sheen
Specific Conductivity (µS/cm)	Sheen	Sheen	Sheen					Sheen
Water Temperature (°C)	Sheen	Sheen	Sheen					Sheen
Dissolved Oxygen (mg/L)	Sheen	Sheen	Sheen					Sheen
Turbidity (NTU)	Sheen	Sheen	Sheen					Sheen

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	*Sampling Time:*	10:04	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	1.00

Notes: Dry @ 1.00 Gallon, Odor/Sheen

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	55

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-19	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	2.5-9.5	*Total Well Depth (TWD) (ft.):*	9.50
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	7.20	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	2.3	*1 casing volume (CV = LWC x C) (gals.):*	0.37	*5 casing volumes (5 x CV) (gals.):*	1.87

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	0.37	0.75	1.12	1.50	1.87		1.00
Time (military)	9:35	9:36	9:37					9:44
PH (s.u.)	Sheen	Sheen	Sheen					Sheen
Specific Conductivity (µS/cm)	Sheen	Sheen	Sheen					Sheen
Water Temperature (°C)	Sheen	Sheen	Sheen					Sheen
Dissolved Oxygen (mg/L)	Sheen	Sheen	Sheen					Sheen
Turbidity (NTU)	Sheen	Sheen	Sheen					Sheen

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	*Sampling Time:*	9:44	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	1.00

Notes: Dry @ 1.00 Gallon, Odor/Heavy Sheen

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	55

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-20	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	3-10	*Total Well Depth (TWD) (ft.):*	10.00
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	6.15	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	3.85	*1 casing volume (CV = LWC x C) (gals.):*	0.63	*5 casing volumes (5 x CV) (gals.):*	3.14

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	0.63	1.26	1.88	2.51	3.14		1.00
Time (military)	9:46	9:47						9:53
PH (s.u.)	Sheen	Sheen						Sheen
Specific Conductivity (µS/cm)	Sheen	Sheen						Sheen
Water Temperature (°C)	Sheen	Sheen						Sheen
Dissolved Oxygen (mg/L)	Sheen	Sheen						Sheen
Turbidity (NTU)	Sheen	Sheen						Sheen

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	*Sampling Time:*	9:53	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	1.00

Notes: Dry @ 1.00 Gallon, Odor/Sheen

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	55

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-21	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	2.5-9.5	*Total Well Depth (TWD) (ft.):*	9.50
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	6.97	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	2.53	*1 casing volume (CV = LWC x C) (gals.):*	0.41	*5 casing volumes (5 x CV) (gals.):*	2.06

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	0.41	0.82	1.24	1.65	2.06		1.00
Time (military)	9:41	9:42	9:43					9:50
PH (s.u.)	Sheen	Sheen	Sheen					Sheen
Specific Conductivity (µS/cm)	Sheen	Sheen	Sheen					Sheen
Water Temperature (°C)	Sheen	Sheen	Sheen					Sheen
Dissolved Oxygen (mg/L)	Sheen	Sheen	Sheen					Sheen
Turbidity (NTU)	Sheen	Sheen	Sheen					Sheen

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	*Sampling Time:*	9:50	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	1.00

Notes: Dry @ 1.00 Gallon, Odor/Sheen

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	**Site ID #:**	18662	**Site Name:**	Bay Creek Villas	**Field Personnel:**	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	**Project Manager:**	John Bryant	**General Weather Conditions:**	Clear	**Ambient Air Temp (°F):**	55

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-22	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	3-10	Total Well Depth (TWD) (ft.):	10.00
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	7.00	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	3	1 casing volume (CV = LWC x C) (gals.):	0.49	5 casing volumes (5 x CV) (gals.):	2.45

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.49	0.98	1.47	1.96	2.45		1.00
Time (military)	9:30	9:31						9:38
PH (s.u.)	7.24	7.29						7.34
Specific Conductivity (µS/cm)	15,358	14,231						14,082
Water Temperature (°C)	19.5	19.7						19.8
Dissolved Oxygen (mg/L)	2.13	2.45						2.51
Turbidity (NTU)	56.91	79.44						36.14

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	Sampling Time:	9:38	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	1.00

Notes: Dry @ 1.00 Gallon, Odor

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	Site ID #:	18662	Site Name:	Bay Creek Villas	Field Personnel:	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	Project Manager:	John Bryant	General Weather Conditions:	Clear	Ambient Air Temp (°F):	55

Quality Assurance

Meter Name	Serial #:	Calibration:							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-23	Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652	0.163	Method of Purging/Sample Collection	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	Screened Interval (ft.):	2.5-9.5	Total Well Depth (TWD) (ft.):	9.50
Depth to Free Product (DFP) (ft.):	ND	Depth to Groundwater (DGW) (ft.):	4.79	Free Product Thickness (ft.):	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	4.71	1 casing volume (CV = LWC x C) (gals.):	0.77	5 casing volumes (5 x CV) (gals.):	3.84

Purging Data

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post	Sampling
Volume Purged (gallons)	0.00	0.77	1.54	2.30	3.07	3.84		1.00
Time (military)	9:00	9:01						9:08
PH (s.u.)	7.21	7.37						7.45
Specific Conductivity (µS/cm)	11,414	11,732						11,804
Water Temperature (°C)	19.1	19.3						19.5
Dissolved Oxygen (mg/L)	1.03	1.32						1.40
Turbidity (NTU)	45.87	69.63						32.56

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	Sampling Time:	9:08	Duplicate: Y or N	N	If yes, Duplicate Time:	N/A	Total Gallons Purged:	1.00

Notes: Dry @ 1.00 Gallon, Odor

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	55

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	MW-24	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	2.5-9.5	*Total Well Depth (TWD) (ft.):*	9.50
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	5.91	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	3.59	*1 casing volume (CV = LWC x C) (gals.):*	0.59	*5 casing volumes (5 x CV) (gals.):*	2.93

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	0.59	1.17	1.76	2.34	2.93		1.00
Time (military)	8:45	8:46						8:52
PH (s.u.)	7.52	7.43						7.32
Specific Conductivity (µS/cm)	10,540	10,321						10,109
Water Temperature (°C)	18.6	18.9						19.2
Dissolved Oxygen (mg/L)	1.34	1.49						1.52
Turbidity (NTU)	25.89	78.66						24.56

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	*Sampling Time:*	9:08	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	1.00

Notes: Dry @ 1.00 Gallon, Odor

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	**Site ID #:**	18662	**Site Name:**	Bay Creek Villas	**Field Personnel:**	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	**Project Manager:**	John Bryant	**General Weather Conditions:**	Clear	**Ambient Air Temp (°F):**	55

Quality Assurance

Meter Name	**Serial #:**	**Calibration:**							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	pH 4.0: Y or N	Y	pH 7.0: Y or N	Y	pH 10.0: Y or N	Y	S.C.: Y or N	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	Y or N	Y						
HF Scientific MicroTPI (Turbidity)	201301183	0.0 NTU: Y or N	Y	1.0 NTU: Y or N	Y	10.0 NTU: Y or N	Y		

Well Information

Well ID:	MW-25	**Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652**	0.163	**Method of Purging/Sample Collection**	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	**Screened Interval (ft.):**	2.5-9.5	**Total Well Depth (TWD) (ft.):**	9.50
Depth to Free Product (DFP) (ft.):	ND	**Depth to Groundwater (DGW) (ft.):**	6.39	**Free Product Thickness (ft.):**	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	3.11	**1 casing volume (CV = LWC x C) (gals.):**	0.51	**5 casing volumes (5 x CV) (gals.):**	2.53

Purging Data

	Initial	**1st Vol.**	**2nd Vol.**	**3rd Vol.**	**4th Vol.**	**5th Vol.**	**Post**	**Sampling**
Volume Purged (gallons)	0.00	0.51	1.01	1.52	2.03	2.53		1.00
Time (military)	9:15	9:16						9:21
PH (s.u.)	Sheen	Sheen						Sheen
Specific Conductivity (µS/cm)	Sheen	Sheen						Sheen
Water Temperature (°C)	Sheen	Sheen						Sheen
Dissolved Oxygen (mg/L)	Sheen	Sheen						Sheen
Turbidity (NTU)	Sheen	Sheen						Sheen

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	**Sampling Time:**	9:21	**Duplicate: Y or N**	N	**If yes, Duplicate Time:**	N/A	**Total Gallons Purged:**	1.00

Notes: Dry @ 1.00 Gallon, Odor/Sheen

Underground Storage Tank Management Division Field Data Information Sheet – Sampling

Date:	3/3/2017	*Site ID #:*	18662	*Site Name:*	Bay Creek Villas	*Field Personnel:*	J. Floyd, B. Garner, C. Phillips, P. Wylie
County:	Colleton	*Project Manager:*	John Bryant	*General Weather Conditions:*	Clear	*Ambient Air Temp (°F):*	55

Quality Assurance

Meter Name	*Serial #:*	*Calibration:*							
YSI Pro1030 (pH, Specific Conductivity, Temp.)	15H101448	*pH 4.0: Y or N*	Y	*pH 7.0: Y or N*	Y	*pH 10.0: Y or N*	Y	*S.C.: Y or N*	Y
YSI Pro20 (Dissolved Oxygen)	12G102878	*Y or N*	Y						
HF Scientific MicroTPI (Turbidity)	201301183	*0.0 NTU: Y or N*	Y	*1.0 NTU: Y or N*	Y	*10.0 NTU: Y or N*	Y		

Well Information

Well ID:	PW-1	*Well Diameter (ft.): Conversion Factor (C): 1" well = 0.047, 2" well = 0.16, 4" well = 0.652*	0.163	*Method of Purging/Sample Collection*	Bailer
Sample Type: (i.e. MW, IW, RW, WSW)	MW	*Screened Interval (ft.):*	TD: 38.50'	*Total Well Depth (TWD) (ft.):*	38.50
Depth to Free Product (DFP) (ft.):	ND	*Depth to Groundwater (DGW) (ft.):*	5.58	*Free Product Thickness (ft.):*	Not Detected
Length of water column (LWC = TWD – DGW) (ft.):	32.92	*1 casing volume (CV = LWC x C) (gals.):*	5.37	*5 casing volumes (5 x CV) (gals.):*	26.83

Purging Data

	Initial	*1st Vol.*	*2nd Vol.*	*3rd Vol.*	*4th Vol.*	*5th Vol.*	*Post*	*Sampling*
Volume Purged (gallons)	0.00	5.37	10.73	16.10	21.46	26.83		27.00
Time (military)	8:30	8:35	8:40	8:45	8:50	8:55		9:01
PH (s.u.)	7.74	7.61	7.53	7.49	7.46	7.45		7.41
Specific Conductivity (µS/cm)	701	1,042	4,096	9,468	45,681	21,352		20,249
Water Temperature (°C)	21.5	21.6	21.8	21.9	22.2	22.4		22.6
Dissolved Oxygen (mg/L)	1.53	1.34	1.26	1.21	1.19	1.16		1.04
Turbidity (NTU)	32.14	79.61	141.20	201.60	241.30	250.10		67.14

Sampling Data

Sampled By:	J. Floyd, B. Garner, C. Phillips, P. Wylie	*Sampling Time:*	9:01	*Duplicate: Y or N*	N	*If yes, Duplicate Time:*	N/A	*Total Gallons Purged:*	27.00

Notes: Slight Odor

Midlands
Environmental
Consultants, Inc.

March 15, 2017

Re: Treatment of Purge Water
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID Number 18662
MECI Project Number 17-5862

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 80 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

A total of 43.50 gallons were treated on March 3, 2017 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Project Biologist

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of

2018904

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC-UST	Report To: J. Bryant - UST	Attention:
Address: 2600 Bull Street Columbia SC 29201	Copy To:	Company Name:
		Address:
Email To: bryantjr@dhec.sc.gov	Purchase Order No.: 4600427515	Pace Quote Reference:
Phone: 803-898-0604 Fax: 803-896-4175	Project Name: Gray Creek Villas	Pace Project Manager: L. Carter
Requested Due Date/TAT:	Project Number: MRP 2662 / MACE CA54175	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): BTEX/MTBE	PCA 624	Oxygenates	EDB 504	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-3R	WT	G			3/3/17	8:46		6				6					X	X	X	X		Sulfur Odor
2	MW-4						8:36																No Odor
3	MW-5						8:58																Chemical Odor
4	MW-9						8:43																No Odor
5	MW-15						8:52																Slight Odor
6	MW-16						9:07																Odor
7	MW-17						9:16																Sulfur Odor
8	MW-18						10:04																Sheen, Odor
9	MW-19						9:44																Heavy Sheen, Odor
10	MW-20						9:23																Odor, Sheen
11	MW-21						9:53																Odor, Sheen
12	MW-22	WT	G			3/3/17	9:58		6				6					X	X	X	X		Odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	3/3/17	1700				

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: [illegible] Phillips

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3/3/17

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

2018905

Section A Required Client Information:

Company: DHEC UST
Address: 2600 Bull Street
Columbia SC 29201
Email To: [illegible]
Phone: [illegible] Fax: [illegible]
Requested Due Date/TAT:

Section B Required Project Information:

Report To: T Bryant UST
Copy To:
Purchase Order No.: 4L0042515
Project Name: Hay Creek Villas
Project Number: UST 13162 / PACECA5417

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: T. Carter
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N) BTEX MTBE	1,2 DCA	2,2 DCP	Fuel Oil	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-26	WT	G			3/13/17	9:08		6				6					X	X	X	X		Odor
2	MW-24	"	"			"	8:52		"				"					"	"	"	"		Odor
3	MW-29	"	"			"	9:17		"				"					"	"	"	"		Odor Sheen
4	MW-1	"	"			"	9:01		"				"					"	"	"	"		Slight Odor
5	MW-1	"	"			"	9:10		"				"					"	"	"	"		Odor
6	Field Blank	"	"			"	[illegible]		6				6					"	"	"	X		FB
7	Trip Blank	WT	G			3/14/17	10:06		2				2					X	X	X			TB
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[illegible]	3/13/17	17:10				

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: [illegible]
SIGNATURE of SAMPLER: [illegible] DATE Signed (MM/DD/YY): 3/13/17

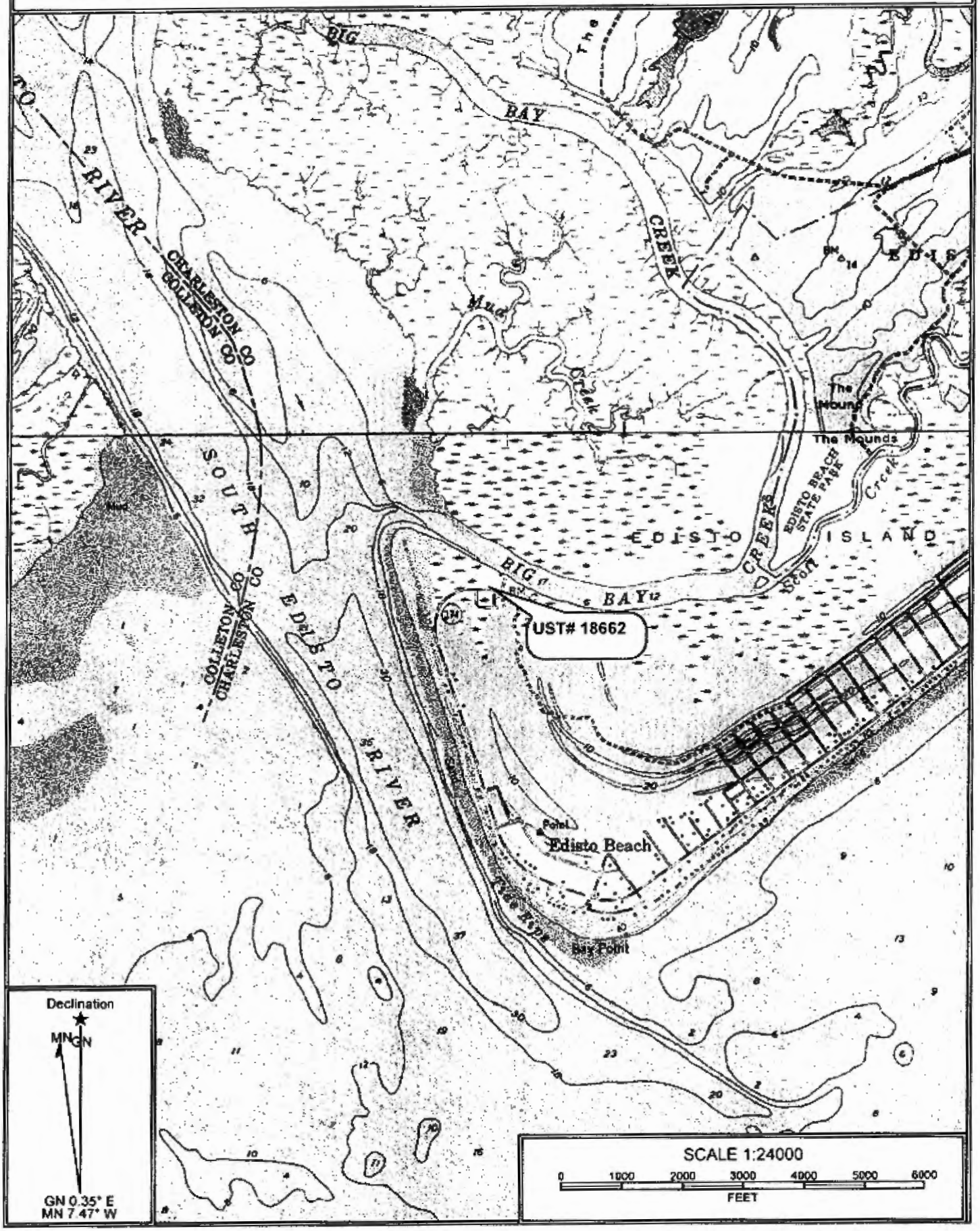
Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

