



C. Earl Hunter, Commissioner

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

DEC 17 2008

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

Re: Groundwater Sampling Directive
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686, CA # 34256
Release reported March 30, 2001
Report received April 21, 2006
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) recognizes your commitment to continue work at this site utilizing Geological Resources, Inc. The Program has reviewed the referenced report and determined the next necessary scope of work to be a comprehensive groundwater sampling event.

Cost Agreement # 34256 has been approved in the amount shown on the enclosed cost agreement for a comprehensive sampling event. The Program requests that all existing monitoring wells associated with the release as well as WSW-1, WSW-3, MW-1A, MW-2A, MW-3A, and MW-4A (located on adjacent site # 09017) be sampled for BTEX, Naphthalene, MTBE, and 1,2-DCA using EPA method 8260B and EDB using EPA method 8011. Please note that wells in which the screen brackets the water table may be sampled without purging.

Please have Geological Resources, Inc. submit groundwater sampling results to the Program in a monitoring report containing the following items:

- A narrative portion documenting current site conditions and noting the names of field personnel, date, time, ambient air temperature, and general weather conditions during the sampling event. The report shall also contain well purging data, pH, specific conductivity, water temperature, PID readings (where applicable) and turbidity comments.
- Groundwater elevations, depth to groundwater, measurable free product thickness (where applicable), total well depth and screened interval for all monitoring wells associated with the site, unless otherwise directed by the Program, shall be presented in tabular form. Groundwater laboratory analytical data for all monitoring wells shall be presented in tabular format.
- Should any monitoring wells or water supply wells not be sampled, note the reason for which the sampling was not conducted on such wells.
- A groundwater elevation contour map of the site based on current groundwater potentiometric data.
- A CoC map based on current groundwater laboratory analytical data. The groundwater data should be adjacent to the relevant monitoring well.
- Manifests for any contaminated soil and/or groundwater removed from the site for treatment and/or disposal.
- Signature and seal by a professional geologist or engineer registered in the State of South Carolina.

UST DOCKET

Geological Resources, Inc. can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Please note that all applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. All site

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

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rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

A Report of Findings and the invoice is due within 60 days from the date of this letter and within 45 days from the sampling date. Interim invoices may not be submitted for this scope of work. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the COC concentrations, based on laboratory analysis, are below Risk Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence or inquiries regarding this project, please reference UST Permit # 18686. If you have any questions, please feel free to contact me by phone at (803) 896-4085, by fax at (803) 896-6245, or by email at jacksosm@dhec.sc.gov.

Sincerely,



Stephanie M. Jackson, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Geological Resources, Inc., 2301 Crown Point Executive Drive, Suite F, Charlotte, NC 28227 (w/enc)
Technical file (w/o enc)

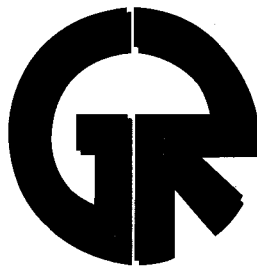
Approved Cost Agreement 34256

Facility: 18686 TISDALES QUICK STOP

JACKSOSM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
04 MOB/DEMOB					
		B PERSONNEL	2.0000	290.00	580.00
10 SAMPLE COLLECTION					
		A GROUND WATER	2.0000	55.00	110.00
		C WATER SUPPLY	2.0000	25.00	50.00
		D GROUNDWATER NO-PURGE	34.0000	35.00	1,190.00
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	38.0000	100.00	3,800.00
		BB 1,2-DCA	38.0000	10.75	408.50
		F EDB	38.0000	55.00	2,090.00
17 DISPOSAL					
		A1 WASTEWATER - PURGING/SAMPLING	1.0000	90.00	90.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	8,318.50	1,247.78
Total Amount					9,566.28



Geological Resources, Inc.

February 16, 2009

Stephanie M. Jackson, Hydrogeologist
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: Ground Water Sampling Report
Tisdales Quick Stop
Kingstree, Williamsburg County
UST Permit #: 18686
CA #: 34256

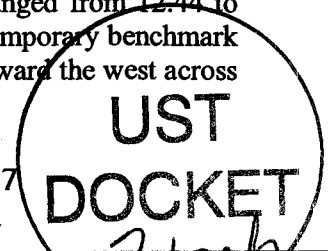
Dear Ms. Jackson:

The purpose of this report is to present the results of assessment activities conducted between January 7 and 8, 2009 at the above referenced site (**Figure 1**). Site activities were conducted in general accordance with the requirements outlined in correspondence from the SCDHEC dated December 17, 2008 and addressed to Mr. Marty Easler. The following Figures, Tables and Appendices have been included:

- Figure 1: Site Location Map
- Figure 2: Site Map
- Figure 3: Water Table Surface Map
- Figure 4: Ground Water Quality Map
- Table 1: Summary of Ground Water Elevation Data
- Table 2: Summary of Historical Ground Water Elevation Data
- Table 3: Summary of Laboratory Analyses – Ground Water Samples – Chemicals of Concern
- Table 4: Summary of Historical Laboratory Analyses – Ground Water Samples – Chemicals of Concern
- Appendix A: Ground Water Sampling Data Sheets
- Appendix B: Disposal Manifest
- Appendix C: Laboratory Report

All of the existing monitoring wells associated with the Tisdales Quick Stop petroleum release were sampled on January 7 and 8, 2009. Please note that only telescoping wells TW-1 and TW-2 were purged prior to sampling. Based on the January 2009 gauging data, depths to ground water in the monitoring wells ranged from 12.44 to 17.89 feet. Ground water elevations at the site ranged from 79.56 to 83.81 feet relative to a temporary benchmark with an assumed datum of 100.00 feet. Based on this data, ground water flow was generally toward the west across

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the site and consistent with historical data.

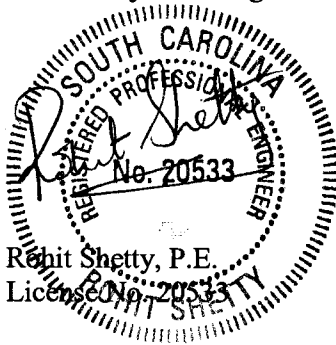
Each of the ground water samples from the monitoring wells were submitted to a South Carolina certified laboratory for the analyses of BTEX, MTBE, naphthalene and 1,2-DCA by EPA Method 8260B and EDB by EPA Method 8011. In addition, one water supply well (WSW-1) was sampled for BTEX, MTBE, naphthalene and 1,2-DCA by EPA Method 8260B and EDB by EPA Method 8011. Please note, water supply well WSW-2 was destroyed and could not be sampled. Free product was measured in monitoring wells MW-2, MW-3, MW-2A, MW-3A and MW-4A at thicknesses that ranged from 0.02 feet to 1.00 feet. Therefore, these five wells were not sampled. Concentrations of one or more BTEX constituents, MTBE, naphthalene and/or EDB that exceeded the RBSLs were reported in MW-1, MW-4, MW-8, MW-16, MW-23 and MW-1A. No detectable concentrations of COCs were detected in MW-5 through MW-7, MW-9, MW-10, MW-13 through MW-15, MW-18, MW-22, MW-24 through MW-27, MW-29 through MW-31, TW-1, TW-2 and WSW-1.

Based on this data, the vertical and horizontal extent of the contaminant plume has been adequately defined at the site. Continued ground water monitoring is recommended. In addition, free product recovery activities should be conducted to reduce free product levels in monitoring wells MW-2, MW-3, MW-2A, MW-3A and MW-4A. Please do not hesitate to contact the undersigned at (704) 845-4010 if you have any questions or comments concerning this project.

Sincerely,



Scott Ball
Senior Project Manager

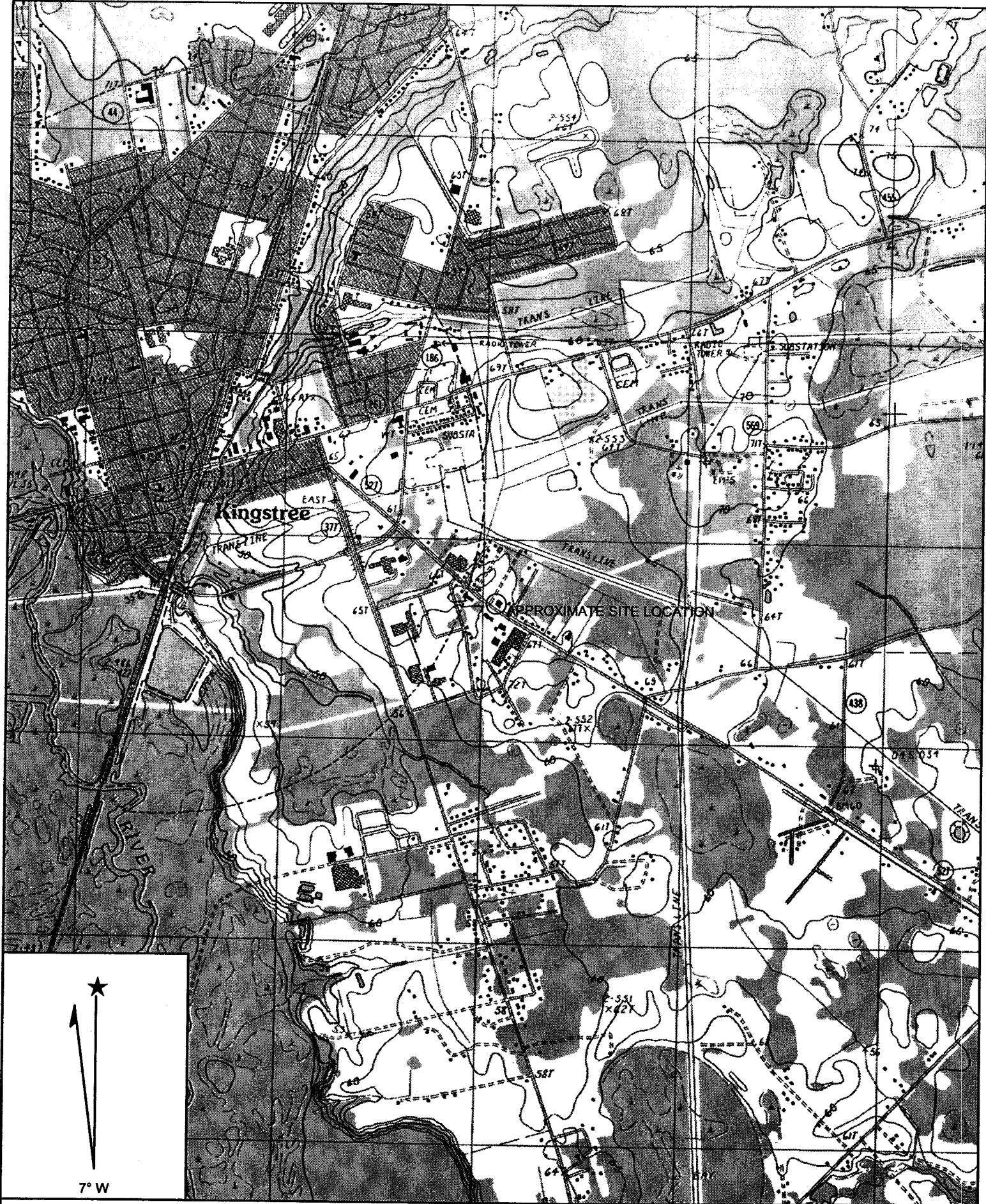


Rishi Shetty, P.E.
License No. 20533

enclosure

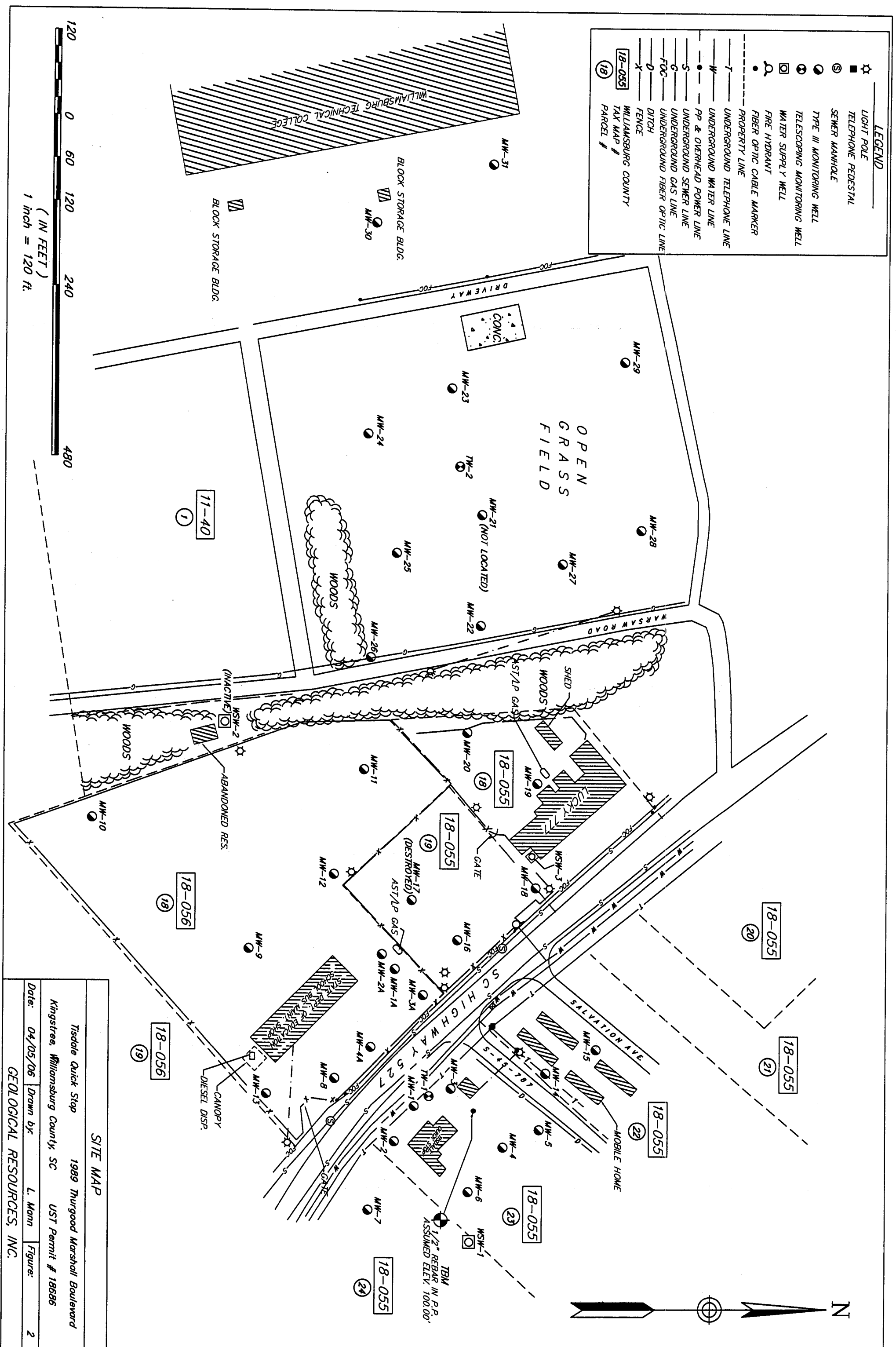
cc: Mr. Marty Easler
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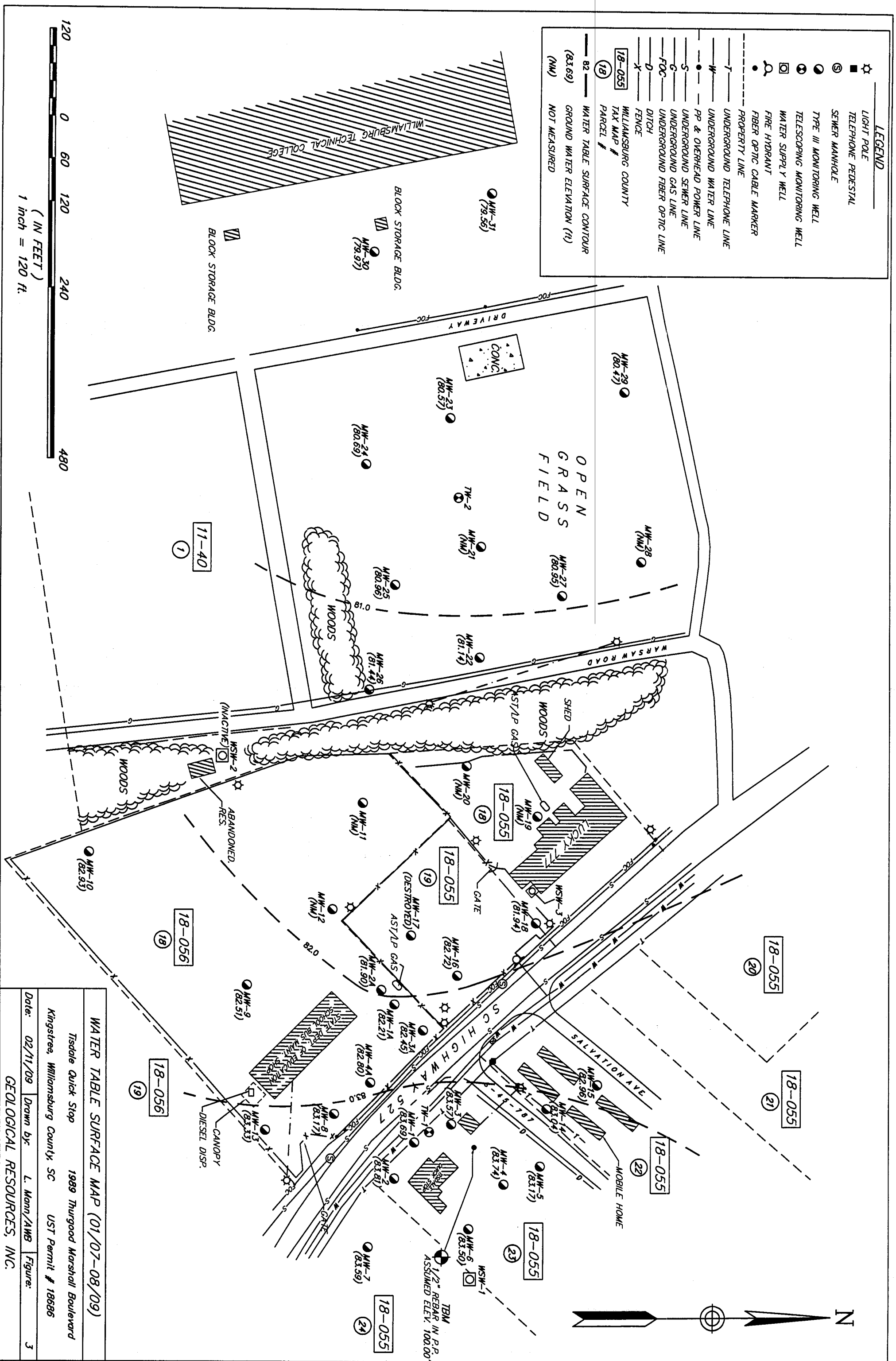
FIGURES



Name: KINGSTREE
 Date: 2/11/2009
 Scale: 1 inch equals 2000 feet

Location: 033° 39' 29.0" N 079° 48' 46.8" W
 Caption: Site Location Map
 Tisdale's Quick Stop
 Figure 1 UST Permit # 18686





LEGEND

- ☆ LIGHT POLE
- TELEPHONE PEDESTAL
- ⊙ SEWER MANHOLE
- TYPE III MONITORING WELL
- ⊙ TELESCOPING MONITORING WELL
- ⊙ WATER SUPPLY WELL
- ⊙ FIRE HYDRANT
- ⊙ FIBER OPTIC CABLE MARKER
- PROPERTY LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND WATER LINE
- PP & OVERHEAD POWER LINE
- UNDERGROUND SEWER LINE
- UNDERGROUND GAS LINE
- UNDERGROUND FIBER OPTIC LINE
- DITCH
- FENCE

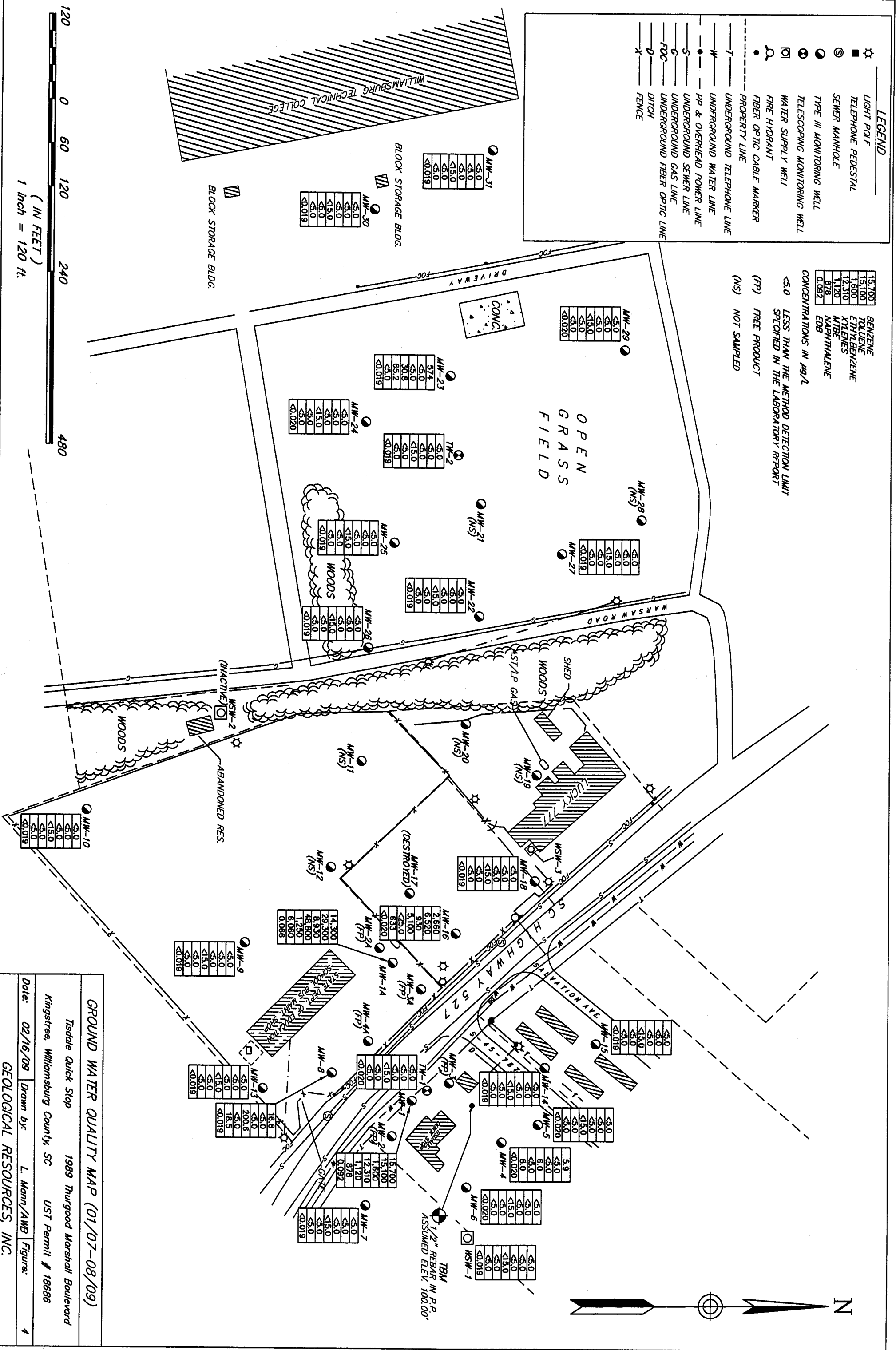
15,700	BENZENE
15,100	TOLUENE
1,600	ETHYLBENZENE
12,310	XYLENES
1,120	MIBK
878	NAPHTHALENE
0.092	EDB

CONCENTRATIONS IN µg/L

<5.0 LESS THAN THE METHOD DETECTION LIMIT
SPECIFIED IN THE LABORATORY REPORT

(FP) FREE PRODUCT

(NS) NOT SAMPLED



TABLES

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
JANUARY 7 AND 8, 2009
TISDALES QUICK STOP

Well No.	Top of Casing Elevation	Depth to Free Product	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-1	98.81	0.00	15.12	0.00	83.69	20	10-20
MW-2	98.82	15.01	15.03	0.02	83.81	25	10-25
MW-3	98.74	15.15	15.27	0.12	83.57	25	10-25
MW-4	98.58	0.00	14.84	0.00	83.74	25	10-25
MW-5	98.13	0.00	14.96	0.00	83.17	22	12-22
MW-6	98.50	0.00	15.00	0.00	83.50	21.5	11.5-21.5
MW-7	98.19	0.00	14.60	0.00	83.59	22	12-22
MW-8	98.17	0.00	15.00	0.00	83.17	22	12-22
MW-9	98.52	0.00	16.01	0.00	82.51	22	12-22
MW-10	98.68	0.00	15.75	0.00	82.93	25	10-25
MW-11	94.65	NM	NM	NM	NM	22	7-22
MW-12	95.70	NM	NM	NM	NM	22	7-22
MW-13	99.01	0.00	15.68	0.00	83.33	25	10-25
MW-14	98.36	0.00	15.32	0.00	83.04	25	10-25
MW-15	99.59	0.00	16.63	0.00	82.96	25	10-25
MW-16	98.93	0.00	16.21	0.00	82.72	23	8-23
MW-18	99.83	0.00	17.89	0.00	81.94	25	10-25
MW-19	100.27	NM	NM	NM	NM	25	10-25
MW-20	97.21	NM	NM	NM	NM	25	10-25
MW-21	95.72	NM	NM	NM	NM	23	8-23
MW-22	96.68	0.00	15.54	0.00	81.14	25	10-25
MW-23	95.78	0.00	15.21	0.00	80.57	24	9-24
MW-24	93.86	0.00	13.17	0.00	80.69	23	8-23
MW-25	94.30	0.00	13.34	0.00	80.96	23	8-23
MW-26	93.88	0.00	12.44	0.00	81.44	21	6-21
MW-27	98.15	0.00	17.20	0.00	80.95	25	10-25
MW-28	98.45	NM	NM	NM	NM	25	10-25
MW-29	96.78	0.00	16.31	0.00	80.47	25	10-25
MW-30	95.38	0.00	15.41	0.00	79.97	22	7-22
MW-31	96.05	0.00	16.49	0.00	79.56	20	10-20
MW-1A	97.20	0.00	14.99	0.00	82.21	Unknown	Unknown
MW-2A	97.30	15.32	15.86	0.54	81.90	Unknown	Unknown
MW-3A	97.27	14.68	15.68	1.00	82.45	Unknown	Unknown
MW-4A	98.09	15.17	16.02	0.85	82.80	Unknown	Unknown
TW-1	99.01	0.00	15.97	0.00	83.04	46	41-46
TW-2	95.26	0.00	14.52	0.00	80.74	51	46-51

Note:

- Elevations relative to a temporary benchmark with an assumed datum of 100.00 feet; data reported in feet.
- If free product is present in a well, groundwater elevation calculated by: [Top of Casing Elevation - Depth to Water] + [free product thickness x 0.8581].
- NM: Not measured; well could not be located or were located within a locked, fenced area.

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-1	01/16/03	98.81	15.72	83.09	20	10-25
	02/09/04		14.25	84.56		
	09/23/04		11.94	86.87		
	01/21/05		13.09	85.72		
	03/23/06		12.43	86.38		
	01/07/09		15.12	83.69		
MW-2	01/16/03	98.82	15.08	83.74	25	10-25
	02/09/04		14.18	84.64		
	09/23/04		12.07	86.75		
	01/21/05		13.24	85.58		
	03/23/06		12.43	86.39		
	01/07/09		15.01	83.83		
MW-3	01/16/03	98.74	15.34	83.40	25	10-25
	02/09/04		14.18	84.56		
	09/23/04		11.95	86.79		
	01/21/05		13.36	85.38		
	03/23/06		12.37	86.37		
	01/07/09		15.17	83.67		
MW-4	01/16/03	98.58	15.06	83.52	25	10-25
	02/09/04		14.01	84.57		
	09/23/04		11.96	86.62		
	01/21/05		13.13	85.45		
	03/23/06		12.24	86.34		
	01/07/09		14.84	83.74		
MW-5	01/16/03	98.13	14.77	83.36	22	12-22
	02/09/04		13.77	84.36		
	09/23/04		11.71	86.42		
	01/21/05		13.14	84.99		
	03/23/06		12.80	85.33		
	01/07/09		14.96	83.17		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-6	01/16/03	98.50	14.64	83.86	21.5	11.5-21.5
	02/09/04		13.86	84.64		
	09/23/04		11.86	86.64		
	01/21/05		13.38	85.12		
	03/23/06		12.81	85.69		
	01/07/09		15.00	83.50		
MW-7	01/16/03	98.19	14.69	83.50	22	12-22
	02/09/04		13.56	84.63		
	09/23/04		11.56	86.63		
	01/21/05		12.78	85.41		
	03/23/06		11.73	86.46		
	01/07/09		14.60	83.59		
MW-8	01/16/03	98.17	14.85	83.32	22	12-22
	02/09/04		13.98	84.19		
	09/23/04		12.07	86.10		
	01/21/05		13.33	84.84		
	03/23/06		12.14	86.03		
	01/08/09		15.00	83.17		
MW-9	01/16/03	98.52	15.79	82.73	22	12-22
	02/09/04		15.00	83.52		
	09/23/04		13.12	85.40		
	01/21/05		14.64	83.88		
	03/23/06		13.29	85.23		
	01/08/09		16.01	82.51		
MW-10	01/16/03	98.68	16.52	82.16	25	10-25
	02/09/04		15.79	82.89		
	09/23/04		13.97	84.71		
	01/21/05		15.35	83.33		
	03/23/06		14.18	84.50		
	01/08/09		15.75	82.93		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-11	01/16/03	94.65	12.89	81.76	22	7-22
	02/09/04		12.10	82.55		
	09/23/04		10.51	84.14		
	01/21/05		11.68	82.97		
	03/23/06		10.55	84.10		
	01/08/09		NM	NM		
MW-12	01/16/03	95.70	13.13	82.57	22	7-22
	02/09/04		12.35	83.35		
	09/23/04		12.67	83.03		
	01/21/05		12.06	83.64		
	03/23/06		10.80	84.90		
	01/08/09		NM	NM		
MW-13	01/16/03	99.01	15.65	83.36	25	10-25
	02/09/04		14.70	84.31		
	09/23/04		12.90	86.11		
	01/21/05		14.05	84.96		
	03/23/06		12.82	86.19		
	01/08/09		15.68	83.33		
MW-14	01/16/03	98.36	15.12	83.24	25	10-25
	02/09/04		14.24	84.12		
	09/23/04		12.03	86.33		
	01/21/05		13.78	84.58		
	03/23/06		12.75	85.61		
	01/08/09		15.32	83.04		
MW-15	01/16/03	99.59	16.40	83.19	25	10-25
	02/09/04		15.55	84.04		
	09/23/04		13.50	86.09		
	01/21/05		14.89	84.70		
	03/23/06		13.92	85.67		
	01/08/09		16.63	82.96		

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SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-16	01/16/03	98.93	16.18	82.75	23	8-23
	02/09/04		15.21	83.72		
	09/23/04		13.55	85.38		
	01/21/05		14.79	84.14		
	03/23/06		13.60	85.33		
	01/08/09		16.21	82.72		
MW-17	01/16/03	98.25	15.94	82.31	23	8-23
	02/09/04		14.55	83.70		
	09/23/04		12.82	85.43		
	01/21/05		13.78	84.47		
	03/23/06		NM	NM		
MW-18	01/16/03	99.83	17.70	82.13	25	10-25
	02/09/04		16.91	82.92		
	09/23/04		15.06	84.77		
	01/21/05		16.45	83.38		
	03/23/06		15.31	84.52		
	01/08/09		17.89	81.94		
MW-19	01/16/03	100.27	18.54	81.73	25	10-25
	02/09/04		17.63	82.64		
	09/23/04		16.00	84.27		
	01/21/05		17.21	83.06		
	03/23/06		16.15	84.12		
	01/08/09		NM	NM		
MW-20	01/16/03	97.21	15.59	81.62	25	10-25
	02/09/04		14.74	82.47		
	09/23/04		13.15	84.06		
	01/21/05		14.33	82.88		
	03/23/06		13.21	84.00		
	01/08/09		NM	NM		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-21	01/16/03	95.72	14.70	81.02	23	8-23
	02/09/04		13.85	81.87		
	09/23/04		12.27	83.45		
	01/21/05		13.42	82.30		
	03/23/06		NM	NM		
	01/08/09		NM	NM		
MW-22	01/16/03	96.68	15.40	81.28	25	10-25
	02/09/04		14.61	82.07		
	09/23/04		12.92	83.76		
	01/21/05		14.15	82.53		
	03/23/06		13.21	83.47		
	01/08/09		15.54	81.14		
MW-23	01/16/03	95.78	15.08	80.70	24	9-24
	02/09/04		14.30	81.48		
	09/23/04		12.72	83.06		
	01/20/05		13.82	81.96		
	03/23/06		13.09	82.69		
	01/08/09		15.21	80.57		
MW-24	01/16/03	93.86	13.00	80.86	23	8-23
	02/09/04		12.19	81.67		
	09/23/04		10.58	83.28		
	01/20/05		11.71	82.15		
	03/23/06		10.87	82.99		
	01/08/09		13.17	80.69		
MW-25	01/16/03	94.30	13.20	81.10	23	8-23
	02/09/04		12.37	81.93		
	09/23/04		10.74	83.56		
	01/20/05		11.99	82.31		
	03/23/06		11.00	83.30		
	01/08/09		13.34	80.96		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-26	01/16/03	93.88	12.38	81.50	21	6-21
	02/09/04		11.62	82.26		
	09/23/04		10.03	83.85		
	01/20/05		11.18	82.70		
	03/23/06		10.58	83.30		
	01/08/09		12.44	81.44		
MW-27	01/16/03	98.15	16.99	81.16	25	10-25
	02/09/04		16.20	81.95		
	09/23/04		14.61	83.54		
	01/21/05		15.81	82.34		
	03/23/06		14.84	83.31		
	01/08/09		17.20	80.95		
MW-28	01/16/03	98.45	17.46	80.99	25	10-25
	02/09/04		16.55	81.90		
	09/23/04		15.00	83.45		
	01/21/05		16.17	82.28		
	03/23/06		15.21	83.24		
	01/08/09		NM	NM		
MW-29	01/16/03	96.78	16.17	80.61	25	10-25
	02/09/04		15.30	81.48		
	09/23/04		13.74	83.04		
	01/20/05		14.69	82.09		
	03/23/06		14.12	82.66		
	01/08/09		16.31	80.47		
MW-30	01/16/03	95.38	15.18	80.20	22	7-22
	02/09/04		14.36	81.02		
	09/23/04		12.85	82.53		
	01/20/05		13.72	81.66		
	03/23/06		13.04	82.34		
	01/08/09		15.41	79.97		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-31	09/23/04	96.05	13.88	82.17	20	10-20
	01/20/05		14.73	81.32		
	03/23/06		14.22	81.83		
	01/08/09		16.49	79.56		
MW-1A	01/21/05	97.20	13.38	83.82	Unknown	Unknown
	03/23/06		12.11	85.09		
	01/08/09		14.99	82.21		
MW-2A	01/21/05	97.30	13.39	83.91	Unknown	Unknown
	03/23/06		12.27	85.03		
	01/08/09		15.40	82.36		
MW-3A	01/21/05	97.27	13.27	84.00	Unknown	Unknown
	03/23/06		12.19	85.08		
	01/08/09		14.82	83.31		
MW-4A	01/21/05	98.09	14.04	84.05	Unknown	Unknown
	03/23/06		12.43	85.66		
	01/08/09		15.29	83.53		
TW-1	01/16/03	99.01	15.14	83.87	46	41-46
	02/09/04		14.81	84.20		
	09/23/04		13.16	85.85		
	01/21/05		14.39	84.62		
	03/23/06		13.35	85.66		
	01/08/09		15.97	83.04		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
TW-2	01/16/03	95.26	14.33	80.93	51	46-51
	02/09/04		13.58	81.68		
	09/23/04		11.98	83.28		
	01/21/05		13.07	82.19		
	03/23/06		12.10	83.16		
	01/08/09		14.52	80.74		

Notes:

- Elevations relative to a temporary benchmark with an assumed datum of 100.00 feet; data reported in feet.
- ** : If free product is present in a well, groundwater elevation calculated by: [Top of Casing Elevation - Depth to Water] + [free product thickness x 0.8581].
- NM: Not measured; monitoring well is destroyed, covered or could not be located.
- Monitoring wells MW-1A through MW-4A were installed by S&ME Consultants in January 2000.
- Depths to ground water in MW-2, MW-3, MW-16, MW-17 and MW-1A through MW-4A were corrected for free product, if present, with an assumed density of 0.8581.
- Monitoring wells MW-16 and MW-17 were completed above grade with stand up covers; depths to ground water were measured from the tops of casing; well depths and screened intervals were measured from the ground surface.