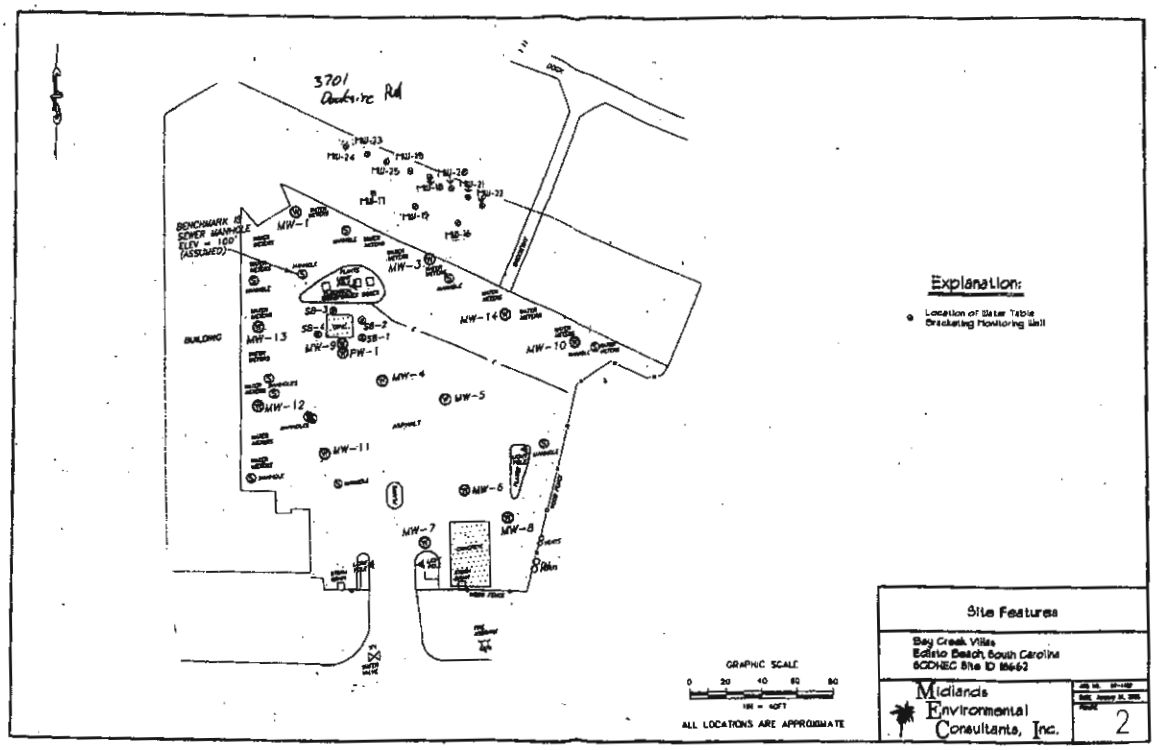
*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Map Name: EDISTO BEACH
Print Date: 04/14/16

Scale: 1 inch = 2,000 ft.
Map Center: 032° 29' 34.80" N, 080° 20'

Horizontal Datum: NAD27




3701
Dockside Rd
BENCHMARK IS
SEWER MANHOLE
ELEV = 100'
(ASSUMED)
BUILDING
MW-1
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13
MW-14
PW-1
SB-1
SB-2
SB-3
SB-4
MU-23
MU-24
MU-25
MU-26
MU-21
MU-22
MU-17
MU-19
MU-16
DOCK
Explanation:
Location of Water Table
Bracketing Monitoring Well
GRAPHIC SCALE
0 20 40 80 80
1IN = 40FT
ALL LOCATIONS ARE APPROXIMATE
Site Features
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 18662
Midlands
Environmental
Consultants, Inc.
2

Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

March 13, 2017

UST
MAR 2 0 2017
PROGRAM

Mr. John Bryant
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Dear Mr. Bryant:
Enclosed are the analytical results for sample(s) received by the laboratory on March 04, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Trey Carter
trey.carter@pacelabs.com
(704)875-9092
Project Manager

Enclosures

cc: Ashleigh Thrash, SCHDEC

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Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Virginia/VELAP Certification #: 460221

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Pace Analytical Services, LLC
9800 Kincey Ave Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92332171001	MW-3R	Water	03/03/17 08:46	03/04/17 09:20
92332171002	MW-4	Water	03/03/17 08:36	03/04/17 09:20
92332171003	MW-5	Water	03/03/17 08:38	03/04/17 09:20
92332171004	MW-9	Water	03/03/17 08:43	03/04/17 09:20
92332171005	MW-15	Water	03/03/17 08:52	03/04/17 09:20
92332171006	MW-16	Water	03/03/17 09:07	03/04/17 09:20
92332171007	MW-17	Water	03/03/17 09:22	03/04/17 09:20
92332171008	MW-18	Water	03/03/17 10:04	03/04/17 09:20
92332171009	MW-19	Water	03/03/17 09:44	03/04/17 09:20
92332171010	MW-20	Water	03/03/17 09:53	03/04/17 09:20
92332171011	MW-21	Water	03/03/17 09:50	03/04/17 09:20
92332171012	MW-22	Water	03/03/17 09:58	03/04/17 09:20
92332171013	MW-23	Water	03/03/17 09:08	03/04/17 09:20
92332171014	MW-24	Water	03/03/17 08:52	03/04/17 09:20
92332171015	MW-25	Water	03/03/17 09:21	03/04/17 09:20
92332171016	PW-1	Water	03/03/17 09:01	03/04/17 09:20
92332171017	DUP 1	Water	03/03/17 09:10	03/04/17 09:20
92332171018	FIELD BLANK	Water	03/03/17 10:01	03/04/17 09:20
92332171019	TRIP BLANK	Water	03/03/17 10:02	03/04/17 09:20

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SAMPLE ANALYTE COUNT

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92332171001	MW-3R	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171002	MW-4	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171003	MW-5	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171004	MW-9	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171005	MW-15	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171006	MW-16	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171007	MW-17	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171008	MW-18	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171009	MW-19	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171010	MW-20	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171011	MW-21	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171012	MW-22	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171013	MW-23	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171014	MW-24	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171015	MW-25	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171016	PW-1	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171017	DUP 1	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171018	FIELD BLANK	EPA 8011	HSK	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92332171019	TRIP BLANK	EPA 8260	GAW	20	PASI-C

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SUMMARY OF DETECTION

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92332171002	**MW-4**					
EPA 8260	Benzene	10.4	ug/L	5.0	03/10/17 01:45	
EPA 8260	Ethylbenzene	132	ug/L	5.0	03/10/17 01:45	
EPA 8260	Naphthalene	61.9	ug/L	5.0	03/10/17 01:45	
92332171004	**MW-9**					
EPA 8260	Benzene	2.3J	ug/L	5.0	03/10/17 02:03	
EPA 8260	Ethylbenzene	16.1	ug/L	5.0	03/10/17 02:03	
92332171005	**MW-15**					
EPA 8260	Benzene	6.5	ug/L	5.0	03/08/17 04:27	
EPA 8260	Ethylbenzene	3.3J	ug/L	5.0	03/08/17 04:27	
92332171006	**MW-16**					
EPA 8260	tert-Amyl Alcohol	193J	ug/L	250	03/10/17 02:20	
EPA 8260	Benzene	327	ug/L	12.5	03/10/17 02:20	
EPA 8260	Ethylbenzene	237	ug/L	12.5	03/10/17 02:20	
EPA 8260	Naphthalene	197	ug/L	12.5	03/10/17 02:20	
EPA 8260	Toluene	6.2J	ug/L	12.5	03/10/17 02:20	
EPA 8260	m&p-Xylene	24.3J	ug/L	25.0	03/10/17 02:20	
EPA 8260	o-Xylene	6.9J	ug/L	12.5	03/10/17 02:20	
92332171007	**MW-17**					
EPA 8260	Benzene	3.2J	ug/L	5.0	03/08/17 04:45	
EPA 8260	Ethylbenzene	2.8J	ug/L	5.0	03/08/17 04:45	
92332171008	**MW-18**					
EPA 8260	Benzene	8040	ug/L	250	03/10/17 02:37	
EPA 8260	Ethylbenzene	2300	ug/L	250	03/10/17 02:37	
EPA 8260	Naphthalene	962	ug/L	250	03/10/17 02:37	
EPA 8260	Toluene	205J	ug/L	250	03/10/17 02:37	
EPA 8260	Xylene (Total)	1800	ug/L	500	03/10/17 02:37	
EPA 8260	m&p-Xylene	1800	ug/L	500	03/10/17 02:37	
EPA 8260	o-Xylene	81.7J	ug/L	250	03/10/17 02:37	
92332171009	**MW-19**					
EPA 8260	Benzene	3990	ug/L	125	03/09/17 08:06	
EPA 8260	Ethylbenzene	752	ug/L	125	03/09/17 08:06	
EPA 8260	Naphthalene	661	ug/L	125	03/09/17 08:06	
EPA 8260	Toluene	192	ug/L	125	03/09/17 08:06	
EPA 8260	Xylene (Total)	1310	ug/L	250	03/09/17 08:06	
EPA 8260	m&p-Xylene	1170	ug/L	250	03/09/17 08:06	
EPA 8260	o-Xylene	138	ug/L	125	03/09/17 08:06	
92332171010	**MW-20**					
EPA 8260	Benzene	68.4	ug/L	10.0	03/10/17 02:54	
EPA 8260	Ethylbenzene	70.2	ug/L	10.0	03/10/17 02:54	
EPA 8260	Naphthalene	26.7	ug/L	10.0	03/10/17 02:54	
EPA 8260	m&p-Xylene	13.9J	ug/L	20.0	03/10/17 02:54	
EPA 8260	o-Xylene	4.6J	ug/L	10.0	03/10/17 02:54	

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SUMMARY OF DETECTION

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92332171011	**MW-21**					
EPA 8260	Benzene	2490	ug/L	62.5	03/09/17 14:03	
EPA 8260	Ethylbenzene	836	ug/L	62.5	03/09/17 14:03	
EPA 8260	Naphthalene	792	ug/L	62.5	03/09/17 14:03	
EPA 8260	Toluene	218	ug/L	62.5	03/09/17 14:03	
EPA 8260	Xylene (Total)	3140	ug/L	125	03/09/17 14:03	
EPA 8260	m&p-Xylene	2840	ug/L	125	03/09/17 14:03	
EPA 8260	o-Xylene	304	ug/L	62.5	03/09/17 14:03	
92332171015	**MW-25**					
EPA 8260	Benzene	1720	ug/L	62.5	03/09/17 23:12	
EPA 8260	Ethylbenzene	488	ug/L	62.5	03/09/17 23:12	
EPA 8260	Naphthalene	58.8J	ug/L	62.5	03/09/17 23:12	
EPA 8260	Toluene	77.9	ug/L	62.5	03/09/17 23:12	
EPA 8260	m&p-Xylene	89.9J	ug/L	125	03/09/17 23:12	
92332171017	**DUP 1**					
EPA 8260	tert-Amyl Alcohol	201	ug/L	200	03/10/17 20:16	
EPA 8260	Benzene	322	ug/L	10.0	03/10/17 20:16	
EPA 8260	Ethylbenzene	227	ug/L	10.0	03/10/17 20:16	
EPA 8260	Naphthalene	187	ug/L	10.0	03/10/17 20:16	
EPA 8260	Toluene	5.9J	ug/L	10.0	03/10/17 20:16	
EPA 8260	Xylene (Total)	23.4	ug/L	20.0	03/10/17 20:16	
EPA 8260	m&p-Xylene	23.4	ug/L	20.0	03/10/17 20:16	
EPA 8260	o-Xylene	6.4J	ug/L	10.0	03/10/17 20:16	

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PROJECT NARRATIVE

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Method: **EPA 8011**
Description: 8011 GCS EDB and DBCP
Client: SCDHEC
Date: March 13, 2017

General Information:
18 samples were analyzed for EPA 8011. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 8011 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Method: **EPA 8260**
Description: 8260 MSV
Client: SCDHEC
Date: March 13, 2017

General Information:
19 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 351150

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 1947714)
  - tert-Butyl Alcohol

QC Batch: 351157

L2: Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

- LCS (Lab ID: 1947791)
  - tert-Butyl Alcohol

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 351150

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92332171007

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1947716)
  - tert-Butyl Alcohol

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PROJECT NARRATIVE

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Method: **EPA 8260**
Description: 8260 MSV
Client: SCDHEC
Date: March 13, 2017

QC Batch: 351150

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92332171007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1947716)
  - Ethanol
  - tert-Amyl Alcohol
  - tert-Butyl Formate

P5: The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

- MS (Lab ID: 1947716)
  - tert-Butyl Formate

QC Batch: 351157

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92332172005

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1948320)
  - tert-Butyl Formate

P5: The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

- MS (Lab ID: 1948320)
  - tert-Butyl Formate

QC Batch: 351375

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92332094005

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1949357)
  - tert-Butyl Formate

P5: The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

- MS (Lab ID: 1949357)
  - tert-Butyl Formate

QC Batch: 351549

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92332035016

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1950550)
  - tert-Butyl Alcohol
- MSD (Lab ID: 1950551)
  - tert-Amyl Alcohol
  - tert-Butyl Alcohol

P5: The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

- MS (Lab ID: 1950550)
  - tert-Butyl Formate
- MSD (Lab ID: 1950551)
  - tert-Butyl Formate

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PROJECT NARRATIVE

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Method: **EPA 8260**
Description: 8260 MSV
Client: SCDHEC
Date: March 13, 2017

QC Batch: 351550

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92332171002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1950555)
  - tert-Butyl Alcohol
  - tert-Butyl Formate

P5: The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

- MS (Lab ID: 1950555)
  - tert-Butyl Formate

QC Batch: 351709

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 92332514012

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1951128)
  - Methyl-tert-butyl ether
  - tert-Amyl Alcohol
- MSD (Lab ID: 1951129)
  - Methyl-tert-butyl ether

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 351549

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1950550)
  - Benzene
- MSD (Lab ID: 1950551)
  - Benzene

QC Batch: 351550

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- MW-20 (Lab ID: 92332171010)
  - 4-Bromofluorobenzene (S)

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-3R **Lab ID: 92332171001** Collected: 03/03/17 08:46 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:29	03/09/17 23:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	03/09/17 12:29	03/09/17 23:15	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/10/17 01:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/10/17 01:11	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/10/17 01:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/10/17 01:11	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/10/17 01:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/10/17 01:11	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/10/17 01:11	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/10/17 01:11	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/10/17 01:11	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/10/17 01:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/10/17 01:11	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/10/17 01:11	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/10/17 01:11	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/10/17 01:11	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/10/17 01:11	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/10/17 01:11	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/10/17 01:11	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		03/10/17 01:11	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		03/10/17 01:11	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/10/17 01:11	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-4 **Lab ID: 92332171002** Collected: 03/03/17 08:36 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/09/17 12:29	03/09/17 23:34	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	111	%	60-140		1	03/09/17 12:29	03/09/17 23:34	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/10/17 01:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/10/17 01:45	994-05-8	
Benzene	**10.4**	ug/L	5.0	1.7	1		03/10/17 01:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/10/17 01:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/10/17 01:45	75-65-0	M1
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/10/17 01:45	762-75-4	M1
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/10/17 01:45	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/10/17 01:45	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/10/17 01:45	64-17-5	
Ethylbenzene	**132**	ug/L	5.0	1.6	1		03/10/17 01:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/10/17 01:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/10/17 01:45	1634-04-4	
Naphthalene	**61.9**	ug/L	5.0	2.0	1		03/10/17 01:45	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/10/17 01:45	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/10/17 01:45	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/10/17 01:45	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/10/17 01:45	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		03/10/17 01:45	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		03/10/17 01:45	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/10/17 01:45	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-5 **Lab ID: 92332171003** Collected: 03/03/17 08:38 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:30	03/10/17 01:11	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	109	%	60-140		1	03/09/17 12:30	03/10/17 01:11	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/08/17 04:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/08/17 04:09	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/08/17 04:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/08/17 04:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/08/17 04:09	75-65-0	L2
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/08/17 04:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/08/17 04:09	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/08/17 04:09	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/08/17 04:09	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/08/17 04:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/08/17 04:09	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/08/17 04:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/08/17 04:09	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/08/17 04:09	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/08/17 04:09	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/08/17 04:09	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/08/17 04:09	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	93	%	70-130		1		03/08/17 04:09	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	70-130		1		03/08/17 04:09	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		03/08/17 04:09	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-9 **Lab ID: 92332171004** Collected: 03/03/17 08:43 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:30	03/10/17 02:08	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	85	%	60-140		1	03/09/17 12:30	03/10/17 02:08	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/10/17 02:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/10/17 02:03	994-05-8	
Benzene	**2.3J**	ug/L	5.0	1.7	1		03/10/17 02:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/10/17 02:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/10/17 02:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/10/17 02:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/10/17 02:03	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/10/17 02:03	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/10/17 02:03	64-17-5	
Ethylbenzene	**16.1**	ug/L	5.0	1.6	1		03/10/17 02:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/10/17 02:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/10/17 02:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/10/17 02:03	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/10/17 02:03	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/10/17 02:03	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/10/17 02:03	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/10/17 02:03	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		03/10/17 02:03	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/10/17 02:03	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/10/17 02:03	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-15 **Lab ID: 92332171005** Collected: 03/03/17 08:52 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:31	03/10/17 02:46	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	03/09/17 12:31	03/10/17 02:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/08/17 04:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/08/17 04:27	994-05-8	
Benzene	**6.5**	ug/L	5.0	1.7	1		03/08/17 04:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/08/17 04:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/08/17 04:27	75-65-0	L2
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/08/17 04:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/08/17 04:27	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/08/17 04:27	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/08/17 04:27	64-17-5	
Ethylbenzene	**3.3J**	ug/L	5.0	1.6	1		03/08/17 04:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/08/17 04:27	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/08/17 04:27	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/08/17 04:27	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/08/17 04:27	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/08/17 04:27	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/08/17 04:27	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/08/17 04:27	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		03/08/17 04:27	460-00-4	
1,2-Dichloroethane-d4 (S)	87	%	70-130		1		03/08/17 04:27	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		03/08/17 04:27	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-16 **Lab ID: 92332171006** Collected: 03/03/17 09:07 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:31	03/10/17 03:06	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	03/09/17 12:31	03/10/17 03:06	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**193J**	ug/L	250	192	2.5		03/10/17 02:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	25.0	8.5	2.5		03/10/17 02:20	994-05-8	
Benzene	**327**	ug/L	12.5	4.2	2.5		03/10/17 02:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	250	80.2	2.5		03/10/17 02:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	250	144	2.5		03/10/17 02:20	75-65-0	
tert-Butyl Formate	ND	ug/L	125	18.2	2.5		03/10/17 02:20	762-75-4	
1,2-Dichloroethane	ND	ug/L	12.5	4.5	2.5		03/10/17 02:20	107-06-2	
Diisopropyl ether	ND	ug/L	12.5	4.2	2.5		03/10/17 02:20	108-20-3	
Ethanol	ND	ug/L	500	328	2.5		03/10/17 02:20	64-17-5	
Ethylbenzene	**237**	ug/L	12.5	4.0	2.5		03/10/17 02:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	25.0	9.0	2.5		03/10/17 02:20	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	12.5	4.2	2.5		03/10/17 02:20	1634-04-4	
Naphthalene	**197**	ug/L	12.5	5.0	2.5		03/10/17 02:20	91-20-3	
Toluene	**6.2J**	ug/L	12.5	4.0	2.5		03/10/17 02:20	108-88-3	
Xylene (Total)	ND	ug/L	25.0	6.8	2.5		03/10/17 02:20	1330-20-7	
m&p-Xylene	**24.3J**	ug/L	25.0	7.8	2.5		03/10/17 02:20	179601-23-1	
o-Xylene	**6.9J**	ug/L	12.5	4.0	2.5		03/10/17 02:20	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		2.5		03/10/17 02:20	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		2.5		03/10/17 02:20	17060-07-0	
Toluene-d8 (S)	100	%	70-130		2.5		03/10/17 02:20	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-17 **Lab ID: 92332171007** Collected: 03/03/17 09:22 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:31	03/10/17 03:24	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	03/09/17 12:31	03/10/17 03:24	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/08/17 04:45	75-85-4	M1
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/08/17 04:45	994-05-8	
Benzene	**3.2J**	ug/L	5.0	1.7	1		03/08/17 04:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/08/17 04:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/08/17 04:45	75-65-0	L2,M0
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/08/17 04:45	762-75-4	M1
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/08/17 04:45	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/08/17 04:45	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/08/17 04:45	64-17-5	M1
Ethylbenzene	**2.8J**	ug/L	5.0	1.6	1		03/08/17 04:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/08/17 04:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/08/17 04:45	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/08/17 04:45	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/08/17 04:45	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/08/17 04:45	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/08/17 04:45	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/08/17 04:45	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		1		03/08/17 04:45	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130		1		03/08/17 04:45	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		03/08/17 04:45	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-18 **Lab ID: 92332171008** Collected: 03/03/17 10:04 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/09/17 12:31	03/10/17 03:44	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	125	%	60-140		1	03/09/17 12:31	03/10/17 03:44	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3840	50		03/10/17 02:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	170	50		03/10/17 02:37	994-05-8	
Benzene	**8040**	ug/L	250	85.0	50		03/10/17 02:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	1600	50		03/10/17 02:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	2880	50		03/10/17 02:37	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	365	50		03/10/17 02:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	90.0	50		03/10/17 02:37	107-06-2	
Diisopropyl ether	ND	ug/L	250	85.0	50		03/10/17 02:37	108-20-3	
Ethanol	ND	ug/L	10000	6550	50		03/10/17 02:37	64-17-5	
Ethylbenzene	**2300**	ug/L	250	80.0	50		03/10/17 02:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	180	50		03/10/17 02:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	250	85.0	50		03/10/17 02:37	1634-04-4	
Naphthalene	**962**	ug/L	250	100	50		03/10/17 02:37	91-20-3	
Toluene	**205J**	ug/L	250	80.0	50		03/10/17 02:37	108-88-3	
Xylene (Total)	**1800**	ug/L	500	135	50		03/10/17 02:37	1330-20-7	
m&p-Xylene	**1800**	ug/L	500	155	50		03/10/17 02:37	179601-23-1	
o-Xylene	**81.7J**	ug/L	250	80.0	50		03/10/17 02:37	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		50		03/10/17 02:37	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		50		03/10/17 02:37	17060-07-0	
Toluene-d8 (S)	100	%	70-130		50		03/10/17 02:37	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-19 **Lab ID: 92332171009** Collected: 03/03/17 09:44 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:31	03/10/17 04:03	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	117	%	60-140		1	03/09/17 12:31	03/10/17 04:03	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	2500	1920	25		03/09/17 08:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		03/09/17 08:06	994-05-8	
Benzene	**3990**	ug/L	125	42.5	25		03/09/17 08:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		03/09/17 08:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		03/09/17 08:06	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		03/09/17 08:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	45.0	25		03/09/17 08:06	107-06-2	
Diisopropyl ether	ND	ug/L	125	42.5	25		03/09/17 08:06	108-20-3	
Ethanol	ND	ug/L	5000	3280	25		03/09/17 08:06	64-17-5	
Ethylbenzene	**752**	ug/L	125	40.0	25		03/09/17 08:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		03/09/17 08:06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	42.5	25		03/09/17 08:06	1634-04-4	
Naphthalene	**661**	ug/L	125	50.0	25		03/09/17 08:06	91-20-3	
Toluene	**192**	ug/L	125	40.0	25		03/09/17 08:06	108-88-3	
Xylene (Total)	**1310**	ug/L	250	67.5	25		03/09/17 08:06	1330-20-7	
m&p-Xylene	**1170**	ug/L	250	77.5	25		03/09/17 08:06	179601-23-1	
o-Xylene	**138**	ug/L	125	40.0	25		03/09/17 08:06	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	99	%	70-130		25		03/09/17 08:06	460-00-4	
1,2-Dichloroethane-d4 (S)	85	%	70-130		25		03/09/17 08:06	17060-07-0	
Toluene-d8 (S)	102	%	70-130		25		03/09/17 08:06	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-20 **Lab ID: 92332171010** Collected: 03/03/17 09:53 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/09/17 12:31	03/10/17 04:22	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	112	%	60-140		1	03/09/17 12:31	03/10/17 04:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	200	154	2		03/10/17 02:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20.0	6.8	2		03/10/17 02:54	994-05-8	
Benzene	**68.4**	ug/L	10.0	3.4	2		03/10/17 02:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	64.2	2		03/10/17 02:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	200	115	2		03/10/17 02:54	75-65-0	
tert-Butyl Formate	ND	ug/L	100	14.6	2		03/10/17 02:54	762-75-4	
1,2-Dichloroethane	ND	ug/L	10.0	3.6	2		03/10/17 02:54	107-06-2	
Diisopropyl ether	ND	ug/L	10.0	3.4	2		03/10/17 02:54	108-20-3	
Ethanol	ND	ug/L	400	262	2		03/10/17 02:54	64-17-5	
Ethylbenzene	**70.2**	ug/L	10.0	3.2	2		03/10/17 02:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	7.2	2		03/10/17 02:54	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	10.0	3.4	2		03/10/17 02:54	1634-04-4	
Naphthalene	**26.7**	ug/L	10.0	4.0	2		03/10/17 02:54	91-20-3	
Toluene	ND	ug/L	10.0	3.2	2		03/10/17 02:54	108-88-3	
Xylene (Total)	ND	ug/L	20.0	5.4	2		03/10/17 02:54	1330-20-7	
m&p-Xylene	**13.9J**	ug/L	20.0	6.2	2		03/10/17 02:54	179601-23-1	
o-Xylene	**4.6J**	ug/L	10.0	3.2	2		03/10/17 02:54	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		2		03/10/17 02:54	460-00-4	D3
1,2-Dichloroethane-d4 (S)	103	%	70-130		2		03/10/17 02:54	17060-07-0	
Toluene-d8 (S)	101	%	70-130		2		03/10/17 02:54	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-21 **Lab ID: 92332171011** Collected: 03/03/17 09:50 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:31	03/10/17 04:41	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	114	%	60-140		1	03/09/17 12:31	03/10/17 04:41	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1250	960	12.5		03/09/17 14:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	125	42.5	12.5		03/09/17 14:03	994-05-8	
Benzene	**2490**	ug/L	62.5	21.2	12.5		03/09/17 14:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1250	401	12.5		03/09/17 14:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1250	721	12.5		03/09/17 14:03	75-65-0	
tert-Butyl Formate	ND	ug/L	625	91.2	12.5		03/09/17 14:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	62.5	22.5	12.5		03/09/17 14:03	107-06-2	
Diisopropyl ether	ND	ug/L	62.5	21.2	12.5		03/09/17 14:03	108-20-3	
Ethanol	ND	ug/L	2500	1640	12.5		03/09/17 14:03	64-17-5	
Ethylbenzene	**836**	ug/L	62.5	20.0	12.5		03/09/17 14:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	125	45.0	12.5		03/09/17 14:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	62.5	21.2	12.5		03/09/17 14:03	1634-04-4	
Naphthalene	**792**	ug/L	62.5	25.0	12.5		03/09/17 14:03	91-20-3	
Toluene	**218**	ug/L	62.5	20.0	12.5		03/09/17 14:03	108-88-3	
Xylene (Total)	**3140**	ug/L	125	33.8	12.5		03/09/17 14:03	1330-20-7	
m&p-Xylene	**2840**	ug/L	125	38.8	12.5		03/09/17 14:03	179601-23-1	
o-Xylene	**304**	ug/L	62.5	20.0	12.5		03/09/17 14:03	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		12.5		03/09/17 14:03	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		12.5		03/09/17 14:03	17060-07-0	
Toluene-d8 (S)	100	%	70-130		12.5		03/09/17 14:03	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-22 **Lab ID: 92332171012** Collected: 03/03/17 09:58 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/09/17 12:31	03/10/17 05:01	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	03/09/17 12:31	03/10/17 05:01	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/08/17 07:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/08/17 07:07	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/08/17 07:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/08/17 07:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/08/17 07:07	75-65-0	L2
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/08/17 07:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/08/17 07:07	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/08/17 07:07	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/08/17 07:07	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/08/17 07:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/08/17 07:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/08/17 07:07	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/08/17 07:07	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/08/17 07:07	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/08/17 07:07	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/08/17 07:07	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/08/17 07:07	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		03/08/17 07:07	460-00-4	
1,2-Dichloroethane-d4 (S)	87	%	70-130		1		03/08/17 07:07	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		03/08/17 07:07	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-23 **Lab ID: 92332171013** Collected: 03/03/17 09:08 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/09/17 12:31	03/10/17 05:20	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	121	%	60-140		1	03/09/17 12:31	03/10/17 05:20	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/09/17 21:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/09/17 21:46	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/09/17 21:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/09/17 21:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/09/17 21:46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/09/17 21:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/09/17 21:46	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/09/17 21:46	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/09/17 21:46	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/09/17 21:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/09/17 21:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/09/17 21:46	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/09/17 21:46	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/09/17 21:46	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/09/17 21:46	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/09/17 21:46	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/09/17 21:46	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		03/09/17 21:46	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		03/09/17 21:46	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/09/17 21:46	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-24 **Lab ID: 92332171014** Collected: 03/03/17 08:52 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:31	03/10/17 05:39	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	03/09/17 12:31	03/10/17 05:39	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/09/17 22:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/09/17 22:03	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/09/17 22:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/09/17 22:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/09/17 22:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/09/17 22:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/09/17 22:03	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/09/17 22:03	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/09/17 22:03	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/09/17 22:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/09/17 22:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/09/17 22:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/09/17 22:03	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/09/17 22:03	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/09/17 22:03	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/09/17 22:03	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/09/17 22:03	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		03/09/17 22:03	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/09/17 22:03	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/09/17 22:03	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: MW-25 **Lab ID: 92332171015** Collected: 03/03/17 09:21 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:31	03/10/17 05:58	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	121	%	60-140		1	03/09/17 12:31	03/10/17 05:58	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1250	960	12.5		03/09/17 23:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	125	42.5	12.5		03/09/17 23:12	994-05-8	
Benzene	**1720**	ug/L	62.5	21.2	12.5		03/09/17 23:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1250	401	12.5		03/09/17 23:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1250	721	12.5		03/09/17 23:12	75-65-0	
tert-Butyl Formate	ND	ug/L	625	91.2	12.5		03/09/17 23:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	62.5	22.5	12.5		03/09/17 23:12	107-06-2	
Diisopropyl ether	ND	ug/L	62.5	21.2	12.5		03/09/17 23:12	108-20-3	
Ethanol	ND	ug/L	2500	1640	12.5		03/09/17 23:12	64-17-5	
Ethylbenzene	**488**	ug/L	62.5	20.0	12.5		03/09/17 23:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	125	45.0	12.5		03/09/17 23:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	62.5	21.2	12.5		03/09/17 23:12	1634-04-4	
Naphthalene	**58.8J**	ug/L	62.5	25.0	12.5		03/09/17 23:12	91-20-3	
Toluene	**77.9**	ug/L	62.5	20.0	12.5		03/09/17 23:12	108-88-3	
Xylene (Total)	ND	ug/L	125	33.8	12.5		03/09/17 23:12	1330-20-7	
m&p-Xylene	**89.9J**	ug/L	125	38.8	12.5		03/09/17 23:12	179601-23-1	
o-Xylene	ND	ug/L	62.5	20.0	12.5		03/09/17 23:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		12.5		03/09/17 23:12	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		12.5		03/09/17 23:12	17060-07-0	
Toluene-d8 (S)	99	%	70-130		12.5		03/09/17 23:12	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: PW-1 **Lab ID: 92332171016** Collected: 03/03/17 09:01 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/13/17 09:30	03/13/17 11:22	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	03/13/17 09:30	03/13/17 11:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/10/17 19:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/10/17 19:59	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/10/17 19:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/10/17 19:59	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/10/17 19:59	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/10/17 19:59	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/10/17 19:59	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/10/17 19:59	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/10/17 19:59	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/10/17 19:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/10/17 19:59	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/10/17 19:59	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/10/17 19:59	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/10/17 19:59	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/10/17 19:59	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/10/17 19:59	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/10/17 19:59	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		03/10/17 19:59	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		03/10/17 19:59	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/10/17 19:59	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: DUP 1 **Lab ID: 92332171017** Collected: 03/03/17 09:10 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:31	03/10/17 06:36	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	127	%	60-140		1	03/09/17 12:31	03/10/17 06:36	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**201**	ug/L	200	154	2		03/10/17 20:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	20.0	6.8	2		03/10/17 20:16	994-05-8	
Benzene	**322**	ug/L	10.0	3.4	2		03/10/17 20:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	200	64.2	2		03/10/17 20:16	624-95-3	
tert-Butyl Alcohol	ND	ug/L	200	115	2		03/10/17 20:16	75-65-0	
tert-Butyl Formate	ND	ug/L	100	14.6	2		03/10/17 20:16	762-75-4	
1,2-Dichloroethane	ND	ug/L	10.0	3.6	2		03/10/17 20:16	107-06-2	
Diisopropyl ether	ND	ug/L	10.0	3.4	2		03/10/17 20:16	108-20-3	
Ethanol	ND	ug/L	400	262	2		03/10/17 20:16	64-17-5	
Ethylbenzene	**227**	ug/L	10.0	3.2	2		03/10/17 20:16	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	20.0	7.2	2		03/10/17 20:16	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	10.0	3.4	2		03/10/17 20:16	1634-04-4	
Naphthalene	**187**	ug/L	10.0	4.0	2		03/10/17 20:16	91-20-3	
Toluene	**5.9J**	ug/L	10.0	3.2	2		03/10/17 20:16	108-88-3	
Xylene (Total)	**23.4**	ug/L	20.0	5.4	2		03/10/17 20:16	1330-20-7	
m&p-Xylene	**23.4**	ug/L	20.0	6.2	2		03/10/17 20:16	179601-23-1	
o-Xylene	**6.4J**	ug/L	10.0	3.2	2		03/10/17 20:16	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	98	%	70-130		2		03/10/17 20:16	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		2		03/10/17 20:16	17060-07-0	
Toluene-d8 (S)	100	%	70-130		2		03/10/17 20:16	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: FIELD BLANK **Lab ID: 92332171018** Collected: 03/03/17 10:01 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/09/17 12:32	03/10/17 06:56	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	03/09/17 12:32	03/10/17 06:56	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/09/17 20:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/09/17 20:04	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/09/17 20:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/09/17 20:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/09/17 20:04	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/09/17 20:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/09/17 20:04	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/09/17 20:04	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/09/17 20:04	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/09/17 20:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/09/17 20:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/09/17 20:04	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/09/17 20:04	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/09/17 20:04	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/09/17 20:04	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/09/17 20:04	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/09/17 20:04	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		03/09/17 20:04	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		03/09/17 20:04	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/09/17 20:04	2037-26-5	