TABLE 3
SUMMARY OF LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
JANUARY 7 AND 8, 2009
TISDALES QUICK STOP

Well No.	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB	Comments
RBSL	5	1,000	700	10,000	40	25	5	0.05	
MW-1	15,700	15,100	1,600	12,310	1,120	878	<500	0.092	
MW-2	FP	FP	FP	FP	FP	FP	FP	FP	
MW-3	FP	FP	FP	FP	FP	FP	FP	FP	
MW-4	5.9	<5.0	<5.0	6.0	<5.0	8.0	<5.0	<0.020	
MW-5	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020	
MW-6	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020	
MW-7	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-8	16.8	<5.0	<5.0	200.6	<5.0	18.5	<5.0	<0.019	
MW-9	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-10	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-11	NS	NS	NS	NS	NS	NS	NS	NS	Not found
MW-12	NS	NS	NS	NS	NS	NS	NS	NS	Not found
MW-13	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-14	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-15	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-16	2,660	6,520	930	5,100	<25.0	633	<25.0	<0.020	
MW-18	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	

TABLE 3
SUMMARY OF LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
JANUARY 7 AND 8, 2009
TISDALES QUICK STOP

Well No.	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB	Comments
RBSL	5	1,000	700	10,000	40	25	5	0.05	
MW-19	NS	NS	NS	NS	NS	NS	NS	NS	Locked gate
MW-20	NS	NS	NS	NS	NS	NS	NS	NS	Locked gate
MW-21	NS	NS	NS	NS	NS	NS	NS	NS	Not found
MW-22	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-23	574	<5.0	<5.0	30.8	65.2	<5.0	<5.0	<0.019	
MW-24	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020	
MW-25	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-26	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-27	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-28	NS	NS	NS	NS	NS	NS	NS	NS	Not found
MW-29	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020	
MW-30	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-31	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
MW-1A	14,300	29,300	8,930	48,800	1,250	6,060	<500	0.066	
MW-2A	FP	FP	FP	FP	FP	FP	FP	FP	
MW-3A	FP	FP	FP	FP	FP	FP	FP	FP	
MW-4A	FP	FP	FP	FP	FP	FP	FP	FP	

TABLE 3
SUMMARY OF LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
JANUARY 7 AND 8, 2009
TISDALES QUICK STOP

Well No.	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB	Comments
RBSL	5	1,000	700	10,000	40	25	5	0.05	
TW-1	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020	
TW-2	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
WSW-1	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019	
WSW-2	NS	NS	NS	NS	NS	NS	NS	NS	Destroyed

Notes:

- Analyses for selected volatile organic compounds by EPA Method 8260B and EDB by EPA Method 8011; results reported in µg/l (micrograms per liter).
- RBSL: May 2001 Risk Based Screening Level.
- Concentrations in bold face type exceeded the RBSL.
- <: Less than the report limit specified in the laboratory report.
- J: Estimated value.
- NR: Not requested.
- NS: Not sampled.

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-1	01/17/03	173,002	31,000	2,220	12,800	495	515	-	0.13
	02/09/04	11,400	19,600	1,010	12,000	395	525	-	NR
	10/07/04	4,160	7,500	504	4,400	348	290	-	0.03
	01/21/05	8,150	13,500	790	7,170	560	<500	-	NR
	03/24/06	7,800	11,800	552	6,640	833	<100	-	NR
MW-2	01/07/09	15,700	15,100	1,600	12,310	1,120	878	<500	0.092
	01/17/03	FP	FP	FP	FP	FP	FP	FP	FP
	02/09/04	FP	FP	FP	FP	FP	FP	FP	FP
	10/07/04	FP	FP	FP	FP	FP	FP	FP	FP
	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
MW-3	03/24/06	14,600	17,900	2,240	12,000	164	495	FP	NR
	01/07/09	FP	FP	FP	FP	FP	FP	FP	FP
	01/17/03	FP	FP	FP	FP	FP	FP	FP	FP
	02/09/04	FP	FP	FP	FP	FP	FP	FP	FP
	10/07/04	FP	FP	FP	FP	FP	FP	FP	FP
MW-4	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	54.6	44.4	17.1	660	2.04	8	FP	NR
	01/07/09	FP	FP	FP	FP	FP	FP	FP	FP
	01/17/03	3.7	<1.0	1.8	7.2	<1.0	7.4	FP	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	NR
	03/24/06	0.200J	<1.00	<1.00	1.44	0.340J	<1.00	FP	NR
	01/07/09	5.9	<5.0	<5.0	6.0	<5.0	8.0	<5.0	<0.020

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-5	01/17/03	<1.0	<1.0	1.7	3.4	<1.0	7.1	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	0.350J	<1.00	<1.00	-	NR
MW-6	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	01/17/03	<1.0	<1.0	1.9	3.8	<1.0	7	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
MW-7	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	01/17/03	70.3	145	24.3	308	1.8	25.7	-	<0.02
	02/09/04	<1.0	11.4	60.2	441	<1.0	40.7	-	NR
	10/07/04	<1.0	1.1	2.4	25	<1.0	5.8	-	<0.02
MW-8	01/21/05	<1.0	<1.0	4.5	26.9	<1.0	17.5	-	NR
	03/24/06	<1.00	<1.00	<1.00	23.3	0.260J	9.62	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	1,480	11,800	1,930	9,930	6.3	<500	-	<0.02
	02/09/04	59	1,700	424	2,380	<5.0	96	-	NR
MW-8	10/07/04	<1.0	3.2	7.4	71.1	<1.0	9	-	<0.02
	01/21/05	12	161	55.6	1,100	<1.0	52.2	-	NR
	03/24/06	4.19	24.1	118	1,070	<1.00	102	-	NR
	01/08/09	16.8	<5.0	<5.0	200.6	<5.0	18.5	<5.0	<0.019

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-9	01/17/03	<1.0	<1.0	<1.0	<1.0	34	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	11.1	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	1.2	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	12.5	<5.00	-	NR
	03/24/06	<1.00	<1.00	0.270J	2.49	1.5	<1.00	-	NR
MW-10	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	<1.0	<1.0	<1.0	<1.0	1.5	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
MW-11	03/24/06	<1.00	<1.00	<1.00	0.490J	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	<1.0	<1.0	<1.0	<1.0	1.6	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	23.7	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
MW-12	01/21/05	<1.0	<1.0	<1.0	<1.0	5.1	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	0.250J	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	01/17/03	<1.0	<1.0	<1.0	<1.0	2	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
MW-12	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-13	01/17/03	<1.0	<1.0	<1.0	<1.0	42.5	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	145	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	6.3	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	40.8	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	11	<1.00	-	NR
MW-14	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	3.4	<1.0	<1.0	4.5	<1.0	10.9	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
MW-15	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
MW-16	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	FP	FP	FP	FP	FP	FP	-	FP
	02/09/04	FP	FP	FP	FP	FP	FP	-	FP
MW-16	10/07/04	FP	FP	FP	FP	FP	FP	-	FP
	01/21/05	FP	FP	FP	FP	FP	FP	-	FP
	03/24/06	14,600	20,300	2,080	11,800	536	1,080	-	NR
	01/08/09	2,660	6,520	930	5,100	<25.0	633	<25.0	<0.020

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-17	01/17/03	FP	FP	FP	FP	FP	FP	-	FP
	02/09/04	<1.0	13.2	12.5	74.2	19	10.1	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	NS	NS	NS	NS	NS	NS	NS	NS
MW-18	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	15.4	5.5	<1.0	5.6	<1.0	<5.00	-	NR
	10/07/04	1.5	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	19.2	1.1	<1.0	7.1	<1.0	<5.00	-	NR
	03/24/06	36.2	1.27	<1.00	6.16	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
MW-19	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	3.1	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	01/17/03	1,520	314	108	298	80.4	26.3	-	<0.02
MW-20	02/09/04	3,220	530	15.2	830	78	61.2	-	NR
	10/07/04	90.2	6.6	<1.0	19.8	94.4	<5.00	-	<0.02
	01/21/05	1,120	43.1	5.8	95.1	73	36.9	-	NR
	03/24/06	44.9	0.300J	0.310J	3.54	9.14	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-21	01/17/03	269	27.5	12	118	42.6	12.6	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	NS	NS	NS	NS	NS	NS	-	NS
MW-22	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	01/17/03	2,080	281	279	576	257	67.9	-	<0.02
	02/09/04	782	49.2	41.4	77.5	93.4	15.8	-	NR
	10/07/04	109	11.3	3.2	19.5	71.4	<5.00	-	<0.02
	01/21/05	3,980	300	197	454	67	112	-	NR
MW-23	03/23/06	0.340J	<1.00	<1.00	<1.00	8.11	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	27.6	<1.0	<1.0	3.7	27.2	10.5	-	<0.02
	02/09/04	1,760	72	<1.0	592	372	17.2	-	NR
	10/07/04	1,620	103	<1.0	598	286	46	-	<0.02
MW-24	01/20/05	1,670	111	<1.0	578	172	19.9	-	NR
	03/23/06	1,290	44.1	<1.00	266	168	38.4	-	NR
	01/08/09	574	<5.0	<5.0	30.8	65.2	<5.0	<5.0	<0.019
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
MW-24	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-25	01/17/03	<1.0	<1.0	<1.0	<1.0	4.9	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	0.330J	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
MW-26	01/17/03	1.3	<1.0	<1.0	<1.0	4.7	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
MW-27	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	1.7	<5.00	-	NR
	03/23/06	0.320J	<1.00	<1.00	<1.00	3.95	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
MW-28	01/17/03	<1.0	<1.0	<1.0	<1.0	1.4	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	0.340J	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-29	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
MW-30	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
MW-31	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
MW-1A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	20,700	30,600	3,310	17,600	1,880	891	-	NR
	01/08/09	14,300	29,300	8,930	48,800	1,250	6,060	<500	0.066
MW-2A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/23/06	FP	FP	FP	FP	FP	FP	FP	FP
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-3A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/23/06	FP	FP	FP	FP	FP	FP	FP	FP
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
MW-4A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	19,600	34,800	3,900	21,500	247	952	FP	NR
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
TW-1	01/17/03	25.5	46.6	6.9	19.8	<1.0	9.3	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
TW-2	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	11.7	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	7.22	<1.00	<1.00	<1.00	1.7	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
WSW-1	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES
GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
WSW-2	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
WSW-3	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR

Notes:

- Analyses for selected volatile organic compounds by EPA Method 8260B; lead by EPA Method 6010B or 200.7; and EDB by Method 8011; results reported in µg/l.
- RBSL: May 2001 Risk Based Screening Level.
- Concentrations in bold face type exceeded the RBSL.
- <: Less than the report limit specified in the laboratory report.
- NS: Not sampled.
- NR: Analysis not requested.
- I or J: Estimated value.
- FP: Free product.

APPENDICES

APPENDIX A
Ground Water Sampling Data Sheets

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/yyyy):	11/3/09		
Field Personnel:	HK		
General Weather Conditions:	Sunny		
Ambient Air Temperature:	58 F		
<p align="center">Quality Assurance</p> <p>pH Meter serial no. _____ Conductivity Meter serial no. _____</p> <p>pH=4.0 Standard _____</p> <p>pH=7.0 Standard _____</p> <p>pH=10.0 Standard _____</p> <p>Chain of Custody _____</p>			
Relinquished by	Date/Time	Received by	Date/Time

Facility Name:	Tisdale's Quick Stop	Monitoring Well #	142
Site ID #		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:		feet	
Depth to Ground Water (DGW)	14.52	feet	
Total Well Depth (TWD)	50.34	feet	
Length of the water column (LWC = TWD-DGW)	35.82	feet	
1 casing volume (CV = LWC X C) =	35.82 X 0.163 = 5.83	gals (standard purge volume)	
3 casing volume 3 X CV =	17.51	gals	
Total volume of Water Purged Before Sampling		gals	
Total volume of Water Purged for Post Sampling		gals	
*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)	15	6.25	12.25					
Time (military)	13:35	13:45	13:55					13:57
pH (s.u.)	5.7	5.9	6.0					
Specific Cond. (umhos/cm)	117	117	117					
Water Temperature (degrees C)	19.9	19.7	19.2					
Turbidity (subjective: clear, slightly cloudy, cloudy)	CL	CL	CL					
Dissolved Oxygen (mg/l)	9.31	9.49	9.74					
PID readings, if required								
Remarks:								

APPENDIX B
Disposal Manifest



HAZ-MAT

TRANSPORTATION AND DISPOSAL
P.O. BOX 37392 • CHARLOTTE, N.C. 28237
(704) 332-5600
FAX (704) 375-7183

Manifest No. **40149**

P.O. No. _____

Job No. **81/220**

NON-HAZARDOUS SPECIAL WASTE

Section I. GENERATOR (Generator complete all of Section I)									
GENERATOR LOCATION									
NAME T. S. Lake Quick Stop/373 conv.	WORK CONTRACTED BY Bill To (If different from information at left)								
ORIGINATING ADDRESS _____	NAME Geological Resources, Inc.								
MAILING ADDRESS _____	ADDRESS 2301 F. C. ...								
CITY Kingston STATE SC ZIP _____	CITY Charlotte STATE NC ZIP 28227								
PHONE NO. _____	PHONE NO. 704-815-4010								
CONTACT NAME Scott Ball	CONTACT NAME Scott Ball								
DES. OF WASTE: Petroleum Contact Water									
<table border="1"><thead><tr><th>No.</th><th>Type</th><th>Units</th><th>Quantity</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>		No.	Type	Units	Quantity				
No.	Type	Units	Quantity						

Section II. INVOICE INFORMATION		GALLONS		DRUMS	
DESCRIPTION	QUANTITY	LINE TOTAL			
1. PETROLEUM CONTACT WATER PUMPED FROM TANKS, DRUMS OR AFVR					
2. OFF-SPEC LIGHT OIL, DIESEL OR GAS PUMPED FROM TANKS OR DRUMS					
3. SOLUBLE OILS OR COOLANTS PUMPED FROM STORAGE					
4. SEDIMENT OR SOLIDS VACUUMED FROM CONTAINMENT AREA					
5. 55-GALLON DRUM REMOVED - SOLID OR EMPTY					
6. 55-GALLON DRUM REMOVED - LIQUID	15		15		
7.					
8.					
9.					
10. ARRIVAL TIME: _____	DEPARTURE TIME: _____				

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if the waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions, I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR Part 268 and is no longer a hazardous waste as defined by 40 CFR Part 261.

Generator Authorized Agent Name **Mike Koon** Signature **[Signature]** Shipment Date **01/12/09**

Section III. TRANSPORTER		TRANSPORTER II	
HAZ-MAT TRANSPORTATION AND DISPOSAL P.O. BOX 37392 • CHARLOTTE, N.C. 28237		e. Name Geological Resources, Inc.	
a. Driver Name/Title _____		f. Address 2301 F. C. ...	
b. Phone No. _____ c. Truck No. _____		g. Driver Name/Title Cheyenne Furell	
Hazardous Waste Transporter Permits EPA NCR 000003186 EPA NCD048461370		h. Phone No. 704-815-4010 i. Truck No. _____	
d. _____		j. Transporter II Permit Nos. _____	
Driver Signature _____ Shipment Date _____		Driver Signature [Signature] Shipment Date 01/12/09	

Section IV. FACILITY INFORMATION AND CERTIFICATE OF DISPOSAL			
Site Name: Haz-Mat Transportation & Disposal, Inc.	a. Phone No. 704-332-5600		
Physical Address: 210 Dalton Avenue	b. Mailing Address: P.O. Box 37392		
Charlotte, N.C. 28206	Charlotte, N.C. 28237		
e. Discrepancy Indication Space This is to certify that all non-hazardous material removed from above location has been received and will be disposed of in accordance with applicable local, state and federal regulations in the following manner: (1) Petroleum products are blended into a beneficial reusable fuel for use in large industrial burners. (2) Waste waters are to be treated with polymers, pH adjusters, and a flocculant, then flows through a dissolved air flotation system for pretreatment separation, then into the CMUD sanitation sewer system under permit IUP#5012. (3) Sludges from treatment systems are hauled to E.P.A. approved facilities for proper disposal. Manifest and certificate of disposal are on file. (4) Our treatment system operates on a first in, first out basis and product should be processed within seven days.			
SIGNATURE OF FACILITY AGENT Mike Koon	DATE _____	MONTH 1	DAY 12 YEAR 09
ORIGINAL - FINAL T.S.D. • YELLOW - DISPOSER • PINK - 1ST T.S.D. • GOLD - GENERATOR			

APPENDIX C
Laboratory Report



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

January 20, 2009

Scott Ball
Geological Resources, Inc
2301 Crown Point Executive Dr.
Suite F
Charlotte, NC 28227

RE: Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

Dear Scott Ball:

Enclosed are the analytical results for sample(s) received by the laboratory on January 09, 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,

Erin Waters

erin.waters@pacelabs.com
Project Manager

Enclosures

cc: Mrs. Carrie Kennedy, Geological Resources, Inc

REPORT OF LABORATORY ANALYSIS

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This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..





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: TISDALE'S QUICK STOP

Pace Project No.: 9235808

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
North Carolina Wastewater Certification #: 12

North Carolina Field Services Certification #: 5342
North Carolina Drinking Water Certification #: 37706
New Jersey Certification #: NC012
Louisiana/LELAP Certification #: 04034
Kentucky UST Certification #: 84
Florida/NELAP Certification #: E87627
Connecticut Certification #: PH-0104

Asheville Certification IDs

West Virginia Certification #: 356
Virginia Certification #: 00072
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
Florida/NELAP Certification #: E87648
Connecticut Certification #: PH-0106

Eden Certification IDs

Virginia Drinking Water Certification #: 00424
North Carolina Wastewater Certification #: 633

North Carolina Drinking Water Certification #: 37738

REPORT OF LABORATORY ANALYSIS

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: GRI	Report to: Scott Ball	Attention: Carrie Kennedy	Page: 1	of 3	1168608
Address: 2301 F Crown Point Ex Or	Copy To:	Company Name: GRI			
Charlottesville NC 22927		Address: same			
Email To:	Purchase Order No.:	Place Quote Reference:	<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER		
Phone: 7044454010	Project Name: 184645 Quicks Stop	Place Project Manager:	Site Location		
Requested Due Date/TAT:	Project Number:		Site Location		

[illegible]

ORIGINAL

PRINT Name of SAMPLER: Mike K

SIGNATURE OF SAMPLER:

DATE Signed
(MM/DD/YY): 1/7/09

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-C-020rev.07 15-May-2007



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	GRI	Report To:	Scott Ball	Attention:	Garie Kennedy
Address:	2201 F Crown Point Ex A	Copy To:		Company Name:	GRI
	Charlotte, NC 28227			Address:	Same
Email To:		Purchase Order No.:		Pace Quote Reference:	
Phone:	704 845 4010	Project Name:	Belt's les Quicks stop	Pace Project Manager:	
Requested Due Date (AT):		Project Number:		Pace Profile #:	
Page: 2 of 3		1168435		REGULATORY AGENCY	
				<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
				Site Location	
				STW# 2	

Section D Required Client Information		Matrix Codes MATRIX / CODE		Matrix Codes DW WT WW P SL OL WP AR TS OT		MATRIX CODE (see valid codes to left)		SAMPLE TYPE (G=GRAB C=COMP)		COLLECTED				SAMPLE TEMP AT COLLECTION		PRESERVATIVES		ANALYSIS TEST		Residual Chlorine (Y/N)		Pace Project No./ Lab ID	
SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)		SAMPLE ID (A-Z, 0-9 / -)	
ITEM #		DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME
1	mw18	11/09	11:33	11/09	11:33	11/09	11:33	11/09	11:33	11/09	11:33	11/09	11:33	11/09	11:33	11/09	11:33	11/09	11:33	11/09	11:33	11/09	11:33
2	mw22	11/09	15:43	11/09	15:43	11/09	15:43	11/09	15:43	11/09	15:43	11/09	15:43	11/09	15:43	11/09	15:43	11/09	15:43	11/09	15:43	11/09	15:43
3	mw23	11/09	14:41	11/09	14:41	11/09	14:41	11/09	14:41	11/09	14:41	11/09	14:41	11/09	14:41	11/09	14:41	11/09	14:41	11/09	14:41	11/09	14:41
4	mw24	11/09	15:10	11/09	15:10	11/09	15:10	11/09	15:10	11/09	15:10	11/09	15:10	11/09	15:10	11/09	15:10	11/09	15:10	11/09	15:10	11/09	15:10
5	mw25	11/09	15:19	11/09	15:19	11/09	15:19	11/09	15:19	11/09	15:19	11/09	15:19	11/09	15:19	11/09	15:19	11/09	15:19	11/09	15:19	11/09	15:19
6	mw26	11/09	15:33	11/09	15:33	11/09	15:33	11/09	15:33	11/09	15:33	11/09	15:33	11/09	15:33	11/09	15:33	11/09	15:33	11/09	15:33	11/09	15:33
7	mw27	11/09	15:53	11/09	15:53	11/09	15:53	11/09	15:53	11/09	15:53	11/09	15:53	11/09	15:53	11/09	15:53	11/09	15:53	11/09	15:53	11/09	15:53
8	mw29	11/09	16:13	11/09	16:13	11/09	16:13	11/09	16:13	11/09	16:13	11/09	16:13	11/09	16:13	11/09	16:13	11/09	16:13	11/09	16:13	11/09	16:13
9	mw30	11/09	16:21	11/09	16:21	11/09	16:21	11/09	16:21	11/09	16:21	11/09	16:21	11/09	16:21	11/09	16:21	11/09	16:21	11/09	16:21	11/09	16:21
10	mw31	11/09	16:27	11/09	16:27	11/09	16:27	11/09	16:27	11/09	16:27	11/09	16:27	11/09	16:27	11/09	16:27	11/09	16:27	11/09	16:27	11/09	16:27
11	mw1A	11/09	05:30	11/09	05:30	11/09	05:30	11/09	05:30	11/09	05:30	11/09	05:30	11/09	05:30	11/09	05:30	11/09	05:30	11/09	05:30	11/09	05:30
12	mw1	11/09	13:07	11/09	13:07	11/09	13:07	11/09	13:07	11/09	13:07	11/09	13:07	11/09	13:07	11/09	13:07	11/09	13:07	11/09	13:07	11/09	13:07
ADDITIONAL COMMENTS		RELINQUISHED BY (AFFILIATION)		DATE		TIME		ACQUIRED BY (AFFILIATION)		DATE		TIME		DATE		TIME		DATE		TIME		SAMPLE CONDITIONS	
mw18		W.S. 2000 / G.I.E.		11/09		18:23		W.S. 2000 / G.I.E.		11/09													

ORIGINAL

PRINT Name of SAMPLER: Wallis Keetch

SIGNATURE of SAMPLER: Wallis Keetch

DATE Signed (MM/DD/YY): 1/8/09

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-020 rev.07, 15-May-2007



CHAIN-OF-CUSTODY / Analytical Request Document

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Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: GRI	Report To: Scott Bell	Attention: Carrie Kennedy	Page: 3	of 3	
Address: 2301 F. Courbin Blvd	Copy To:	Company Name:	1168436		
Charlotte NC 28227		Address:			
Email To:	Purchase Order No.:		REGISTRATION AGENCY		
			<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER		
Phone: 704 815 1410	Project Name: Psychiatric Clinic Stop	Place Quote References:	Site Location		
Requested Due Date/TAT:	Project Number:	Place Project Manager:	STAFF		
		Place Profile #:			

[illegible]

ORIGINAL

PRINT NAME of SAMPLER: Walter Kooch

SIGNATURE OF SAMPLER:

DATE Signed

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-020 rev.07. 15-May-2007

SAMPLE ANALYTE COUNT

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9235808001	MW1	EPA 8011	CAH	2	PASI-C
		EPA 8260	DLK, MCK	12	PASI-C
9235808002	MW4	EPA 8011	CAH	2	PASI-C
		EPA 8260	DLK	12	PASI-C
9235808003	MW5	EPA 8011	CAH	2	PASI-C
		EPA 8260	DLK	12	PASI-C
9235808004	MW6	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808005	MW7	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808006	MW8	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808007	MW9	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808008	MW10	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808009	MW13	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808010	MW14	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808011	MW15	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808012	MW16	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808013	MW18	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808014	MW22	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808015	MW23	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808016	MW24	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808017	MW25	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808018	MW26	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808019	MW27	EPA 8011	CAH	2	PASI-C

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9235808020	MW29	EPA 8260	MCK	12	PASI-C
		EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808021	MW30	EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
		EPA 8011	CAH	2	PASI-C
9235808022	MW31	EPA 8260	MCK	12	PASI-C
		EPA 8011	CAH	2	PASI-C
		EPA 8260	MCK	12	PASI-C
9235808023	MW1A	EPA 8011	CAH	2	PASI-C
		EPA 8260	DLK, MCK	12	PASI-C
		EPA 8011	CAH	2	PASI-C
9235808024	TW2	EPA 8260	DLK	12	PASI-C
		EPA 8011	CAH	2	PASI-C
		EPA 8260	DLK	12	PASI-C
9235808025	WSW1	EPA 8011	CAH	2	PASI-C
		EPA 8260	DLK	12	PASI-C
		EPA 8011	CAH	2	PASI-C
9235808026	TW-1	EPA 8260	DLK	12	PASI-C
		EPA 8011	CAH	2	PASI-C

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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

ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

Sample: MW1		Lab ID: 9235808001	Collected: 01/07/09 15:44	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	0.092 ug/L		0.019	1	01/14/09 16:05	01/18/09 18:10	106-93-4	
1-Chloro-2-bromopropane (S)	85 %		60-140	1	01/14/09 16:05	01/18/09 18:10	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	15700 ug/L		500	100		01/15/09 07:05	71-43-2	
1,2-Dichloroethane	ND ug/L		500	100		01/15/09 07:05	107-06-2	
Ethylbenzene	1600 ug/L		500	100		01/15/09 07:05	100-41-4	
Methyl-tert-butyl ether	1120 ug/L		500	100		01/15/09 07:05	1634-04-4	
Naphthalene	878 ug/L		500	100		01/15/09 07:05	91-20-3	
Toluene	15100 ug/L		1000	200		01/16/09 09:05	108-88-3	
m&p-Xylene	7920 ug/L		1000	100		01/15/09 07:05	1330-20-7	
o-Xylene	4390 ug/L		500	100		01/15/09 07:05	95-47-6	
4-Bromofluorobenzene (S)	97 %		87-109	100		01/15/09 07:05	460-00-4	
Dibromofluoromethane (S)	98 %		85-115	100		01/15/09 07:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		79-120	100		01/15/09 07:05	17060-07-0	
Toluene-d8 (S)	98 %		70-120	100		01/15/09 07:05	2037-26-5	

Sample: MW4		Lab ID: 9235808002	Collected: 01/07/09 16:02	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.020	1	01/14/09 16:05	01/18/09 18:22	106-93-4	
1-Chloro-2-bromopropane (S)	78 %		60-140	1	01/14/09 16:05	01/18/09 18:22	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	5.9 ug/L		5.0	1		01/13/09 09:09	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/13/09 09:09	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/13/09 09:09	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/13/09 09:09	1634-04-4	
Naphthalene	8.0 ug/L		5.0	1		01/13/09 09:09	91-20-3	
Toluene	ND ug/L		5.0	1		01/13/09 09:09	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/13/09 09:09	1330-20-7	
o-Xylene	6.0 ug/L		5.0	1		01/13/09 09:09	95-47-6	
4-Bromofluorobenzene (S)	97 %		87-109	1		01/13/09 09:09	460-00-4	
Dibromofluoromethane (S)	97 %		85-115	1		01/13/09 09:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	98 %		79-120	1		01/13/09 09:09	17060-07-0	
Toluene-d8 (S)	98 %		70-120	1		01/13/09 09:09	2037-26-5	

Date: 01/20/2009 11:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

Sample: MW5		Lab ID: 9235808003	Collected: 01/07/09 16:11	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.020	1	01/14/09 16:05	01/18/09 18:34	106-93-4	
1-Chloro-2-bromopropane (S)	65 %		60-140	1	01/14/09 16:05	01/18/09 18:34	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/13/09 09:28	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/13/09 09:28	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/13/09 09:28	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/13/09 09:28	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/13/09 09:28	91-20-3	
Toluene	ND ug/L		5.0	1		01/13/09 09:28	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/13/09 09:28	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/13/09 09:28	95-47-6	
4-Bromofluorobenzene (S)	92 %		87-109	1		01/13/09 09:28	460-00-4	
Dibromofluoromethane (S)	99 %		85-115	1		01/13/09 09:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		79-120	1		01/13/09 09:28	17060-07-0	
Toluene-d8 (S)	98 %		70-120	1		01/13/09 09:28	2037-26-5	

Sample: MW6		Lab ID: 9235808004	Collected: 01/07/09 16:20	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.020	1	01/14/09 16:05	01/18/09 18:46	106-93-4	
1-Chloro-2-bromopropane (S)	87 %		60-140	1	01/14/09 16:05	01/18/09 18:46	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/14/09 23:44	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/14/09 23:44	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/14/09 23:44	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/14/09 23:44	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/14/09 23:44	91-20-3	
Toluene	ND ug/L		5.0	1		01/14/09 23:44	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/14/09 23:44	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/14/09 23:44	95-47-6	
4-Bromofluorobenzene (S)	101 %		87-109	1		01/14/09 23:44	460-00-4	
Dibromofluoromethane (S)	107 %		85-115	1		01/14/09 23:44	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		79-120	1		01/14/09 23:44	17060-07-0	
Toluene-d8 (S)	100 %		70-120	1		01/14/09 23:44	2037-26-5	

Date: 01/20/2009 11:48 AM

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

Sample: MW7		Lab ID: 9235808005	Collected: 01/07/09 16:29	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:05	01/18/09 18:58	106-93-4	
1-Chloro-2-bromopropane (S)	74 %		60-140	1	01/14/09 16:05	01/18/09 18:58	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 00:01	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 00:01	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 00:01	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 00:01	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 00:01	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 00:01	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 00:01	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 00:01	95-47-6	
4-Bromofluorobenzene (S)	103 %		87-109	1		01/15/09 00:01	460-00-4	
Dibromofluoromethane (S)	111 %		85-115	1		01/15/09 00:01	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		79-120	1		01/15/09 00:01	17060-07-0	
Toluene-d8 (S)	99 %		70-120	1		01/15/09 00:01	2037-26-5	

Sample: MW8		Lab ID: 9235808006	Collected: 01/08/09 09:35	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:05	01/18/09 19:10	106-93-4	
1-Chloro-2-bromopropane (S)	82 %		60-140	1	01/14/09 16:05	01/18/09 19:10	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	16.8 ug/L		5.0	1		01/15/09 00:18	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 00:18	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 00:18	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 00:18	1634-04-4	
Naphthalene	18.5 ug/L		5.0	1		01/15/09 00:18	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 00:18	108-88-3	
m&p-Xylene	149 ug/L		10.0	1		01/15/09 00:18	1330-20-7	
o-Xylene	51.6 ug/L		5.0	1		01/15/09 00:18	95-47-6	
4-Bromofluorobenzene (S)	105 %		87-109	1		01/15/09 00:18	460-00-4	
Dibromofluoromethane (S)	108 %		85-115	1		01/15/09 00:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		79-120	1		01/15/09 00:18	17060-07-0	
Toluene-d8 (S)	100 %		70-120	1		01/15/09 00:18	2037-26-5	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

Sample: MW9		Lab ID: 9235808007	Collected: 01/08/09 10:15	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:05	01/18/09 19:22	106-93-4	
1-Chloro-2-bromopropane (S)	93 %		60-140	1	01/14/09 16:05	01/18/09 19:22	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 00:36	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 00:36	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 00:36	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 00:36	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 00:36	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 00:36	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 00:36	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 00:36	95-47-6	
4-Bromofluorobenzene (S)	101 %		87-109	1		01/15/09 00:36	460-00-4	
Dibromofluoromethane (S)	106 %		85-115	1		01/15/09 00:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		79-120	1		01/15/09 00:36	17060-07-0	
Toluene-d8 (S)	99 %		70-120	1		01/15/09 00:36	2037-26-5	

Sample: MW10		Lab ID: 9235808008	Collected: 01/08/09 10:26	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:05	01/18/09 19:34	106-93-4	
1-Chloro-2-bromopropane (S)	111 %		60-140	1	01/14/09 16:05	01/18/09 19:34	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 00:53	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 00:53	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 00:53	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 00:53	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 00:53	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 00:53	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 00:53	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 00:53	95-47-6	
4-Bromofluorobenzene (S)	103 %		87-109	1		01/15/09 00:53	460-00-4	
Dibromofluoromethane (S)	109 %		85-115	1		01/15/09 00:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		79-120	1		01/15/09 00:53	17060-07-0	
Toluene-d8 (S)	99 %		70-120	1		01/15/09 00:53	2037-26-5	

ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

Sample: MW13		Lab ID: 9235808009	Collected: 01/08/09 10:40	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:05	01/18/09 19:46	106-93-4	
1-Chloro-2-bromopropane (S)	101 %		60-140	1	01/14/09 16:05	01/18/09 19:46	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 01:10	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 01:10	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 01:10	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 01:10	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 01:10	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 01:10	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 01:10	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 01:10	95-47-6	
4-Bromofluorobenzene (S)	102 %		87-109	1		01/15/09 01:10	460-00-4	
Dibromofluoromethane (S)	108 %		85-115	1		01/15/09 01:10	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		79-120	1		01/15/09 01:10	17060-07-0	
Toluene-d8 (S)	100 %		70-120	1		01/15/09 01:10	2037-26-5	

Sample: MW14		Lab ID: 9235808010	Collected: 01/08/09 10:57	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:05	01/18/09 19:57	106-93-4	
1-Chloro-2-bromopropane (S)	105 %		60-140	1	01/14/09 16:05	01/18/09 19:57	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 01:27	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 01:27	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 01:27	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 01:27	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 01:27	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 01:27	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 01:27	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 01:27	95-47-6	
4-Bromofluorobenzene (S)	101 %		87-109	1		01/15/09 01:27	460-00-4	
Dibromofluoromethane (S)	107 %		85-115	1		01/15/09 01:27	1868-53-7	
1,2-Dichloroethane-d4 (S)	104 %		79-120	1		01/15/09 01:27	17060-07-0	
Toluene-d8 (S)	100 %		70-120	1		01/15/09 01:27	2037-26-5	

ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

Sample: MW15		Lab ID: 9235808011	Collected: 01/08/09 11:08	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	1	01/14/09 16:06	01/18/09 20:09	106-93-4	
1-Chloro-2-bromopropane (S)	96 %		60-140	1	01/14/09 16:06	01/18/09 20:09	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND	ug/L	5.0	1		01/15/09 01:45	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		01/15/09 01:45	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		01/15/09 01:45	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		01/15/09 01:45	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		01/15/09 01:45	91-20-3	
Toluene	ND	ug/L	5.0	1		01/15/09 01:45	108-88-3	
m&p-Xylene	ND	ug/L	10.0	1		01/15/09 01:45	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		01/15/09 01:45	95-47-6	
4-Bromofluorobenzene (S)	104 %		87-109	1		01/15/09 01:45	460-00-4	
Dibromofluoromethane (S)	107 %		85-115	1		01/15/09 01:45	1868-53-7	
1,2-Dichloroethane-d4 (S)	107 %		79-120	1		01/15/09 01:45	17060-07-0	
Toluene-d8 (S)	100 %		70-120	1		01/15/09 01:45	2037-26-5	

Sample: MW16		Lab ID: 9235808012	Collected: 01/08/09 11:22	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	01/14/09 16:20	01/16/09 20:54	106-93-4	
1-Chloro-2-bromopropane (S)	78 %		60-140	1	01/14/09 16:20	01/16/09 20:54	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	2660	ug/L	250	50		01/15/09 17:08	71-43-2	
1,2-Dichloroethane	ND	ug/L	25.0	5		01/15/09 04:56	107-06-2	
Ethylbenzene	930	ug/L	25.0	5		01/15/09 04:56	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	25.0	5		01/15/09 04:56	1634-04-4	
Naphthalene	633	ug/L	25.0	5		01/15/09 04:56	91-20-3	
Toluene	6520	ug/L	250	50		01/15/09 17:08	108-88-3	
m&p-Xylene	3490	ug/L	500	50		01/15/09 17:08	1330-20-7	
o-Xylene	1610	ug/L	250	50		01/15/09 17:08	95-47-6	
4-Bromofluorobenzene (S)	102 %		87-109	5		01/15/09 04:56	460-00-4	
Dibromofluoromethane (S)	107 %		85-115	5		01/15/09 04:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		79-120	5		01/15/09 04:56	17060-07-0	
Toluene-d8 (S)	100 %		70-120	5		01/15/09 04:56	2037-26-5	

ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

Sample: MW18		Lab ID: 9235808013	Collected: 01/08/09 11:33	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:20	01/16/09 21:30	106-93-4	
1-Chloro-2-bromopropane (S)	110 %		60-140	1	01/14/09 16:20	01/16/09 21:30	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 02:02	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 02:02	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 02:02	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 02:02	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 02:02	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 02:02	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 02:02	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 02:02	95-47-6	
4-Bromofluorobenzene (S)	105 %		87-109	1		01/15/09 02:02	460-00-4	
Dibromofluoromethane (S)	108 %		85-115	1		01/15/09 02:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		79-120	1		01/15/09 02:02	17060-07-0	
Toluene-d8 (S)	101 %		70-120	1		01/15/09 02:02	2037-26-5	

Sample: MW22		Lab ID: 9235808014	Collected: 01/08/09 15:43	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:21	01/16/09 21:54	106-93-4	
1-Chloro-2-bromopropane (S)	88 %		60-140	1	01/14/09 16:21	01/16/09 21:54	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 02:19	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 02:19	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 02:19	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 02:19	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 02:19	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 02:19	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 02:19	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 02:19	95-47-6	
4-Bromofluorobenzene (S)	101 %		87-109	1		01/15/09 02:19	460-00-4	
Dibromofluoromethane (S)	110 %		85-115	1		01/15/09 02:19	1868-53-7	
1,2-Dichloroethane-d4 (S)	104 %		79-120	1		01/15/09 02:19	17060-07-0	
Toluene-d8 (S)	99 %		70-120	1		01/15/09 02:19	2037-26-5	

ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

Sample: MW23		Lab ID: 9235808015	Collected: 01/08/09 14:41	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	1	01/14/09 16:21	01/16/09 22:06	106-93-4	
1-Chloro-2-bromopropane (S)	105 %		60-140	1	01/14/09 16:21	01/16/09 22:06	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	574	ug/L	25.0	5		01/15/09 14:47	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		01/15/09 02:36	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		01/15/09 02:36	100-41-4	
Methyl-tert-butyl ether	65.2	ug/L	5.0	1		01/15/09 02:36	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		01/15/09 02:36	91-20-3	
Toluene	ND	ug/L	5.0	1		01/15/09 02:36	108-88-3	
m&p-Xylene	ND	ug/L	10.0	1		01/15/09 02:36	1330-20-7	
o-Xylene	30.8	ug/L	5.0	1		01/15/09 02:36	95-47-6	
4-Bromofluorobenzene (S)	103 %		87-109	1		01/15/09 02:36	460-00-4	
Dibromofluoromethane (S)	107 %		85-115	1		01/15/09 02:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		79-120	1		01/15/09 02:36	17060-07-0	
Toluene-d8 (S)	99 %		70-120	1		01/15/09 02:36	2037-26-5	

Sample: MW24		Lab ID: 9235808016	Collected: 01/08/09 15:10	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	01/14/09 16:21	01/16/09 22:18	106-93-4	
1-Chloro-2-bromopropane (S)	100 %		60-140	1	01/14/09 16:21	01/16/09 22:18	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND	ug/L	5.0	1		01/15/09 02:53	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		01/15/09 02:53	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		01/15/09 02:53	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		01/15/09 02:53	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		01/15/09 02:53	91-20-3	
Toluene	ND	ug/L	5.0	1		01/15/09 02:53	108-88-3	
m&p-Xylene	ND	ug/L	10.0	1		01/15/09 02:53	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		01/15/09 02:53	95-47-6	
4-Bromofluorobenzene (S)	103 %		87-109	1		01/15/09 02:53	460-00-4	
Dibromofluoromethane (S)	109 %		85-115	1		01/15/09 02:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	105 %		79-120	1		01/15/09 02:53	17060-07-0	
Toluene-d8 (S)	100 %		70-120	1		01/15/09 02:53	2037-26-5	

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ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

Sample: MW25		Lab ID: 9235808017	Collected: 01/08/09 15:19		Received: 01/09/09 14:16		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	1	01/14/09 16:21	01/16/09 22:29	106-93-4	
1-Chloro-2-bromopropane (S)	71	%	60-140	1	01/14/09 16:21	01/16/09 22:29	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND	ug/L	5.0	1		01/15/09 03:10	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		01/15/09 03:10	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		01/15/09 03:10	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		01/15/09 03:10	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		01/15/09 03:10	91-20-3	
Toluene	ND	ug/L	5.0	1		01/15/09 03:10	108-88-3	
m&p-Xylene	ND	ug/L	10.0	1		01/15/09 03:10	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		01/15/09 03:10	95-47-6	
4-Bromofluorobenzene (S)	102	%	87-109	1		01/15/09 03:10	460-00-4	
Dibromofluoromethane (S)	109	%	85-115	1		01/15/09 03:10	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	79-120	1		01/15/09 03:10	17060-07-0	
Toluene-d8 (S)	100	%	70-120	1		01/15/09 03:10	2037-26-5	

Sample: MW26		Lab ID: 9235808018	Collected: 01/08/09 15:33		Received: 01/09/09 14:16		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	1	01/14/09 16:21	01/16/09 22:41	106-93-4	
1-Chloro-2-bromopropane (S)	86	%	60-140	1	01/14/09 16:21	01/16/09 22:41	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND	ug/L	5.0	1		01/15/09 03:28	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1		01/15/09 03:28	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1		01/15/09 03:28	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		01/15/09 03:28	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		01/15/09 03:28	91-20-3	
Toluene	ND	ug/L	5.0	1		01/15/09 03:28	108-88-3	
m&p-Xylene	ND	ug/L	10.0	1		01/15/09 03:28	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		01/15/09 03:28	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109	1		01/15/09 03:28	460-00-4	
Dibromofluoromethane (S)	111	%	85-115	1		01/15/09 03:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	79-120	1		01/15/09 03:28	17060-07-0	
Toluene-d8 (S)	101	%	70-120	1		01/15/09 03:28	2037-26-5	

ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

Sample: MW27		Lab ID: 9235808019	Collected: 01/08/09 15:53	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:21	01/16/09 22:53	106-93-4	
1-Chloro-2-bromopropane (S)	99 %		60-140	1	01/14/09 16:21	01/16/09 22:53	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 03:45	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 03:45	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 03:45	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 03:45	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 03:45	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 03:45	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 03:45	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 03:45	95-47-6	
4-Bromofluorobenzene (S)	102 %		87-109	1		01/15/09 03:45	460-00-4	
Dibromofluoromethane (S)	107 %		85-115	1		01/15/09 03:45	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		79-120	1		01/15/09 03:45	17060-07-0	
Toluene-d8 (S)	102 %		70-120	1		01/15/09 03:45	2037-26-5	

Sample: MW29		Lab ID: 9235808020	Collected: 01/08/09 16:13	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.020	1	01/14/09 16:21	01/16/09 23:05	106-93-4	
1-Chloro-2-bromopropane (S)	110 %		60-140	1	01/14/09 16:21	01/16/09 23:05	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 04:02	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 04:02	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 04:02	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 04:02	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 04:02	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 04:02	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 04:02	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 04:02	95-47-6	
4-Bromofluorobenzene (S)	102 %		87-109	1		01/15/09 04:02	460-00-4	
Dibromofluoromethane (S)	109 %		85-115	1		01/15/09 04:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	110 %		79-120	1		01/15/09 04:02	17060-07-0	
Toluene-d8 (S)	98 %		70-120	1		01/15/09 04:02	2037-26-5	

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ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

Sample: MW30		Lab ID: 9235808021	Collected: 01/08/09 16:21	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:21	01/16/09 23:17	106-93-4	
1-Chloro-2-bromopropane (S)	100 %		60-140	1	01/14/09 16:21	01/16/09 23:17	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 04:19	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 04:19	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 04:19	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 04:19	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 04:19	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 04:19	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 04:19	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 04:19	95-47-6	
4-Bromofluorobenzene (S)	103 %		87-109	1		01/15/09 04:19	460-00-4	
Dibromofluoromethane (S)	109 %		85-115	1		01/15/09 04:19	1868-53-7	
1,2-Dichloroethane-d4 (S)	113 %		79-120	1		01/15/09 04:19	17060-07-0	
Toluene-d8 (S)	99 %		70-120	1		01/15/09 04:19	2037-26-5	

Sample: MW31		Lab ID: 9235808022	Collected: 01/08/09 16:37	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:21	01/16/09 23:29	106-93-4	
1-Chloro-2-bromopropane (S)	96 %		60-140	1	01/14/09 16:21	01/16/09 23:29	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/15/09 04:36	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/15/09 04:36	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/15/09 04:36	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/15/09 04:36	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/15/09 04:36	91-20-3	
Toluene	ND ug/L		5.0	1		01/15/09 04:36	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/15/09 04:36	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/15/09 04:36	95-47-6	
4-Bromofluorobenzene (S)	102 %		87-109	1		01/15/09 04:36	460-00-4	
Dibromofluoromethane (S)	108 %		85-115	1		01/15/09 04:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	106 %		79-120	1		01/15/09 04:36	17060-07-0	
Toluene-d8 (S)	101 %		70-120	1		01/15/09 04:36	2037-26-5	

ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

Sample: MW1A		Lab ID: 9235808023	Collected: 01/08/09 09:30	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	0.066 ug/L		0.019	1	01/14/09 16:21	01/16/09 23:41	106-93-4	
1-Chloro-2-bromopropane (S)	81 %		60-140	1	01/14/09 16:21	01/16/09 23:41	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	14300 ug/L		2500	500		01/16/09 09:22	71-43-2	
1,2-Dichloroethane	ND ug/L		500	100		01/15/09 07:26	107-06-2	
Ethylbenzene	8930 ug/L		500	100		01/15/09 07:26	100-41-4	
Methyl-tert-butyl ether	1250 ug/L		500	100		01/15/09 07:26	1634-04-4	
Naphthalene	6060 ug/L		500	100		01/15/09 07:26	91-20-3	
Toluene	29300 ug/L		2500	500		01/16/09 09:22	108-88-3	
m&p-Xylene	33000 ug/L		1000	100		01/15/09 07:26	1330-20-7	
o-Xylene	15800 ug/L		500	100		01/15/09 07:26	95-47-6	
4-Bromofluorobenzene (S)	99 %		87-109	100		01/15/09 07:26	460-00-4	
Dibromofluoromethane (S)	98 %		85-115	100		01/15/09 07:26	1868-53-7	
1,2-Dichloroethane-d4 (S)	99 %		79-120	100		01/15/09 07:26	17060-07-0	
Toluene-d8 (S)	99 %		70-120	100		01/15/09 07:26	2037-26-5	

Sample: TW2		Lab ID: 9235808024	Collected: 01/08/09 13:57	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:21	01/16/09 23:53	106-93-4	
1-Chloro-2-bromopropane (S)	103 %		60-140	1	01/14/09 16:21	01/16/09 23:53	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/13/09 19:05	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/13/09 19:05	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/13/09 19:05	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/13/09 19:05	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/13/09 19:05	91-20-3	
Toluene	ND ug/L		5.0	1		01/13/09 19:05	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/13/09 19:05	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/13/09 19:05	95-47-6	
4-Bromofluorobenzene (S)	93 %		87-109	1		01/13/09 19:05	460-00-4	
Dibromofluoromethane (S)	93 %		85-115	1		01/13/09 19:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	101 %		79-120	1		01/13/09 19:05	17060-07-0	
Toluene-d8 (S)	98 %		70-120	1		01/13/09 19:05	2037-26-5	

ANALYTICAL RESULTS

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

Sample: WSW1		Lab ID: 9235808025	Collected: 01/08/09 16:50	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	01/14/09 16:21	01/17/09 00:05	106-93-4	
1-Chloro-2-bromopropane (S)	104 %		60-140	1	01/14/09 16:21	01/17/09 00:05	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/13/09 19:23	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/13/09 19:23	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/13/09 19:23	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/13/09 19:23	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/13/09 19:23	91-20-3	
Toluene	ND ug/L		5.0	1		01/13/09 19:23	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/13/09 19:23	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/13/09 19:23	95-47-6	
4-Bromofluorobenzene (S)	92 %		87-109	1		01/13/09 19:23	460-00-4	
Dibromofluoromethane (S)	93 %		85-115	1		01/13/09 19:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	101 %		79-120	1		01/13/09 19:23	17060-07-0	
Toluene-d8 (S)	99 %		70-120	1		01/13/09 19:23	2037-26-5	

Sample: TW-1		Lab ID: 9235808026	Collected: 01/08/09 13:09	Received: 01/09/09 14:16	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.020	1	01/14/09 16:21	01/17/09 00:17	106-93-4	
1-Chloro-2-bromopropane (S)	104 %		60-140	1	01/14/09 16:21	01/17/09 00:17	301-79-56	
8260 MSV		Analytical Method: EPA 8260						
Benzene	ND ug/L		5.0	1		01/13/09 19:42	71-43-2	
1,2-Dichloroethane	ND ug/L		5.0	1		01/13/09 19:42	107-06-2	
Ethylbenzene	ND ug/L		5.0	1		01/13/09 19:42	100-41-4	
Methyl-tert-butyl ether	ND ug/L		5.0	1		01/13/09 19:42	1634-04-4	
Naphthalene	ND ug/L		5.0	1		01/13/09 19:42	91-20-3	
Toluene	ND ug/L		5.0	1		01/13/09 19:42	108-88-3	
m&p-Xylene	ND ug/L		10.0	1		01/13/09 19:42	1330-20-7	
o-Xylene	ND ug/L		5.0	1		01/13/09 19:42	95-47-6	
4-Bromofluorobenzene (S)	97 %		87-109	1		01/13/09 19:42	460-00-4	
Dibromofluoromethane (S)	93 %		85-115	1		01/13/09 19:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	103 %		79-120	1		01/13/09 19:42	17060-07-0	
Toluene-d8 (S)	95 %		70-120	1		01/13/09 19:42	2037-26-5	

QUALITY CONTROL DATA

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

QC Batch: MSV/5844

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV

Associated Lab Samples: 9235808002, 9235808003

METHOD BLANK: 222027

Matrix: Water

Associated Lab Samples: 9235808002, 9235808003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/13/09 03:01	
Benzene	ug/L	ND	5.0	01/13/09 03:01	
Ethylbenzene	ug/L	ND	5.0	01/13/09 03:01	
m&p-Xylene	ug/L	ND	10.0	01/13/09 03:01	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/13/09 03:01	
Naphthalene	ug/L	ND	5.0	01/13/09 03:01	
o-Xylene	ug/L	ND	5.0	01/13/09 03:01	
Toluene	ug/L	ND	5.0	01/13/09 03:01	
1,2-Dichloroethane-d4 (S)	%	98	79-120	01/13/09 03:01	
4-Bromofluorobenzene (S)	%	95	87-109	01/13/09 03:01	
Dibromofluoromethane (S)	%	100	85-115	01/13/09 03:01	
Toluene-d8 (S)	%	98	70-120	01/13/09 03:01	

LABORATORY CONTROL SAMPLE: 222028

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	50.6	101	72-126	
Benzene	ug/L	50	50.6	101	78-128	
Ethylbenzene	ug/L	50	52.9	106	80-127	
m&p-Xylene	ug/L	100	105	105	82-127	
Methyl-tert-butyl ether	ug/L	50	51.3	103	71-130	
Naphthalene	ug/L	50	59.6	119	52-136	
o-Xylene	ug/L	50	51.5	103	83-124	
Toluene	ug/L	50	50.1	100	76-126	
1,2-Dichloroethane-d4 (S)	%			99	79-120	
4-Bromofluorobenzene (S)	%			101	87-109	
Dibromofluoromethane (S)	%			99	85-115	
Toluene-d8 (S)	%			99	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 222029

222030

Parameter	Units	9235739001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Benzene	ug/L	2.2J	50	50	53.8	57.0	103	110	74-136	6	
Toluene	ug/L	ND	50	50	50.4	53.5	101	107	73-131	6	
1,2-Dichloroethane-d4 (S)	%						99	100	79-120		
4-Bromofluorobenzene (S)	%						93	99	87-109		
Dibromofluoromethane (S)	%						100	102	85-115		
Toluene-d8 (S)	%						98	99	70-120		

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QUALITY CONTROL DATA

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

QC Batch: MSV/5850 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9235808004, 9235808005, 9235808006, 9235808007, 9235808008, 9235808009, 9235808010, 9235808011, 9235808013, 9235808014, 9235808015

METHOD BLANK: 222224 Matrix: Water
Associated Lab Samples: 9235808004, 9235808005, 9235808006, 9235808007, 9235808008, 9235808009, 9235808010, 9235808011, 9235808013, 9235808014, 9235808015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/14/09 20:52	
Benzene	ug/L	ND	5.0	01/14/09 20:52	
Ethylbenzene	ug/L	ND	5.0	01/14/09 20:52	
m&p-Xylene	ug/L	ND	10.0	01/14/09 20:52	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/14/09 20:52	
Naphthalene	ug/L	ND	5.0	01/14/09 20:52	
o-Xylene	ug/L	ND	5.0	01/14/09 20:52	
Toluene	ug/L	ND	5.0	01/14/09 20:52	
1,2-Dichloroethane-d4 (S)	%	111	79-120	01/14/09 20:52	
4-Bromofluorobenzene (S)	%	105	87-109	01/14/09 20:52	
Dibromofluoromethane (S)	%	109	85-115	01/14/09 20:52	
Toluene-d8 (S)	%	98	70-120	01/14/09 20:52	

LABORATORY CONTROL SAMPLE: 222225

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	57.7	115	72-126	
Benzene	ug/L	50	50.3	101	78-128	
Ethylbenzene	ug/L	50	48.7	97	80-127	
m&p-Xylene	ug/L	100	98.4	98	82-127	
Methyl-tert-butyl ether	ug/L	50	57.3	115	71-130	
Naphthalene	ug/L	50	67.5	135	52-136	
o-Xylene	ug/L	50	48.8	98	83-124	
Toluene	ug/L	50	50.4	101	76-126	
1,2-Dichloroethane-d4 (S)	%			105	79-120	
4-Bromofluorobenzene (S)	%			103	87-109	
Dibromofluoromethane (S)	%			106	85-115	
Toluene-d8 (S)	%			99	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 222226 222227

Parameter	Units	9235808015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Benzene	ug/L	574	50	50	509	519	-131	-111	74-136	2	P6
Toluene	ug/L	ND	50	50	61.8	60.1	122	118	73-131	3	
1,2-Dichloroethane-d4 (S)	%						106	109	79-120		
4-Bromofluorobenzene (S)	%						101	102	87-109		
Dibromofluoromethane (S)	%						106	106	85-115		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 222226 222227											
Parameter	Units	9235808015	MS	MSD	MS	MSD	MS	MSD	% Rec	RPD	Qual
		Result	Spike	Spike							
Toluene-d8 (S)	%						99	100	70-120		

QUALITY CONTROL DATA

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

QC Batch: MSV/5851 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9235808012, 9235808016, 9235808017, 9235808018, 9235808019, 9235808020, 9235808021, 9235808022

METHOD BLANK: 222228 Matrix: Water
Associated Lab Samples: 9235808012, 9235808016, 9235808017, 9235808018, 9235808019, 9235808020, 9235808021, 9235808022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/14/09 20:35	
Benzene	ug/L	ND	5.0	01/14/09 20:35	
Ethylbenzene	ug/L	ND	5.0	01/14/09 20:35	
m&p-Xylene	ug/L	ND	10.0	01/14/09 20:35	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/14/09 20:35	
Naphthalene	ug/L	ND	5.0	01/14/09 20:35	
o-Xylene	ug/L	ND	5.0	01/14/09 20:35	
Toluene	ug/L	ND	5.0	01/14/09 20:35	
1,2-Dichloroethane-d4 (S)	%	103	79-120	01/14/09 20:35	
4-Bromofluorobenzene (S)	%	105	87-109	01/14/09 20:35	
Dibromofluoromethane (S)	%	106	85-115	01/14/09 20:35	
Toluene-d8 (S)	%	100	70-120	01/14/09 20:35	

LABORATORY CONTROL SAMPLE: 222229

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	57.7	115	72-126	
Benzene	ug/L	50	50.3	101	78-128	
Ethylbenzene	ug/L	50	48.7	97	80-127	
m&p-Xylene	ug/L	100	98.4	98	82-127	
Methyl-tert-butyl ether	ug/L	50	57.3	115	71-130	
Naphthalene	ug/L	50	67.5	135	52-136	
o-Xylene	ug/L	50	48.8	98	83-124	
Toluene	ug/L	50	50.4	101	76-126	
1,2-Dichloroethane-d4 (S)	%			105	79-120	
4-Bromofluorobenzene (S)	%			103	87-109	
Dibromofluoromethane (S)	%			106	85-115	
Toluene-d8 (S)	%			99	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 222230 222231

Parameter	Units	9235808022 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	58.4	58.5	117	117	74-136	.08	
Toluene	ug/L	ND	50	50	57.1	58.0	114	116	73-131	1	
1,2-Dichloroethane-d4 (S)	%						106	111	79-120		
4-Bromofluorobenzene (S)	%						101	103	87-109		
Dibromofluoromethane (S)	%						108	111	85-115		
Toluene-d8 (S)	%						98	100	70-120		

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

QC Batch: MSV/5855 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9235808024, 9235808025, 9235808026

METHOD BLANK: 222480 Matrix: Water
Associated Lab Samples: 9235808024, 9235808025, 9235808026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/13/09 15:19	
Benzene	ug/L	ND	5.0	01/13/09 15:19	
Ethylbenzene	ug/L	ND	5.0	01/13/09 15:19	
m&p-Xylene	ug/L	ND	10.0	01/13/09 15:19	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/13/09 15:19	
Naphthalene	ug/L	ND	5.0	01/13/09 15:19	
o-Xylene	ug/L	ND	5.0	01/13/09 15:19	
Toluene	ug/L	ND	5.0	01/13/09 15:19	
1,2-Dichloroethane-d4 (S)	%	96	79-120	01/13/09 15:19	
4-Bromofluorobenzene (S)	%	96	87-109	01/13/09 15:19	
Dibromofluoromethane (S)	%	92	85-115	01/13/09 15:19	
Toluene-d8 (S)	%	98	70-120	01/13/09 15:19	

LABORATORY CONTROL SAMPLE: 222481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	55.1	110	72-126	
Benzene	ug/L	50	56.8	114	78-128	
Ethylbenzene	ug/L	50	58.0	116	80-127	
m&p-Xylene	ug/L	100	113	113	82-127	
Methyl-tert-butyl ether	ug/L	50	52.5	105	71-130	
Naphthalene	ug/L	50	60.7	121	52-136	
o-Xylene	ug/L	50	57.2	114	83-124	
Toluene	ug/L	50	52.3	105	76-126	
1,2-Dichloroethane-d4 (S)	%			95	79-120	
4-Bromofluorobenzene (S)	%			102	87-109	
Dibromofluoromethane (S)	%			89	85-115	
Toluene-d8 (S)	%			99	70-120	

QUALITY CONTROL DATA

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

QC Batch: OEXT/5572 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9235808001, 9235808002, 9235808003, 9235808004, 9235808005, 9235808006, 9235808007, 9235808008, 9235808009, 9235808010, 9235808011

METHOD BLANK: 222843 Matrix: Water
Associated Lab Samples: 9235808001, 9235808002, 9235808003, 9235808004, 9235808005, 9235808006, 9235808007, 9235808008, 9235808009, 9235808010, 9235808011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.019	01/18/09 15:09	
1-Chloro-2-bromopropane (S)	%	104	60-140	01/18/09 15:09	

LABORATORY CONTROL SAMPLE & LCSD: 222844			222845							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.30	0.26	106	94	60-140	14	20	
1-Chloro-2-bromopropane (S)	%				104	100	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 222846		222847									
Parameter	Units	9235801006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.29	0.29	104	104	60-140	0	
1-Chloro-2-bromopropane (S)	%						107	108	60-140		

SAMPLE DUPLICATE: 222848

Parameter	Units	9235801007 Result	Dup Result	RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		
1-Chloro-2-bromopropane (S)	%		101	2	

QUALITY CONTROL DATA

Project: TISDALE'S QUICK STOP

Pace Project No.: 9235808

QC Batch: OEXT/5573 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9235808012, 9235808013, 9235808014, 9235808015, 9235808016, 9235808017, 9235808018, 9235808019, 9235808020, 9235808021, 9235808022, 9235808023, 9235808024, 9235808025, 9235808026

METHOD BLANK: 222850 Matrix: Water
Associated Lab Samples: 9235808012, 9235808013, 9235808014, 9235808015, 9235808016, 9235808017, 9235808018, 9235808019, 9235808020, 9235808021, 9235808022, 9235808023, 9235808024, 9235808025, 9235808026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.019	01/16/09 20:19	
1-Chloro-2-bromopropane (S)	%	116	60-140	01/16/09 20:19	

LABORATORY CONTROL SAMPLE & LCSD: 222851		222852								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.27	0.24	0.24	88	86	60-140	.7	20	
1-Chloro-2-bromopropane (S)	%				96	95	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 222853			222854								
Parameter	Units	9235808012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.27	0.27	98	98	60-140	0	
1-Chloro-2-bromopropane (S)	%						114	90	60-140		

SAMPLE DUPLICATE: 222855		9235808013				Dup Result		RPD	Qualifiers
Parameter	Units	Result							
1,2-Dibromoethane (EDB)	ug/L	ND				ND			
1-Chloro-2-bromopropane (S)	%					111		.6	

QUALITY CONTROL DATA

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

QC Batch: MSV/5863 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9235808001, 9235808023

METHOD BLANK: 222960 Matrix: Water
Associated Lab Samples: 9235808001, 9235808023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	01/14/09 23:52	
Benzene	ug/L	ND	5.0	01/14/09 23:52	
Ethylbenzene	ug/L	ND	5.0	01/14/09 23:52	
m&p-Xylene	ug/L	ND	10.0	01/14/09 23:52	
Methyl-tert-butyl ether	ug/L	ND	5.0	01/14/09 23:52	
Naphthalene	ug/L	ND	5.0	01/14/09 23:52	
o-Xylene	ug/L	ND	5.0	01/14/09 23:52	
Toluene	ug/L	ND	5.0	01/14/09 23:52	
1,2-Dichloroethane-d4 (S)	%	101	79-120	01/14/09 23:52	
4-Bromofluorobenzene (S)	%	94	87-109	01/14/09 23:52	
Dibromofluoromethane (S)	%	102	85-115	01/14/09 23:52	
Toluene-d8 (S)	%	99	70-120	01/14/09 23:52	

LABORATORY CONTROL SAMPLE: 222961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.5	99	72-126	
Benzene	ug/L	50	49.0	98	78-128	
Ethylbenzene	ug/L	50	51.5	103	80-127	
m&p-Xylene	ug/L	100	103	103	82-127	
Methyl-tert-butyl ether	ug/L	50	51.4	103	71-130	
Naphthalene	ug/L	50	57.2	114	52-136	
o-Xylene	ug/L	50	52.2	104	83-124	
Toluene	ug/L	50	49.1	98	76-126	
1,2-Dichloroethane-d4 (S)	%			102	79-120	
4-Bromofluorobenzene (S)	%			99	87-109	
Dibromofluoromethane (S)	%			100	85-115	
Toluene-d8 (S)	%			99	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 222962 222963

Parameter	Units	9235817008 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	55.8	54.4	112	109	74-136	2	
Toluene	ug/L	ND	50	50	53.6	52.7	107	105	73-131	2	
1,2-Dichloroethane-d4 (S)	%						100	103	79-120		
4-Bromofluorobenzene (S)	%						92	94	87-109		
Dibromofluoromethane (S)	%						102	103	85-115		
Toluene-d8 (S)	%						99	99	70-120		

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: TISDALE'S QUICK STOP
Pace Project No.: 9235808

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.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

P6 Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level.