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ANALYTICAL RESULTS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Sample: TRIP BLANK **Lab ID: 92332171019** Collected: 03/03/17 10:02 Received: 03/04/17 09:20 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/09/17 20:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/09/17 20:21	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/09/17 20:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/09/17 20:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/09/17 20:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/09/17 20:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/09/17 20:21	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/09/17 20:21	108-20-3	
Ethanol	ND	ug/L	200	131	1		03/09/17 20:21	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/09/17 20:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/09/17 20:21	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/09/17 20:21	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/09/17 20:21	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/09/17 20:21	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/09/17 20:21	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/09/17 20:21	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/09/17 20:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	97	%	70-130		1		03/09/17 20:21	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		1		03/09/17 20:21	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		03/09/17 20:21	2037-26-5	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

QC Batch: 351150 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92332171003, 92332171005, 92332171007

METHOD BLANK: 1947713 Matrix: Water
Associated Lab Samples: 92332171003, 92332171005, 92332171007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	03/07/17 23:43	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	03/07/17 23:43	
Benzene	ug/L	ND	5.0	1.7	03/07/17 23:43	
Diisopropyl ether	ug/L	ND	5.0	1.7	03/07/17 23:43	
Ethanol	ug/L	ND	200	131	03/07/17 23:43	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	03/07/17 23:43	
Ethylbenzene	ug/L	ND	5.0	1.6	03/07/17 23:43	
m&p-Xylene	ug/L	ND	10.0	3.1	03/07/17 23:43	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	03/07/17 23:43	
Naphthalene	ug/L	ND	5.0	2.0	03/07/17 23:43	
o-Xylene	ug/L	ND	5.0	1.6	03/07/17 23:43	
tert-Amyl Alcohol	ug/L	ND	100	76.8	03/07/17 23:43	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	03/07/17 23:43	
tert-Butyl Alcohol	ug/L	ND	100	57.7	03/07/17 23:43	
tert-Butyl Formate	ug/L	ND	50.0	7.3	03/07/17 23:43	
Toluene	ug/L	ND	5.0	1.6	03/07/17 23:43	
Xylene (Total)	ug/L	ND	10.0	2.7	03/07/17 23:43	
1,2-Dichloroethane-d4 (S)	%	83	70-130		03/07/17 23:43	
4-Bromofluorobenzene (S)	%	95	70-130		03/07/17 23:43	
Toluene-d8 (S)	%	105	70-130		03/07/17 23:43	

LABORATORY CONTROL SAMPLE: 1947714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	43.9	88	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	947	95	70-130	
Benzene	ug/L	50	55.5	111	70-130	
Diisopropyl ether	ug/L	50	52.1	104	70-130	
Ethanol	ug/L	2000	2240	112	70-130	
Ethyl-tert-butyl ether	ug/L	100	102	102	70-130	
Ethylbenzene	ug/L	50	52.6	105	70-130	
m&p-Xylene	ug/L	100	105	105	70-130	
Methyl-tert-butyl ether	ug/L	50	51.8	104	70-130	
Naphthalene	ug/L	50	51.6	103	70-130	
o-Xylene	ug/L	50	52.4	105	70-130	
tert-Amyl Alcohol	ug/L	1000	904	90	70-130	
tert-Amylmethyl ether	ug/L	100	101	101	70-130	
tert-Butyl Alcohol	ug/L	500	306	61	70-130	L2
tert-Butyl Formate	ug/L	400	426	107	70-130	
Toluene	ug/L	50	51.4	103	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

LABORATORY CONTROL SAMPLE: 1947714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	158	105	70-130	
1,2-Dichloroethane-d4 (S)	%			87	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 1947716

Parameter	Units	92332171007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	18.0	89	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	521	130	70-130	
Benzene	ug/L	3.2J	20	27.4	121	70-130	
Diisopropyl ether	ug/L	ND	20	22.2	111	70-130	
Ethanol	ug/L	ND	800	1420	177	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	45.1	113	70-130	
Ethylbenzene	ug/L	2.8J	20	25.4	113	70-130	
m&p-Xylene	ug/L	ND	40	44.0	108	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	22.8	114	70-130	
Naphthalene	ug/L	ND	20	20.1	100	70-130	
o-Xylene	ug/L	ND	20	21.6	108	70-130	
tert-Amyl Alcohol	ug/L	ND	400	568	142	70-130	M1
tert-Amylmethyl ether	ug/L	ND	40	46.3	116	70-130	
tert-Butyl Alcohol	ug/L	ND	200	273	136	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	M1,P5
Toluene	ug/L	ND	20	22.4	110	70-130	
1,2-Dichloroethane-d4 (S)	%				84	70-130	
4-Bromofluorobenzene (S)	%				98	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE: 1947715

Parameter	Units	92332171005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	6.5	6.1	6	30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	3.3J	3.2J		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

SAMPLE DUPLICATE: 1947715

Parameter	Units	92332171005 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	87	88	1		
4-Bromofluorobenzene (S)	%	97	99	1		
Toluene-d8 (S)	%	102	102	0		

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

QC Batch: 351157 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV SC
Associated Lab Samples: 92332171012

METHOD BLANK: 1947790 | Matrix: Water
Associated Lab Samples: 92332171012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	03/08/17 00:01	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	03/08/17 00:01	
Benzene	ug/L	ND	5.0	1.7	03/08/17 00:01	
Diisopropyl ether	ug/L	ND	5.0	1.7	03/08/17 00:01	
Ethanol	ug/L	ND	200	131	03/08/17 00:01	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	03/08/17 00:01	
Ethylbenzene	ug/L	ND	5.0	1.6	03/08/17 00:01	
m&p-Xylene	ug/L	ND	10.0	3.1	03/08/17 00:01	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	03/08/17 00:01	
Naphthalene	ug/L	ND	5.0	2.0	03/08/17 00:01	
o-Xylene	ug/L	ND	5.0	1.6	03/08/17 00:01	
tert-Amyl Alcohol	ug/L	ND	100	76.8	03/08/17 00:01	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	03/08/17 00:01	
tert-Butyl Alcohol	ug/L	ND	100	57.7	03/08/17 00:01	
tert-Butyl Formate	ug/L	ND	50.0	7.3	03/08/17 00:01	
Toluene	ug/L	ND	5.0	1.6	03/08/17 00:01	
Xylene (Total)	ug/L	ND	10.0	2.7	03/08/17 00:01	
1,2-Dichloroethane-d4 (S)	%	83	70-130		03/08/17 00:01	
4-Bromofluorobenzene (S)	%	94	70-130		03/08/17 00:01	
Toluene-d8 (S)	%	105	70-130		03/08/17 00:01	

LABORATORY CONTROL SAMPLE: 1947791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	42.3	85	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	952	95	70-130	
Benzene	ug/L	50	53.2	106	70-130	
Diisopropyl ether	ug/L	50	52.7	105	70-130	
Ethanol	ug/L	2000	2040	102	70-130	
Ethyl-tert-butyl ether	ug/L	100	104	104	70-130	
Ethylbenzene	ug/L	50	51.2	102	70-130	
m&p-Xylene	ug/L	100	105	105	70-130	
Methyl-tert-butyl ether	ug/L	50	51.8	104	70-130	
Naphthalene	ug/L	50	48.6	97	70-130	
o-Xylene	ug/L	50	51.9	104	70-130	
tert-Amyl Alcohol	ug/L	1000	861	86	70-130	
tert-Amylmethyl ether	ug/L	100	97.6	98	70-130	
tert-Butyl Alcohol	ug/L	500	302	60	70-130	L2
tert-Butyl Formate	ug/L	400	427	107	70-130	
Toluene	ug/L	50	48.8	98	70-130	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

LABORATORY CONTROL SAMPLE: 1947791

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	157	104	70-130	
1,2-Dichloroethane-d4 (S)	%			86	70-130	
4-Bromofluorobenzene (S)	%			106	70-130	
Toluene-d8 (S)	%			96	70-130	

MATRIX SPIKE SAMPLE: 1948320

Parameter	Units	92332172005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	17.7	88	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	481	120	70-130	
Benzene	ug/L	ND	20	22.9	114	70-130	
Diisopropyl ether	ug/L	ND	20	21.1	106	70-130	
Ethanol	ug/L	ND	800	1040	129	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	43.1	108	70-130	
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	
m&p-Xylene	ug/L	ND	40	42.8	107	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.9	109	70-130	
Naphthalene	ug/L	ND	20	18.1	91	70-130	
o-Xylene	ug/L	ND	20	21.4	107	70-130	
tert-Amyl Alcohol	ug/L	ND	400	467	117	70-130	
tert-Amylmethyl ether	ug/L	ND	40	42.7	107	70-130	
tert-Butyl Alcohol	ug/L	ND	200	252	126	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	M1,P5
Toluene	ug/L	ND	20	21.4	107	70-130	
1,2-Dichloroethane-d4 (S)	%				86	70-130	
4-Bromofluorobenzene (S)	%				103	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1948319

Parameter	Units	92332172003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

SAMPLE DUPLICATE: 1948319

Parameter	Units	92332172003 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	87	82	5		
4-Bromofluorobenzene (S)	%	95	99	3		
Toluene-d8 (S)	%	106	101	5		

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

QC Batch: 351375 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV SC
Associated Lab Samples: 92332171009

METHOD BLANK: 1949354 | Matrix: Water
Associated Lab Samples: 92332171009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	03/08/17 23:45	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	03/08/17 23:45	
Benzene	ug/L	ND	5.0	1.7	03/08/17 23:45	
Diisopropyl ether	ug/L	ND	5.0	1.7	03/08/17 23:45	
Ethanol	ug/L	ND	200	131	03/08/17 23:45	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	03/08/17 23:45	
Ethylbenzene	ug/L	ND	5.0	1.6	03/08/17 23:45	
m&p-Xylene	ug/L	ND	10.0	3.1	03/08/17 23:45	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	03/08/17 23:45	
Naphthalene	ug/L	ND	5.0	2.0	03/08/17 23:45	
o-Xylene	ug/L	ND	5.0	1.6	03/08/17 23:45	
tert-Amyl Alcohol	ug/L	ND	100	76.8	03/08/17 23:45	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	03/08/17 23:45	
tert-Butyl Alcohol	ug/L	ND	100	57.7	03/08/17 23:45	
tert-Butyl Formate	ug/L	ND	50.0	7.3	03/08/17 23:45	
Toluene	ug/L	ND	5.0	1.6	03/08/17 23:45	
Xylene (Total)	ug/L	ND	10.0	2.7	03/08/17 23:45	
1,2-Dichloroethane-d4 (S)	%	84	70-130		03/08/17 23:45	
4-Bromofluorobenzene (S)	%	96	70-130		03/08/17 23:45	
Toluene-d8 (S)	%	103	70-130		03/08/17 23:45	

LABORATORY CONTROL SAMPLE: 1949355

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	39.8	80	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1110	111	70-130	
Benzene	ug/L	50	50.2	100	70-130	
Diisopropyl ether	ug/L	50	51.7	103	70-130	
Ethanol	ug/L	2000	2020	101	70-130	
Ethyl-tert-butyl ether	ug/L	100	103	103	70-130	
Ethylbenzene	ug/L	50	48.7	97	70-130	
m&p-Xylene	ug/L	100	97.1	97	70-130	
Methyl-tert-butyl ether	ug/L	50	52.7	105	70-130	
Naphthalene	ug/L	50	44.9	90	70-130	
o-Xylene	ug/L	50	49.0	98	70-130	
tert-Amyl Alcohol	ug/L	1000	1090	109	70-130	
tert-Amylmethyl ether	ug/L	100	105	105	70-130	
tert-Butyl Alcohol	ug/L	500	359	72	70-130	
tert-Butyl Formate	ug/L	400	427	107	70-130	
Toluene	ug/L	50	48.5	97	70-130	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

LABORATORY CONTROL SAMPLE: 1949355

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	146	97	70-130	
1,2-Dichloroethane-d4 (S)	%			81	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 1949357

Parameter	Units	92332094005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	17.2	85	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	345	86	70-130	
Benzene	ug/L	ND	20	23.5	117	70-130	
Diisopropyl ether	ug/L	ND	20	21.4	107	70-130	
Ethanol	ug/L	ND	800	879	110	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	40.9	102	70-130	
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	
m&p-Xylene	ug/L	ND	40	42.3	106	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.5	104	70-130	
Naphthalene	ug/L	ND	20	18.6	93	70-130	
o-Xylene	ug/L	ND	20	20.7	103	70-130	
tert-Amyl Alcohol	ug/L	ND	400	341	85	70-130	
tert-Amylmethyl ether	ug/L	ND	40	42.2	105	70-130	
tert-Butyl Alcohol	ug/L	ND	200	196	98	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	3	70-130	M1,P5
Toluene	ug/L	ND	20	22.4	112	70-130	
1,2-Dichloroethane-d4 (S)	%				84	70-130	
4-Bromofluorobenzene (S)	%				98	70-130	
Toluene-d8 (S)	%				102	70-130	

SAMPLE DUPLICATE: 1949356

Parameter	Units	92332094006 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	13.9	13.0	7	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	2.9J	2.8J		30	
Diisopropyl ether	ug/L	4.6J	4.2J		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

SAMPLE DUPLICATE: 1949356

Parameter	Units	92332094006 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	86	84	2		
4-Bromofluorobenzene (S)	%	95	94	1		
Toluene-d8 (S)	%	104	108	4		