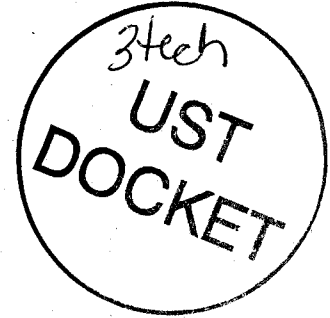
C. Earl Hunter, Commissioner

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

OCT 28 2009

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

Re: Groundwater Sampling Directive
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686, CA # 37390
Release reported March 30, 2001
Report received February 18, 2009
Williamsburg County



Dear Mr. Easler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) recognizes your commitment to continue work at this site utilizing Geological Resources, Inc. The Division has reviewed the referenced report and determined the next necessary scope of work to be a comprehensive groundwater sampling event.

Cost Agreement # 37390 has been approved in the amount shown on the enclosed cost agreement for a comprehensive sampling event. The Division requests that all existing monitoring wells associated with the release as well as WSW-1, WSW-3, MW-1A, MW-2A, MW-3A, and MW-4A (located on adjacent site # 09017) be sampled for BTEX, Naphthalene, MTBE, and 8-Oxygenates, and 1,2-DCA using EPA method 8260B and EDB using EPA method 8011. Please note that wells in which the screen brackets the water table may be sampled without purging.

Please have Geological Resources, Inc. submit groundwater sampling results to the Division in a monitoring report containing the following items:

- A narrative portion documenting current site conditions and noting the names of field personnel, date, time, ambient air temperature, and general weather conditions during the sampling event. The report shall also contain well purging data, pH, specific conductivity, water temperature, PID readings (where applicable) and turbidity comments.
- Groundwater elevations, depth to groundwater, measurable free product thickness (where applicable), total well depth and screened interval for all monitoring wells associated with the site, unless otherwise directed by the Division, shall be presented in tabular form. Groundwater laboratory analytical data for all monitoring wells shall be presented in tabular format.
- Should any monitoring wells or water supply wells not be sampled, note the reason for which the sampling was not conducted on such wells.
- A groundwater elevation contour map of the site based on current groundwater potentiometric data.
- A CoC map based on current groundwater laboratory analytical data. The groundwater data should be adjacent to the relevant monitoring well.
- Manifests for any contaminated soil and/or groundwater removed from the site for treatment and/or disposal.
- Signature and seal by a professional geologist or engineer registered in the State of South Carolina.

Geological Resources, Inc. can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Please note that all applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

A Report of Findings and the invoice is due within 60 days from the date of this letter and within 45 days from the sampling date. Interim invoices may not be submitted for this scope of work. 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.

The Division will not pay costs for oxygenate analyses from any laboratory that is not certified for oxygenate compounds through the SCDHEC Office of Environmental Laboratory Certification. Detailed information regarding the oxygenate certification can be found on the SCDHEC website at <http://www.scdhec.gov/environment/envserv/docs/OxygenateCertification.pdf> or <http://www.scdhec.gov/environment/lwm/forms/>. Any laboratory with questions regarding the certification requirements, should contact the Office of Environmental Laboratory Certification at (803) 896-0970.

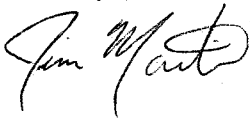
Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Department is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the Department for the cost to be paid.

The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable and to audit project records at any time during the project or after completion of work.

The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the CoC concentrations, based on laboratory analysis, are below Risk Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence or inquiries regarding this project, please reference UST Permit # 18686. If you have any questions, please feel free to contact me by phone at (803) 896-4085, by fax at (803) 896-6245, or by email at martinjm@dhec.sc.gov.

Sincerely,



Jim Martin, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Geological Resources, Inc., 2301 Crown Point Executive Drive, Suite F, Charlotte, NC 28227 (w/enc)
Technical file (w/o enc)

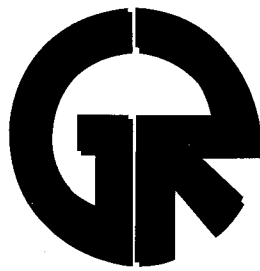
Approved Cost Agreement 37390

Facility: 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
04 MOB/DEMOB		B PERSONNEL	2.0000	290.00	580.00
10 SAMPLE COLLECTION		A GROUND WATER	2.0000	55.00	110.00
		C WATER SUPPLY	2.0000	25.00	50.00
		D GROUNDWATER NO-PURGE	34.0000	35.00	1,190.00
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	38.0000	100.00	3,800.00
		BB 1,2-DCA	38.0000	10.75	408.50
		F EDB	38.0000	55.00	2,090.00
		P 8 OXYGENATES	38.0000	85.00	3,230.00
17 DISPOSAL					
		A1 WASTEWATER - PURGING/SAMPLING	1.0000	90.00	90.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	11,548.50	1,732.28
				Total Amount	13,280.78

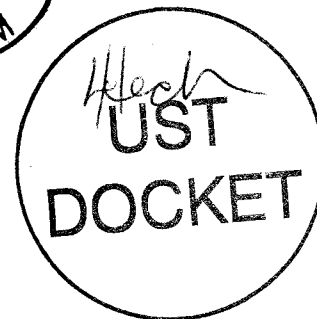
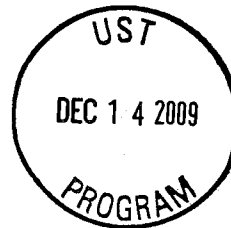


Geological Resources, Inc.

December 11, 2009

Jim Martin, Hydrogeologist
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: Ground Water Sampling Report
Tisdales Quick Stop
Kingstree, Williamsburg County
UST Permit #: 18686
CA #: 37390



Dear Mr. Martin:

The purpose of this report is to present the results of ground water sampling activities conducted between November 3 and 4, 2009 at the above referenced site (**Figure 1**). Site activities were conducted in general accordance with the requirements outlined in correspondence from the SCDHEC dated October 28, 2009 and addressed to Mr. Marty Easler. The following Figures, Tables and Appendices have been included:

- Figure 1: Site Location Map
- Figure 2: Site Map
- Figure 3: Water Table Surface Map
- Figure 4: Ground Water Quality Map
- Table 1: Summary of Ground Water Elevation Data
- Table 2: Summary of Historical Ground Water Elevation Data
- Table 3: Summary of Laboratory Analyses – Ground Water Samples – Chemicals of Concern
- Table 4: Summary of Historical Laboratory Analyses – Ground Water Samples – Chemicals of Concern
- Table 5: Summary of Laboratory Analyses– Oxygenates
- Table 6: Summary of Historical Laboratory Analyses– Oxygenates
- Appendix A: Ground Water Sampling Data Sheets
- Appendix B: Laboratory Report

All of the existing monitoring wells associated with the Tisdales Quick Stop petroleum release were sampled on November 3 and 4, 2009. Please note that only telescoping wells TW-1 and TW-2 were purged prior to sampling. Based on the November 2009 gauging data, depths to ground water in the monitoring wells ranged from 13.26 to 19.22 feet. Ground water elevations at the site ranged from 79.64 to 83.27 feet relative to a temporary benchmark

with an assumed datum of 100.00 feet. Based on this data, ground water flow was generally toward the west across the site and consistent with historical data.

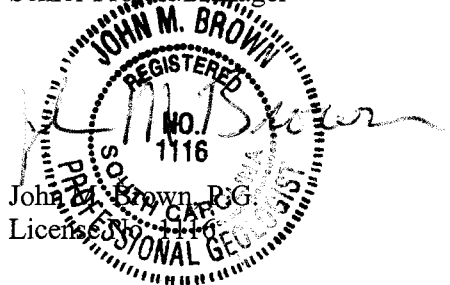
Each of the ground water samples from the monitoring wells were submitted to a South Carolina certified laboratory for the analyses of BTEX, MTBE, naphthalene, 1,2-DCA and eight oxygenates by EPA Method 8260B and EDB by EPA Method 8011. In addition, two water supply wells (WSW-1 and WSW-3) were sampled for BTEX, MTBE, naphthalene, 1, 2-DCA and eight oxygenates by EPA Method 8260B and EDB by EPA Method 8011. Free product was measured in monitoring wells MW-2, MW-3 and MW-1A through MW-4A at thicknesses that ranged from 0.02 feet to 0.47 feet. Therefore, these six wells were not sampled. Concentrations of one or more BTEX constituents, MTBE, naphthalene and/or EDB that exceeded the RBSLs were reported in MW-1, MW-5, MW-8, MW-16, MW-20 and MW-23. No detectable concentrations of COCs were reported in MW-4, MW-6, MW-9, MW-10, MW-13 through MW-15, MW-18, MW-19, MW-21, MW-22, MW-24 through MW-29, MW-31, TW-1, TW-2, WSW-1 or WSW-3. Detectable concentrations of oxygenates were reported in MW-1, MW-7, MW-16, MW-18 and MW-23.

Based on this data, the vertical and horizontal extent of the contaminant plume has been adequately defined at the site. Continued ground water monitoring is recommended. In addition, free product recovery activities should be conducted to reduce free product levels in monitoring wells MW-2, MW-3 and MW-1A through MW-4A. Please do not hesitate to contact the undersigned at (704) 845-4010 if you have any questions or comments concerning this project.

Sincerely,



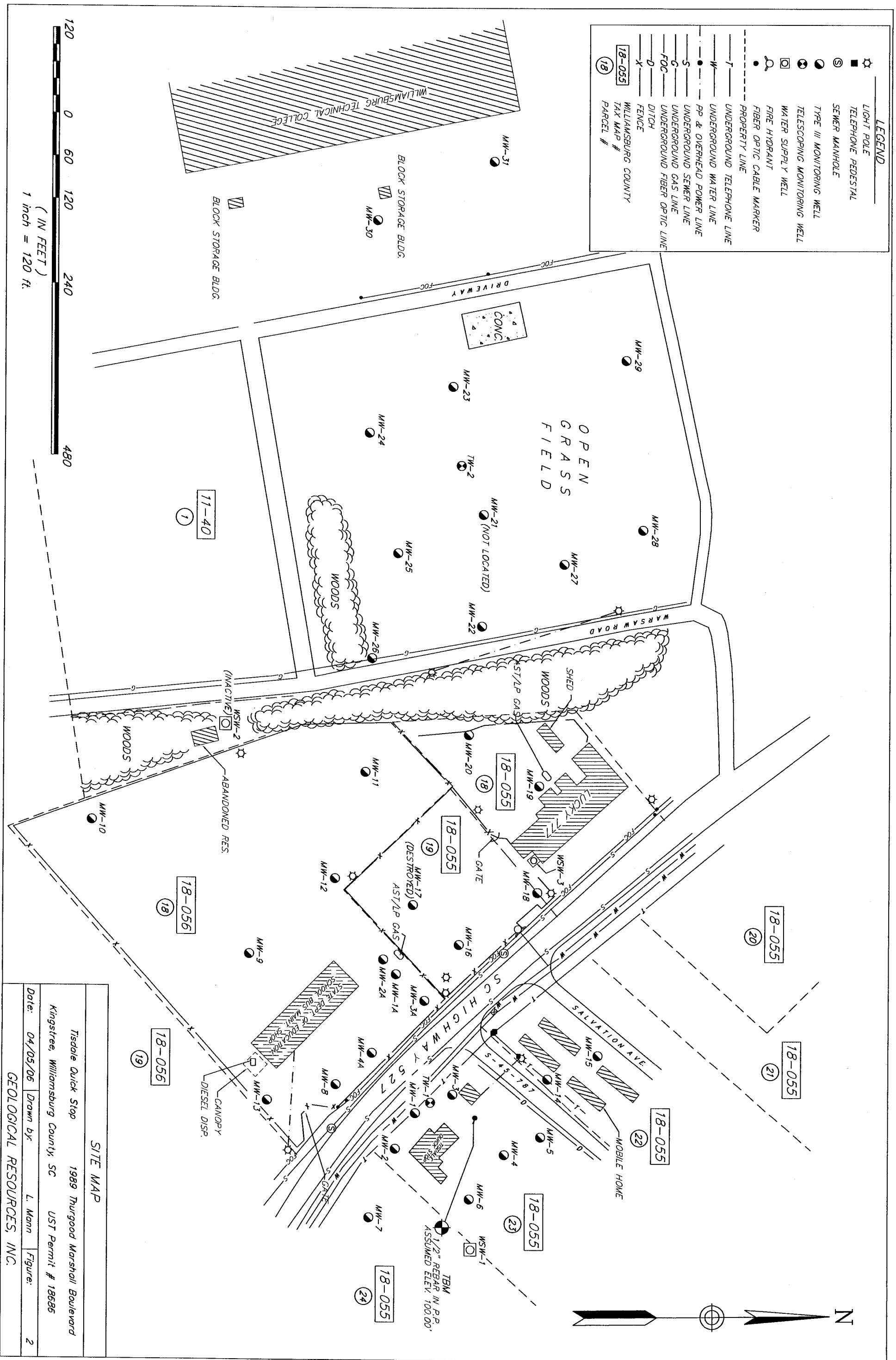
Scott Ball
Senior Project Manager

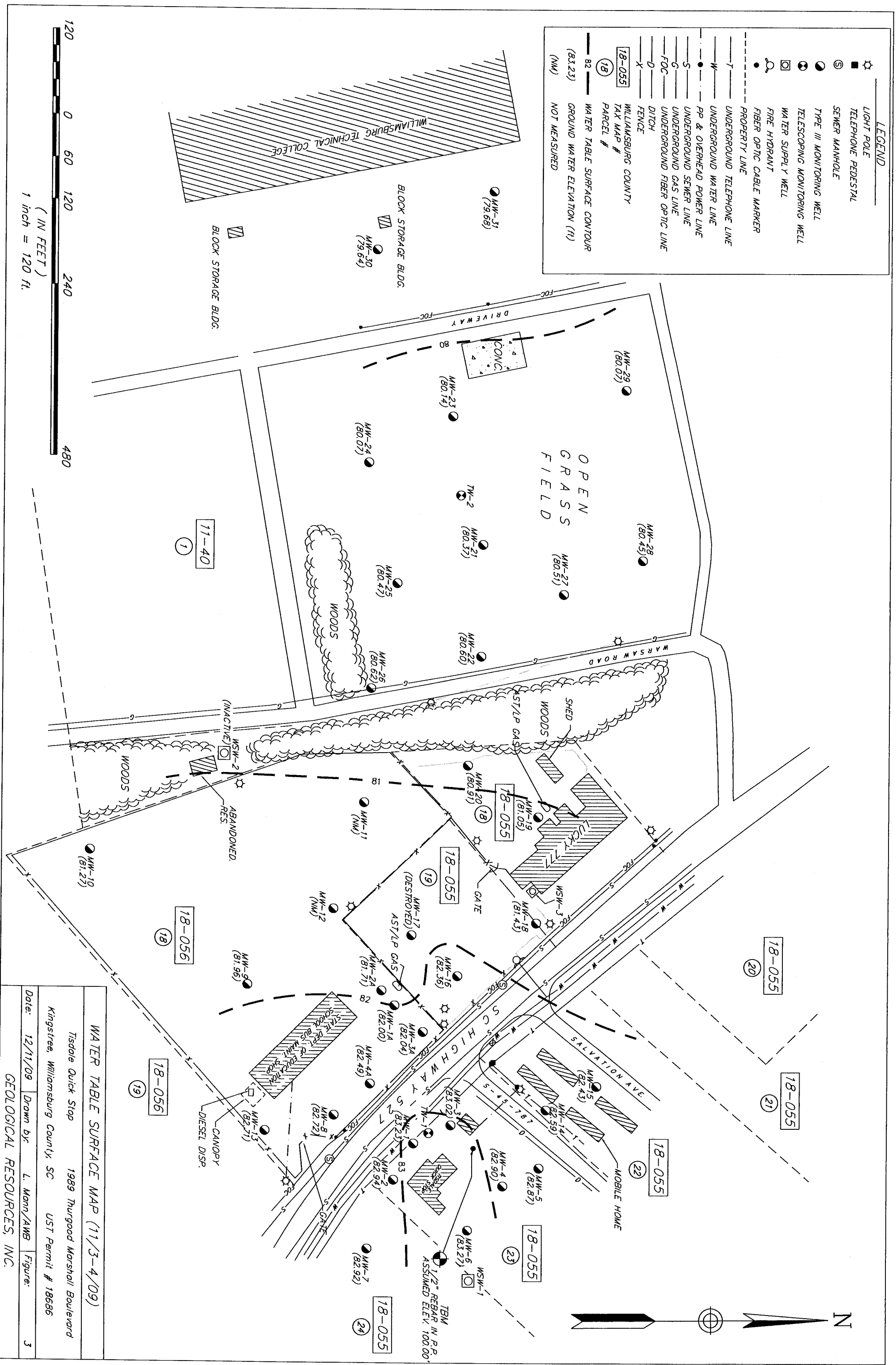


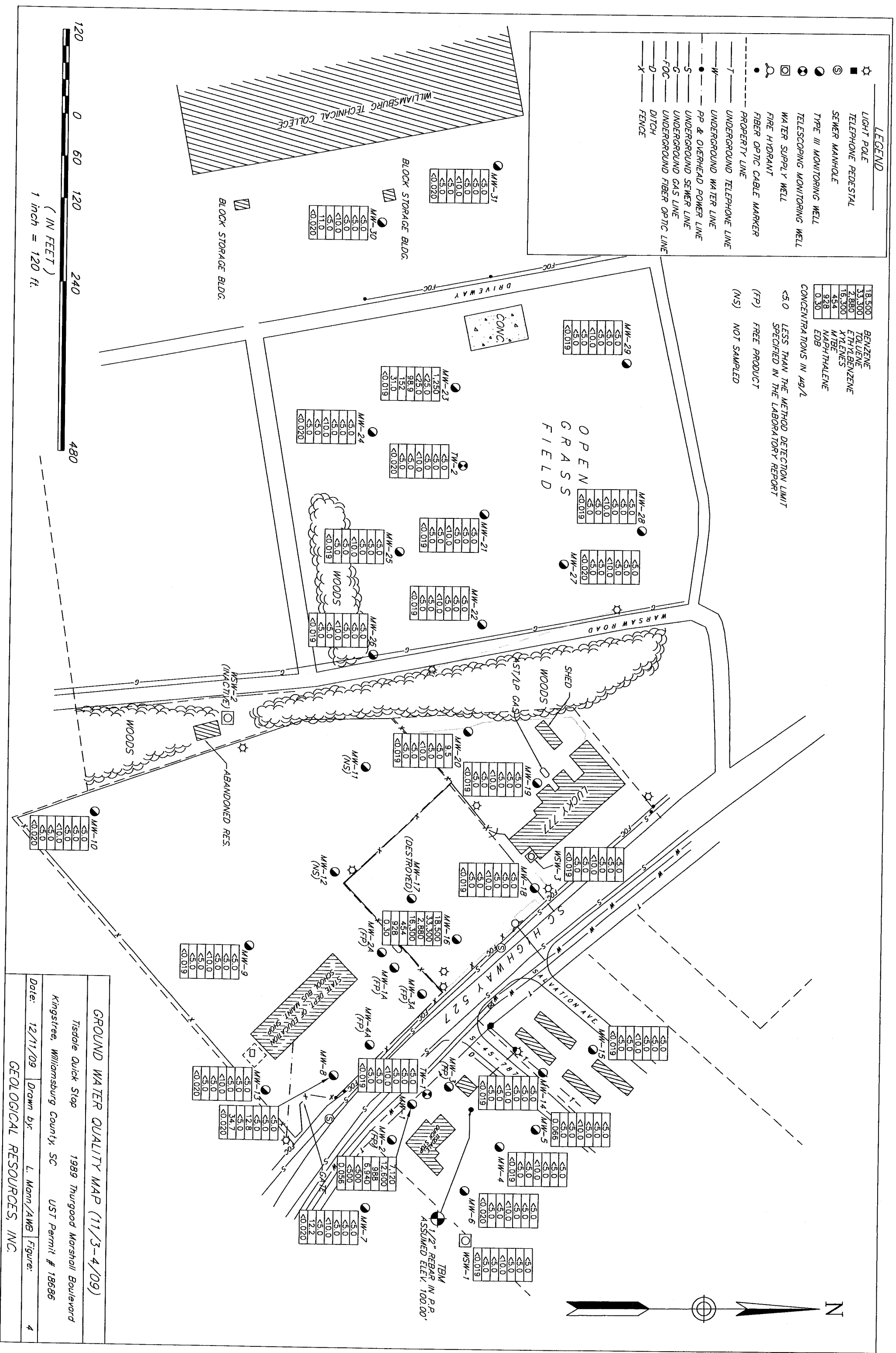
enclosure

cc: Mr. Marty Easler
file

FIGURES







TABLES

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
NOVEMBER 3 & 4, 2009
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Top of Casing Elevation	Depth to Free Product	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-1	98.81	---	15.58	0.00	83.23	20	10-20
MW-2	98.82	15.86	15.97	0.11	82.94	25	10-25
MW-3	98.74	15.70	15.82	0.12	83.02	25	10-25
MW-4	98.58	---	15.68	0.00	82.90	25	10-25
MW-5	98.13	---	15.26	0.00	82.87	22	12-22
MW-6	98.50	---	15.23	0.00	83.27	21.5	11.5-21.5
MW-7	98.19	---	15.27	0.00	82.92	22	12-22
MW-8	98.17	---	15.45	0.00	82.72	22	12-22
MW-9	98.52	---	16.56	0.00	81.96	22	12-22
MW-10	98.68	---	17.41	0.00	81.27	25	10-25
MW-11	94.65	NM	NM	NM	NM	22	7-22
MW-12	95.70	NM	NM	NM	NM	22	7-22
MW-13	99.01	---	16.30	0.00	82.71	25	10-25
MW-14	98.36	---	15.77	0.00	82.59	25	10-25
MW-15	99.59	---	17.16	0.00	82.43	25	10-25
MW-16	98.93	---	16.57	0.00	82.36	23	8-23
MW-17	98.25	NM	NM	NM	NM	23	8-23
MW-18	99.83	---	18.40	0.00	81.43	25	10-25
MW-19	100.27	---	19.22	0.00	81.05	25	10-25
MW-20	97.21	---	16.30	0.00	80.91	25	10-25
MW-21	95.72	---	15.35	0.00	80.37	23	8-23
MW-22	96.68	---	16.08	0.00	80.60	25	10-25
MW-23	95.78	---	15.64	0.00	80.14	24	9-24
MW-24	93.86	---	13.79	0.00	80.07	23	8-23
MW-25	94.30	---	13.83	0.00	80.47	23	8-23
MW-26	93.88	---	13.26	0.00	80.62	21	6-21
MW-27	98.15	---	17.64	0.00	80.51	25	10-25
MW-28	98.45	---	18.00	0.00	80.45	25	10-25
MW-29	96.78	---	16.71	0.00	80.07	25	10-25
MW-30	95.38	---	15.74	0.00	79.64	22	7-22
MW-31	96.05	---	16.37	0.00	79.68	20	10-20
MW-1A	97.20	15.19	15.25	0.06	82.00	Unknown	Unknown
MW-2A	97.30	15.59	15.61	0.02	81.71	Unknown	Unknown
MW-3A	97.27	15.16	15.63	0.47	82.04	Unknown	Unknown
MW-4A	98.09	15.60	15.62	0.02	82.49	Unknown	Unknown
TW-1	99.01	---	16.84	0.00	82.17	46	41-46
TW-2	95.26	---	15.01	0.00	80.25	51	46-51

Note:

- Elevations relative to a temporary benchmark with an assumed datum of 100.00 feet; data reported in feet.
- If free product is present in a well, groundwater elevation calculated by: [Top of Casing Elevation - Depth to Water] + [free product thickness x 0.8581].
- NM: Not measured.

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-1	01/16/03	98.81	15.72	83.09	20	10-20
	02/09/04		14.25	84.56		
	09/23/04		11.94	86.87		
	01/21/05		13.09	85.72		
	03/23/06		12.43	86.38		
	01/07/09		15.12	83.69		
	11/04/09		15.58	83.23		
MW-2	01/16/03	98.82	15.08	83.74	25	10-25
	02/09/04		14.18	84.64		
	09/23/04		12.07	86.75		
	01/21/05		13.24	85.58		
	03/23/06		12.43	86.39		
	01/07/09		15.01	83.83		
	11/03/09		15.97	82.94		
MW-3	01/16/03	98.74	15.34	83.40	25	10-25
	02/09/04		14.18	84.56		
	09/23/04		11.95	86.79		
	01/21/05		13.36	85.38		
	03/23/06		12.37	86.37		
	01/07/09		15.17	83.67		
	11/03/09		15.82	83.02		
MW-4	01/16/03	98.58	15.06	83.52	25	10-25
	02/09/04		14.01	84.57		
	09/23/04		11.96	86.62		
	01/21/05		13.13	85.45		
	03/23/06		12.24	86.34		
	01/07/09		14.84	83.74		
	11/04/09		15.68	82.90		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-5	01/16/03	98.13	14.77	83.36	22	12-22
	02/09/04		13.77	84.36		
	09/23/04		11.71	86.42		
	01/21/05		13.14	84.99		
	03/23/06		12.80	85.33		
	01/07/09		14.96	83.17		
	11/04/09		15.26	82.87		
MW-6	01/16/03	98.50	14.64	83.86	21.5	11.5-21.5
	02/09/04		13.86	84.64		
	09/23/04		11.86	86.64		
	01/21/05		13.38	85.12		
	03/23/06		12.81	85.69		
	01/07/09		15.00	83.50		
	11/03/09		15.23	83.27		
MW-7	01/16/03	98.19	14.69	83.50	22	12-22
	02/09/04		13.56	84.63		
	09/23/04		11.56	86.63		
	01/21/05		12.78	85.41		
	03/23/06		11.73	86.46		
	01/07/09		14.60	83.59		
	11/03/09		15.27	82.92		
MW-8	01/16/03	98.17	14.85	83.32	22	12-22
	02/09/04		13.98	84.19		
	09/23/04		12.07	86.10		
	01/21/05		13.33	84.84		
	03/23/06		12.14	86.03		
	01/08/09		15.00	83.17		
	11/03/09		15.45	82.72		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-9	01/16/03	98.52	15.79	82.73	22	12-22
	02/09/04		15.00	83.52		
	09/23/04		13.12	85.40		
	01/21/05		14.64	83.88		
	03/23/06		13.29	85.23		
	01/08/09		16.01	82.51		
	11/03/09		16.56	81.96		
MW-10	01/16/03	98.68	16.52	82.16	25	10-25
	02/09/04		15.79	82.89		
	09/23/04		13.97	84.71		
	01/21/05		15.35	83.33		
	03/23/06		14.18	84.50		
	01/08/09		15.75	82.93		
	11/03/09		17.41	81.27		
MW-11	01/16/03	94.65	12.89	81.76	22	7-22
	02/09/04		12.10	82.55		
	09/23/04		10.51	84.14		
	01/21/05		11.68	82.97		
	03/23/06		10.55	84.10		
	01/08/09		NM	NM		
	11/03/09		NM	NM		
MW-12	01/16/03	95.70	13.13	82.57	22	7-22
	02/09/04		12.35	83.35		
	09/23/04		12.67	83.03		
	01/21/05		12.06	83.64		
	03/23/06		10.80	84.90		
	01/08/09		NM	NM		
	11/03/09		NM	NM		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-13	01/16/03	99.01	15.65	83.36	25	10-25
	02/09/04		14.70	84.31		
	09/23/04		12.90	86.11		
	01/21/05		14.05	84.96		
	03/23/06		12.82	86.19		
	01/08/09		15.68	83.33		
	11/03/09		16.30	82.71		
MW-14	01/16/03	98.36	15.12	83.24	25	10-25
	02/09/04		14.24	84.12		
	09/23/04		12.03	86.33		
	01/21/05		13.78	84.58		
	03/23/06		12.75	85.61		
	01/08/09		15.32	83.04		
	11/04/09		15.77	82.59		
MW-15	01/16/03	99.59	16.40	83.19	25	10-25
	02/09/04		15.55	84.04		
	09/23/04		13.50	86.09		
	01/21/05		14.89	84.70		
	03/23/06		13.92	85.67		
	01/08/09		16.63	82.96		
	11/04/09		17.16	82.43		
MW-16	01/16/03	98.93	16.18	82.75	23	8-23
	02/09/04		15.21	83.72		
	09/23/04		13.55	85.38		
	01/21/05		14.79	84.14		
	03/23/06		13.60	85.33		
	01/08/09		16.21	82.72		
	11/04/09		16.57	82.36		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-17	01/16/03	98.25	15.94	82.31	23	8-23
	02/09/04		14.55	83.70		
	09/23/04		12.82	85.43		
	01/21/05		13.78	84.47		
	03/23/06		NM	NM		
	11/03/09		NM	NM		
MW-18	01/16/03	99.83	17.70	82.13	25	10-25
	02/09/04		16.91	82.92		
	09/23/04		15.06	84.77		
	01/21/05		16.45	83.38		
	03/23/06		15.31	84.52		
	01/08/09		17.89	81.94		
	11/04/09		18.40	81.43		
MW-19	01/16/03	100.27	18.54	81.73	25	10-25
	02/09/04		17.63	82.64		
	09/23/04		16.00	84.27		
	01/21/05		17.21	83.06		
	03/23/06		16.15	84.12		
	01/08/09		NM	NM		
	11/04/09		19.22	81.05		
MW-20	01/16/03	97.21	15.59	81.62	25	10-25
	02/09/04		14.74	82.47		
	09/23/04		13.15	84.06		
	01/21/05		14.33	82.88		
	03/23/06		13.21	84.00		
	01/08/09		NM	NM		
	11/04/09		16.30	80.91		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-21	01/16/03	95.72	14.70	81.02	23	8-23
	02/09/04		13.85	81.87		
	09/23/04		12.27	83.45		
	01/21/05		13.42	82.30		
	03/23/06		NM	NM		
	01/08/09		NM	NM		
	11/04/09		15.35	80.37		
MW-22	01/16/03	96.68	15.40	81.28	25	10-25
	02/09/04		14.61	82.07		
	09/23/04		12.92	83.76		
	01/21/05		14.15	82.53		
	03/23/06		13.21	83.47		
	01/08/09		15.54	81.14		
	11/04/09		16.08	80.60		
MW-23	01/16/03	95.78	15.08	80.70	24	9-24
	02/09/04		14.30	81.48		
	09/23/04		12.72	83.06		
	01/20/05		13.82	81.96		
	03/23/06		13.09	82.69		
	01/08/09		15.21	80.57		
	11/04/09		15.64	80.14		
MW-24	01/16/03	93.86	13.00	80.86	23	8-23
	02/09/04		12.19	81.67		
	09/23/04		10.58	83.28		
	01/20/05		11.71	82.15		
	03/23/06		10.87	82.99		
	01/08/09		13.17	80.69		
	11/04/09		13.79	80.07		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-25	01/16/03	94.30	13.20	81.10	23	8-23
	02/09/04		12.37	81.93		
	09/23/04		10.74	83.56		
	01/20/05		11.99	82.31		
	03/23/06		11.00	83.30		
	01/08/09		13.34	80.96		
	11/04/09		13.83	80.47		
MW-26	01/16/03	93.88	12.38	81.50	21	6-21
	02/09/04		11.62	82.26		
	09/23/04		10.03	83.85		
	01/20/05		11.18	82.70		
	03/23/06		10.58	83.30		
	01/08/09		12.44	81.44		
	11/04/09		13.26	80.62		
MW-27	01/16/03	98.15	16.99	81.16	25	10-25
	02/09/04		16.20	81.95		
	09/23/04		14.61	83.54		
	01/21/05		15.81	82.34		
	03/23/06		14.84	83.31		
	01/08/09		17.20	80.95		
	11/04/09		17.64	80.51		
MW-28	01/16/03	98.45	17.46	80.99	25	10-25
	02/09/04		16.55	81.90		
	09/23/04		15.00	83.45		
	01/21/05		16.17	82.28		
	03/23/06		15.21	83.24		
	01/08/09		NM	NM		
	11/04/09		18.00	80.45		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-29	01/16/03	96.78	16.17	80.61	25	10-25
	02/09/04		15.30	81.48		
	09/23/04		13.74	83.04		
	01/20/05		14.69	82.09		
	03/23/06		14.12	82.66		
	01/08/09		16.31	80.47		
	11/04/09		16.71	80.07		
MW-30	01/16/03	95.38	15.18	80.20	22	7-22
	02/09/04		14.36	81.02		
	09/23/04		12.85	82.53		
	01/20/05		13.72	81.66		
	03/23/06		13.04	82.34		
	01/08/09		15.41	79.97		
	11/04/09		15.74	79.64		
MW-31	09/23/04	96.05	13.88	82.17	20	10-20
	01/20/05		14.73	81.32		
	03/23/06		14.22	81.83		
	01/08/09		16.49	79.56		
	11/04/09		16.37	79.68		
MW-1A	01/21/05	97.20	13.38	83.82	Unknown	Unknown
	03/23/06		12.11	85.09		
	01/08/09		14.99	82.21		
	11/03/09		15.25	82.00		
MW-2A	01/21/05	97.30	13.39	83.91	Unknown	Unknown
	03/23/06		12.27	85.03		
	01/08/09		15.40	82.36		
	11/03/09		15.61	81.71		

TABLE 2
SUMMARY OF HISTORICAL GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-3A	01/21/05	97.27	13.27	84.00	Unknown	Unknown
	03/23/06		12.19	85.08		
	01/08/09		14.82	83.31		
	11/03/09		15.63	82.04		
MW-4A	01/21/05	98.09	14.04	84.05	Unknown	Unknown
	03/23/06		12.43	85.66		
	01/08/09		15.29	83.53		
	11/03/09		15.62	82.49		
TW-1	01/16/03	99.01	15.14	83.87	46	41-46
	02/09/04		14.81	84.20		
	09/23/04		13.16	85.85		
	01/21/05		14.39	84.62		
	03/23/06		13.35	85.66		
	01/08/09		15.97	83.04		
	11/04/09		16.84	82.17		
TW-2	01/16/03	95.26	14.33	80.93	51	46-51
	02/09/04		13.58	81.68		
	09/23/04		11.98	83.28		
	01/21/05		13.07	82.19		
	03/23/06		12.10	83.16		
	01/08/09		14.52	80.74		
	11/04/09		15.01	80.25		

Notes:

- Elevations relative to a temporary benchmark with an assumed datum of 100.00 feet; data reported in feet.
- ** : If free product is present in a well, groundwater elevation calculated by: [Top of Casing Elevation - Depth to Water] + [free product thickness x 0.8581].
- NM: Not measured; monitoring well is destroyed, covered or could not be located.
- Monitoring wells MW-1A through MW-4A were installed by S&ME Consultants in January 2000.
- Depths to ground water in MW-2, MW-3, MW-16, MW-17 and MW-1A through MW-4A were corrected for free product, if present, with an assumed density of 0.8581.
- Monitoring wells MW-16 and MW-17 were completed above grade with stand up covers; depths to ground water were measured from the tops of casing; well depths and screened intervals were measured from the ground surface.

TABLE 3
SUMMARY OF LABORATORY ANALYSES - GROUND WATER SAMPLES - CHEMICALS OF CONCERN
NOVEMBER 3 & 4, 2009
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB	Comments
RBSL	5	1,000	700	10,000	40	25	5	0.05	
MW-1	7,120	12,600	988	6,940	<500	<500	<500	0.056	
MW-2	FP	FP	FP	FP	FP	FP	FP	FP	
MW-3	FP	FP	FP	FP	FP	FP	FP	FP	
MW-4	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-5	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.066	
MW-6	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	
MW-7	<5.0	<5.0	<5.0	<10.0	<5.0	12.2	<5.0	<0.020	
MW-8	<5.0	<5.0	<5.0	12.8	<5.0	34.7	<5.0	<0.020	
MW-9	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-10	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	
MW-11	NS	NS	NS	NS	NS	NS	NS	NS	Covered with Bus
MW-12	NS	NS	NS	NS	NS	NS	NS	NS	Covered with Bus
MW-13	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	
MW-14	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-15	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-16	18,500	33,300	2,880	16,300	454	928	<250	0.30	

TABLE 3
SUMMARY OF LABORATORY ANALYSES - GROUND WATER SAMPLES - CHEMICALS OF CONCERN
NOVEMBER 3 & 4, 2009
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB	Comments
RBSL	5	1,000	700	10,000	40	25	5	0.05	
MW-17	NS	NS	NS	NS	NS	NS	NS	NS	Not found
MW-18	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-19	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-20	9.5	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-21	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-22	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-23	1,250	<25.0	<25.0	98.9	152	31.0	<25.0	<0.019	
MW-24	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	
MW-25	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-26	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-27	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	
MW-28	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-29	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
MW-30	<5.0	<5.0	<5.0	<10.0	<5.0	11.0	<5.0	<0.020	
MW-31	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	
MW-1A	FP	FP	FP	FP	FP	FP	FP	FP	
MW-2A	FP	FP	FP	FP	FP	FP	FP	FP	

TABLE 3
SUMMARY OF LABORATORY ANALYSES - GROUND WATER SAMPLES - CHEMICALS OF CONCERN
NOVEMBER 3 & 4, 2009
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB	Comments
RBSL	5	1,000	700	10,000	40	25	5	0.05	
MW-3A	FP	FP	FP	FP	FP	FP	FP	FP	
MW-4A	FP	FP	FP	FP	FP	FP	FP	FP	
TW-1	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
TW-2	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020	
WSW-1	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	
WSW-3	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019	

Notes:

- Analyses for selected volatile organic compounds by EPA Method 8260B and EDB by EPA Method 8011; results reported in µg/l (micrograms per liter).
- RBSL: May 2001 Risk Based Screening Level.
- Concentrations in bold face type exceeded the RBSL.
- <: Less than the report limit specified in the laboratory report.
- J: Estimated value.
- NR: Not requested.
- NS: Not sampled.

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-1	01/17/03	17,300	31,000	2,220	12,800	495	515	-	0.13
	02/09/04	11,400	19,600	1,010	12,000	395	525	-	NR
	10/07/04	4,160	7,500	504	4,400	348	290	-	0.03
	01/21/05	8,150	13,500	790	7,170	560	<500	-	NR
	03/24/06	7,800	11,800	552	6,640	833	<100	-	NR
	01/07/09	15,700	15,100	1,600	12,310	1,120	878	<500	0.092
	11/04/09	7,120	12,600	988	6,940	<500	<500	<500	0.056
	01/17/03	FP	FP	FP	FP	FP	FP	FP	FP
MW-2	02/09/04	FP	FP	FP	FP	FP	FP	FP	FP
	10/07/04	FP	FP	FP	FP	FP	FP	FP	FP
	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	14,600	17,900	2,240	12,000	164	495	FP	NR
	01/07/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	01/17/03	FP	FP	FP	FP	FP	FP	FP	FP
	02/09/04	FP	FP	FP	FP	FP	FP	FP	FP
MW-3	10/07/04	FP	FP	FP	FP	FP	FP	FP	FP
	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	54.6	44.4	17.1	660	2.04	8	FP	NR
	01/07/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-4	01/17/03	3.7	<1.0	1.8	7.2	<1.0	7.4	FP	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	NR
	03/24/06	0.200J	<1.00	<1.00	1.44	0.340J	<1.00	FP	NR
	01/07/09	5.9	<5.0	<5.0	6.0	<5.0	8.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
MW-5	01/17/03	<1.0	<1.0	1.7	3.4	<1.0	7.1	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	0.350J	<1.00	<1.00	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.066
MW-6	01/17/03	<1.0	<1.0	1.9	3.8	<1.0	7	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-7	01/17/03	70.3	145	24.3	308	1.8	25.7	-	<0.02
	02/09/04	<1.0	11.4	60.2	441	<1.0	40.7	-	NR
	10/07/04	<1.0	1.1	2.4	25	<1.0	5.8	-	<0.02
	01/21/05	<1.0	<1.0	4.5	26.9	<1.0	17.5	-	NR
	03/24/06	<1.00	<1.00	<1.00	23.3	0.260J	9.62	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	12.2	<5.0	<0.020
MW-8	01/17/03	1,480	11,800	1,930	9,930	6.3	<500	-	<0.02
	02/09/04	59	1,700	424	2,380	<5.0	96	-	NR
	10/07/04	<1.0	3.2	7.4	71.1	<1.0	9	-	<0.02
	01/21/05	12	161	55.6	1,100	<1.0	52.2	-	NR
	03/24/06	4.19	24.1	118	1,070	<1.00	102	-	NR
	01/08/09	16.8	<5.0	<5.0	200.6	<5.0	18.5	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	12.8	<5.0	34.7	<5.0	<0.020
MW-9	01/17/03	<1.0	<1.0	<1.0	<1.0	34	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	11.1	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	1.2	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	12.5	<5.00	-	NR
	03/24/06	<1.00	<1.00	0.270J	2.49	1.5	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-10	01/17/03	<1.0	<1.0	<1.0	<1.0	1.5	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	0.490J	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
MW-11	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	01/17/03	<1.0	<1.0	<1.0	<1.0	1.6	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	23.7	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	5.1	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	0.250J	<1.00	-	NR
MW-12	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	01/17/03	<1.0	<1.0	<1.0	<1.0	2	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-13	01/17/03	<1.0	<1.0	<1.0	<1.0	42.5	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	145	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	6.3	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	40.8	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	11	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-14	01/17/03	3.4	<1.0	<1.0	4.5	<1.0	10.9	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
MW-15	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-16	01/17/03	FP	FP	FP	FP	FP	FP	-	FP
	02/09/04	FP	FP	FP	FP	FP	FP	-	FP
	10/07/04	FP	FP	FP	FP	FP	FP	-	FP
	01/21/05	FP	FP	FP	FP	FP	FP	-	FP
	03/24/06	14,600	20,300	2,080	11,800	536	1,080	-	NR
	01/08/09	2,660	6,520	930	5,100	<25.0	633	<25.0	<0.020
	11/04/09	18,500	33,300	2,880	16,300	454	928	<250	0.30
MW-17	01/17/03	FP	FP	FP	FP	FP	FP	-	FP
	02/09/04	<1.0	13.2	12.5	74.2	19	10.1	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
MW-18	02/09/04	15.4	5.5	<1.0	5.6	<1.0	<5.00	-	NR
	10/07/04	1.5	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	19.2	1.1	<1.0	7.1	<1.0	<5.00	-	NR
	03/24/06	36.2	1.27	<1.00	6.16	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-19	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	3.1	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
MW-20	01/17/03	1,520	314	108	298	80.4	26.3	-	<0.02
	02/09/04	3,220	530	15.2	830	78	61.2	-	NR
	10/07/04	90.2	6.6	<1.0	19.8	94.4	<5.00	-	<0.02
	01/21/05	1,120	43.1	5.8	95.1	73	36.9	-	NR
	03/24/06	44.9	0.300J	0.310J	3.54	9.14	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	9.5	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
MW-21	01/17/03	269	27.5	12	118	42.6	12.6	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	NS	NS	NS	NS	NS	NS	-	NS
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-22	01/17/03	2,080	281	279	576	257	67.9	-	<0.02
	02/09/04	782	49.2	41.4	77.5	93.4	15.8	-	NR
	10/07/04	109	11.3	3.2	19.5	71.4	<5.00	-	<0.02
	01/21/05	3,980	300	197	454	67	112	-	NR
	03/23/06	0.340J	<1.00	<1.00	<1.00	8.11	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
MW-23	01/17/03	27.6	<1.0	<1.0	3.7	27.2	10.5	-	<0.02
	02/09/04	1,760	72	<1.0	592	372	17.2	-	NR
	10/07/04	1,620	103	<1.0	598	286	46	-	<0.02
	01/20/05	1,670	111	<1.0	578	172	19.9	-	NR
	03/23/06	1,290	44.1	<1.00	266	168	38.4	-	NR
	01/08/09	574	<5.0	<5.0	30.8	65.2	<5.0	<5.0	<0.019
	11/04/09	1,250	<25.0	<25.0	98.9	152	31.0	<25.0	<0.019
MW-24	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-25	01/17/03	<1.0	<1.0	<1.0	<1.0	4.9	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	0.330J	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	1.3	<1.0	<1.0	<1.0	4.7	<5.00	-	<0.02
MW-26	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
MW-27	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	1.7	<5.00	-	NR
	03/23/06	0.320J	<1.00	<1.00	<1.00	3.95	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-28	01/17/03	<1.0	<1.0	<1.0	<1.0	1.4	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	0.340J	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
MW-29	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
MW-30	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
MW-30	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	11.0	<5.0	<0.020

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-31	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-1A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	20,700	30,600	3,310	17,600	1,880	891	-	NR
	01/08/09	14,300	29,300	8,930	48,800	1,250	6,060	<500	0.066
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
MW-2A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/23/06	FP	FP	FP	FP	FP	FP	FP	FP
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
MW-3A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/23/06	FP	FP	FP	FP	FP	FP	FP	FP
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
MW-4A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	19,600	34,800	3,900	21,500	247	952	FP	NR
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene		Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
		5	25.5							
TW-1	RBSL									
TW-2										
WSW-1										

TABLE 4
SUMMARY OF HISTORICAL LABORATORY ANALYSES - GROUND WATER SAMPLES
CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
WSW-2	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
WSW-3	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019

Notes:

- Analyses for selected volatile organic compounds by EPA Method 8260B; lead by EPA Method 6010B or 200.7; and EDB by Method 8011; results reported in µg/l.
- RBSL: May 2001 Risk Based Screening Level.
- Concentrations in bold face type exceeded the RBSL.
- <: Less than the report limit specified in the laboratory report.
- NS: Not sampled.
- NR: Analysis not requested.
- I or J: Estimated value.
- FP: Free product.

TABLE 5
SUMMARY OF LABORATORY ANALYSES
OXYGENATES
NOVEMBER 3 & 4, 2009
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-1	<20,000	<10,000	<1,000	<1,000	<500	<5,000	<10,000	10,200
MW-2	FP	FP	FP	FP	FP	FP	FP	FP
MW-3	FP	FP	FP	FP	FP	FP	FP	FP
MW-4	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-5	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-6	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-7	<200	115	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-8	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-9	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-10	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-11	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	NS	NS	NS	NS	NS	NS	NS	NS
MW-13	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-14	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-15	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-16	<10,000	<5,000	<500	<500	<250	<2,500	<5,000	45,400
MW-17	NS	NS	NS	NS	NS	NS	NS	NS
MW-18	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	143
MW-19	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-20	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-21	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-22	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-23	<1,000	<500	<50.0	<50.0	<25.0	<250	<500	1,490
MW-24	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-25	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-26	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-27	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-28	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-29	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-30	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-31	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100

TABLE 5
SUMMARY OF LABORATORY ANALYSES
OXYGENATES
NOVEMBER 3 & 4, 2009
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-1A	FP	FP	FP	FP	FP	FP	FP	FP
MW-2A	FP	FP	FP	FP	FP	FP	FP	FP
MW-3A	FP	FP	FP	FP	FP	FP	FP	FP
MW-4A	FP	FP	FP	FP	FP	FP	FP	FP
TW-1	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
TW-2	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
WSW-1	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
WSW-3	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100

Notes:

- Analyses for oxygenates by Method 8260B; results reported in µg/l.
- <: Less than the report limit specified in the laboratory report.

TABLE 6
SUMMARY OF HISTORICAL LABORATORY ANALYSES
OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-1	03/24/06	<5,000	5,030	<50.0	<50.0	<50.0	<1,000	1,280	35,000
	11/04/09	<20,000	<10,000	<1,000	<1,000	<500	<5,000	<10,000	10,200
MW-2	03/24/06	<5,000	4,620	<50.0	54	<50.0	<1,000	1,020	25,700
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
MW-3	03/24/06	<100	99.1	<1.00	<1.00	<1.00	<20.0	26.7	223
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
MW-4	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-5	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-6	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-7	11/03/09	<200	115	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-8	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-9	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-10	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-11	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
MW-13	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-14	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-15	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-16	03/24/06	<5,000	5,140	<50.0	72.5	<50.0	<1,000	1,560	34,600
	11/03/09	<10,000	<5,000	<500	<500	<250	<2,500	<5,000	45,400
MW-17	11/04/09	NS	NS	NS	NS	NS	NS	NS	NS
MW-18	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	143
MW-19	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-20	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-21	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-22	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-23	11/04/09	<1,000	<500	<50.0	<50.0	<25.0	<250	<500	1,490
MW-24	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-25	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-26	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-27	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-28	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-29	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-30	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
MW-31	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100

TABLE 6
SUMMARY OF HISTORICAL LABORATORY ANALYSES
OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-1A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
MW-2A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
MW-3A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
MW-4A	11/04/09	FP	FP	FP	FP	FP	FP	FP	FP
TW-1	03/24/06	<100	<10.0	<1.00	<1.00	<1.00	<20.0	<20.0	<20.0
	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
TW-2	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
WSW-1	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
WSW-3	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100

Notes:

- Analyses for oxygenates by Method 8260B; results reported in µg/l.
- <: Less than the report limit specified in the laboratory report.

APPENDICES

APPENDIX A
Ground Water Sampling Data Sheets

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): <u>11/4/09</u>	
Field Personnel: <u>TR</u>	
General Weather Conditions: <u>Clear, warm</u>	
Ambient Air Temperature: <u>64</u> °F	
Quality Assurance	
pH Meter serial no. <u>809061</u>	Conductivity Meter serial no. _____
pH=4.0 <u>✓</u> Standard	Standard
pH=7.0 _____ Standard	Standard
pH=10.0 _____ Standard	Standard
Chain of Custody	
Relinquished by _____	Date/Time _____
Received by _____	Date/Time _____

Facility Name: <u>TISALE QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>7W-2</u>
Well Diameter (D): <u>0.167</u> 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)	<u>15.01</u> feet
Total Well Depth (TWD)	<u>50.08</u> feet
Length of the water column (LWC = TWD-DGW)	<u>35.07</u> feet
1 casing volume (CV = LWC X C) = <u>17.15</u>	<u>571</u> gals (standard purge volume)
3 casing volume 3 X CV = <u>51.45</u>	<u>11.75</u> gals
Total volume of Water Purged Before Sampling	<u>11.75</u> gals
Total volume of Water Purged for Post Sampling	<u>11.75</u> gals
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	6.0	11.75					
Time (military)	1109	1127	1139					1140
pH (s.u.)	8.2	6.0	6.1					
Specific Cond. (umhos/cm)	0.17	0.14	0.14					
Water Temperature (degrees C)	20	20	20					
Turbidity (subjective: clear, slightly cloudy, cloudy)	CLR	CLR	CLR					
Dissolved Oxygen (mg/l)	0.7	3.3	3.1					
PID readings, if required								
Remarks:								

APPENDIX B
Laboratory Report

November 17, 2009

Scott Ball
Geological Resources, Inc
2301 Crown Point Executive Dr.
Suite F
Charlotte, NC 28227

RE: Project: TISDALE QUICK STOP
Pace Project No.: 9256839

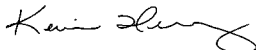
Dear Scott Ball:

Enclosed are the analytical results for sample(s) received by the laboratory on November 05, 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,



Kevin Herring

kevin.herring@pacelabs.com
Project Manager

Enclosures

cc: Mrs. Carrie Kennedy, Geological Resources, Inc

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

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

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SAMPLE ANALYTE COUNT

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9256839001	MW-13	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
9256839002	MW-9	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
9256839003	MW-10	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
9256839004	MW-8	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
9256839005	MW-7	EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C
9256839006	MW-6	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839007	MW31	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839008	MW-30	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839009	MW-24	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839010	MW-23	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839011	MW-29	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839012	MW-21	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839013	TW-2	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839014	MW-25	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839015	MW-27	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839016	MW-28	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839017	MW-22	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839018	MW-26	EPA 8011	RES	2	PASI-C
		EPA 8260	KJM	21	PASI-C
9256839019	MW-20	EPA 8011	RES	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9256839020	MW-19	EPA 8260	MCK	21	PASI-C
		EPA 8011	RES	2	PASI-C
9256839021	MW-18	EPA 8260	KJM	21	PASI-C
		EPA 8011	RES	2	PASI-C
9256839022	MW-16	EPA 8260	KJM	21	PASI-C
		EPA 8011	RES	2	PASI-C
9256839023	MW-15	EPA 8260	KJM	21	PASI-C
		EPA 8011	RES	2	PASI-C
9256839024	MW-14	EPA 8260	KJM	21	PASI-C
		EPA 8011	RES	2	PASI-C
9256839025	MW-5	EPA 8260	KJM	21	PASI-C
		EPA 8011	RES	2	PASI-C
9256839026	MW-4	EPA 8260	KJM	21	PASI-C
		EPA 8011	RES	2	PASI-C
9256839027	MW-1	EPA 8260	KJM	21	PASI-C
		EPA 8011	RES	2	PASI-C
9256839028	TW-1	EPA 8260	KJM	21	PASI-C
		EPA 8011	RES	2	PASI-C
9256839029	WSW-1	EPA 8260	KJM	21	PASI-C
		EPA 8011	RES	2	PASI-C
9256839030	WSW-3	EPA 8260	KJM	21	PASI-C
		EPA 8011	RES	2	PASI-C
		EPA 8260	MCK	21	PASI-C

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW-13		Lab ID: 9256839001	Collected: 11/03/09 13:34	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.020	1	11/11/09 12:39	11/11/09 16:34	106-93-4	
1-Chloro-2-bromopropane (S)	91 %		60-140	1	11/11/09 12:39	11/11/09 16:34	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/11/09 22:41	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/11/09 22:41	994-05-8	
Benzene	ND ug/L		5.0	1		11/11/09 22:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/11/09 22:41	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/11/09 22:41	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/11/09 22:41	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/11/09 22:41	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/11/09 22:41	108-20-3	
Ethanol	ND ug/L		200	1		11/11/09 22:41	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/11/09 22:41	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/11/09 22:41	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/11/09 22:41	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/11/09 22:41	91-20-3	
Toluene	ND ug/L		5.0	1		11/11/09 22:41	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/11/09 22:41	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/11/09 22:41	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/11/09 22:41	95-47-6	
Dibromofluoromethane (S)	101 %		85-115	1		11/11/09 22:41	1868-53-7	
Toluene-d8 (S)	94 %		70-120	1		11/11/09 22:41	2037-26-5	
4-Bromofluorobenzene (S)	100 %		87-109	1		11/11/09 22:41	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		79-120	1		11/11/09 22:41	17060-07-0	

Sample: MW-9		Lab ID: 9256839002	Collected: 11/03/09 13:46	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:39	11/11/09 16:53	106-93-4	
1-Chloro-2-bromopropane (S)	100 %		60-140	1	11/11/09 12:39	11/11/09 16:53	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/11/09 23:05	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/11/09 23:05	994-05-8	
Benzene	ND ug/L		5.0	1		11/11/09 23:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/11/09 23:05	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/11/09 23:05	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/11/09 23:05	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/11/09 23:05	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/11/09 23:05	108-20-3	
Ethanol	ND ug/L		200	1		11/11/09 23:05	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/11/09 23:05	100-41-4	

Date: 11/17/2009 04:00 PM

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW-9		Lab ID: 9256839002	Collected: 11/03/09 13:46	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260						
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/11/09 23:05	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/11/09 23:05	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/11/09 23:05	91-20-3	
Toluene	ND ug/L		5.0	1		11/11/09 23:05	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/11/09 23:05	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/11/09 23:05	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/11/09 23:05	95-47-6	
Dibromofluoromethane (S)	103 %		85-115	1		11/11/09 23:05	1868-53-7	
Toluene-d8 (S)	93 %		70-120	1		11/11/09 23:05	2037-26-5	
4-Bromofluorobenzene (S)	100 %		87-109	1		11/11/09 23:05	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		79-120	1		11/11/09 23:05	17060-07-0	

Sample: MW-10		Lab ID: 9256839003	Collected: 11/03/09 14:32	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.020	1	11/11/09 12:39	11/11/09 17:13	106-93-4	
1-Chloro-2-bromopropane (S)	101 %		60-140	1	11/11/09 12:39	11/11/09 17:13	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/11/09 23:29	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/11/09 23:29	994-05-8	
Benzene	ND ug/L		5.0	1		11/11/09 23:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/11/09 23:29	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/11/09 23:29	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/11/09 23:29	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/11/09 23:29	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/11/09 23:29	108-20-3	
Ethanol	ND ug/L		200	1		11/11/09 23:29	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/11/09 23:29	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/11/09 23:29	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/11/09 23:29	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/11/09 23:29	91-20-3	
Toluene	ND ug/L		5.0	1		11/11/09 23:29	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/11/09 23:29	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/11/09 23:29	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/11/09 23:29	95-47-6	
Dibromofluoromethane (S)	100 %		85-115	1		11/11/09 23:29	1868-53-7	
Toluene-d8 (S)	94 %		70-120	1		11/11/09 23:29	2037-26-5	
4-Bromofluorobenzene (S)	98 %		87-109	1		11/11/09 23:29	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		79-120	1		11/11/09 23:29	17060-07-0	

Date: 11/17/2009 04:00 PM

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW-8		Lab ID: 9256839004	Collected: 11/03/09 15:20	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.020	1	11/11/09 12:39	11/11/09 17:32	106-93-4	
1-Chloro-2-bromopropane (S)	95 %		60-140	1	11/11/09 12:39	11/11/09 17:32	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/11/09 23:53	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/11/09 23:53	994-05-8	
Benzene	ND ug/L		5.0	1		11/11/09 23:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/11/09 23:53	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/11/09 23:53	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/11/09 23:53	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/11/09 23:53	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/11/09 23:53	108-20-3	
Ethanol	ND ug/L		200	1		11/11/09 23:53	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/11/09 23:53	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/11/09 23:53	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/11/09 23:53	1634-04-4	
Naphthalene	34.7 ug/L		5.0	1		11/11/09 23:53	91-20-3	
Toluene	ND ug/L		5.0	1		11/11/09 23:53	108-88-3	
Xylene (Total)	12.8 ug/L		10.0	1		11/11/09 23:53	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/11/09 23:53	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/11/09 23:53	95-47-6	
Dibromofluoromethane (S)	101 %		85-115	1		11/11/09 23:53	1868-53-7	
Toluene-d8 (S)	94 %		70-120	1		11/11/09 23:53	2037-26-5	
4-Bromofluorobenzene (S)	98 %		87-109	1		11/11/09 23:53	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		79-120	1		11/11/09 23:53	17060-07-0	

Sample: MW-7		Lab ID: 9256839005	Collected: 11/03/09 16:11	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.020	1	11/11/09 12:39	11/11/09 17:53	106-93-4	
1-Chloro-2-bromopropane (S)	96 %		60-140	1	11/11/09 12:39	11/11/09 17:53	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 00:17	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 00:17	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 00:17	71-43-2	
3,3-Dimethyl-1-Butanol	115 ug/L		100	1		11/12/09 00:17	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 00:17	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 00:17	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 00:17	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 00:17	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 00:17	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 00:17	100-41-4	

Date: 11/17/2009 04:00 PM

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP

Pace Project No.: 9256839

Sample: MW-7		Lab ID: 9256839005	Collected: 11/03/09 16:11	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260						
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 00:17	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 00:17	1634-04-4	
Naphthalene	12.2	ug/L	5.0	1		11/12/09 00:17	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 00:17	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 00:17	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 00:17	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 00:17	95-47-6	
Dibromofluoromethane (S)	102	%	85-115	1		11/12/09 00:17	1868-53-7	
Toluene-d8 (S)	95	%	70-120	1		11/12/09 00:17	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-109	1		11/12/09 00:17	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	79-120	1		11/12/09 00:17	17060-07-0	

Sample: MW-6		Lab ID: 9256839006	Collected: 11/03/09 16:27	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	11/11/09 12:39	11/11/09 18:12	106-93-4	
1-Chloro-2-bromopropane (S)	99	%	60-140	1	11/11/09 12:39	11/11/09 18:12	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND	ug/L	100	1		11/12/09 17:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		11/12/09 17:33	994-05-8	
Benzene	ND	ug/L	5.0	1		11/12/09 17:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		11/12/09 17:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		11/12/09 17:33	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		11/12/09 17:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/12/09 17:33	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		11/12/09 17:33	108-20-3	
Ethanol	ND	ug/L	200	1		11/12/09 17:33	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		11/12/09 17:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 17:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 17:33	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 17:33	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 17:33	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 17:33	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 17:33	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 17:33	95-47-6	
Dibromofluoromethane (S)	100	%	85-115	1		11/12/09 17:33	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		11/12/09 17:33	2037-26-5	
4-Bromofluorobenzene (S)	107	%	87-109	1		11/12/09 17:33	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	79-120	1		11/12/09 17:33	17060-07-0	

ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW31		Lab ID: 9256839007	Collected: 11/04/09 09:30		Received: 11/05/09 09:30		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	11/11/09 12:39	11/11/09 19:09	106-93-4	
1-Chloro-2-bromopropane (S)	91	%	60-140	1	11/11/09 12:39	11/11/09 19:09	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND	ug/L	100	1		11/12/09 17:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		11/12/09 17:51	994-05-8	
Benzene	ND	ug/L	5.0	1		11/12/09 17:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		11/12/09 17:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		11/12/09 17:51	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		11/12/09 17:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/12/09 17:51	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		11/12/09 17:51	108-20-3	
Ethanol	ND	ug/L	200	1		11/12/09 17:51	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		11/12/09 17:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 17:51	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 17:51	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 17:51	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 17:51	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 17:51	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 17:51	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 17:51	95-47-6	
Dibromofluoromethane (S)	101	%	85-115	1		11/12/09 17:51	1868-53-7	
Toluene-d8 (S)	101	%	70-120	1		11/12/09 17:51	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-109	1		11/12/09 17:51	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	79-120	1		11/12/09 17:51	17060-07-0	

Sample: MW-30		Lab ID: 9256839008	Collected: 11/04/09 09:44		Received: 11/05/09 09:30		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	11/11/09 12:39	11/11/09 19:28	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140	1	11/11/09 12:39	11/11/09 19:28	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND	ug/L	100	1		11/12/09 18:10	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		11/12/09 18:10	994-05-8	
Benzene	ND	ug/L	5.0	1		11/12/09 18:10	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		11/12/09 18:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		11/12/09 18:10	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		11/12/09 18:10	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/12/09 18:10	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		11/12/09 18:10	108-20-3	
Ethanol	ND	ug/L	200	1		11/12/09 18:10	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		11/12/09 18:10	100-41-4	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW-30		Lab ID: 9256839008	Collected: 11/04/09 09:44	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260						
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 18:10	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 18:10	1634-04-4	
Naphthalene	11.0	ug/L	5.0	1		11/12/09 18:10	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 18:10	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 18:10	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 18:10	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 18:10	95-47-6	
Dibromofluoromethane (S)	103	%	85-115	1		11/12/09 18:10	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		11/12/09 18:10	2037-26-5	
4-Bromofluorobenzene (S)	105	%	87-109	1		11/12/09 18:10	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	79-120	1		11/12/09 18:10	17060-07-0	