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

QC Batch: 351460 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV SC
Associated Lab Samples: 92332171011

METHOD BLANK: 1949673 | Matrix: Water
Associated Lab Samples: 92332171011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	03/09/17 08:30	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	03/09/17 08:30	
Benzene	ug/L	ND	5.0	1.7	03/09/17 08:30	
Diisopropyl ether	ug/L	ND	5.0	1.7	03/09/17 08:30	
Ethanol	ug/L	ND	200	131	03/09/17 08:30	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	03/09/17 08:30	
Ethylbenzene	ug/L	ND	5.0	1.6	03/09/17 08:30	
m&p-Xylene	ug/L	ND	10.0	3.1	03/09/17 08:30	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	03/09/17 08:30	
Naphthalene	ug/L	ND	5.0	2.0	03/09/17 08:30	
o-Xylene	ug/L	ND	5.0	1.6	03/09/17 08:30	
tert-Amyl Alcohol	ug/L	ND	100	76.8	03/09/17 08:30	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	03/09/17 08:30	
tert-Butyl Alcohol	ug/L	ND	100	57.7	03/09/17 08:30	
tert-Butyl Formate	ug/L	ND	50.0	7.3	03/09/17 08:30	
Toluene	ug/L	ND	5.0	1.6	03/09/17 08:30	
Xylene (Total)	ug/L	ND	10.0	2.7	03/09/17 08:30	
1,2-Dichloroethane-d4 (S)	%	102	70-130		03/09/17 08:30	
4-Bromofluorobenzene (S)	%	97	70-130		03/09/17 08:30	
Toluene-d8 (S)	%	101	70-130		03/09/17 08:30	

LABORATORY CONTROL SAMPLE: 1949674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	46.6	93	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1060	106	70-130	
Benzene	ug/L	50	51.1	102	70-130	
Diisopropyl ether	ug/L	50	49.7	99	70-130	
Ethanol	ug/L	2000	2010	100	70-130	
Ethyl-tert-butyl ether	ug/L	100	97.7	98	70-130	
Ethylbenzene	ug/L	50	50.2	100	70-130	
m&p-Xylene	ug/L	100	98.6	99	70-130	
Methyl-tert-butyl ether	ug/L	50	48.7	97	70-130	
Naphthalene	ug/L	50	52.7	105	70-130	
o-Xylene	ug/L	50	49.5	99	70-130	
tert-Amyl Alcohol	ug/L	1000	1080	108	70-130	
tert-Amylmethyl ether	ug/L	100	98.2	98	70-130	
tert-Butyl Alcohol	ug/L	500	540	108	70-130	
tert-Butyl Formate	ug/L	400	422	106	70-130	
Toluene	ug/L	50	50.9	102	70-130	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

LABORATORY CONTROL SAMPLE: 1949674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	148	99	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1949676

Parameter	Units	92332167010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.1	95	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	387	97	70-130	
Benzene	ug/L	ND	20	22.1	110	70-130	
Diisopropyl ether	ug/L	ND	20	20.3	101	70-130	
Ethanol	ug/L	200	800	958	95	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	40.6	102	70-130	
Ethylbenzene	ug/L	ND	20	21.3	106	70-130	
m&p-Xylene	ug/L	ND	40	41.6	104	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	20.5	103	70-130	
Naphthalene	ug/L	ND	20	19.7	97	70-130	
o-Xylene	ug/L	ND	20	20.6	103	70-130	
tert-Amyl Alcohol	ug/L	ND	400	420	105	70-130	
tert-Amylmethyl ether	ug/L	ND	40	40.2	100	70-130	
tert-Butyl Alcohol	ug/L	ND	200	227	109	70-130	
tert-Butyl Formate	ug/L	ND	160	157	98	70-130	
Toluene	ug/L	ND	20	21.5	108	70-130	
1,2-Dichloroethane-d4 (S)	%				101	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				101	70-130	

SAMPLE DUPLICATE: 1949675

Parameter	Units	92332167009 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	157J		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

SAMPLE DUPLICATE: 1949675

Parameter	Units	92332167009 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	100	99	1		
4-Bromofluorobenzene (S)	%	98	97	1		
Toluene-d8 (S)	%	101	101	0		

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

QC Batch: 351549 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92332171013, 92332171014, 92332171015, 92332171018, 92332171019

METHOD BLANK: 1950548 Matrix: Water
Associated Lab Samples: 92332171013, 92332171014, 92332171015, 92332171018, 92332171019

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	03/09/17 19:13	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	03/09/17 19:13	
Benzene	ug/L	ND	5.0	1.7	03/09/17 19:13	
Diisopropyl ether	ug/L	ND	5.0	1.7	03/09/17 19:13	
Ethanol	ug/L	ND	200	131	03/09/17 19:13	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	03/09/17 19:13	
Ethylbenzene	ug/L	ND	5.0	1.6	03/09/17 19:13	
m&p-Xylene	ug/L	ND	10.0	3.1	03/09/17 19:13	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	03/09/17 19:13	
Naphthalene	ug/L	ND	5.0	2.0	03/09/17 19:13	
o-Xylene	ug/L	ND	5.0	1.6	03/09/17 19:13	
tert-Amyl Alcohol	ug/L	ND	100	76.8	03/09/17 19:13	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	03/09/17 19:13	
tert-Butyl Alcohol	ug/L	ND	100	57.7	03/09/17 19:13	
tert-Butyl Formate	ug/L	ND	50.0	7.3	03/09/17 19:13	
Toluene	ug/L	ND	5.0	1.6	03/09/17 19:13	
Xylene (Total)	ug/L	ND	10.0	2.7	03/09/17 19:13	
1,2-Dichloroethane-d4 (S)	%	100	70-130		03/09/17 19:13	
4-Bromofluorobenzene (S)	%	95	70-130		03/09/17 19:13	
Toluene-d8 (S)	%	102	70-130		03/09/17 19:13	

LABORATORY CONTROL SAMPLE: 1950549

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	46.9	94	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1160	116	70-130	
Benzene	ug/L	50	52.2	104	70-130	
Diisopropyl ether	ug/L	50	49.6	99	70-130	
Ethanol	ug/L	2000	2040	102	70-130	
Ethyl-tert-butyl ether	ug/L	100	102	102	70-130	
Ethylbenzene	ug/L	50	52.9	106	70-130	
m&p-Xylene	ug/L	100	104	104	70-130	
Methyl-tert-butyl ether	ug/L	50	51.3	103	70-130	
Naphthalene	ug/L	50	53.9	108	70-130	
o-Xylene	ug/L	50	52.0	104	70-130	
tert-Amyl Alcohol	ug/L	1000	1150	115	70-130	
tert-Amylmethyl ether	ug/L	100	103	103	70-130	
tert-Butyl Alcohol	ug/L	500	554	111	70-130	
tert-Butyl Formate	ug/L	400	466	117	70-130	
Toluene	ug/L	50	52.7	105	70-130	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

LABORATORY CONTROL SAMPLE: 1950549

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	156	104	70-130	
1,2-Dichloroethane-d4 (S)	%			93	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1950550 1950551

Parameter	Units	92332035016 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	200	200	222	213	103	99	70-130	4	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	4000	4000	4180	4630	105	116	70-130	10	30	
Benzene	ug/L	1840	200	200	2050	2030	101	93	70-130	1	30	E
Diisopropyl ether	ug/L	ND	200	200	215	210	106	104	70-130	2	30	
Ethanol	ug/L	ND	8000	8000	8560	9010	107	113	70-130	5	30	
Ethyl-tert-butyl ether	ug/L	ND	400	400	435	424	109	106	70-130	3	30	
Ethylbenzene	ug/L	173	200	200	401	395	114	111	70-130	1	30	
m&p-Xylene	ug/L	139	400	400	579	578	110	110	70-130	0	30	
Methyl-tert-butyl ether	ug/L	37.8J	200	200	262	252	112	107	70-130	4	30	
Naphthalene	ug/L	279	200	200	498	500	110	111	70-130	0	30	
o-Xylene	ug/L	17.1J	200	200	238	240	111	111	70-130	1	30	
tert-Amyl Alcohol	ug/L	20100	4000	4000	24500	26600	110	162	70-130	8	30	M1
tert-Amylmethyl ether	ug/L	ND	400	400	437	436	109	109	70-130	0	30	
tert-Butyl Alcohol	ug/L	ND	2000	2000	3220	3380	135	143	70-130	5	30	M1
tert-Butyl Formate	ug/L	ND	1600	1600	973	948	61	59	70-130	3	30	P5
Toluene	ug/L	141	200	200	365	365	112	112	70-130	0	30	
1,2-Dichloroethane-d4 (S)	%						102	96	70-130			
4-Bromofluorobenzene (S)	%						99	100	70-130			
Toluene-d8 (S)	%						100	101	70-130			

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

QC Batch: 351550 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92332171001, 92332171002, 92332171004, 92332171006, 92332171008, 92332171010

METHOD BLANK: 1950552 Matrix: Water
Associated Lab Samples: 92332171001, 92332171002, 92332171004, 92332171006, 92332171008, 92332171010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	03/09/17 19:30	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	03/09/17 19:30	
Benzene	ug/L	ND	5.0	1.7	03/09/17 19:30	
Diisopropyl ether	ug/L	ND	5.0	1.7	03/09/17 19:30	
Ethanol	ug/L	ND	200	131	03/09/17 19:30	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	03/09/17 19:30	
Ethylbenzene	ug/L	ND	5.0	1.6	03/09/17 19:30	
m&p-Xylene	ug/L	ND	10.0	3.1	03/09/17 19:30	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	03/09/17 19:30	
Naphthalene	ug/L	ND	5.0	2.0	03/09/17 19:30	
o-Xylene	ug/L	ND	5.0	1.6	03/09/17 19:30	
tert-Amyl Alcohol	ug/L	ND	100	76.8	03/09/17 19:30	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	03/09/17 19:30	
tert-Butyl Alcohol	ug/L	ND	100	57.7	03/09/17 19:30	
tert-Butyl Formate	ug/L	ND	50.0	7.3	03/09/17 19:30	
Toluene	ug/L	ND	5.0	1.6	03/09/17 19:30	
Xylene (Total)	ug/L	ND	10.0	2.7	03/09/17 19:30	
1,2-Dichloroethane-d4 (S)	%	99	70-130		03/09/17 19:30	
4-Bromofluorobenzene (S)	%	96	70-130		03/09/17 19:30	
Toluene-d8 (S)	%	101	70-130		03/09/17 19:30	

LABORATORY CONTROL SAMPLE: 1950553

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	46.4	93	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1140	114	70-130	
Benzene	ug/L	50	52.2	104	70-130	
Diisopropyl ether	ug/L	50	49.0	98	70-130	
Ethanol	ug/L	2000	2030	102	70-130	
Ethyl-tert-butyl ether	ug/L	100	99.5	100	70-130	
Ethylbenzene	ug/L	50	50.8	102	70-130	
m&p-Xylene	ug/L	100	101	101	70-130	
Methyl-tert-butyl ether	ug/L	50	50.6	101	70-130	
Naphthalene	ug/L	50	53.2	106	70-130	
o-Xylene	ug/L	50	50.1	100	70-130	
tert-Amyl Alcohol	ug/L	1000	1130	113	70-130	
tert-Amylmethyl ether	ug/L	100	102	102	70-130	
tert-Butyl Alcohol	ug/L	500	553	111	70-130	
tert-Butyl Formate	ug/L	400	472	118	70-130	
Toluene	ug/L	50	51.2	102	70-130	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

LABORATORY CONTROL SAMPLE: 1950553

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	151	101	70-130	
1,2-Dichloroethane-d4 (S)	%			96	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 1950555

Parameter	Units	92332171002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	20.2	101	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	424	106	70-130	
Benzene	ug/L	10.4	20	34.1	118	70-130	
Diisopropyl ether	ug/L	ND	20	21.6	108	70-130	
Ethanol	ug/L	ND	800	889	111	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	43.6	109	70-130	
Ethylbenzene	ug/L	132	20	157	127	70-130	
m&p-Xylene	ug/L	ND	40	46.4	110	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	22.9	114	70-130	
Naphthalene	ug/L	61.9	20	83.0	105	70-130	
o-Xylene	ug/L	ND	20	22.9	110	70-130	
tert-Amyl Alcohol	ug/L	ND	400	467	114	70-130	
tert-Amylmethyl ether	ug/L	ND	40	43.0	107	70-130	
tert-Butyl Alcohol	ug/L	ND	200	320	160	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	2	70-130	M1,P5
Toluene	ug/L	ND	20	23.5	112	70-130	
1,2-Dichloroethane-d4 (S)	%				97	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1950554

Parameter	Units	92332171001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

SAMPLE DUPLICATE: 1950554

Parameter	Units	92332171001 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	99	102	3		
4-Bromofluorobenzene (S)	%	98	97	1		
Toluene-d8 (S)	%	100	101	1		

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

QC Batch: 351709 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV SC
Associated Lab Samples: 92332171016, 92332171017

METHOD BLANK: 1951126 | Matrix: Water
Associated Lab Samples: 92332171016, 92332171017

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	1.8	03/10/17 18:17	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	32.1	03/10/17 18:17	
Benzene	ug/L	ND	5.0	1.7	03/10/17 18:17	
Diisopropyl ether	ug/L	ND	5.0	1.7	03/10/17 18:17	
Ethanol	ug/L	ND	200	131	03/10/17 18:17	
Ethyl-tert-butyl ether	ug/L	ND	10.0	3.6	03/10/17 18:17	
Ethylbenzene	ug/L	ND	5.0	1.6	03/10/17 18:17	
m&p-Xylene	ug/L	ND	10.0	3.1	03/10/17 18:17	
Methyl-tert-butyl ether	ug/L	ND	5.0	1.7	03/10/17 18:17	
Naphthalene	ug/L	ND	5.0	2.0	03/10/17 18:17	
o-Xylene	ug/L	ND	5.0	1.6	03/10/17 18:17	
tert-Amyl Alcohol	ug/L	ND	100	76.8	03/10/17 18:17	
tert-Amylmethyl ether	ug/L	ND	10.0	3.4	03/10/17 18:17	
tert-Butyl Alcohol	ug/L	ND	100	57.7	03/10/17 18:17	
tert-Butyl Formate	ug/L	ND	50.0	7.3	03/10/17 18:17	
Toluene	ug/L	ND	5.0	1.6	03/10/17 18:17	
Xylene (Total)	ug/L	ND	10.0	2.7	03/10/17 18:17	
1,2-Dichloroethane-d4 (S)	%	99	70-130		03/10/17 18:17	
4-Bromofluorobenzene (S)	%	97	70-130		03/10/17 18:17	
Toluene-d8 (S)	%	102	70-130		03/10/17 18:17	

LABORATORY CONTROL SAMPLE: 1951127

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.5	99	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1300	130	70-130	
Benzene	ug/L	50	55.4	111	70-130	
Diisopropyl ether	ug/L	50	50.9	102	70-130	
Ethanol	ug/L	2000	2230	111	70-130	
Ethyl-tert-butyl ether	ug/L	100	105	105	70-130	
Ethylbenzene	ug/L	50	54.4	109	70-130	
m&p-Xylene	ug/L	100	108	108	70-130	
Methyl-tert-butyl ether	ug/L	50	54.5	109	70-130	
Naphthalene	ug/L	50	56.5	113	70-130	
o-Xylene	ug/L	50	54.3	109	70-130	
tert-Amyl Alcohol	ug/L	1000	1290	129	70-130	
tert-Amylmethyl ether	ug/L	100	109	109	70-130	
tert-Butyl Alcohol	ug/L	500	617	123	70-130	
tert-Butyl Formate	ug/L	400	508	127	70-130	
Toluene	ug/L	50	55.4	111	70-130	

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

LABORATORY CONTROL SAMPLE: 1951127

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	162	108	70-130	
1,2-Dichloroethane-d4 (S)	%			94	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1951128 1951129