Sample: MW-24		Lab ID: 9256839009	Collected: 11/04/09 10:15	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	11/11/09 12:39	11/11/09 19:48	106-93-4	
1-Chloro-2-bromopropane (S)	95	%	60-140	1	11/11/09 12:39	11/11/09 19:48	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND	ug/L	100	1		11/12/09 18:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		11/12/09 18:28	994-05-8	
Benzene	ND	ug/L	5.0	1		11/12/09 18:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		11/12/09 18:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		11/12/09 18:28	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		11/12/09 18:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/12/09 18:28	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		11/12/09 18:28	108-20-3	
Ethanol	ND	ug/L	200	1		11/12/09 18:28	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		11/12/09 18:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 18:28	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 18:28	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 18:28	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 18:28	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 18:28	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 18:28	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 18:28	95-47-6	
Dibromofluoromethane (S)	98	%	85-115	1		11/12/09 18:28	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		11/12/09 18:28	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-109	1		11/12/09 18:28	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	79-120	1		11/12/09 18:28	17060-07-0	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP

Pace Project No.: 9256839

Sample: MW-23		Lab ID: 9256839010	Collected: 11/04/09 10:26	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:39	11/11/09 20:07	106-93-4	
1-Chloro-2-bromopropane (S)	97 %		60-140	1	11/11/09 12:39	11/11/09 20:07	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	1490 ug/L		500	5		11/12/09 14:45	75-85-4	
tert-Amylmethyl ether	ND ug/L		50.0	5		11/12/09 14:45	994-05-8	
Benzene	1250 ug/L		100	20		11/13/09 11:16	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		500	5		11/12/09 14:45	624-95-3	
tert-Butyl Alcohol	ND ug/L		500	5		11/12/09 14:45	75-65-0	
tert-Butyl Formate	ND ug/L		250	5		11/12/09 14:45	762-75-4	
1,2-Dichloroethane	ND ug/L		25.0	5		11/12/09 14:45	107-06-2	
Diisopropyl ether	ND ug/L		25.0	5		11/12/09 14:45	108-20-3	
Ethanol	ND ug/L		1000	5		11/12/09 14:45	64-17-5	
Ethylbenzene	ND ug/L		25.0	5		11/12/09 14:45	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		50.0	5		11/12/09 14:45	637-92-3	
Methyl-tert-butyl ether	152 ug/L		25.0	5		11/12/09 14:45	1634-04-4	
Naphthalene	31.0 ug/L		25.0	5		11/12/09 14:45	91-20-3	
Toluene	ND ug/L		25.0	5		11/12/09 14:45	108-88-3	
Xylene (Total)	98.9 ug/L		50.0	5		11/12/09 14:45	1330-20-7	
m&p-Xylene	ND ug/L		50.0	5		11/12/09 14:45	1330-20-7	
o-Xylene	93.0 ug/L		25.0	5		11/12/09 14:45	95-47-6	
Dibromofluoromethane (S)	101 %		85-115	5		11/12/09 14:45	1868-53-7	
Toluene-d8 (S)	94 %		70-120	5		11/12/09 14:45	2037-26-5	
4-Bromofluorobenzene (S)	99 %		87-109	5		11/12/09 14:45	460-00-4	
1,2-Dichloroethane-d4 (S)	98 %		79-120	5		11/12/09 14:45	17060-07-0	

Sample: MW-29		Lab ID: 9256839011	Collected: 11/04/09 10:34	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:40	11/11/09 20:26	106-93-4	
1-Chloro-2-bromopropane (S)	96 %		60-140	1	11/11/09 12:40	11/11/09 20:26	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 18:46	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 18:46	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 18:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 18:46	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 18:46	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 18:46	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 18:46	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 18:46	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 18:46	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 18:46	100-41-4	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW-29		Lab ID: 9256839011	Collected: 11/04/09 10:34	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260						
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 18:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 18:46	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 18:46	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 18:46	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 18:46	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 18:46	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 18:46	95-47-6	
Dibromofluoromethane (S)	104	%	85-115	1		11/12/09 18:46	1868-53-7	
Toluene-d8 (S)	99	%	70-120	1		11/12/09 18:46	2037-26-5	
4-Bromofluorobenzene (S)	106	%	87-109	1		11/12/09 18:46	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	79-120	1		11/12/09 18:46	17060-07-0	

Sample: MW-21		Lab ID: 9256839012	Collected: 11/04/09 10:47	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	1	11/11/09 12:40	11/11/09 20:45	106-93-4	
1-Chloro-2-bromopropane (S)	93	%	60-140	1	11/11/09 12:40	11/11/09 20:45	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND	ug/L	100	1		11/12/09 19:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		11/12/09 19:04	994-05-8	
Benzene	ND	ug/L	5.0	1		11/12/09 19:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		11/12/09 19:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		11/12/09 19:04	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		11/12/09 19:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/12/09 19:04	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		11/12/09 19:04	108-20-3	
Ethanol	ND	ug/L	200	1		11/12/09 19:04	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		11/12/09 19:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 19:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 19:04	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 19:04	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 19:04	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 19:04	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 19:04	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 19:04	95-47-6	
Dibromofluoromethane (S)	101	%	85-115	1		11/12/09 19:04	1868-53-7	
Toluene-d8 (S)	102	%	70-120	1		11/12/09 19:04	2037-26-5	
4-Bromofluorobenzene (S)	107	%	87-109	1		11/12/09 19:04	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	79-120	1		11/12/09 19:04	17060-07-0	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: TW-2		Lab ID: 9256839013	Collected: 11/04/09 11:40	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.020	1	11/11/09 12:40	11/11/09 21:23	106-93-4	
1-Chloro-2-bromopropane (S)	104 %		60-140	1	11/11/09 12:40	11/11/09 21:23	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 19:22	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 19:22	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 19:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 19:22	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 19:22	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 19:22	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 19:22	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 19:22	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 19:22	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 19:22	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/12/09 19:22	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/12/09 19:22	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/12/09 19:22	91-20-3	
Toluene	ND ug/L		5.0	1		11/12/09 19:22	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/12/09 19:22	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/12/09 19:22	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/12/09 19:22	95-47-6	
Dibromofluoromethane (S)	103 %		85-115	1		11/12/09 19:22	1868-53-7	
Toluene-d8 (S)	101 %		70-120	1		11/12/09 19:22	2037-26-5	
4-Bromofluorobenzene (S)	104 %		87-109	1		11/12/09 19:22	460-00-4	
1,2-Dichloroethane-d4 (S)	96 %		79-120	1		11/12/09 19:22	17060-07-0	

Sample: MW-25		Lab ID: 9256839014	Collected: 11/04/09 11:49	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:40	11/11/09 21:42	106-93-4	
1-Chloro-2-bromopropane (S)	97 %		60-140	1	11/11/09 12:40	11/11/09 21:42	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 19:41	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 19:41	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 19:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 19:41	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 19:41	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 19:41	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 19:41	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 19:41	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 19:41	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 19:41	100-41-4	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP

Pace Project No.: 9256839

Sample: MW-25		Lab ID: 9256839014	Collected: 11/04/09 11:49	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260						
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 19:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 19:41	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 19:41	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 19:41	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 19:41	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 19:41	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 19:41	95-47-6	
Dibromofluoromethane (S)	103	%	85-115	1		11/12/09 19:41	1868-53-7	
Toluene-d8 (S)	101	%	70-120	1		11/12/09 19:41	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-109	1		11/12/09 19:41	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	79-120	1		11/12/09 19:41	17060-07-0	

Sample: MW-27		Lab ID: 9256839015	Collected: 11/04/09 12:06	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	11/11/09 12:40	11/11/09 22:01	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140	1	11/11/09 12:40	11/11/09 22:01	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND	ug/L	100	1		11/12/09 19:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		11/12/09 19:59	994-05-8	
Benzene	ND	ug/L	5.0	1		11/12/09 19:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		11/12/09 19:59	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		11/12/09 19:59	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		11/12/09 19:59	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/12/09 19:59	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		11/12/09 19:59	108-20-3	
Ethanol	ND	ug/L	200	1		11/12/09 19:59	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		11/12/09 19:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 19:59	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 19:59	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 19:59	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 19:59	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 19:59	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 19:59	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 19:59	95-47-6	
Dibromofluoromethane (S)	107	%	85-115	1		11/12/09 19:59	1868-53-7	
Toluene-d8 (S)	99	%	70-120	1		11/12/09 19:59	2037-26-5	
4-Bromofluorobenzene (S)	105	%	87-109	1		11/12/09 19:59	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	79-120	1		11/12/09 19:59	17060-07-0	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW-28		Lab ID: 9256839016	Collected: 11/04/09 12:18	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:40	11/11/09 22:21	106-93-4	
1-Chloro-2-bromopropane (S)	97 %		60-140	1	11/11/09 12:40	11/11/09 22:21	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 20:17	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 20:17	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 20:17	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 20:17	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 20:17	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 20:17	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 20:17	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 20:17	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 20:17	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 20:17	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/12/09 20:17	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/12/09 20:17	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/12/09 20:17	91-20-3	
Toluene	ND ug/L		5.0	1		11/12/09 20:17	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/12/09 20:17	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/12/09 20:17	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/12/09 20:17	95-47-6	
Dibromofluoromethane (S)	104 %		85-115	1		11/12/09 20:17	1868-53-7	
Toluene-d8 (S)	101 %		70-120	1		11/12/09 20:17	2037-26-5	
4-Bromofluorobenzene (S)	107 %		87-109	1		11/12/09 20:17	460-00-4	
1,2-Dichloroethane-d4 (S)	99 %		79-120	1		11/12/09 20:17	17060-07-0	

Sample: MW-22		Lab ID: 9256839017	Collected: 11/04/09 12:31	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:40	11/11/09 22:40	106-93-4	
1-Chloro-2-bromopropane (S)	94 %		60-140	1	11/11/09 12:40	11/11/09 22:40	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 20:35	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 20:35	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 20:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 20:35	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 20:35	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 20:35	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 20:35	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 20:35	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 20:35	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 20:35	100-41-4	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP

Pace Project No.: 9256839

Sample: MW-22		Lab ID: 9256839017	Collected: 11/04/09 12:31	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260						
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 20:35	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 20:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 20:35	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 20:35	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 20:35	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 20:35	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 20:35	95-47-6	
Dibromofluoromethane (S)	104	%	85-115	1		11/12/09 20:35	1868-53-7	
Toluene-d8 (S)	101	%	70-120	1		11/12/09 20:35	2037-26-5	
4-Bromofluorobenzene (S)	105	%	87-109	1		11/12/09 20:35	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	79-120	1		11/12/09 20:35	17060-07-0	

Sample: MW-26		Lab ID: 9256839018	Collected: 11/04/09 12:40	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	1	11/11/09 12:40	11/11/09 22:59	106-93-4	
1-Chloro-2-bromopropane (S)	98	%	60-140	1	11/11/09 12:40	11/11/09 22:59	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND	ug/L	100	1		11/12/09 20:53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		11/12/09 20:53	994-05-8	
Benzene	ND	ug/L	5.0	1		11/12/09 20:53	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		11/12/09 20:53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		11/12/09 20:53	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		11/12/09 20:53	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/12/09 20:53	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		11/12/09 20:53	108-20-3	
Ethanol	ND	ug/L	200	1		11/12/09 20:53	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		11/12/09 20:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 20:53	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 20:53	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 20:53	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 20:53	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 20:53	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 20:53	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 20:53	95-47-6	
Dibromofluoromethane (S)	105	%	85-115	1		11/12/09 20:53	1868-53-7	
Toluene-d8 (S)	101	%	70-120	1		11/12/09 20:53	2037-26-5	
4-Bromofluorobenzene (S)	103	%	87-109	1		11/12/09 20:53	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	79-120	1		11/12/09 20:53	17060-07-0	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP

Pace Project No.: 9256839

Sample: MW-20		Lab ID: 9256839019	Collected: 11/04/09 12:53	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:40	11/11/09 23:18	106-93-4	
1-Chloro-2-bromopropane (S)	97 %		60-140	1	11/11/09 12:40	11/11/09 23:18	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/14/09 07:44	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/14/09 07:44	994-05-8	
Benzene	9.5 ug/L		5.0	1		11/14/09 07:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/14/09 07:44	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/14/09 07:44	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/14/09 07:44	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/14/09 07:44	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/14/09 07:44	108-20-3	
Ethanol	ND ug/L		200	1		11/14/09 07:44	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/14/09 07:44	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/14/09 07:44	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/14/09 07:44	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/14/09 07:44	91-20-3	
Toluene	ND ug/L		5.0	1		11/14/09 07:44	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/14/09 07:44	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/14/09 07:44	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/14/09 07:44	95-47-6	
Dibromofluoromethane (S)	104 %		85-115	1		11/14/09 07:44	1868-53-7	
Toluene-d8 (S)	100 %		70-120	1		11/14/09 07:44	2037-26-5	
4-Bromofluorobenzene (S)	95 %		87-109	1		11/14/09 07:44	460-00-4	
1,2-Dichloroethane-d4 (S)	103 %		79-120	1		11/14/09 07:44	17060-07-0	

Sample: MW-19		Lab ID: 9256839020	Collected: 11/04/09 13:03	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:40	11/11/09 23:37	106-93-4	
1-Chloro-2-bromopropane (S)	100 %		60-140	1	11/11/09 12:40	11/11/09 23:37	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 19:38	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 19:38	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 19:38	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 19:38	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 19:38	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 19:38	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 19:38	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 19:38	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 19:38	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 19:38	100-41-4	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW-19		Lab ID: 9256839020	Collected: 11/04/09 13:03		Received: 11/05/09 09:30		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260						
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 19:38	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 19:38	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 19:38	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 19:38	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 19:38	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 19:38	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 19:38	95-47-6	
Dibromofluoromethane (S)	102	%	85-115	1		11/12/09 19:38	1868-53-7	
Toluene-d8 (S)	95	%	70-120	1		11/12/09 19:38	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-109	1		11/12/09 19:38	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	79-120	1		11/12/09 19:38	17060-07-0	

Sample: MW-18		Lab ID: 9256839021	Collected: 11/04/09 13:14		Received: 11/05/09 09:30		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	1	11/11/09 12:42	11/12/09 01:13	106-93-4	
1-Chloro-2-bromopropane (S)	95	%	60-140	1	11/11/09 12:42	11/12/09 01:13	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	143	ug/L	100	1		11/12/09 20:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		11/12/09 20:02	994-05-8	
Benzene	ND	ug/L	5.0	1		11/12/09 20:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		11/12/09 20:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		11/12/09 20:02	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		11/12/09 20:02	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/12/09 20:02	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		11/12/09 20:02	108-20-3	
Ethanol	ND	ug/L	200	1		11/12/09 20:02	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		11/12/09 20:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 20:02	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 20:02	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 20:02	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 20:02	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 20:02	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 20:02	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 20:02	95-47-6	
Dibromofluoromethane (S)	102	%	85-115	1		11/12/09 20:02	1868-53-7	
Toluene-d8 (S)	94	%	70-120	1		11/12/09 20:02	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-109	1		11/12/09 20:02	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	79-120	1		11/12/09 20:02	17060-07-0	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW-16		Lab ID: 9256839022	Collected: 11/04/09 13:22		Received: 11/05/09 09:30		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	0.30	ug/L	0.019	1	11/11/09 12:42	11/12/09 02:11	106-93-4	
1-Chloro-2-bromopropane (S)	95	%	60-140	1	11/11/09 12:42	11/12/09 02:11	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	45400	ug/L	5000	50		11/12/09 15:38	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	50		11/12/09 15:38	994-05-8	
Benzene	18500	ug/L	2500	500		11/13/09 12:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	50		11/12/09 15:38	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	50		11/12/09 15:38	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	50		11/12/09 15:38	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	50		11/12/09 15:38	107-06-2	
Diisopropyl ether	ND	ug/L	250	50		11/12/09 15:38	108-20-3	
Ethanol	ND	ug/L	10000	50		11/12/09 15:38	64-17-5	
Ethylbenzene	2880	ug/L	250	50		11/12/09 15:38	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	50		11/12/09 15:38	637-92-3	
Methyl-tert-butyl ether	454	ug/L	250	50		11/12/09 15:38	1634-04-4	
Naphthalene	928	ug/L	250	50		11/12/09 15:38	91-20-3	
Toluene	33300	ug/L	2500	500		11/13/09 12:04	108-88-3	
Xylene (Total)	16300	ug/L	500	50		11/12/09 15:38	1330-20-7	
m&p-Xylene	10600	ug/L	500	50		11/12/09 15:38	1330-20-7	
o-Xylene	5710	ug/L	250	50		11/12/09 15:38	95-47-6	
Dibromofluoromethane (S)	99	%	85-115	50		11/12/09 15:38	1868-53-7	
Toluene-d8 (S)	95	%	70-120	50		11/12/09 15:38	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-109	50		11/12/09 15:38	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	79-120	50		11/12/09 15:38	17060-07-0	

Sample: MW-15		Lab ID: 9256839023	Collected: 11/04/09 13:32		Received: 11/05/09 09:30		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	1	11/11/09 12:42	11/12/09 02:49	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140	1	11/11/09 12:42	11/12/09 02:49	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND	ug/L	100	1		11/12/09 20:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		11/12/09 20:26	994-05-8	
Benzene	ND	ug/L	5.0	1		11/12/09 20:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		11/12/09 20:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		11/12/09 20:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		11/12/09 20:26	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		11/12/09 20:26	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		11/12/09 20:26	108-20-3	
Ethanol	ND	ug/L	200	1		11/12/09 20:26	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		11/12/09 20:26	100-41-4	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW-15		Lab ID: 9256839023	Collected: 11/04/09 13:32	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260						
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/12/09 20:26	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/12/09 20:26	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/12/09 20:26	91-20-3	
Toluene	ND ug/L		5.0	1		11/12/09 20:26	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/12/09 20:26	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/12/09 20:26	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/12/09 20:26	95-47-6	
Dibromofluoromethane (S)	102 %		85-115	1		11/12/09 20:26	1868-53-7	
Toluene-d8 (S)	95 %		70-120	1		11/12/09 20:26	2037-26-5	
4-Bromofluorobenzene (S)	100 %		87-109	1		11/12/09 20:26	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		79-120	1		11/12/09 20:26	17060-07-0	

Sample: MW-14		Lab ID: 9256839024	Collected: 11/04/09 13:41	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:42	11/12/09 03:07	106-93-4	
1-Chloro-2-bromopropane (S)	97 %		60-140	1	11/11/09 12:42	11/12/09 03:07	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 20:50	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 20:50	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 20:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 20:50	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 20:50	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 20:50	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 20:50	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 20:50	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 20:50	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 20:50	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/12/09 20:50	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/12/09 20:50	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/12/09 20:50	91-20-3	
Toluene	ND ug/L		5.0	1		11/12/09 20:50	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/12/09 20:50	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/12/09 20:50	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/12/09 20:50	95-47-6	
Dibromofluoromethane (S)	101 %		85-115	1		11/12/09 20:50	1868-53-7	
Toluene-d8 (S)	95 %		70-120	1		11/12/09 20:50	2037-26-5	
4-Bromofluorobenzene (S)	100 %		87-109	1		11/12/09 20:50	460-00-4	
1,2-Dichloroethane-d4 (S)	101 %		79-120	1		11/12/09 20:50	17060-07-0	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP

Pace Project No.: 9256839

Sample: MW-5		Lab ID: 9256839025	Collected: 11/04/09 14:02	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	0.066 ug/L		0.019	1	11/11/09 12:42	11/12/09 03:26	106-93-4	
1-Chloro-2-bromopropane (S)	117 %		60-140	1	11/11/09 12:42	11/12/09 03:26	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 21:14	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 21:14	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 21:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 21:14	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 21:14	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 21:14	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 21:14	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 21:14	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 21:14	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 21:14	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/12/09 21:14	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/12/09 21:14	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/12/09 21:14	91-20-3	
Toluene	ND ug/L		5.0	1		11/12/09 21:14	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/12/09 21:14	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/12/09 21:14	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/12/09 21:14	95-47-6	
Dibromofluoromethane (S)	102 %		85-115	1		11/12/09 21:14	1868-53-7	
Toluene-d8 (S)	95 %		70-120	1		11/12/09 21:14	2037-26-5	
4-Bromofluorobenzene (S)	98 %		87-109	1		11/12/09 21:14	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		79-120	1		11/12/09 21:14	17060-07-0	

Sample: MW-4		Lab ID: 9256839026	Collected: 11/04/09 14:08	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:42	11/12/09 03:45	106-93-4	
1-Chloro-2-bromopropane (S)	94 %		60-140	1	11/11/09 12:42	11/12/09 03:45	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 21:38	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 21:38	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 21:38	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 21:38	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 21:38	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 21:38	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 21:38	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 21:38	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 21:38	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 21:38	100-41-4	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: MW-4		Lab ID: 9256839026	Collected: 11/04/09 14:08	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260						
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		11/12/09 21:38	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		11/12/09 21:38	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		11/12/09 21:38	91-20-3	
Toluene	ND	ug/L	5.0	1		11/12/09 21:38	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		11/12/09 21:38	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		11/12/09 21:38	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		11/12/09 21:38	95-47-6	
Dibromofluoromethane (S)	101	%	85-115	1		11/12/09 21:38	1868-53-7	
Toluene-d8 (S)	95	%	70-120	1		11/12/09 21:38	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-109	1		11/12/09 21:38	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	79-120	1		11/12/09 21:38	17060-07-0	

Sample: MW-1		Lab ID: 9256839027	Collected: 11/04/09 14:20	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	0.056	ug/L	0.020	1	11/11/09 12:42	11/12/09 04:04	106-93-4	1g
1-Chloro-2-bromopropane (S)	94	%	60-140	1	11/11/09 12:42	11/12/09 04:04	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	10200	ug/L	10000	100		11/13/09 12:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	100		11/13/09 12:28	994-05-8	
Benzene	7120	ug/L	500	100		11/13/09 12:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	100		11/13/09 12:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	100		11/13/09 12:28	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	100		11/13/09 12:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	100		11/13/09 12:28	107-06-2	
Diisopropyl ether	ND	ug/L	500	100		11/13/09 12:28	108-20-3	
Ethanol	ND	ug/L	20000	100		11/13/09 12:28	64-17-5	
Ethylbenzene	988	ug/L	500	100		11/13/09 12:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	100		11/13/09 12:28	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	100		11/13/09 12:28	1634-04-4	
Naphthalene	ND	ug/L	500	100		11/13/09 12:28	91-20-3	
Toluene	12600	ug/L	500	100		11/13/09 12:28	108-88-3	
Xylene (Total)	6940	ug/L	1000	100		11/13/09 12:28	1330-20-7	
m&p-Xylene	4390	ug/L	1000	100		11/13/09 12:28	1330-20-7	
o-Xylene	2550	ug/L	500	100		11/13/09 12:28	95-47-6	
Dibromofluoromethane (S)	104	%	85-115	100		11/13/09 12:28	1868-53-7	
Toluene-d8 (S)	96	%	70-120	100		11/13/09 12:28	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-109	100		11/13/09 12:28	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	79-120	100		11/13/09 12:28	17060-07-0	

ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: TW-1		Lab ID: 9256839028	Collected: 11/04/09 14:57	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:42	11/12/09 04:24	106-93-4	
1-Chloro-2-bromopropane (S)	96 %		60-140	1	11/11/09 12:42	11/12/09 04:24	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 22:26	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 22:26	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 22:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 22:26	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 22:26	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 22:26	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 22:26	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 22:26	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 22:26	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 22:26	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/12/09 22:26	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/12/09 22:26	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/12/09 22:26	91-20-3	
Toluene	ND ug/L		5.0	1		11/12/09 22:26	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/12/09 22:26	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/12/09 22:26	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/12/09 22:26	95-47-6	
Dibromofluoromethane (S)	102 %		85-115	1		11/12/09 22:26	1868-53-7	
Toluene-d8 (S)	94 %		70-120	1		11/12/09 22:26	2037-26-5	
4-Bromofluorobenzene (S)	100 %		87-109	1		11/12/09 22:26	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		79-120	1		11/12/09 22:26	17060-07-0	

Sample: WSW-1		Lab ID: 9256839029	Collected: 11/04/09 15:06	Received: 11/05/09 09:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:42	11/12/09 04:43	106-93-4	
1-Chloro-2-bromopropane (S)	91 %		60-140	1	11/11/09 12:42	11/12/09 04:43	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/12/09 22:50	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/12/09 22:50	994-05-8	
Benzene	ND ug/L		5.0	1		11/12/09 22:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/12/09 22:50	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/12/09 22:50	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/12/09 22:50	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/12/09 22:50	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/12/09 22:50	108-20-3	
Ethanol	ND ug/L		200	1		11/12/09 22:50	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/12/09 22:50	100-41-4	

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ANALYTICAL RESULTS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

Sample: WSW-1		Lab ID: 9256839029	Collected: 11/04/09 15:06		Received: 11/05/09 09:30		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates		Analytical Method: EPA 8260						
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/12/09 22:50	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/12/09 22:50	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/12/09 22:50	91-20-3	
Toluene	ND ug/L		5.0	1		11/12/09 22:50	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/12/09 22:50	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/12/09 22:50	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/12/09 22:50	95-47-6	
Dibromofluoromethane (S)	101 %		85-115	1		11/12/09 22:50	1868-53-7	
Toluene-d8 (S)	95 %		70-120	1		11/12/09 22:50	2037-26-5	
4-Bromofluorobenzene (S)	100 %		87-109	1		11/12/09 22:50	460-00-4	
1,2-Dichloroethane-d4 (S)	100 %		79-120	1		11/12/09 22:50	17060-07-0	

Sample: WSW-3		Lab ID: 9256839030	Collected: 11/04/09 15:22		Received: 11/05/09 09:30		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP		Analytical Method: EPA 8011 Preparation Method: EPA 8011						
1,2-Dibromoethane (EDB)	ND ug/L		0.019	1	11/11/09 12:42	11/12/09 05:02	106-93-4	
1-Chloro-2-bromopropane (S)	97 %		60-140	1	11/11/09 12:42	11/12/09 05:02	301-79-56	
8260 MSV Oxygenates		Analytical Method: EPA 8260						
tert-Amyl Alcohol	ND ug/L		100	1		11/14/09 08:02	75-85-4	
tert-Amylmethyl ether	ND ug/L		10.0	1		11/14/09 08:02	994-05-8	
Benzene	ND ug/L		5.0	1		11/14/09 08:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND ug/L		100	1		11/14/09 08:02	624-95-3	
tert-Butyl Alcohol	ND ug/L		100	1		11/14/09 08:02	75-65-0	
tert-Butyl Formate	ND ug/L		50.0	1		11/14/09 08:02	762-75-4	
1,2-Dichloroethane	ND ug/L		5.0	1		11/14/09 08:02	107-06-2	
Diisopropyl ether	ND ug/L		5.0	1		11/14/09 08:02	108-20-3	
Ethanol	ND ug/L		200	1		11/14/09 08:02	64-17-5	
Ethylbenzene	ND ug/L		5.0	1		11/14/09 08:02	100-41-4	
Ethyl-tert-butyl ether	ND ug/L		10.0	1		11/14/09 08:02	637-92-3	
Methyl-tert-butyl ether	ND ug/L		5.0	1		11/14/09 08:02	1634-04-4	
Naphthalene	ND ug/L		5.0	1		11/14/09 08:02	91-20-3	
Toluene	ND ug/L		5.0	1		11/14/09 08:02	108-88-3	
Xylene (Total)	ND ug/L		10.0	1		11/14/09 08:02	1330-20-7	
m&p-Xylene	ND ug/L		10.0	1		11/14/09 08:02	1330-20-7	
o-Xylene	ND ug/L		5.0	1		11/14/09 08:02	95-47-6	
Dibromofluoromethane (S)	103 %		85-115	1		11/14/09 08:02	1868-53-7	
Toluene-d8 (S)	101 %		70-120	1		11/14/09 08:02	2037-26-5	
4-Bromofluorobenzene (S)	94 %		87-109	1		11/14/09 08:02	460-00-4	
1,2-Dichloroethane-d4 (S)	102 %		79-120	1		11/14/09 08:02	17060-07-0	

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QUALITY CONTROL DATA

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

QC Batch: MSV/9001 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates
Associated Lab Samples: 9256839006, 9256839007, 9256839008, 9256839009, 9256839011, 9256839012, 9256839013, 9256839014, 9256839015, 9256839016, 9256839017, 9256839018

METHOD BLANK: 365437 Matrix: Water
Associated Lab Samples: 9256839006, 9256839007, 9256839008, 9256839009, 9256839011, 9256839012, 9256839013, 9256839014, 9256839015, 9256839016, 9256839017, 9256839018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/12/09 11:42	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/12/09 11:42	
Benzene	ug/L	ND	5.0	11/12/09 11:42	
Diisopropyl ether	ug/L	ND	5.0	11/12/09 11:42	
Ethanol	ug/L	ND	200	11/12/09 11:42	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/12/09 11:42	
Ethylbenzene	ug/L	ND	5.0	11/12/09 11:42	
m&p-Xylene	ug/L	ND	10.0	11/12/09 11:42	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/12/09 11:42	
Naphthalene	ug/L	ND	5.0	11/12/09 11:42	
o-Xylene	ug/L	ND	5.0	11/12/09 11:42	
tert-Amyl Alcohol	ug/L	ND	100	11/12/09 11:42	
tert-Amylmethyl ether	ug/L	ND	10.0	11/12/09 11:42	
tert-Butyl Alcohol	ug/L	ND	100	11/12/09 11:42	
tert-Butyl Formate	ug/L	ND	50.0	11/12/09 11:42	
Toluene	ug/L	ND	5.0	11/12/09 11:42	
Xylene (Total)	ug/L	ND	10.0	11/12/09 11:42	
1,2-Dichloroethane-d4 (S)	%	103	79-120	11/12/09 11:42	
4-Bromofluorobenzene (S)	%	108	87-109	11/12/09 11:42	
Dibromofluoromethane (S)	%	103	85-115	11/12/09 11:42	
Toluene-d8 (S)	%	102	70-120	11/12/09 11:42	

LABORATORY CONTROL SAMPLE: 365438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	51.4	103	72-126	
3,3-Dimethyl-1-Butanol	ug/L	1000	837	84	55-148	
Benzene	ug/L	50	58.6	117	78-128	
Diisopropyl ether	ug/L	50	56.4	113	74-131	
Ethanol	ug/L	2000	2410	121	53-150	
Ethyl-tert-butyl ether	ug/L	100	112	112	77-136	
Ethylbenzene	ug/L	50	48.4	97	80-127	
m&p-Xylene	ug/L	100	97.1	97	82-127	
Methyl-tert-butyl ether	ug/L	50	56.6	113	71-130	
Naphthalene	ug/L	50	53.5	107	52-136	
o-Xylene	ug/L	50	48.1	96	83-124	
tert-Amyl Alcohol	ug/L	1000	1010	101	50-150	
tert-Amylmethyl ether	ug/L	100	111	111	50-150	
tert-Butyl Alcohol	ug/L	500	535	107	50-150	
tert-Butyl Formate	ug/L	400	416	104	50-150	

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QUALITY CONTROL DATA

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

LABORATORY CONTROL SAMPLE: 365438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	59.1	118	76-126	
Xylene (Total)	ug/L	150	145	97	83-125	
1,2-Dichloroethane-d4 (S)	%			103	79-120	
4-Bromofluorobenzene (S)	%			102	87-109	
Dibromofluoromethane (S)	%			96	85-115	
Toluene-d8 (S)	%			102	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 365439 365440

Parameter	Units	9256839007 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	68.0	65.7	136	131	74-136	3	
Toluene	ug/L	ND	50	50	68.3	66.5	135	131	73-131	3 MO	
1,2-Dichloroethane-d4 (S)	%						101	105	79-120		
4-Bromofluorobenzene (S)	%						100	104	87-109		
Dibromofluoromethane (S)	%						99	104	85-115		
Toluene-d8 (S)	%						101	102	70-120		

QUALITY CONTROL DATA

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

QC Batch: MSV/8996 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates
Associated Lab Samples: 9256839001, 9256839002, 9256839003, 9256839004, 9256839005

METHOD BLANK: 365015 Matrix: Water
Associated Lab Samples: 9256839001, 9256839002, 9256839003, 9256839004, 9256839005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/11/09 20:17	
Benzene	ug/L	ND	5.0	11/11/09 20:17	
Ethylbenzene	ug/L	ND	5.0	11/11/09 20:17	
m&p-Xylene	ug/L	ND	10.0	11/11/09 20:17	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/11/09 20:17	
Naphthalene	ug/L	ND	5.0	11/11/09 20:17	
o-Xylene	ug/L	ND	5.0	11/11/09 20:17	
Toluene	ug/L	ND	5.0	11/11/09 20:17	
Xylene (Total)	ug/L	ND	10.0	11/11/09 20:17	
1,2-Dichloroethane-d4 (S)	%	97	79-120	11/11/09 20:17	
4-Bromofluorobenzene (S)	%	101	87-109	11/11/09 20:17	
Dibromofluoromethane (S)	%	110	85-115	11/11/09 20:17	
Toluene-d8 (S)	%	112	70-120	11/11/09 20:17	