Parameter	Units	92332514012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	4000	4000	4050	4290	97	103	70-130	6	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	80000	80000	92500	96000	116	120	70-130	4	30	
Benzene	ug/L	31900	4000	4000	36300	36300	110	108	70-130	0	30	
Diisopropyl ether	ug/L	860J	4000	4000	5040	5020	104	104	70-130	0	30	
Ethanol	ug/L	ND	160000	160000	176000	177000	110	111	70-130	1	30	
Ethyl-tert-butyl ether	ug/L	ND	8000	8000	8330	8590	104	107	70-130	3	30	
Ethylbenzene	ug/L	1660	4000	4000	5970	6330	108	117	70-130	6	30	
m&p-Xylene	ug/L	6850	8000	8000	15500	15900	108	113	70-130	3	30	
Methyl-tert-butyl ether	ug/L	11000	4000	4000	19300	19200	207	205	70-130	0	30	M1
Naphthalene	ug/L	471J	4000	4000	4760	5030	107	114	70-130	6	30	
o-Xylene	ug/L	3420	4000	4000	7770	7960	109	114	70-130	2	30	
tert-Amyl Alcohol	ug/L	82500	80000	80000	187000	183000	131	126	70-130	2	30	M1
tert-Amylmethyl ether	ug/L	ND	8000	8000	8860	9050	106	108	70-130	2	30	
tert-Butyl Alcohol	ug/L	ND	40000	40000	49100	50100	123	125	70-130	2	30	
tert-Butyl Formate	ug/L	ND	32000	32000	36700	37400	115	117	70-130	2	30	
Toluene	ug/L	32100	4000	4000	36600	36600	113	114	70-130	0	30	
1,2-Dichloroethane-d4 (S)	%						96	95	70-130			
4-Bromofluorobenzene (S)	%						99	100	70-130			
Toluene-d8 (S)	%						100	101	70-130			

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

QC Batch: 351438 | Analysis Method: EPA 8011
QC Batch Method: EPA 8011 | Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92332171001, 92332171002

METHOD BLANK: 1949558 | Matrix: Water
Associated Lab Samples: 92332171001, 92332171002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.020	03/09/17 15:30	
1-Chloro-2-bromopropane (S)	%	96	60-140		03/09/17 15:30	

LABORATORY CONTROL SAMPLE & LCSD: 1949559 1949560

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.25	0.29	0.29	117	117	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				100	100	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1949561 1949562

Parameter	Units	92332057002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.24	.24	0.29	0.30	119	123	60-140	4	20	
1-Chloro-2-bromopropane (S)	%						100	101	60-140			

SAMPLE DUPLICATE: 1949563

Parameter	Units	92332057005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	99	97	1		

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

QC Batch: 351439 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92332171003, 92332171004, 92332171005, 92332171006, 92332171007, 92332171008, 92332171009, 92332171010, 92332171011, 92332171012, 92332171013, 92332171014, 92332171015, 92332171017, 92332171018

METHOD BLANK: 1949564 Matrix: Water
Associated Lab Samples: 92332171003, 92332171004, 92332171005, 92332171006, 92332171007, 92332171008, 92332171009, 92332171010, 92332171011, 92332171012, 92332171013, 92332171014, 92332171015, 92332171017, 92332171018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.020	03/10/17 00:13	
1-Chloro-2-bromopropane (S)	%	99	60-140		03/10/17 00:13	

LABORATORY CONTROL SAMPLE & LCSD: 1949565 1949566

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.24	0.29	0.30	119	123	60-140	4	20	
1-Chloro-2-bromopropane (S)	%				102	108	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1949567 1949568

Parameter	Units	92332171003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.25	.24	0.29	0.29	117	119	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						99	96	60-140			

SAMPLE DUPLICATE: 1949569

Parameter	Units	92332171004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	85	61	31		

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QUALITY CONTROL DATA

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

QC Batch: 351867 | Analysis Method: EPA 8011
QC Batch Method: EPA 8011 | Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92332171016

METHOD BLANK: 1951912 | Matrix: Water
Associated Lab Samples: 92332171016

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	0.020	03/13/17 10:24	
1-Chloro-2-bromopropane (S)	%	104	60-140		03/13/17 10:24	

LABORATORY CONTROL SAMPLE & LCSD: 1951913 1951914

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.24	0.27	0.27	112	112	60-140	1	20	
1-Chloro-2-bromopropane (S)	%				108	101	60-140			

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QUALIFIERS

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

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Pace Analytical Services, LLC
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BAY CREEK VILLAS 18662/54175
Pace Project No.: 92332171

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92332171001	MW-3R	EPA 8011	351438	EPA 8011	351484
92332171002	MW-4	EPA 8011	351438	EPA 8011	351484
92332171003	MW-5	EPA 8011	351439	EPA 8011	351485
92332171004	MW-9	EPA 8011	351439	EPA 8011	351485
92332171005	MW-15	EPA 8011	351439	EPA 8011	351485
92332171006	MW-16	EPA 8011	351439	EPA 8011	351485
92332171007	MW-17	EPA 8011	351439	EPA 8011	351485
92332171008	MW-18	EPA 8011	351439	EPA 8011	351485
92332171009	MW-19	EPA 8011	351439	EPA 8011	351485
92332171010	MW-20	EPA 8011	351439	EPA 8011	351485
92332171011	MW-21	EPA 8011	351439	EPA 8011	351485
92332171012	MW-22	EPA 8011	351439	EPA 8011	351485
92332171013	MW-23	EPA 8011	351439	EPA 8011	351485
92332171014	MW-24	EPA 8011	351439	EPA 8011	351485
92332171015	MW-25	EPA 8011	351439	EPA 8011	351485
92332171016	PW-1	EPA 8011	351867	EPA 8011	351881
92332171017	DUP 1	EPA 8011	351439	EPA 8011	351485
92332171018	FIELD BLANK	EPA 8011	351439	EPA 8011	351485
92332171001	MW-3R	EPA 8260	351550		
92332171002	MW-4	EPA 8260	351550		
92332171003	MW-5	EPA 8260	351150		
92332171004	MW-9	EPA 8260	351550		
92332171005	MW-15	EPA 8260	351150		
92332171006	MW-16	EPA 8260	351550		
92332171007	MW-17	EPA 8260	351150		
92332171008	MW-18	EPA 8260	351550		
92332171009	MW-19	EPA 8260	351375		
92332171010	MW-20	EPA 8260	351550		
92332171011	MW-21	EPA 8260	351460		
92332171012	MW-22	EPA 8260	351157		
92332171013	MW-23	EPA 8260	351549		
92332171014	MW-24	EPA 8260	351549		
92332171015	MW-25	EPA 8260	351549		
92332171016	PW-1	EPA 8260	351709		
92332171017	DUP 1	EPA 8260	351709		
92332171018	FIELD BLANK	EPA 8260	351549		
92332171019	TRIP BLANK	EPA 8260	351549		

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Pace Analytical®	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: Sept. 21, 2016 Page 1 of 2
	Document No.: F-CAR-CS-033-Rev.01	Issuing Authority: Pace Quality Office

Laboratory receiving samples:
Asheville ☐ Eden ☐ Greenwood ☐ Huntersville ☑ Raleigh ☐ Mechanicsville ☐

WO# : 92332171
92332171

Sample Condition Upon Receipt

Client Name: SCHEE

Projec

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:____

Custody Seal Present? ☐ Yes ☑ No **Seals Intact?** ☐ Yes ☑ No

Date/Initials Person Examining Contents: BU 3/6

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other:____

Thermometer: ☑ IR Gun ID: T1603 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☑ Samples on Ice, cooling process has begun

Correction Factor: **Cooler Temp Corrected (°C):** 5.6 **Biological Tissue Frozen?** ☐ Yes ☑ No ☐ N/A

Temp should be above freezing to 6°C

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: CA, NY, or SC (check maps)? ☑ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☑ No

				Comments/Discrepancy:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	2.
Short Hold Time Analysis (<72 hr.)?	☐ Yes	☑ No	☐ N/A	3.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	4.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	5.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	6.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	7.
Samples Field Filtered?	☐ Yes	☑ No	☐ N/A	8. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	☐ Yes	☑ No	☐ N/A	9. no time/date on vials.
-Includes Date/Time/ID/Analysis Matrix: WS				
Headspace in VOA Vials (>5-6mm)?	☑ Yes	☐ No	☐ N/A	10. MW-3(6) MW-5(6) MW-15(2)
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	MW-16(6) MW-17(3) MW-21(3)
Trip Blank Custody Seals Present?	☐ Yes	☑ No	☐ N/A	MW-22(3) MW-25(2)

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Sample Discrepancy: _____

Project Manager SCURF Review: JJ **Date:** 3/7/17

Project Manager SRF Review: JJ **Date:** 3/7/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. Out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: Sept. 21, 2016 Page 2 of 2
	Document No.: F-CAR-CS-033-Rev.01	Issuing Authority:

WO#: 92332171

PM: RWC Due Date: 03/10/17

CLIENT: 92-SCDHEC

*Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.

**Bottom half of box is to list number of bottles

Project #

PG1

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP3S-250 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP3Z-250 mL Plastic ZN Acetate & NaOH (>9)	BP3C-250 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SP5T-125 mL Sterile Plastic (N/A – lab)	SP2T-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	Cubitainer	VSGU-20 mL Scintillation vials (N/A)	GN
1																6												
2																6												
3																6												
4																6												
5																6												
6																6												
7																6												
8																6												
9																6												
10																6												
11																6												
12																6												

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

Pace Analytical	Document Name: Sample Condition Upon Receipt(SCUR)	Document Revised: Sept. 21, 2016 Page 2 of 2
	Document No.: F-CAR-CS-033-Rev.01	Issuing Authority: Pace Quality Office

***Check mark top half of box if pH and/or dechlorination is verified and within the acceptance range for preservation samples.**

****Bottom half of box is to list number of bottles**

Proje **WO# : 92332171**

PM: RWC Due Date: 03/10/17

CLIENT: 92-SCDHEC

Item#	BP4U-125 mL Plastic Unpreserved (N/A) (Cl-)	BP3U-250 mL Plastic Unpreserved (N/A)	BP2U-500 mL Plastic Unpreserved (N/A)	BP1U-1 liter Plastic Unpreserved (N/A)	BP3S-250 mL Plastic H2SO4 (pH < 2) (Cl-)	BP3N-250 mL plastic HNO3 (pH < 2)	BP3Z-250 mL Plastic ZN Acetate & NaOH (>9)	BP3C-250 mL Plastic NaOH (pH > 12) (Cl-)	WGFU-Wide-mouthed Glass jar Unpreserved	AG1U-1 liter Amber Unpreserved (N/A) (Cl-)	AG1H-1 liter Amber HCl (pH < 2)	AG3U-250 mL Amber Unpreserved (N/A) (Cl-)	AG1S-1 liter Amber H2SO4 (pH < 2)	AG3S-250 mL Amber H2SO4 (pH < 2)	AG3A(DG3A)-250 mL Amber NH4Cl (N/A)(Cl-)	DG9H-40 mL VOA HCl (N/A)	VG9T-40 mL VOA Na2S2O3 (N/A)	VG9U-40 mL VOA Unp (N/A)	DG9P-40 mL VOA H3PO4 (N/A)	VOAK (6 vials per kit)-5035 kit (N/A)	V/GK (3 vials per kit)-VPH/Gas kit (N/A)	SPST-125 mL Sterile Plastic (N/A – lab)	SPZT-250 mL Sterile Plastic (N/A – lab)		BP3A-250 mL Plastic (NH2)2SO4 (9.3-9.7)	Cubitainer	VSGU-20 mL Scintillation vials (N/A)	GN
1																4													
2																4													
3																4													
4																4													
5																4													
6																4													
7																2													
8																													
9																													
10																													
11																													
12																													

pH Adjustment Log for Preserved Samples

Sample ID	Type of Preservative	pH upon receipt	Date preservation adjusted	Time preservation adjusted	Amount of Preservative added	Lot #

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

2018904

Section A Required Client Information:
Company: SCDHEC-UST
Address: 2600 Bull Street Columbia SC 29201
Email To: bryantsc@dhec.sc.gov
Phone: 803-898-0606 Fax: 803-898-0675
Requested Due Date/TAT:

Section B Required Project Information:
Report To: J Bryant - UST
Copy To:
Purchase Order No.: 4600422513
Project Name: Bay Creek Villas
Project Number: UST 18662 / PACE CAS 4175

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: T. Carter
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	BTEXNM 8260B	1,2 DCA 8260B	8 Oxy15 8260B	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-3R	WW	G			3/3/17	8:46		6				6						X	X	X	X		Sulfur Odor UU1
2	MW-4						8:56																	No Odor UU2
3	MW-5						8:38																	Organic Odor UU3
4	MW-9						8:43																	No Odor UU4
5	MW-15						8:52																	Slight Odor UU5
6	MW-16						9:07																	Odor UU6
7	MW-17						9:22																	Sulfur Odor UU7
8	MW-18						10:04																	Sheen, Odor UU8
9	MW-19						9:44																	Heavy Sheen, Odor UU9
10	MW-20						9:53																	Odor, Sheen U10
11	MW-21						9:50																	Odor, Sheen U11
12	MW-22	WT	G			3/3/17	9:58		6				6						X	X	X	X		Odor U12

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Colin Phillips	3/3/17	17:00	Pace / TC	3/4/17	920	5.6	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Colin Phillips
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 3/3/17

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 2 of 2

2018905

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC-UST	Report To: J. Bryant - UST	Attention:
Address: 2600 Bull Street Columbia SC 29201	Copy To:	Company Name:
		Address:
Email To: bryantjc@dhec.sc.gov	Purchase Order No.: 4600422513	Pace Quote Reference:
Phone: 803-898-0600 Fax: 803-898-0673	Project Name: Bay Creek Villas	Pace Project Manager: T. Carter
Requested Due Date/TAT:	Project Number: UST 18662/PACECA54175	Pace Profile #:

REGULATORY AGENCY

- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC Colleton

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	BTEX NM 8260B	1,2 DCA 8260B	8 OXY's 8260B	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-23	WT	G			3/3/17	9:08		6				6						X	X	X	X		Odor 013
2	MW-24						8:52																	Odor 014
3	MW-25						9:21																	Odor Sheen 015
4	PW-1						9:01																	Slight Odor 016
5	Dup 1						9:10																	Odor 017
6	Field Blank						10:01		6				6						X	X	X	X		FB 018
7	Trip Blank	WT	G			3/3/17	10:02		2				2						X	X	X			FB 019
8																								
9																								
10																								
11																								
12																								

92332171

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	3/3/17	1700	[signature] Pace ACL	3/4/17	920	5.6	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Colin Phillips

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 5/3/17

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

dhec
Healthy People. Healthy Communities.

18662

RONNIE LOWDER
EMERALD INC
PO BOX 3050
SUMTER SC 29151-3050

FEB 2 0 2018

UST DOCKETING 16 Feb

Re: **Aggressive Fluid Vapor Recovery (AFVR) Directive**
Contract #IFB-5400010441-11/24/15: PO #4600539716
Notice to Proceed

Dear Mr. Lowder:

Under the terms and conditions of the referenced contract, Aggressive Fluid Vapor Recovery (AFVR) has been approved for the UST facilities listed below. Emerald, Inc. may proceed upon receipt of this letter. The complete packets containing necessary information for each facility is enclosed. Each facility has been assigned an individual cost agreement (CA) number and work scope.

Permit	Facility	County	Work Scope	CA #
00046	Rocket Service Station	Abbeville	One 96-hour AFVR	55795
00428	Rogers Auto Parts	Anderson	One 96-hour AFVR	56333
00949	Dolphin Head Golf Course	Beaufort	One 96-hour AFVR	55666
07004	Murphys Superette	Orangeburg	One 96-hour AFVR	56327
09340	Westbrook's Grocery	York	Two 96-hour AFVR	55729
12655	Hilton's Grocery	York	One 96-hour AFVR	56329
16093	Frye Enterprises	Jasper	One 96-hour AFVR	55811
17195	H H Transfer & Storage	Orangeburg	One 96-hour AFVR	54337
17857	Max	York	One 96-hour AFVR	56328
18662	Bay Creek Villas	Colleton	One 96-hour AFVR	56331
19559	Davis Property	Cherokee	One 96-hour AFVR	56075
19619	Former Service Station	York	One 96-hour AFVR	54611

UNDERGROUND STORAGE TANK MANAGEMENT DIVISION
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Telephone: 803-898-2544

MEMORANDUM

TO: Ronny Lowder, Emerald, Inc.