LABORATORY CONTROL SAMPLE: 365016

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	52.3	105	72-126	
3,3-Dimethyl-1-Butanol	ug/L	1000	911	91	55-148	
Benzene	ug/L	50	48.6	97	78-128	
Diisopropyl ether	ug/L	50	50.4	101	74-131	
Ethanol	ug/L	2000	2100	105	53-150	
Ethyl-tert-butyl ether	ug/L	100	103	103	77-136	
Ethylbenzene	ug/L	50	52.2	104	80-127	
m&p-Xylene	ug/L	100	96.0	96	82-127	
Methyl-tert-butyl ether	ug/L	50	51.0	102	71-130	
Naphthalene	ug/L	50	52.4	105	52-136	
o-Xylene	ug/L	50	47.8	96	83-124	
tert-Amyl Alcohol	ug/L	1000	1100	110	50-150	
tert-Amylmethyl ether	ug/L	100	105	105	50-150	
tert-Butyl Alcohol	ug/L	500	524	105	50-150	
tert-Butyl Formate	ug/L	400	428	107	50-150	
Toluene	ug/L	50	53.1	106	76-126	
Xylene (Total)	ug/L	150	144	96	83-125	
1,2-Dichloroethane-d4 (S)	%			98	79-120	
4-Bromofluorobenzene (S)	%			91	87-109	
Dibromofluoromethane (S)	%			107	85-115	
Toluene-d8 (S)	%			103	70-120	

QUALITY CONTROL DATA

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

QC Batch: OEXT/8577 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9256839021, 9256839022, 9256839023, 9256839024, 9256839025, 9256839026, 9256839027, 9256839028, 9256839029, 9256839030

METHOD BLANK: 364712 Matrix: Water
Associated Lab Samples: 9256839021, 9256839022, 9256839023, 9256839024, 9256839025, 9256839026, 9256839027, 9256839028, 9256839029, 9256839030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	11/12/09 00:15	
1-Chloro-2-bromopropane (S)	%	106	60-140	11/12/09 00:15	

LABORATORY CONTROL SAMPLE & LCSD: 364713		364714								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.34	0.31	120	112	60-140	8	20	
1-Chloro-2-bromopropane (S)	%				108	105	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 364715					364716						
Parameter	Units	9256839021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.32	0.32	116	116	60-140	0	
1-Chloro-2-bromopropane (S)	%						100	98	60-140		

SAMPLE DUPLICATE: 364717		9256839022				Dup Result		RPD	Qualifiers
Parameter	Units	Result		Result		Result			
1,2-Dibromoethane (EDB)	ug/L	0.30		0.26		15			
1-Chloro-2-bromopropane (S)	%			89		6			

QUALITY CONTROL DATA

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

QC Batch: MSV/9005 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates
Associated Lab Samples: 9256839010, 9256839020, 9256839021, 9256839022, 9256839023, 9256839024, 9256839025, 9256839026, 9256839027, 9256839028, 9256839029

METHOD BLANK: 365554 Matrix: Water
Associated Lab Samples: 9256839010, 9256839020, 9256839021, 9256839022, 9256839023, 9256839024, 9256839025, 9256839026, 9256839027, 9256839028, 9256839029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/12/09 13:55	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/12/09 13:55	
Benzene	ug/L	ND	5.0	11/12/09 13:55	
Diisopropyl ether	ug/L	ND	5.0	11/12/09 13:55	
Ethanol	ug/L	ND	200	11/12/09 13:55	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/12/09 13:55	
Ethylbenzene	ug/L	ND	5.0	11/12/09 13:55	
m&p-Xylene	ug/L	ND	10.0	11/12/09 13:55	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/12/09 13:55	
Naphthalene	ug/L	ND	5.0	11/12/09 13:55	
o-Xylene	ug/L	ND	5.0	11/12/09 13:55	
tert-Amyl Alcohol	ug/L	ND	100	11/12/09 13:55	
tert-Amylmethyl ether	ug/L	ND	10.0	11/12/09 13:55	
tert-Butyl Alcohol	ug/L	ND	100	11/12/09 13:55	
tert-Butyl Formate	ug/L	ND	50.0	11/12/09 13:55	
Toluene	ug/L	ND	5.0	11/12/09 13:55	
Xylene (Total)	ug/L	ND	10.0	11/12/09 13:55	
1,2-Dichloroethane-d4 (S)	%	97	79-120	11/12/09 13:55	
4-Bromofluorobenzene (S)	%	97	87-109	11/12/09 13:55	
Dibromofluoromethane (S)	%	101	85-115	11/12/09 13:55	
Toluene-d8 (S)	%	94	70-120	11/12/09 13:55	

LABORATORY CONTROL SAMPLE: 365555

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	52.5	105	72-126	
3,3-Dimethyl-1-Butanol	ug/L	1000	867	87	55-148	
Benzene	ug/L	50	51.1	102	78-128	
Diisopropyl ether	ug/L	50	52.1	104	74-131	
Ethanol	ug/L	2000	2260	113	53-150	
Ethyl-tert-butyl ether	ug/L	100	93.8	94	77-136	
Ethylbenzene	ug/L	50	52.9	106	80-127	
m&p-Xylene	ug/L	100	107	107	82-127	
Methyl-tert-butyl ether	ug/L	50	48.9	98	71-130	
Naphthalene	ug/L	50	50.7	101	52-136	
o-Xylene	ug/L	50	52.1	104	83-124	
tert-Amyl Alcohol	ug/L	1000	877	88	50-150	
tert-Amylmethyl ether	ug/L	100	85.4	85	50-150	
tert-Butyl Alcohol	ug/L	500	503	101	50-150	
tert-Butyl Formate	ug/L	400	381	95	50-150	

Date: 11/17/2009 04:00 PM

REPORT OF LABORATORY ANALYSIS

Page 29 of 34

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QUALITY CONTROL DATA

Project: TISDALE QUICK STOP

Pace Project No.: 9256839

LABORATORY CONTROL SAMPLE: 365555

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	48.5	97	76-126	
Xylene (Total)	ug/L	150	159	106	83-125	
1,2-Dichloroethane-d4 (S)	%			96	79-120	
4-Bromofluorobenzene (S)	%			99	87-109	
Dibromofluoromethane (S)	%			102	85-115	
Toluene-d8 (S)	%			95	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 365556 365557

Parameter	Units	9256839021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Benzene	ug/L	ND	50	50	52.2	55.4	96	103	74-136	6	
Toluene	ug/L	ND	50	50	45.4	48.0	90	95	73-131	6	
1,2-Dichloroethane-d4 (S)	%						101	101	79-120		
4-Bromofluorobenzene (S)	%						99	98	87-109		
Dibromofluoromethane (S)	%						102	101	85-115		
Toluene-d8 (S)	%						95	94	70-120		

QUALITY CONTROL DATA

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

QC Batch: OEXT/8576 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9256839001, 9256839002, 9256839003, 9256839004, 9256839005, 9256839006, 9256839007, 9256839008, 9256839009, 9256839010, 9256839011, 9256839012, 9256839013, 9256839014, 9256839015, 9256839016, 9256839017, 9256839018, 9256839019, 9256839020

METHOD BLANK: 364706 Matrix: Water
Associated Lab Samples: 9256839001, 9256839002, 9256839003, 9256839004, 9256839005, 9256839006, 9256839007, 9256839008, 9256839009, 9256839010, 9256839011, 9256839012, 9256839013, 9256839014, 9256839015, 9256839016, 9256839017, 9256839018, 9256839019, 9256839020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.019	11/11/09 15:37	
1-Chloro-2-bromopropane (S)	%	110	60-140	11/11/09 15:37	

LABORATORY CONTROL SAMPLE & LCSD:		364707 364708								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.33	0.31	118	110	60-140	5	20	
1-Chloro-2-bromopropane (S)	%				104	99	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:											
364709					364710						
Parameter	Units	9256839006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.32	0.31	114	112	60-140	2	
1-Chloro-2-bromopropane (S)	%						98	98	60-140		

SAMPLE DUPLICATE:		364711				
Parameter	Units	9256839012 Result	Dup Result	RPD	Qualifiers	
1,2-Dibromoethane (EDB)	ug/L	ND	ND			
1-Chloro-2-bromopropane (S)	%		96	4		

QUALITY CONTROL DATA

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

QC Batch: MSV/9011 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates
Associated Lab Samples: 9256839019, 9256839030

METHOD BLANK: 365717 Matrix: Water
Associated Lab Samples: 9256839019, 9256839030

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	11/14/09 07:25	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	11/14/09 07:25	
Benzene	ug/L	ND	5.0	11/14/09 07:25	
Diisopropyl ether	ug/L	ND	5.0	11/14/09 07:25	
Ethanol	ug/L	ND	200	11/14/09 07:25	
Ethyl-tert-butyl ether	ug/L	ND	10.0	11/14/09 07:25	
Ethylbenzene	ug/L	ND	5.0	11/14/09 07:25	
m&p-Xylene	ug/L	ND	10.0	11/14/09 07:25	
Methyl-tert-butyl ether	ug/L	ND	5.0	11/14/09 07:25	
Naphthalene	ug/L	ND	5.0	11/14/09 07:25	
o-Xylene	ug/L	ND	5.0	11/14/09 07:25	
tert-Amyl Alcohol	ug/L	ND	100	11/14/09 07:25	
tert-Amylmethyl ether	ug/L	ND	10.0	11/14/09 07:25	
tert-Butyl Alcohol	ug/L	ND	100	11/14/09 07:25	
tert-Butyl Formate	ug/L	ND	50.0	11/14/09 07:25	
Toluene	ug/L	ND	5.0	11/14/09 07:25	
Xylene (Total)	ug/L	ND	10.0	11/14/09 07:25	
1,2-Dichloroethane-d4 (S)	%	99	79-120	11/14/09 07:25	
4-Bromofluorobenzene (S)	%	97	87-109	11/14/09 07:25	
Dibromofluoromethane (S)	%	101	85-115	11/14/09 07:25	
Toluene-d8 (S)	%	103	70-120	11/14/09 07:25	

LABORATORY CONTROL SAMPLE: 365718

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	56.0	112	72-126	
3,3-Dimethyl-1-Butanol	ug/L	1000	1190	119	55-148	
Benzene	ug/L	50	58.2	116	78-128	
Diisopropyl ether	ug/L	50	55.5	111	74-131	
Ethanol	ug/L	2000	2300	115	53-150	
Ethyl-tert-butyl ether	ug/L	100	112	112	77-136	
Ethylbenzene	ug/L	50	58.2	116	80-127	
m&p-Xylene	ug/L	100	116	116	82-127	
Methyl-tert-butyl ether	ug/L	50	54.8	110	71-130	
Naphthalene	ug/L	50	59.4	119	52-136	
o-Xylene	ug/L	50	59.3	119	83-124	
tert-Amyl Alcohol	ug/L	1000	1220	122	50-150	
tert-Amylmethyl ether	ug/L	100	116	116	50-150	
tert-Butyl Alcohol	ug/L	500	626	125	50-150	
tert-Butyl Formate	ug/L	400	185	46	50-150	L3
Toluene	ug/L	50	57.2	114	76-126	

Date: 11/17/2009 04:00 PM

REPORT OF LABORATORY ANALYSIS

Page 32 of 34

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QUALITY CONTROL DATA

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

LABORATORY CONTROL SAMPLE: 365718

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	175	117	83-125	
1,2-Dichloroethane-d4 (S)	%			97	79-120	
4-Bromofluorobenzene (S)	%			96	87-109	
Dibromofluoromethane (S)	%			98	85-115	
Toluene-d8 (S)	%			102	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 365719 365720

Parameter	Units	9256807004 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	65.3	62.4	131	125	74-136	5	
Toluene	ug/L	ND	50	50	66.1	61.4	131	122	73-131	7	
1,2-Dichloroethane-d4 (S)	%						96	96	79-120		
4-Bromofluorobenzene (S)	%						110	99	87-109		SO
Dibromofluoromethane (S)	%						101	104	85-115		
Toluene-d8 (S)	%						106	98	70-120		

QUALIFIERS

Project: TISDALE QUICK STOP
Pace Project No.: 9256839

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.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

- | | |
|----|---|
| 1g | Relative percent difference between results from each column was greater than 40% due to matrix interference. The lower of the two results was reported. |
| L3 | Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |
| M0 | Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits. |
| S0 | Surrogate recovery outside laboratory control limits. |



CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A	Section B						Section C	
Required Client Information:			Required Project Information:			Invoice Information:		
Company:	JPI	Report To:	SCOTT BAILEY	Attention:	CARLIE KENNEDY			
Address:	2801 F CROWN PT RD SW CHARLOTTE, NC 28277	Copy To:		Company Name:				
Email To:		Purchase Order No.:		Address:				
Phone:	704-845-4911	Fax:		Pace Quote Reference:				
Requested Due Date/TAT:	NORMAN	Project Manager:	MISDALE QUICK STOP	Pace Project Manager:				
		Project Number:		Pace Profile #:	3124-1			
						REGULATORY AGENCY		
						<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input checked="" type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____		
						Site Location		KINGSTREE
						STATE:		SC
								WILKINSONBURG CO.

[illegible]

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER;

SIGNATURE of SAMPLER:

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.

(MM/DD/YY): 11/4/09

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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.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: GET	Report To: SCOTT BALL	Attention: CARRIE KENNEDY		Page: 2 of 3	
Address: 2301 P CLAWN PT EREC DR	Copy To:	Company Name:		Invoice Number: 1358929	
CHARLOTTE, NC 28227		Address:		REGULATORY AGENCY	
Email To:		Purchase Order No.:		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER	
Phone: 704 845 4610		Project Name: TISDALE QUICK STOP		<input checked="" type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER	
Fax:		Project Number:		Site Location: WILLIAMSBURG	
Requested Due Date/TAT: NORMAL				STATE: SC	

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE DW WT WW P SL OL WP AR TS OT	Matrix Codes MATRIX / CODE Drinking Water Waste Water Product Soil/Solid Oil Wipe Air Tissue Other	SAMPLE ID (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	COLLECTED		SAMPLE TYPE (G=GRAB C=COMP) (see valid codes to left)	# OF CONTAINERS	Preservatives Unpreserved H ₂ SO ₄ HNO ₃ HCl NaOH Na ₂ S ₂ O ₃ Methanol Other	Analysis Test Y/N ↓ 8 OXYGENATES 826.0 BTEX, NAPH, MTBE, 1,2-DCA ED6 811	Requested Analysis Filtered (Y/N)	SAMPLE CONDITIONS			
					COMPOSITE START	COMPOSITE END/GRAB						Temp in °C	Received on Ice (Y/N)	Custody Cooler (Y/N)	Samples Intact (Y/N)
1				TW-2	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE	TIME	DATE
2				MW-25	11/4/09	1140									
3				MW-27		1149									
4				MW-28		1206									
5				MW-22		1218									
6				MW-26		1231									
7				MW-20		1240									
8				MW-19		1253									
9				MW-18		1303									
10				MW-16		1314									
11				MW-15		1322									
12				MW-14		1332									
						1341									
ADDITIONAL COMMENTS												SAMPLE CONDITIONS			
RELINQUISHED BY / AFFILIATION												DATE	TIME	DATE	TIME
ACCEPTED BY / AFFILIATION												DATE	TIME	DATE	TIME
11/4/09 1300												11/05/09	0930	3.0	4

ORIGINAL		SAMPLER NAME AND SIGNATURE: TERRY KENNEDY	
PRINT Name of SAMPLER:		DATE Signed (MM/DD/YYYY): 11/14/09	
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YYYY): 11/14/09	

*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.



Sample Condition Upon Receipt

Client Name: GRI

Project # 9256839

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☒ yes ☒ no

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other _____

Thermometer Used: T060

Type of Ice: Wet Blue None

☒ Samples on ice, cooling process has begun

Cooler Temperature: 3.0

Biological Tissue is Frozen: Yes No N/A

Date and Initials of person examining contents: GA 11/6/09

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>WT</u>		
All containers needing preservation have been checked.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Initial when completed
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):	<u>N/A</u>	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Field Data Required? Y / N / N/A

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 11/5/09

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)



C. Earl Hunter, Commissioner

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

FEB 03 2010

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056



Re: Three AFVR Events
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686, CA # 37959
Release reported March 30, 2001
Report received December 14, 2009
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report and noted the findings. The next necessary scope of work is to conduct 3 Aggressive Fluid Vapor Recovery (AFVR) events to remove free phase product from MW-1A, MW-2, MW-2A, MW-3, MW-3A, and MW-4A. The AFVR should be connected to MW-1A and MW-2A for the first event, MW-3A and MW-4A for the second event, and MW-2 and MW-3 for the third event.

Magnehelic gauges must be installed on the extraction wells and monitoring wells immediately surrounding the extraction wells. The AFVR should be completed by establishing a vacuum on the subsurface through the existing monitoring wells. The unit must be capable of providing a minimum airflow of 250 cubic feet per minute (CPM) at 25 inches Mercury vacuum. An airtight seal must be established on the top of each extraction well. Drop tubes inserted in the well(s) should have an inside diameter of at least one (1) inch and should initially be installed six inches below the bottom of the product or the top of the well screen whichever is deeper. The drop tubes should be lowered deeper in the well only if the well exhibits slow recovery (repeatedly goes dry) or if it is deemed necessary to establish a steeper hydraulic gradient to enhance free product migration toward the well. The goal is to maximize the recovery of free product and petroleum vapors in the capillary fringe and minimize the recovery of ground water.

Cost Agreement # 37959 has been approved in the amount shown on the enclosed cost agreement form for the aforementioned scope of work. The AFVR activities may proceed immediately upon receipt of this letter. The report submitted at the completion of these activities should include the following:

- A narrative portion documenting the AFVR events noting site conditions, the name of the AFVR contractor, field personnel, date, time the AFVR events started and ended, ambient air temperature, and general weather conditions during the AFVR events.
- A brief description of the completed work scope and any relevant descriptions pertaining to the data tables.
- A table summarizing the airflow (in CFM) and volatile air emissions concentrations collected from the stack of the truck every thirty minutes through the duration of the events. The table shall also document which well(s) were being recovered from during that time interval.
- A table summarizing the magnehelic gauge measurements from all applicable wells on a thirty-minute time interval.
- The total volume of water recovered (gallons).
- The total volume of free phase product recovered (typically measured with a product/water interface device inserted into the top of the tanker at the completion of the event and then converted to an approximate volume).

- The total weight of petroleum removed as vapor. This is calculated based on the airflow rate and the concentration of vapor.
- A table documenting the free product thickness in each well before and after the recovery events.
- Scaled base map depicting the location of the extraction wells and the surrounding wells equipped with magnehelic gauges.
- Recovered free phase petroleum and groundwater must be accepted by a permitted 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.

Geological Resources, Inc. can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Please note that all applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

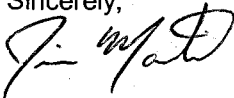
An AFVR report and invoice are due within 90 days from the date of this letter. Interim invoices may not be submitted for this scope of work. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

The Department grants pre-approval for transportation of virgin petroleum impacted groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

On all correspondence concerning this site, please reference **UST Permit # 15059 and CA # 37959**. If there are any questions concerning this project, please contact me at (803) 896-4085 or by email at martinjm@dhec.sc.gov.

Sincerely,



Jim Martin, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Geological Resources, Inc., 2301 Crown Point Executive Drive, Suite F, Charlotte, NC 28227 (w/enc)
Technical file (w/o enc)

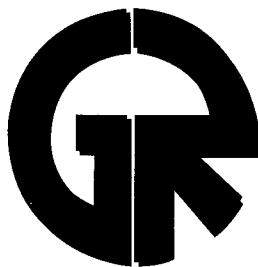
Approved Cost Agreement 37959

Facility: 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
04 MOB/DEMOB					
		A EQUIPMENT	3.0000	575.00	1,725.00
		B PERSONNEL	3.0000	290.00	870.00
17 DISPOSAL					
		A2 WASTEWATER - PUMPING TEST	4,500.0000	0.60	2,700.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	15,135.00	2,270.25
23 EFR					
		A 8 HOUR EVENT	3.0000	3,000.00	9,000.00
		C OFF GAS TREATMENT	24.0000	35.00	840.00
Total Amount					17,405.25



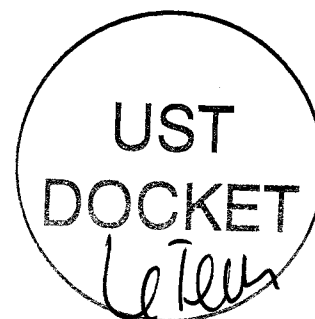
Geological Resources, Inc.



March 17, 2010

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: AFVR Report
Tisdales Quick Stop
Kingstree, Williamsburg County
UST Permit #: 18686
CA #: 37959



Dear Mr. Martin:

The purpose of this report is to present the results of three consecutive aggressive fluid-vapor recovery (AFVR) activities conducted on February 23, 2010, February 24, 2010 and February 25, 2010 at the above referenced site. The activities were conducted in accordance with the requirements outlined in correspondence from the SCDHEC dated February 3, 2010 and addressed to Mr. Marty Easler. The purpose of the activities was to remove free product and reduce concentrations of dissolved phase contaminants from monitoring wells MW-1A, MW-2A, MW3A, MW-4A, MW-2 and MW-3. The following Figures, Tables and Appendices have been included:

- Figure 1: Site Location Map
- Figure 2: Site Map
- Table 1: AFVR Event Chronology
- Table 2: Summary of Monitoring Well Gauging Data
- Appendix A: ARM Environmental Services, Inc. - AFVR Reports, Calculations, Disposal Manifests

GRI personnel and the AFVR contractor (ARM Environmental Services, Inc.) arrived on-site on February 23, 2010 for the first of three consecutive AFVR events. The first event was conducted on monitoring wells MW-1A and MW-2A. General weather conditions were sunny with an ambient air temperature of approximately 45°F at the time of system start-up and increasing to approximately 60°F throughout the day. MW-1A had approximately 0.04 feet of free-phase product present prior to system startup. No free product was observed in MW-2A prior to system startup. AFVR activities using a vacuum truck with a maximum vacuum rating of 27 in./Hg and a capacity of 1,400 cubic feet per minute were conducted for 8 hours. During the course of the event, the vacuum at the truck ranged from 24 to 26 in./Hg throughout the day. Please note that the vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 2,004 gallons of petroleum contact water were removed during the event. No measurable free product was present in MW-1A or MW-2A at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 4.17 pounds (approximately 0.67 gallons) of vapor emissions were

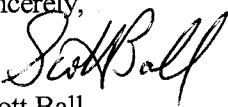
calculated to have been removed during the event.

The AFVR contractor arrived on-site on February 24, 2010 to conduct a second AFVR event on monitoring wells MW-3A and MW-4A. General weather conditions were cloudy with an ambient air temperature of approximately 45°F at the time of system start-up and increasing to approximately 55°F throughout the day. MW-3A had approximately 0.21 feet of free-phase product present prior to system startup. No free product was detected in MW-4A prior to system startup. AFVR activities using a vacuum truck with a maximum vacuum rating of 27 in./Hg and a capacity of 1,400 cubic feet per minute were conducted for 8 hours on MW-3A and MW-4A. During the course of the event, the vacuum at the truck ranged from 23 to 25 in./Hg throughout the day. Please note that the vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 1,420 gallons of petroleum contact water were removed during the event. No measurable free product was present in MW-3A or MW-4A at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 0.07 pounds (approximately 0.01 gallons) of vapor emissions were calculated to have been removed during the event.

The AFVR contractor arrived on-site on February 25, 2010 to conduct the third AFVR event on monitoring wells MW-2 and MW-3. General weather conditions were windy with an ambient air temperature of approximately 40°F at the time of system start-up and increasing to approximately 45°F throughout the day. MW-2 had approximately 0.01 feet of free-phase product present prior to system startup. No free product was detected in MW-3 prior to system startup. AFVR activities using a vacuum truck with a maximum vacuum rating of 27 in./Hg and a capacity of 1,400 cubic feet per minute were conducted for 8 hours on MW-2 and MW-3. During the course of the event, the vacuum at the truck ranged from 23 to 25 in./Hg throughout the day. Please note that the vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 1,646 gallons of petroleum contact water were removed during the event. No measurable free product was present in MW-2 or MW-3 at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 0.08 pounds (approximately 0.01 gallons) of vapor emissions were calculated to have been removed during the event.

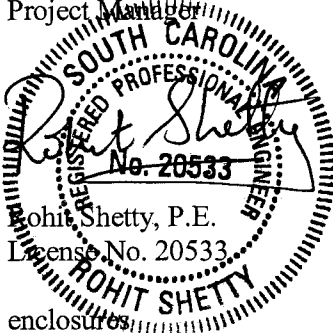
If you have any comments or questions concerning this project, please do not hesitate to contact the undersigned at (704) 815-0626.

Sincerely,



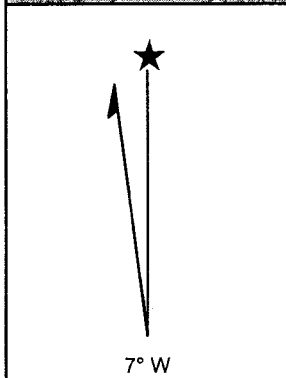
Scott Ball

Project Manager



cc: Mr. Marty Easler
file

FIGURES



Location: 033° 39' 29.0" N 079° 48' 46.8" W
Caption: Site Location Map
Tisdales Quick Stop
Figure 1 UST Permit # 18686

LEGEND

☆

LIGHT POLE

■

TELEPHONE PEDESTAL

Ⓢ

SEWER MANHOLE

●

TYPE III MONITORING WELL

⦿

TELESCOPING MONITORING WELL

⦿

WATER SUPPLY WELL

⦿

FIRE HYDRANT

⦿

FIBER OPTIC CABLE MARKER

PROPERTY LINE

UNDERGROUND TELEPHONE LINE

UNDERGROUND WATER LINE

PP & OVERHEAD POWER LINE

UNDERGROUND SEWER LINE

UNDERGROUND GAS LINE

UNDERGROUND FIBER OPTIC LINE

DITCH

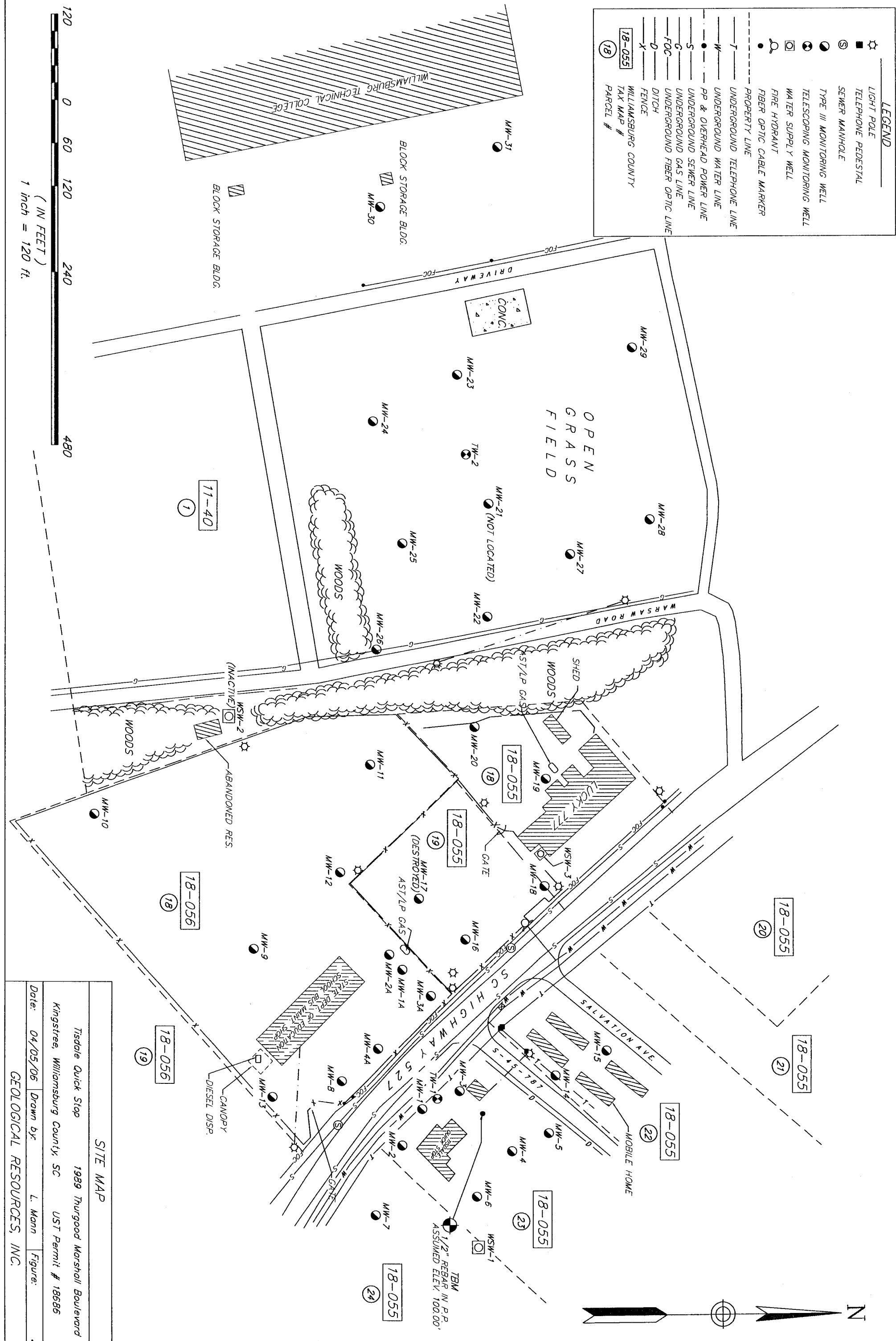
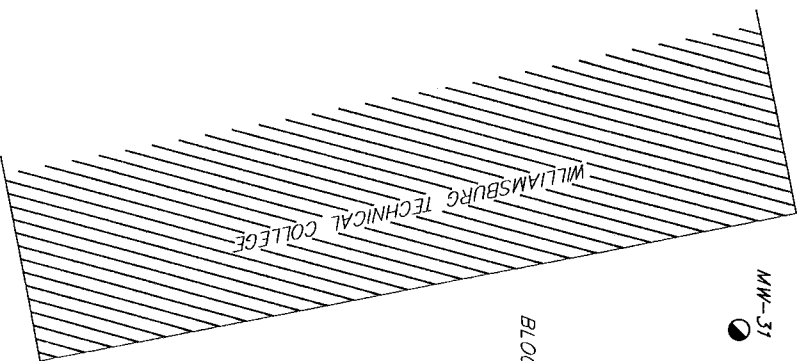
FENCE

18-055

WILLIAMSBURG COUNTY TAX MAP #

18

PARCEL #



(IN FEET)
1 inch = 120 ft.



SITE MAP

Tisdale Quick Stop

1989 Thurgood Marshall Boulevard

Kingstree, Williamsburg County, SC

UST Permit # 18686

Date: 04/05/06

Drawn by: L. Mann

Figure: 2

GEOLOGICAL RESOURCES, INC.

TABLES

TABLE 1
AFVR EVENT CHRONOLOGY
FEBRUARY 23, 2010
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-1A & MW-2A	9:50	H. Keech	Interface Probe	GRI
Vacuum Truck Setup for Fluid Removal in MW-1A & MW-2A	9:45-10:00	Vacuum Truck Operator	Vacuum Truck	ARM Environmental
Fluid Recovery in MW-1A & MW-2A	10:00-18:00	Vacuum Truck Operator	Vacuum Truck	ARM Environmental
Gauge Liquid Level in MW-1A & MW-2A	18:00	Vacuum Truck Operator	Interface Probe	ARM Environmental

AFVR EVENT CHRONOLOGY
FEBRUARY 24, 2010
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-3A & MW-4A	9:50	Vacuum Truck Operator	Interface Probe	ARM Environmental
Vacuum Truck Setup for Fluid Removal in MW-3A & MW-4A	9:50-10:00	Vacuum Truck Operator	Vacuum Truck	ARM Environmental
Fluid Recovery in MW-3A & MW-4A	10:00-18:00	Vacuum Truck Operator	Vacuum Truck	ARM Environmental
Gauge Liquid Level in MW-3A & MW-4A	18:00	Vacuum Truck Operator	Interface Probe	ARM Environmental

TABLE 1
AFVR EVENT CHRONOLOGY
FEBRUARY 25, 2010
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-2 & MW-3	10:00	Vacuum Truck Operator	Interface Probe	ARM Environmental
Vacuum Truck Setup for Fluid Removal in MW-2 & MW-3	10:00-10:10	Vacuum Truck Operator	Vacuum Truck	ARM Environmental
Fluid Recovery in MW-2 & MW-3	10:10-18:10	Vacuum Truck Operator	Vacuum Truck	ARM Environmental
Gauge Liquid Level in MW-2 & MW-3	18:10	Vacuum Truck Operator	Interface Probe	ARM Environmental

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA
TISDALE'S QUICK STOP
UST PERMIT #18686

Well No.	Date	Time	Depth to Free Product	Depth to Ground Water	Free Product Thickness
MW-1A	02/23/10	9:50	12.22	12.26	0.04
		18:00	---	15.70	---
MW-2A	02/23/10	9:50	---	12.40	---
		18:00	---	17.20	---
MW-3A	02/24/10	9:50	12.55	12.76	0.21
		18:00	---	16.10	---
MW-4A	02/24/10	9:50	---	12.50	---
		18:00	---	16.65	---
MW-2	02/25/10	10:00	12.44	12.45	0.01
		18:10	---	16.35	---
MW-3	02/25/10	10:00	---	12.41	---
		18:10	---	14.40	---

Note:

- Data reported in feet.