FROM: Read Miner

RE: **NOTICE TO PROCEED**

Facility Name: Bay Creek Villas

Permit Number: 18662

County: Colleton

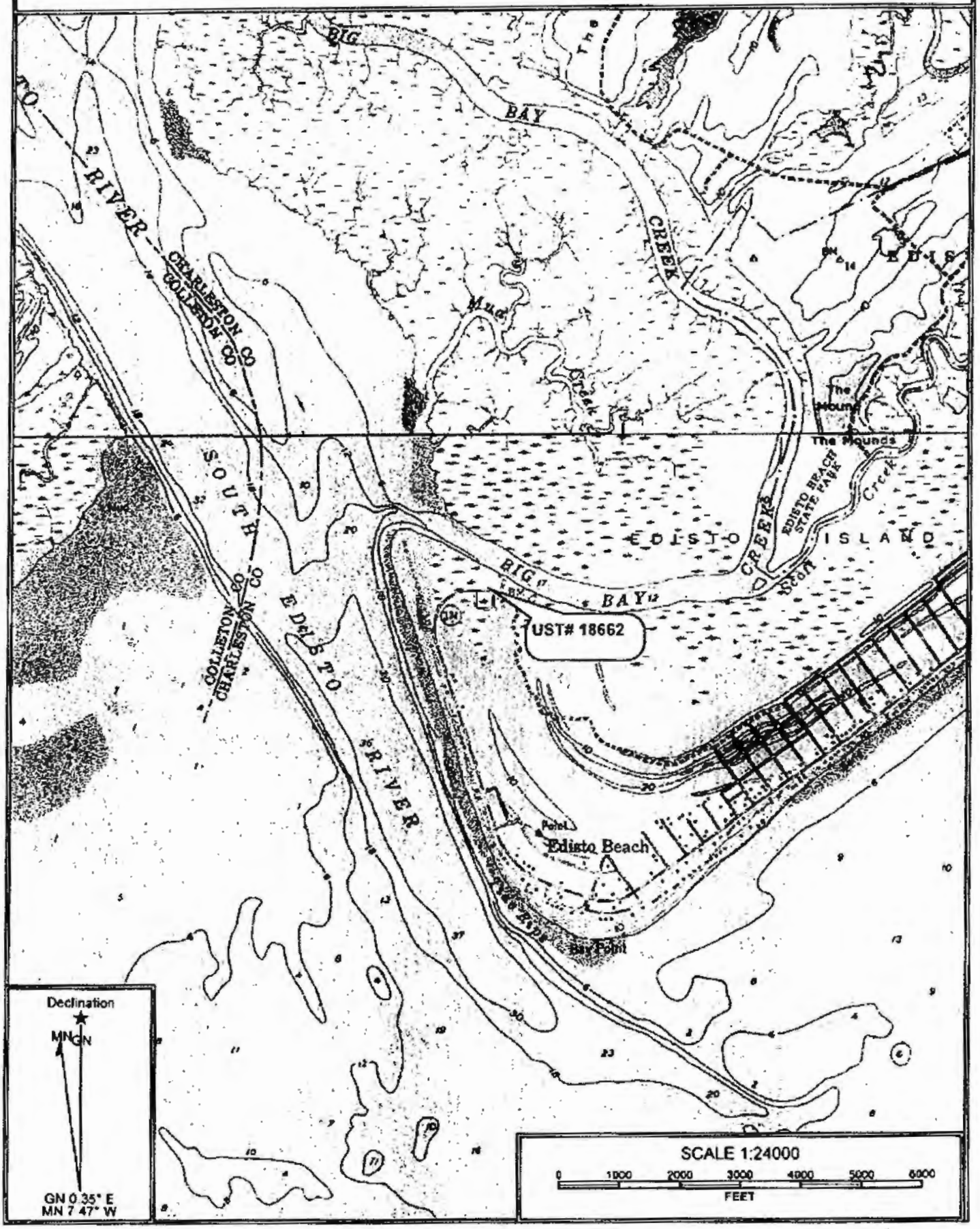
Work to be completed: one 96-hour AFVR event using MW-18, MW-19, and MW-25. Target stinger depths are 9 feet in each well.

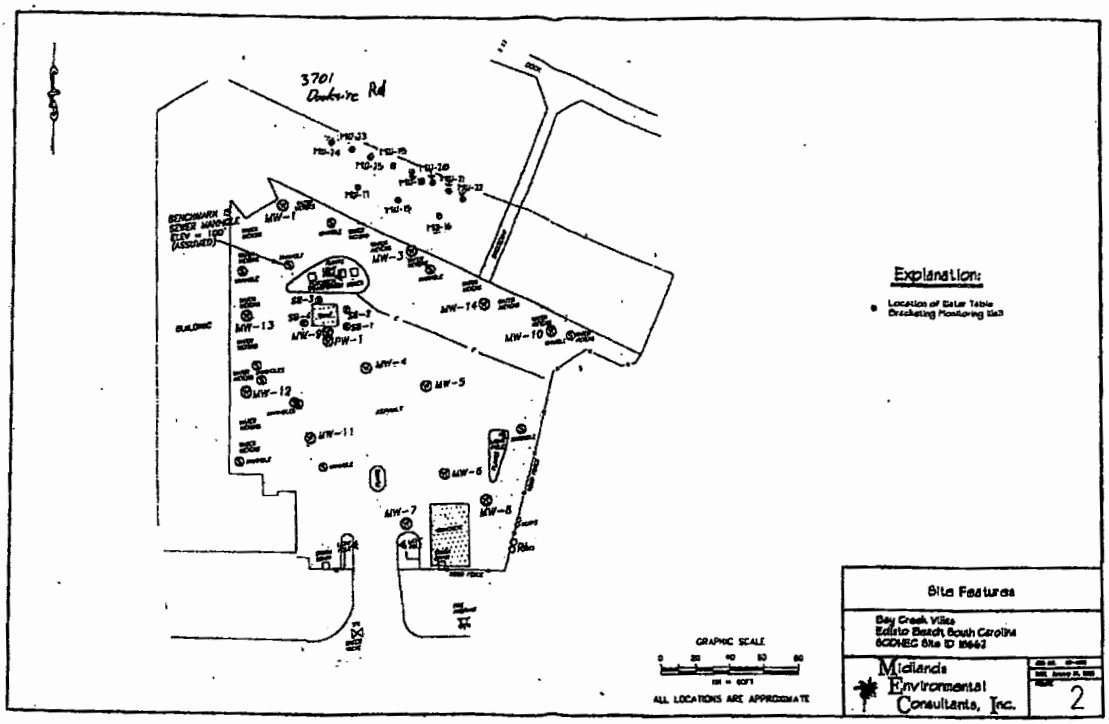
CA #: 56331

Map Name: EDISTO BEACH
Print Date: 04/14/16

Scale: 1 inch = 2,000 ft.
Map Center: 032° 29' 34.80" N, 080° 20' :

Horizontal Datum: NAD27




3701
Ashwine Rd
BENCHMARK
SEWER MANHOLE
ELEV = 100'
(ASSUMED)
BUILDING
MW-1
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
MW-11
MW-12
MW-13
MW-14
PW-1
Explanation:
Location of Water Table
Bracketing Monitoring Well
GRAPHIC SCALE
ALL LOCATIONS ARE APPROXIMATE
Site Features
Bay Creek Villas
Edisto Beach, South Carolina
SCDHEC Site ID 10662
Midlands
Environmental
Consultants, Inc.
2

Site Activity Summary

Midlands Environmental Consultants, Inc.

UST Permit #:	18662
Facility Name:	Bay Creek Villas
County:	Colleton
Field Personnel:	J. Floyd, B. Garner, C. Philips, P. Wylie

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Intial Dissolved Oxygen (mg/L)	# Gals. Purged	Comments
MW-1	N	3/3/17	ABAN	2.5-15	***	ABAN	***	ABAN	ABAN	Abandoned
MW-3R	Y	3/3/17	8:46	1.8-11.8	***	5.78	***	1.61	1.50	Sulfuric Odor
MW-4	Y	3/3/17	8:35	2.5-15	***	6.21	***	1.49	0.50	No Odor
MW-5	Y	3/3/17	8:38	2.5-15	***	6.43	***	1.51	2.00	Organic Odor
MW-6	N	3/3/17	ABAN	2.5-15	***	ABAN	***	ABAN	ABAN	Abandoned
MW-7	N	3/3/17	ABAN	1.5-10	***	ABAN	***	ABAN	ABAN	Abandoned
MW-8	N	3/3/17	ABAN	1.5-10	***	ABAN	***	ABAN	ABAN	Abandoned
MW-9	Y	3/3/17	8:45	1.5-10	***	5.96	***	1.12	1.50	No Odor
MW-10	N	3/3/17	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-11	N	3/3/17	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-12	N	3/3/17	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-13	N	3/3/17	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-14	N	3/3/17	ABAN	2-12	***	ABAN	***	ABAN	ABAN	Abandoned
MW-15	Y	3/3/17	8:52	3-10	***	5.11	***	1.69	1.00	Slight Odor
MW-16	Y	3/3/17	9:07	3-10	***	7.29	***	1.17	0.50	Odor
									7.00	TOTAL GALLONS PURGED

Site Activity Summary

Midlands Environmental Consultants, Inc.

UST Permit #: 18662
Facility Name: Bay Creek Villas
County: Colleton
Field Personnel: J. Floyd, B. Garner, C. Phillips, P. Wylie

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-17	Y	3/3/17	9:22	3-10	***	3.00	***	1.67	1.50	Sulfuric Odor
MW-18	Y	3/3/17	10:04	3-10	***	7.03	***	Sheen	1.00	Odor/Sheen
MW-19	Y	3/3/17	9:37	2.5-9.5	***	7.20	***	Sheen	1.00	Odor/Sheen
MW-20	Y	3/3/17	9:53	3-10	***	6.15	***	Sheen	1.00	Odor/Sheen
MW-21	Y	3/3/17	9:50	2.5-9.5	***	6.97	***	Sheen	1.00	Odor/Sheen
MW-22	Y	3/3/17	9:38	3-10	***	7.00	***	2.13	1.00	Odor
MW-23	Y	3/3/17	9:08	2.5-905	***	4.79	***	1.03	1.00	Odor
MW-24	Y	3/3/17	8:52	2.5-9.5	***	5.91	***	1.34	1.00	Odor
MW-25	Y	3/3/17	9:21	2.5-9.5	***	6.39	***	Sheen	1.00	Odor/Sheen
PW-1	Y	3/3/17	9:01	TD: 38.50	***	5.58	***	1.53	27.00	Slight Odor
DUP-1	Y	3/3/17	9:10	***	***	***	***	***	***	Duplicate sample of MW-16
Field Blank	Y	3/3/17	10:01	***	***	***	***	***	***	Field Blank
Trip Blank	Y	3/3/17	10:02	***	***	***	***	***	***	Trip Blank
									36.50	TOTAL GALLONS PURGED

Approved Cost Agreement 56331

Facility: 18662 BAY CREEK VILLAS
BUTLERKH
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
23 EFR						
		A4	96 HOUR EVENT	1.0000	$4,400.000	4,400.00
		C4	OFF GAS TREATMENT 96 HOUR	1.0000	$150.000	150.00
		D	SITE RECONNAISSANCE	1.0000	$75.000	75.00
		F1	EFFLUENT DISPOSAL	20,000.0000	$0.125	2,500.00
		G	AFVR EQUIPMENT MOB	1.0000	$350.000	350.00
				Total Amount		7,475.00

Emerald, Inc.

CONSULTING AND ENGINEERING
SERVICES IN ENVIRONMENTAL AFFAIRS

2520 TAHOE DRIVE • POST OFFICE BOX 3050 • SUMTER, SOUTH CAROLINA 29151

WEBSITE:
www.emeraldinc-us.com

TELEPHONE (803) 469-5454
FAX (803) 469-5465

April 24, 2018

Kathryn Butler, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Underground Storage Tank Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, SC 29201

UST 162 Tech DOCKETING

UST MAY 0 1 2018 DIVISION

Aggressive Fluid Vapor Recovery Report
Bay Creek Villas
Edisto Beach, South Carolina
Colleton County
UST Permit #18662; CA#56331
Emerald Job 18-012

Ms. Butler,

Please find the attached Aggressive Fluid Vapor Recovery (AFVR) Report for the Bay Creek Villas site. A site reconnaissance was conducted on March 8, 2018 to locate monitoring wells, gauge extraction wells, and assess site conditions. Prior to conducting this AFVR event information gathered during the site reconnaissance was presented to the SCDHEC project manager for review.

AGGRESSIVE FLUID VAPOR RECOVERY EVENT

On April 9 through 13, 2018, Emerald, Inc. personnel performed a 96-hour AFVR event utilizing MW-18, MW-19 and MW-25 as the extraction locations. This 96-hour AFVR event was conducted to aid in reducing dissolved chemicals of concern previously detected at the subject site. Free phase petroleum product was not detected prior to or at the conclusion of the event. Monitoring well locations are presented on the attached site map provided by SCDHEC.

Table 1 presents the off-gas concentrations (using a Photoionization Detector), post treatment off-gas concentrations, off-gas velocity, and knockout tank vacuum. Table 2 presents the stinger depths, wellhead vacuum measurements, water levels measurements and magnehelic readings obtained during the event. Emerald, Inc. field personnel normally record data at thirty minute intervals for the first eight hours of the event, then at one hour intervals from hours nine through twenty-four and at two hour intervals from hour twenty-four until the conclusion of the event. During the hours of midnight to 8 AM event monitoring was suspended. Off-gas treatment was utilized during business hours to limit exposure of the off-gas to the general public using a catalytic oxidizer.

According to the calculations as presented on Table 1, a total of 89.51 pounds of hydrocarbons (as vapor) and 14.31 equivalent gallons of hydrocarbons were removed during this event. Free phase product was not detected in the knockout tank during this event. According to the meter, a total of 7,995 gallons of petroleum contaminated groundwater was transported to the City on Manning Wastewater Treatment Facility in Manning, SC for proper disposal. A copy of the disposal manifest for this event is included as an attachment.

If you have any questions or concerns please feel free to contact Emerald, Inc. at 803-469-5454.

Sincerely,
Emerald, Inc.

William C. McClary, P.G.
Project Manager

Ronny L. Lowder
President

Attachments

TABLE 1
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB # 18-012

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM)	Post-Treatment Concentration (PPM)	Offgas Velocity (ft/min)	Flow Rate (CFM)	CG:M (mg/dsm$^{3)}$	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-18	4/9/18	10:30	Start	10	> 5,000	<0.1	N/A	180	26,589	1.66E-03	17.93	-
MW-19		11:00	0.5	10	> 5,000	<0.1	N/A	180	26,589	1.66E-03	17.93	8.96
MW-25		11:30	0.5	15	> 5,000	<0.1	N/A	140	26,589	1.66E-03	13.94	7.97
		12:00 ↓	0.5	15	> 5,000	<0.1	N/A	140	26,589	1.66E-03	13.94	6.97
		12:30	0.5	15	4,462	<0.1	N/A	140	23,728	1.48E-03	12.44	6.60
		13:00	0.5	21	4,128	<0.1	N/A	80	21,951	1.37E-03	6.58	4.76
		13:30 ↓	0.5	21	4,971	<0.1	N/A	80	26,434	1.65E-03	7.92	3.62
		14:00	0.5	21	4,224	<0.1	N/A	80	22,462	1.40E-03	6.73	3.66
		14:30	0.5	21	3,929	<0.1	N/A	80	20,893	1.30E-03	6.26	3.25
		15:00 ↓	0.5	21	3,671	<0.1	N/A	80	19,521	1.22E-03	5.85	3.03
		15:30	0.5	21	2,864	<0.1	N/A	80	15,230	9.51E-04	4.56	2.60
		16:00	0.5	21	2,726	<0.1	N/A	80	14,496	9.05E-04	4.34	2.23
		16:30 ↓	0.5	21	1,617	<0.1	N/A	80	8,599	5.37E-04	2.58	1.73
		17:00	0.5	21	2,821	<0.1	N/A	80	15,001	9.37E-04	4.50	1.77
		17:30	0.5	21	1,654	<0.1	N/A	80	8,795	5.49E-04	2.64	1.78
		18:00	0.5	21	1,495	<0.1	N/A	80	7,950	4.96E-04	2.38	1.25
		18:30	0.5	21	1,924	<0.1	N/A	80	10,231	6.39E-04	3.07	1.36
		19:00	0.5	21	891	<0.1	N/A	80	4,738	2.96E-04	1.42	1.12
		20:00	1.0	21	632	<0.1	N/A	80	3,361	2.10E-04	1.01	1.21
		21:00	1.0	21	129	<0.1	N/A	80	686	4.28E-05	0.21	0.61
		22:00	1.0	21	466	<0.1	N/A	80	2,478	1.55E-04	0.74	0.47
		23:00	1.0	21	371	<0.1	N/A	80	1,973	1.23E-04	0.59	0.67
	4/10/18	0:00	1.0	21	492	<0.1	NA	80	2,616	1.63E-04	0.78	0.69
		8:00	8.0	21	523	<0.1	NA	80	2,781	1.74E-04	0.83	6.47
		9:00 ↑	1.0	21	610	<0.1	NA	80	3,244	2.03E-04	0.97	0.90
		10:00	1.0	21	492	<0.1	NA	80	2,616	1.63E-04	0.78	0.88
		12:00	2.0	21	523	<0.1	NA	80	2,781	1.74E-04	0.83	1.62
		14:00 ↑	2.0	21	489	<0.1	NA	80	2,600	1.62E-04	0.78	1.61
		16:00 ↓	2.0	21	205	<0.1	NA	80	1,090	6.81E-05	0.33	1.11
		18:00	2.0	21	171	<0.1	NA	80	909	5.68E-05	0.27	0.60
		20:00 ↓	2.0	21	134	<0.1	NA	80	713	4.45E-05	0.21	0.49

TABLE 1 Cont'd.
AFVR MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB # 18-012

Extraction Wells	Date	Time (hh:mm)	Differential Time (hr)	Knockout Tank Vacuum (in. Hg)	Off-Gas Concentration (PPM)	Post-Treatment Concentration (PPM)	Offgas Velocity (ft/min)	Flow Rate (CFM)	CG:M (mg/dsm^3)	Cg (Lb/Dscf)	Removal Rate (Lbs/Hr)	Interval Removal (Lbs)
MW-18	4/10/18	22.00	2 0	21	79	<0 1	N/A	80	420	2 62E-05	0 13	0 61
MW-19	4/11/18	0 00	2 0	21	186	<0.1	N/A	80	989	6 17E-05	0 30	0 42
MW-25		8:00	8 0	21	234	<0.1	N/A	80	1,244	7 77E-05	0.37	2 68
		10:00 ↑	2 0	21	106	<0 1	N/A	80	564	3 52E-05	0.17	0 54
		12:00	2 0	21	72	<0 1	N/A	80	383	2.39E-05	0.11	0 28
		14 00 ↓	2 0	21	126	<0 1	N/A	80	670	4 18E-05	0.20	0 32
		16 00	2 0	21	107	<0 1	N/A	80	569	3 55E-05	0.17	0 37
		18 00 ↓	2 0	21	89	<0 1	N/A	80	473	2 95E-05	0 14	0 31
		20 00	2 0	21	61	<0 1	N/A	80	324	2 03E-05	0 10	0.24
		22:00	2 0	21	113	<0 1	N/A	80	601	3 75E-05	0 18	0 28
	4/12/18	0 00	2 0	21	47	<0 1	N/A	80	250	1 56E-05	0 07	0.25
		8 00	8.0	21	63	<0 1	N/A	80	335	2 09E-05	0 10	0 70
		10:00 ↑	2 0	21	81	<0 1	N/A	80	431	2 69E-05	0 13	0 23
		12 00	2.0	21	46	<0 1	N/A	80	245	1 53E-05	0 07	0 20
		14 00 ↓	2 0	21	90	<0 1	N/A	80	479	2 99E-05	0.14	0.22
		16 00	2.0	21	44	<0 1	N/A	80	234	1 46E-05	0 07	0 21
		18 00 ↓	2 0	21	38	<0 1	N/A	80	202	1.26E-05	0 06	0 13
		20:00 ↓	2 0	21	63	<0.1	N/A	80	335	2 09E-05	0 10	0 16
		22 00	2 0	21	79	<0 1	N/A	80	420	2.62E-05	0 13	0 23
	4/13/18	0 00	2 0	21	47	<0.1	N/A	80	250	1 56E-05	0.07	0 20
		8 00	8 0	21	68	<0 1	N/A	80	362	2 26E-05	0 11	0 73
		10:00	2 0	21	39	<0.1	N/A	80	207	1 29E-05	0.06	0 17
		10:30	0 5	21	41	<0 1	N/A	80	218	1 36E-05	0 07	0 03

Well Gauging Data			Before AFVR Event			After AFVR Event		
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)
MW-18	2	3-10	---	6.47	---	---	7.16	---
MW-19	2	2 5-9 5	---	6 52	---	---	7.22	---
MW-25	2	2 5-9 5	---	6 18	---	---	7 09	---

Equations

Cg,m = PPMg*(Mg/K3)
Removal Rate = Cg * Flow Rate * 60Min/Hr
Interval Removal = $(T_1 + T_2)/2$
PPM = Part per Million (by PID)
Cg m = mg/dsm3(mass concentration of gasoline emission)
Mg = 128 mg/mg-mole, molecular weight of gasoline
K3 = 24 07 dsm^3/1E6 mg-mole, mass to volume conversion
Cg = lb/dcsf, mass concentration of gasoline by emission
Removal Rate = lb/hr,pollutant mass removal rate of emission

Product Thickness

Product observed in Sight Tube?	No
Product detected in Tanker?	No

Recovery / Disposal Information

Hydrocarbons Removed (vapor):	89.51	Pounds
Hydrocarbons Removed (liquid):	0 00	Gallons
Total Hydrocarbons Removed:	14 31	Equivalent Gallons
Molecular Weight Utilized:	128	mg/mg-mole
Disposal Facility:	City of Manning Wastewater Treatment Facility	
Total Liquids Removed:	7,995	Gallons

Weather Conditions		Emerald, Inc. Personnel
4/9/18	Clear, 51-59°F	
4/10/18	Clear, 51-55°F	M Slaybaugh
4/11/18	Clear, 44-64°F	D Ridgeway
4/12/18	Clear, 46-69°F	
4/13/18	Clear, 53-77°F	

Notes

↑ = Stinger raised ↓ = Stinger lowered

TABLE 2
EVENT MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB # 18-012

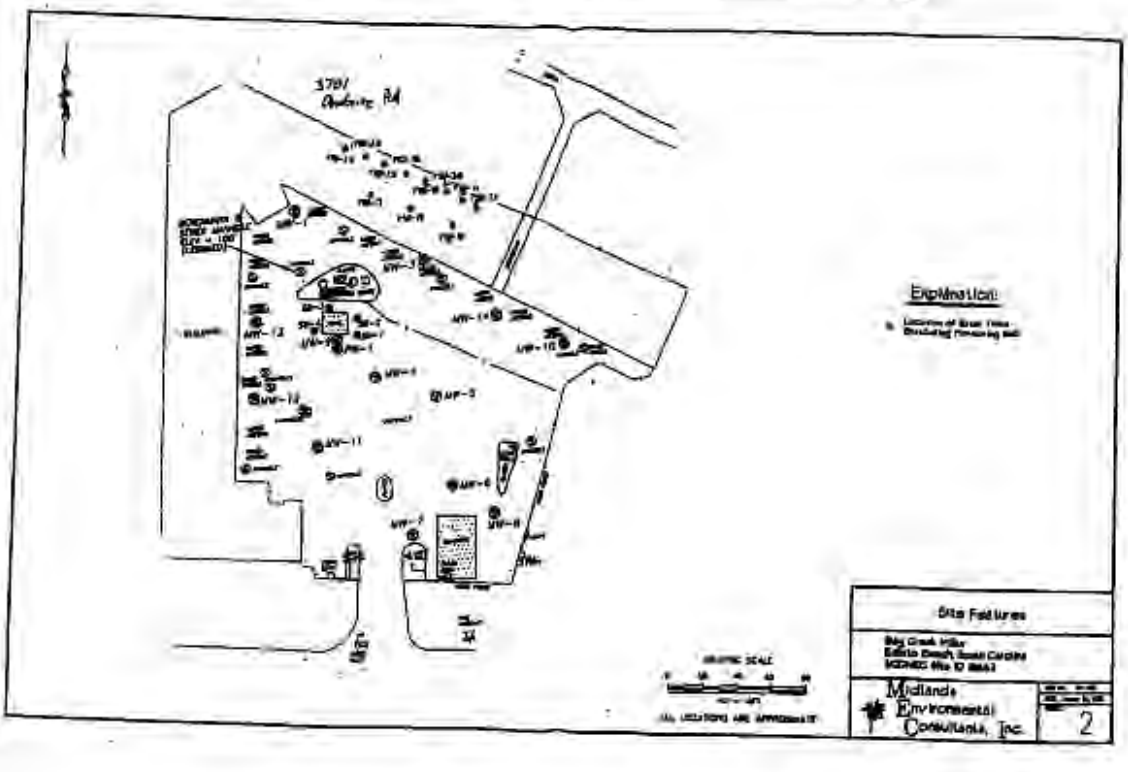
Date	Time (hh:mm)	Extraction Wells						Event Monitoring			
		MW-18		MW-19		MW-25		MW-4		MW-17	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water (ft.)	Magnehelic Reading (inches of water)	Depth to Water (ft.)
4/9/18	10:30	5.0	9	5.0	9	5.0	9	Pre	5.73	Pre	4.92
	11:00	5.0	9	5.0	9	5.0	9	---	---	---	---
	11:30	5.0	14	5.0	14	5.0	14	---	---	---	---
	12:00	6.0	14	6.0	14	6.0	14	---	---	---	---
	12:30	6.0	14	6.0	14	6.0	14	<0.1	5.73	<0.1	4.93
	13:00	6.0	20	6.0	20	6.0	20	---	---	---	---
	13:30	7.0	20	7.0	20	7.0	20	---	---	---	---
	14:00	7.0	20	7.0	20	7.0	20	---	---	---	---
	14:30	7.0	20	7.0	20	7.0	20	<0.1	5.75	<0.1	4.95
	15:00	8.0	20	8.0	20	8.0	20	---	---	---	---
	15:30	8.0	20	8.0	20	8.0	20	---	---	---	---
	16:00	8.0	20	8.0	20	8.0	20	---	---	---	---
	16:30	9.0	20	9.0	20	9.0	20	<0.1	5.76	<0.1	4.97
	17:00	9.0	20	9.0	20	9.0	20	---	---	---	---
	17:30	9.0	20	9.0	20	9.0	20	---	---	---	---
	18:00	9.0	20	9.0	20	9.0	20	---	---	---	---
	18:30	9.0	20	9.0	20	9.0	20	<0.1	5.76	<0.1	5.02
	19:00	9.0	20	9.0	20	9.0	20	---	---	---	---
	20:00	9.0	20	9.0	20	9.0	20	---	---	---	---
	21:00	9.0	20	9.0	20	9.0	20	<0.1	5.76	<0.1	5.06
	22:00	9.0	20	9.0	20	9.0	20	---	---	---	---
	23:00	9.0	20	9.0	20	9.0	20	---	---	---	---
4/10/18	0:00	9.0	20	9.0	20	9.0	20	<0.1	5.77	<0.1	5.08
	8:00	9.0	20	9.0	20	9.0	20	<0.1	4.92	<0.1	5.09
	9:00	7.0	20	7.0	20	7.0	20	---	---	---	---
	10:00	7.0	20	7.0	20	7.0	20	<0.1	5.04	<0.1	5.16
	12:00	7.0	20	7.0	20	7.0	20	<0.1	5.13	<0.1	5.19
	14:00	6.0	20	6.0	20	6.0	20	<0.1	5.47	<0.1	5.13
	16:00	7.0	20	7.0	20	7.0	20	<0.1	5.39	<0.1	5.08
	18:00	7.0	20	7.0	20	7.0	20	<0.1	5.07	<0.1	5.09
	20:00	8.0	20	8.0	20	8.0	20	<0.1	5.10	<0.1	5.07
	22:00	8.0	20	8.0	20	8.0	20	<0.1	5.32	<0.1	5.11

Notes:

TABLE 2 Cont'd.
EVENT MONITORING DATA
BAY CREEK VILLAS
EDISTO BEACH, SOUTH CAROLINA
SCDHEC SITE ID #18662
EMERALD JOB # 18-012

Date	Time (hh:mm)	Extraction Wells						Event Monitoring			
		MW-18		MW-19		MW-25		MW-4		MW-17	
		Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Stinger Depth (ft.)	Wellhead Vacuum (in. Hg)	Magnehelic Reading (inches of water)	Depth to Water (ft.)	Magnehelic Reading (inches of water)	Depth to Water (ft.)
4/11/18	0 00	8 0	20	8 0	20	8 0	20	<0 1	5 41	<0 1	5 15
	8:00	8 0	20	8 0	20	8.0	20	<0 1	4 93	<0 1	5.11
	10:00	6.0	20	6.0	20	6.0	20	<0 1	5 07	<0 1	5.18
	12:00	6.0	20	6 0	20	6.0	20	<0 1	5 25	<0 1	5 21
	14 00	7.0	20	7 0	20	7 0	20	<0 1	5 32	<0 1	5 23
	16:00	7.0	20	7.0	20	7 0	20	<0.1	5 45	<0 1	5.27
	18:00	8.0	20	8 0	20	8.0	20	<0 1	4.98	<0 1	5.02
	20 00	8 0	20	8 0	20	8 0	20	<0.1	5 07	<0 1	5.09
	22.00	8 0	20	8.0	20	8 0	20	<0 1	5 15	<0 1	5 16
4/12/18	0:00	8.0	20	8 0	20	8 0	20	<0 1	5 18	<0 1	5 16
	8:00	8.0	20	8.0	20	8 0	20	<0 1	4.96	<0 1	5 08
	10 00	7.0	20	7 0	20	7.0	20	<0 1	5 34	<0 1	5 12
	12:00	7 0	20	7 0	20	7 0	20	<0 1	5 51	<0 1	5 19
	14:00	6 0	20	6 0	20	6 0	20	<0 1	5.54	<0.1	5.38
	16:00	6 0	20	6 0	20	6 0	20	<0 1	5 59	<0.1	5.41
	18:00	7 0	20	7 0	20	7 0	20	<0 1	5 47	<0 1	5.21
	20:00	8 0	20	8.0	20	8 0	20	<0 1	5 38	<0 1	5 14
	22:00	8.0	20	8 0	20	8 0	20	<0 1	5 23	<0.1	5.11
4/13/18	0 00	8 0	20	8 0	20	8.0	20	<0 1	5 18	<0 1	5 09
	8:00	8.0	20	8 0	20	8 0	20	<0 1	5 21	<0 1	5 15
	10:00	8 0	20	8 0	20	8.0	20	<0 1	5 26	<0 1	5 21
	10:30	8 0	20	8.0	20	8 0	20	<0 1	5 27	<0 1	5.23

Notes:


Explanation:
Site Features
Midlands Environmental Consultants, Inc.
2

NON-HAZARDOUS WASTE MANIFEST

Please print or type. (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 1121-1

2. Page 1 of

3. Generator's Name and Mailing Address
Bay Creek Villas
1701 Docksite Road
Edisto Beach S.C.
U.S.T. #18662

4. Generator's Phone

5. Transporter 1 Company Name
Emerald, Inc.

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone 803-469-5454

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
City of Manning
Wastewater Treatment Facility
PO Box 546
Manning, SC 29102

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION

	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non-Hazardous Petroleum Concentrated Groundwater			1093	GAL
b.				
c.				
d.				

G. Additional Descriptions for Materials Listed Above

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

Printed/Typed Name: Max Sleppenfuh
Signature
Date: Month 4 Day 11 Year 18

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Lee Stogner
Signature
Date: Month 4 Day 11 Year 18

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name
Signature
Date: Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: James Bethea
Signature: James Bethea
Date: Month 4 Day 14 Year 18

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY

©2002 LABELMASTER (800) 621-5808 www.labelmaster.com

Manhole Across from Eeggies

NON-HAZARDOUS WASTE MANIFEST

Please print or type. (Form designed for use on elite 12 pitch typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 1121-3

2. Page 1 of

3. Generator's Name and Mailing Address: Bay Creek Villas, 3701 Dockside Road, Edisto Beach S.C. U.S.T. #18662

4. Generator's Phone ( )

5. Transporter 1 Company Name: Emerald, Inc.

6. US EPA ID Number

A. State Transporter's ID

B. Transporter 1 Phone 803-469-5434

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address: City of Manning, Wastewater Treatment Facility, PO Box 545, Manning, SC 29102

10. US EPA ID Number

E. State Facility's ID

F. Facility's Phone

11. WASTE DESCRIPTION	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non-Hazardous Petroleum Contaminated Groundwater			3902	GAL
b.				
c.				
d.				

GENERATOR

15. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials delivered on this manifest are subject to federal hazardous waste regulations.

Printed/Typed Name: DANIEL F. RIDGEWAY | Signature | Date: Month 4 Day 13 Year 18

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: lee stogner | Signature | Date: Month 4 Day 13 Year 18

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Date: Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.

Printed/Typed Name: James Bethea | Signature: James Bethea | Date: Month 4 Day 14 Year 18

NON-HAZARDOUS WASTE

Manhole Across from Georgia

Apr 23 18 04:15p City of Manning-Utility 8034350425 p.2