APPENDICES

APPENDIX A

ARM Environmental Services, Inc. - AFVR Report, Calculations, Disposal Manifests

March 5, 2010

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Drive
Charlotte, NC 28227

Re: Tisdale's Quick Stop
1989 Thurgood Marshall Blvd.
Kingstree, South Carolina
UST Permit #18686; CA #37959
ARM Project #25-409.1-10


Dear Mr. Ball;


ARM Environmental Services, Inc. (ARM) has completed three (3) Aggressive Fluid Vapor Recovery (AFVR) events at the above-referenced site located in Williamsburg County, South Carolina. The pertinent information regarding the AFVRs is presented on the following pages and in the appendices of this document.


The AFVR events were conducted on monitoring wells MW-1A, MW-2A, MW-3A, MW-4A, MW-2 and MW-3. Based on gauging of the fluid levels in the monitoring wells, it appears that no appreciable thickness of free-phase product remained present at the time of completion of the AFVR events.

If you should have any questions regarding the results of this assessment, or should you need additional information, please do not hesitate to contact our office.

Sincerely,
ARM Environmental Services, Inc.


Joseph A. Goings
Staff Geologist


Michael L. Faris, P.G.
Senior Geologist



Summary of Findings

AFVR 1 of 3

ARM personnel mobilized to the Tisdale's Quick Stop Service site on February 23, 2010. Ambient air temperature was 45° - 60° F and the general weather conditions were sunny. The depths to product and water were measured and recorded for monitoring wells MW-1A and MW-2A prior to and subsequent to the event. MW-1A had 0.04 feet of free-phase product present prior to stinger placement into the well. No product was detected in MW-2A prior to stinger placement.

The AFVR was conducted by ARM utilizing a liquid ring vacuum pump system. Vacuuming began at 10:00 am and ended at 6:00 pm. At cessation of the event, no appreciable thickness of free-phase product was present in MW-1A or MW-2A. The field notes summarizing the data collected during the event are included in Appendix A. Approximately 2,004 gallons of petroleum contact water were removed from the referenced wells during the event.

AFVR 2 of 3

ARM personnel mobilized to the Tisdale's Quick Stop site on February 24, 2010. Ambient air temperature was 45° - 55° F and the general weather conditions were cloudy. The depths to product and water were measured and recorded for monitoring wells MW-3A and MW-4A prior to and subsequent to the event. MW-3A had 0.21 feet of free-phase product present prior to stinger placement into the well. No product was detected in MW-4A prior to stinger placement.

The AFVR was conducted by ARM utilizing a liquid ring vacuum pump system. Vacuuming began at 10:00 am and ended at 6:00 pm. At cessation of the event, no appreciable thickness of free-phase product was present in MW-3A or MW-4A. The field notes summarizing the data collected during the event are included in Appendix A. Approximately 1,420 gallons of petroleum contact water, and a trace of free-phase product, were removed from the referenced wells during the event.

AFVR 3 of 3

ARM personnel mobilized to the Tisdale's Quick Stop site on February 25, 2010. Ambient air temperature was 40° - 45° F and the general weather conditions were windy. The depths to product and water were measured and recorded for monitoring wells MW-2 and MW-3 prior to and subsequent to the event. MW-2 had 0.01 feet of free-phase product present prior to stinger placement into the well. No product was detected in MW-3 prior to stinger placement.

The AFVR was conducted by ARM utilizing a liquid ring vacuum pump system. Vacuuming began at 10:10 am and ended at 6:10 pm. At cessation of the event, no appreciable thickness of free-phase product was present in MW-2 or MW-3. The field notes summarizing the data collected during the event are included in Appendix A. Approximately 1,646 gallons of petroleum contact water were removed from the referenced well during the event.

Pollutant Mass Removal

The total weight of petroleum as vapor (total gaseous nonmethane organic emissions) removed during the first, second, and third AFVR events were calculated at 4.17, 0.07, 0.08 pounds, respectively, based on the data collected during the event. The equations, variables, and calculations used to determine the pollutant mass removal are included in Appendix B.

Disposal

Approximately 5,070 gallons of petroleum contact water, and trace of free-phase product, were removed from the referenced well during the AFVR events. A disposal manifest for the petroleum contact water and product generated during the event is included in Appendix C.

APPENDICES

- A. AFVR FIELD DATA**
- B. POLLUTANT MASS REMOVAL
CALCULATIONS**
- C. DISPOSAL MANIFEST(s)**

APPENDIX A
AFVR FIELD DATA

AFVR - Field Notes
[Page 1 of 4]

Site Name: former Tisdale Quick Stop Location: 1989 Thurgood Marshall Blvd., Kingstree, S.C.

AFVR Contractor: ARM Environmental Svcs. Personnel: Billy Pflieger

Date: 2-23-10 Ambient Air Temperature and General Weather Condition: sunny, 45°-60°

Start Time 1: 10:00 Stop Time 1: 18:00 ; Start Time 2: Stop Time 2:

Total volume of water removed during the 8-hour AFVR Event: 2004 gallons

Total volume of product removed during the 8-hour AFVR Event: None

Wdtd / Product Recovery Rate: 4.17 gallons per minute

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW-2A	None	12.4	None	17.2	1000 gallons	
MW-1A	12.22	12.26	None	15.7	1004 gallons	

Aggressive Fluid/Vapor Recovery Notes
[Page 2 of 4]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 24-26

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

[illegible]

[Page 4 of 4]

[illegible]

AFVR - Field Notes
[Page 1 of 4]

Site Name: former Tisdale Quick Stop Location: 1989 Thurgood Marshall Blvd. Kingstree, S.C.

AFVR Contractor: ARM Environmental Svcs. Personnel: Billy Pittenger

Date: 2-24-10 Ambient Air Temperature and General Weather Condition: cloudy, 45-55°

Start Time 1: 10:00 Stop Time 1: 18:00 ; Start Time 2: Stop Time 2:

Total volume of water removed during the 8-hour AFVR Event: 1430 gallons

Total volume of product removed during the 8-hour AFVR Event: trace / seen

Waste/Product Recovery Rate: 2.95 gallons per minute

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW-3A	12.55	12.76	None	16.1	710 gallons	
MW-4A	None	12.5	None	16.65	710 gallons	

[Page 2 of 4]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 23-25

Aggressive Fluid/Vapor Recovery Notes
[Page 3 of 4]

vacuum conversion: (Inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes
[Page 4 of 4]

[illegible]

AFVR - Field Notes
[Page 1 of 4]

Site Name: former Tisdale Quick Stop Location: 1989 Thurgood Marshall Boulevard Kingstree, S.C.

AFVR Contractor: ARM Environmental Svc. Personnel: Billy Pittenger

Date: 2-25-10 Ambient Air Temperature and General Weather Condition: windy, 40°-45°

Start Time 1: 10:10 Stop Time 1: 18:10 ; Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 1646 gallons

Total volume of product removed during the 8-hour AFVR Event: None

Water/Product Recovery Rate: 3.42 gallons per minute

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW-2	12.44	12.45	None	16.35	1000 gallons	
MW-3	None	12.41	None	14.4	646 gallons	

[Page 2 of 4]

[illegible]

Vacuum at Pump: 23-25

[Page 3 of 4]

[illegible]

Aggressive Fluid/Vapor Recovery Notes
[Page 4 of 4]

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL CALCULATIONS

Site: Tisdale's Quick Stop
UST Permit #: 18686

EQUATIONS & VARIABLES

Q_{std} = Flow at Dry Standard Cubic Feet Per Minute (DSCFM)

$$Q_{std} = (60 \text{ sec/min}) (1-B_{ws}) (V) (A) (528^\circ R / T_s)$$

B_{ws} = water vapor % by weight at discharge stack, from high temperature Psychrometric Chart

B_{ws} = water vapor % by volume at discharge stack

$$= (B_{ws} / 18 \text{ lb-mole H}_2\text{O}) / [1/28.84 \text{ lb-mole dry air}] + (B_{ws} / 18 \text{ lb-mole H}_2\text{O})$$

V = velocity in ft/sec at discharge stack

A = cross sectional area in ft² of discharge stack

T_s = stack temperature in R° (dry bulb temp.)

$$R^\circ = (C^\circ + 273.15) \times 9/5$$

PMR = Pollutant Mass Removal in lb of Total Gaseous Nonmethane Organic (TGNMO) emissions

$$PMR = PMR_c (\# \text{ of minutes} / 60)$$

PMR_c = Pollutant Mass Removal rate in lb/hr of Total Gaseous Nonmethane Organic (TGNMO) emissions

$$= C_c (Q_{std}) (60 \text{ min/hr})$$

$$C_c = C_{cm} (62.43 \times 10^{-9} \text{ lb-m}^3/\text{mg-ft}^3)$$

C_{cm} = mg/dsm³ - mass concentration of TGNMO emissions

$$= PPM_c (M_c / K_4)$$

PPM_c = PPM_v - volumetric concentration of TGNMO emissions as carbon, dry basis, at standard temperature and pressure

$$= (PPM_{meas}) (K) = PPM_v$$

PPM_{meas} = concentration in parts per million from organic vapor meter (OVM) at discharge stack

K = number of carbons in OVM calibration gas; methane - $K=1$, propane - $K=3$, isobutylene - $K=4$, hexane - $K=6$

K_4 = 24.07 dsm³/10⁶ mg-mole - mass to volume conversion factor at standard temperature and pressure

M_c = 12.01 mg/mg-mole, molecular weight of carbon

C_c = lb/dscf - mass concentration of TGNMO emissions as carbon, dry basis, at standard temperature and pressure

Site: Tisdale's Quick Stop
UST Permit #: 18686

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp (°C)	Relative Humidity (%)	B _{ws} (%)	B _{ws} (%)	V (ft ³ /sec)	A (ft ²)	T _s (°R)	Q _{std} (dscfm)
2/23/2010	10:00	20.7	86.1	0.013	0.021	34.95	0.022	528.9	44.69
	10:30	36.8	88.4	0.036	0.054	27.68	0.022	557.9	32.42
	11:00	38.0	76.7	0.033	0.050	28.53	0.022	560.1	33.42
	11:30	39.7	89.2	0.043	0.064	29.63	0.022	563.1	34.03
	12:00	41.4	87.3	0.046	0.068	27.07	0.022	566.2	30.76
	12:30	40.0	83.2	0.040	0.060	25.92	0.022	563.7	29.83
	13:00	41.8	79.4	0.042	0.063	28.10	0.022	566.9	32.06
	13:30	40.4	76.6	0.038	0.057	25.63	0.022	564.4	29.58
	14:00	38.8	72.1	0.032	0.049	26.93	0.022	561.5	31.50
	14:30	40.2	70.4	0.034	0.052	27.78	0.022	564.0	32.26
	15:00	39.6	68.5	0.032	0.049	26.55	0.022	563.0	30.99
	15:30	40.2	69.8	0.034	0.051	24.68	0.022	564.0	28.67
	16:00	41.4	66.5	0.034	0.052	26.87	0.022	566.2	31.07
	16:30	43.8	65.2	0.038	0.058	24.15	0.022	570.5	27.54
	17:00	45.2	67.3	0.043	0.064	25.05	0.022	573.0	28.25
	17:30	44.1	67.5	0.040	0.061	25.30	0.022	571.1	28.73
	18:00	44.7	65.8	0.041	0.061	26.35	0.022	572.1	29.86

Site: Tisdale's Quick Stop
UST Permit #: 18686

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time (min)	Q _{std} (dscfm)	PPM _{meas} (ppm)	PPM _c (ppm)	C _{c,m} (mg/dscm ³)	C _c (lb/dscf)	PMR _c (lb/hr)	PMR (lb)
2/23/2010	10:00	0	44.69	2853	11412	5694	---	---	0.00
	10:30	30	32.42	4144	16576	8271	0.00052	1.00	0.50
	11:00	30	33.42	3224	12896	6435	0.00040	0.81	0.40
	11:30	30	34.03	2821	11284	5630	0.00035	0.72	0.36
	12:00	30	30.76	2633	10532	5255	0.00033	0.61	0.30
	12:30	30	29.83	2413	9652	4816	0.00030	0.54	0.27
	13:00	30	32.06	2008	8032	4008	0.00025	0.48	0.24
	13:30	30	29.58	2126	8504	4243	0.00026	0.47	0.24
	14:00	30	31.50	2239	8956	4469	0.00028	0.53	0.26
	14:30	30	32.26	1883	7532	3758	0.00023	0.45	0.23
	15:00	30	30.99	1912	7648	3816	0.00024	0.44	0.22
	15:30	30	28.67	2004	8016	4000	0.00025	0.43	0.21
	16:00	30	31.07	1818	7272	3628	0.00023	0.42	0.21
	16:30	30	27.54	1767	7068	3527	0.00022	0.36	0.18
	17:00	30	28.25	1448	5792	2890	0.00018	0.31	0.15
	17:30	30	28.73	1695	6780	3383	0.00021	0.36	0.18
	18:00	30	29.86	1831	7324	3654	0.00023	0.41	0.20

Total Gaseous Nonmethane Organic emissions removed in pounds from MW-1A and MW-2A

4.17

Site: Tisdale's Quick Stop (event 2 of 3)
UST Permit #: 18686

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp	Relative Humidity	B _{WSW}	B _{WS}	V	A	T _s	Q _{std}
		(°C)	(%)	(%)	(%)	(ft ³ /sec)	(ft ²)	(°R)	(dscfm)
2/24/2010	10:00	21.3	71.3	0.011	0.018	16.02	0.022	530.0	20.50
	10:30	35.6	78.7	0.029	0.045	11.88	0.022	555.8	14.10
	11:00	37.7	84.2	0.036	0.054	14.80	0.022	559.5	17.28
	11:30	39.3	82.3	0.038	0.058	13.53	0.022	562.4	15.66
	12:00	40.1	83.9	0.041	0.061	12.75	0.022	563.9	14.66
	12:30	40.7	89.1	0.045	0.067	15.07	0.022	564.9	17.18
	13:00	38.5	85.4	0.038	0.057	17.48	0.022	561.0	20.29
	13:30	37.3	83.2	0.034	0.052	16.08	0.022	558.8	18.84
	14:00	40.4	82.1	0.040	0.061	15.63	0.022	564.4	17.96
	14:30	41.3	81.6	0.042	0.064	13.57	0.022	566.0	15.50
	15:00	41.1	83.9	0.043	0.065	14.48	0.022	565.7	16.54
	15:30	39.7	78.5	0.037	0.056	15.18	0.022	563.1	17.58
	16:00	41.7	79.3	0.042	0.063	14.08	0.022	566.7	16.08
	16:30	40.3	76.3	0.037	0.056	13.72	0.022	564.2	15.84
	17:00	41.5	75.4	0.039	0.059	14.42	0.022	566.4	16.54
	17:30	40.4	74.7	0.037	0.055	13.62	0.022	564.4	15.74
	18:00	42.2	75.6	0.041	0.062	15.48	0.022	567.6	17.68

Site: Tisdale's Quick Stop (event 2 of 3)
UST Permit #: 18686

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time (min)	Q _{std} (dscfm)	PPM _{meas} (ppm)	PPM _c (ppm)	C _{c:m} (mg/dsm ³)	C _c (lb/dscf)	PMR _c (lb/hr)	PMR (lb)
2/24/2010	10:00	0	20.50	42	168	84	---	---	0.00
	10:30	30	14.10	45	180	90	0.00001	0.00	0.00
	11:00	30	17.28	49	196	98	0.00001	0.01	0.00
	11:30	30	15.66	51	204	102	0.00001	0.01	0.00
	12:00	30	14.66	54	216	108	0.00001	0.01	0.00
	12:30	30	17.18	57	228	114	0.00001	0.01	0.00
	13:00	30	20.29	59	236	118	0.00001	0.01	0.00
	13:30	30	18.84	64	256	128	0.00001	0.01	0.00
	14:00	30	17.96	62	248	124	0.00001	0.01	0.00
	14:30	30	15.50	66	264	132	0.00001	0.01	0.00
	15:00	30	16.54	69	276	138	0.00001	0.01	0.00
	15:30	30	17.58	71	284	142	0.00001	0.01	0.00
	16:00	30	16.08	76	304	152	0.00001	0.01	0.00
	16:30	30	15.84	79	316	158	0.00001	0.01	0.00
	17:00	30	16.54	83	332	166	0.00001	0.01	0.01
	17:30	30	15.74	80	320	160	0.00001	0.01	0.00
	18:00	30	17.68	81	324	162	0.00001	0.01	0.01

Total Gaseous Nonmethane Organic emissions removed in pounds from MW-3A and MW-4A

0.07

Site: Tisdale's Quick Stop (event 3 of 3)
 UST Permit #: 18686

CALCULATIONS - Flow at Dry Standard Cubic Feet Per Minute

Date	Time	Temp (°C)	Relative Humidity (%)	B _{WSW} (%)	B _{WS} (%)	V (ft ³ /sec)	A (ft ²)	T _s (°R)	Q _{std} (dscfm)
2/25/2010	10:10	13.6	79.7	0.008	0.012	13.08	0.022	516.2	17.29
	10:40	25.8	75.3	0.016	0.025	11.73	0.022	538.1	14.69
	11:10	29.1	77.2	0.020	0.031	11.35	0.022	544.1	13.97
	11:40	28.8	74.5	0.019	0.029	10.52	0.022	543.5	12.98
	12:10	29.6	75.3	0.020	0.031	11.93	0.022	545.0	14.66
	12:40	30.2	74.1	0.020	0.031	12.07	0.022	546.0	14.78
	13:10	31.6	72.1	0.021	0.033	11.05	0.022	548.6	13.45
	13:40	29.8	76.3	0.020	0.031	10.68	0.022	545.3	13.10
	14:10	32.1	79.9	0.024	0.038	10.20	0.022	549.5	12.34
	14:40	33.3	81.3	0.027	0.041	11.25	0.022	551.6	13.51
	15:10	36.1	78.2	0.030	0.046	11.82	0.022	556.7	13.99
	15:40	36.4	76.6	0.030	0.046	12.07	0.022	557.2	14.27
	16:10	33.2	72.1	0.023	0.036	10.63	0.022	551.4	12.84
	16:40	37.1	75.3	0.031	0.047	10.35	0.022	558.5	12.20
	17:10	36.7	78.8	0.031	0.048	10.12	0.022	557.7	11.93
	17:40	39.7	76.3	0.036	0.055	11.30	0.022	563.1	13.10
	18:10	39.9	76.0	0.036	0.055	11.88	0.022	563.5	13.76

Site: Tisdale's Quick Stop (event 3 of 3)
UST Permit #: 18686

CALCULATIONS - Pollutant Mass Removal in pounds

Date	Time	Elapsed Time (min)	Q _{std} (dscfm)	PPM _{meas} (ppm)	PPM _c (ppm)	C _{c,m} (mg/dsm ³)	C _c (lb/dscf)	PMRc (lb/hr)	PMR (lb)
2/25/2010	10:10	0	17.29	73	292	146	---	---	0.00
	10:40	30	14.69	75	300	150	0.00001	0.01	0.00
	11:10	30	13.97	79	316	158	0.00001	0.01	0.00
	11:40	30	12.98	82	328	164	0.00001	0.01	0.00
	12:10	30	14.66	80	320	160	0.00001	0.01	0.00
	12:40	30	14.78	86	344	172	0.00001	0.01	0.00
	13:10	30	13.45	88	352	176	0.00001	0.01	0.00
	13:40	30	13.10	93	372	186	0.00001	0.01	0.00
	14:10	30	12.34	93	372	186	0.00001	0.01	0.00
	14:40	30	13.51	98	392	196	0.00001	0.01	0.00
	15:10	30	13.99	98	392	196	0.00001	0.01	0.01
	15:40	30	14.27	100	400	200	0.00001	0.01	0.01
	16:10	30	12.84	106	424	212	0.00001	0.01	0.01
	16:40	30	12.20	107	428	214	0.00001	0.01	0.00
	17:10	30	11.93	111	444	222	0.00001	0.01	0.00
	17:40	30	13.10	117	468	234	0.00001	0.01	0.01
	18:10	30	13.76	124	496	247	0.00002	0.01	0.01

Total Gaseous Nonmethane Organic emissions removed in pounds from MW-2 and MW-3

0.08

APPENDIX C
DISPOSAL MANIFEST(s)

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. 429	2. Page 1 of
3. Generator's Name and Mailing Address Tisdale Quick Stop 1989 Thurgood Marshall Boulevard Kingstree, SC					
4. Generator's Phone ()		6. US EPA ID Number		A. State Transporter's ID	
ARM ENVIRONMENTAL SERVICES, INC.				B. Transporter 1 Phone 803-783-3314	
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 Water Recovery 435 Old Mt. Holly Mt. Holly, S.C		10. US EPA ID Number		E. State Facility's ID	
				F. Facility's Phone 843 797-8674	
11. WASTE DESCRIPTION				12. Containers	
				No.	Type
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL					
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER				1	TT
c.					
d.					
G. Additional Descriptions for Materials Listed Above				H. Handling Codes for Wastes Listed Above	
15. Special Handling Instructions and Additional Information ARM ENVIRONMENTAL SERVICES, INC. PO BOX 50285 COLUMBIA, SC 29250					
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 Billy Pittenger Agent for Tisdale Quick Stop				Signature <i>Billy Pittenger</i>	
				Date 2/23/10	
17. Transporter 1 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name Billy Pittenger				Signature <i>Billy Pittenger</i>	
				Date 2/23/10	
18. Transporter 2 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name				Signature	
				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 David Ward				Signature <i>D. Ward</i>	
				Date 2/28/10	

NON-HAZARDOUS WASTE

TRANSPORTER

FACILITY

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on 11lb (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No. 430	2. Page 1 of
3. Generator's Name and Mailing Address Tisdale's Quick Stop 1989 Thurgood Marshall Blvd. Kingstree, S.C.					
4. Generator's Phone ()					
5. Transporter 1 Company Name ARM ENVIRONMENTAL SERVICES, INC.		6. US EPA ID Number		A. State Transporter's ID	
				B. Transporter 1 Phone 803-783-3314	
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 Water Recovery 435 Old Mt. Holly Mt. Holly, S.C.		10. US EPA ID Number		E. State Facility's ID	
				F. Facility's Phone 843 797-8674	
11. WASTE DESCRIPTION		12. Containers		13. Total Quantity	14. Unit Wt./Vol.
		No.	Type		
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL					
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER		1	TT	1420	Gal.
c.					
d.					
G. Additional Descriptions for Materials Listed Above		H. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information ARM ENVIRONMENTAL SERVICES, INC. PO BOX 50285 COLUMBIA, SC 29250					
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	
Billy Pittenger Agent for Tisdale's Quick Stop		Billy Pittenger		2/24/10	
17. Transporter 1 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name		Signature		Month Day Year	
Billy Pittenger		Billy Pittenger		2/24/10	
18. Transporter 2 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name		Signature		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		Signature		Date	
David Ward		David Ward		2/24/10	

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on 414 (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No. 431	2. Page 1 of
3. Generator's Name and Mailing Address Tisdale Quick Stop 1989 Thurgood Marshall Blvd. Kingstree, S.C.					
4. Generator's Phone ()					
5. Transporter 1 Company Name ARM ENVIRONMENTAL SERVICES, INC.		6. US EPA ID Number		A. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 803-783-3314	
9. Designated Facility Name and Site Address Water Recovery 435 Old Mt. Holly Mt. Holly, S.C.		10. US EPA ID Number		C. State Transporter's ID	
				D. Transporter 2 Phone	
				E. State Facility's ID	
				F. Facility's Phone	
11. WASTE DESCRIPTION		12. Containers		13. Total Quantity	14. Unit Wt./Vol.
		No.	Type		
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL					
b. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER		1	TT	1646	Gal.
c.					
d.					
G. Additional Descriptions for Materials Listed Above		H. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information ARM ENVIRONMENTAL SERVICES, INC. PO BOX 50285 COLUMBIA, SC 29250					
<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> NON-HAZARDOUS WASTE </div>					
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 Billy Pittenger Agent for Tisdale Quick Stop					Signature <i>Billy Pittenger</i>
					Month Day Year 2 25 10
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name Billy Pittenger					Signature <i>Billy Pittenger</i>
					Month Day Year 2 25 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 the waste materials covered by this manifest, except as noted in item 19.					
Printed/Typed Name Dan Wolf					Signature <i>Dan Wolf</i>
					Month Day Year 2 12 10

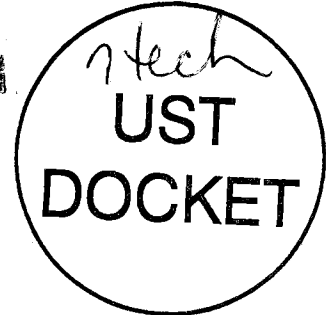


C. Earl Hunter, Commissioner

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

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

APR 22 2011



Re: Four AFVR Events
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686, CA # 41220
Release reported March 30, 2001
AFVR Report received March 19, 2010
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report and noted the findings. The next necessary scope of work is to conduct 4 Aggressive Fluid Vapor Recovery (AFVR) events to remove free phase product from MW-2, and MW-3. Two events should be conducted on MW-2 and two events should be conducted on MW-3. AFVR events should not be conducted on a well less than 21 days from the occurrence of the last event on that well.

Magnehelic gauges must be installed on the extraction wells and monitoring wells immediately surrounding the extraction wells. The AFVR should be completed by establishing a vacuum on the subsurface through the existing monitoring wells. The unit must be capable of providing a minimum airflow of 250 cubic feet per minute (CPM) at 25 inches Mercury vacuum. An airtight seal must be established on the top of each extraction well. Drop tubes inserted in the well(s) should have an inside diameter of at least one (1) inch and should initially be installed six inches below the bottom of the product or the top of the well screen whichever is deeper. The drop tubes should be lowered deeper in the well only if the well exhibits slow recovery (repeatedly goes dry) or if it is deemed necessary to establish a steeper hydraulic gradient to enhance free product migration toward the well. The goal is to maximize the recovery of free product and petroleum vapors in the capillary fringe and minimize the recovery of ground water.

Cost Agreement # 41220 has been approved in the amount shown on the enclosed cost agreement form for the aforementioned scope of work. The AFVR activities may proceed immediately upon receipt of this letter. The report submitted at the completion of these activities should include the following:

- A narrative portion documenting the AFVR events noting site conditions, the name of the AFVR contractor, field personnel, date, time the AFVR events started and ended, ambient air temperature, and general weather conditions during the AFVR events.
- A brief description of the completed work scope and any relevant descriptions pertaining to the data tables.
- A table summarizing the airflow (in CFM) and volatile air emissions concentrations collected from the stack of the truck every thirty minutes through the duration of the events. The table shall also document which well(s) were being recovered from during that time interval.
- A table summarizing the magnehelic gauge measurements from all applicable wells on a thirty-minute time interval.
- The total volume of water recovered (gallons).
- The total volume of free phase product recovered (typically measured with a product/water interface device inserted into the top of the tanker at the completion of the event and then converted to an approximate volume).
- The total weight of petroleum removed as vapor. This is calculated based on the airflow rate and the concentration of vapor.
- A table documenting the free product thickness in each well before and after the recovery events.
- Scaled base map depicting the location of the extraction wells and the surrounding wells equipped with magnehelic gauges.

- Recovered free phase petroleum and groundwater must be accepted by a permitted 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.

Geological Resources, Inc. can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Please note that all applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

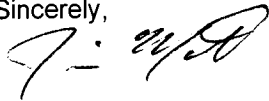
An AFVR report and invoice are due within 90 days from the date of this letter. Interim invoices may not be submitted for this scope of work. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

The Department grants pre-approval for transportation of virgin petroleum impacted groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

On all correspondence concerning this site, please reference **UST Permit # 18686 and CA # 41220**. If there are any questions concerning this project, please contact me at (803) 896-4085 or by email at martinjm@dhec.sc.gov.

Sincerely,



Jim Martin, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement
cc: Geological Resources, Inc., 2301 Crown Point Executive Drive, Suite F, Charlotte, NC 28227 (w/enc)
Technical file (w/o enc)

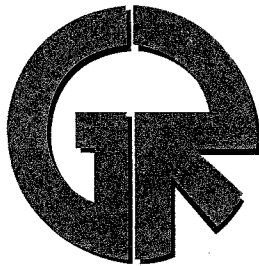
Approved Cost Agreement 41220

Facility: 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

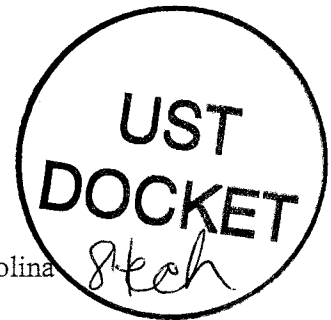
<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
04 MOB/DEMOB		A EQUIPMENT	4.0000	575.00	2,300.00
		B PERSONNEL	4.0000	290.00	1,160.00
17 DISPOSAL		A2 WASTEWATER - PUMPING TEST	4,000.0000	0.60	2,400.00
19 RPT/PROJECT MNGT & COORDINATIO		PCT PERCENT	0.1500	18,980.00	2,847.00
23 EFR		A 8 HOUR EVENT	4.0000	3,000.00	12,000.00
		C OFF GAS TREATMENT	32.0000	35.00	1,120.00
Total Amount					21,827.00



Geological Resources, Inc.

May 17, 2011

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management




Re: Aggressive Fluid Vapor Recovery Events
Tisdale's Quick Stop
1989 Thurgood Marshall Blvd., Kingstree, Williamsburg County, South Carolina
UST Permit No. 18686
CA No. 41220

Dear Mr. Martin:

Geological Resources, Inc. (GRI) has completed the first two of four aggressive fluid vapor recovery (AFVR) events at the above referenced site in Kingstree, South Carolina. The AFVR events were conducted consecutively on May 3 and May 4, 2011. A copy of the AFVR reports and an interim invoice are attached. Please contact me at (704) 845-4010 with any questions.

Sincerely,


John M. Brown, P.G.
License No. 1116
SOUTH CAROLINA
PROFESSIONAL GEOLOGIST

enclosure

cc: file



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, May 16, 2011

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

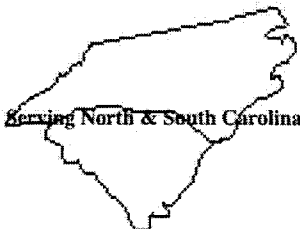
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on May 3, 2011. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-2.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
May 10, 2011

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 05/03/11. The ambient temperature was 71 deg F and weather conditions were sunny. The depths to product and water were measured prior to and subsequent to the AFVR event. (See attached data) Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.495 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1628 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR - Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI -

Date: 5/3/11 Ambient Air Temperature and General Weather Condition: Sunny-Fair 71.3

Start Time 1: 8:00 Stop Time 1: 4:00 Start Time 2: Stop Time 2:

Total volume of water removed during the 8-hour AFVR Event: 1628 gal

Total volume of product removed during the 8-hour AFVR Event:

Product Recovery Rate:

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 2	-	14.29	-	17.69	1628 gal	

5/3/11

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

Vacuum at Pump: 22

22

Aggressive Fluid/Vapor Recovery Notes

[illegible]

QUICKSTOP - 5/3/11

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
5/3/11	8:00	332	0.022	96.0	45	0.016507704	6.82
5/3/11	8:30	364	0.022	100.0	45	0.018702695	7.41
5/3/11	9:00	358	0.022	103.0	45	0.020517186	7.23
5/3/11	9:30	369	0.022	106.0	44	0.021971220	7.41
5/3/11	10:00	372	0.022	108.0	44	0.023345247	7.43
5/3/11	10:30	385	0.022	107.0	44	0.022648832	7.71
5/3/11	11:00	392	0.022	108.0	44	0.023345247	7.83
5/3/11	11:30	387	0.022	108.0	44	0.023345247	7.73
5/3/11	12:00	396	0.022	108.0	44	0.023345247	7.91
5/3/11	12:30	412	0.022	108.0	44	0.023345247	8.23
5/3/11	1:00	408	0.022	108.0	44	0.023345247	8.15
5/3/11	1:30	392	0.022	108.0	44	0.023345247	7.83
5/3/11	2:00	415	0.022	108.0	44	0.023345247	8.29
5/3/11	2:30	410	0.022	108.0	44	0.023345247	8.19
5/3/11	3:00	426	0.022	107.0	44	0.022648832	8.53
5/3/11	3:30	418	0.022	107.0	44	0.022648832	8.37
5/3/11	4:00	411	0.022	107.0	44	0.022648832	8.23
Averages		391	0.022	106.18	44.18	0.022258903	7.841

UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds

Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0	6.82	218	1	218	1159.29	0.000072374	0.030	0.000
30	30	7.41	278	1	278	1478.35	0.000092294	0.041	0.021
30	60	7.23	282	1	282	1499.63	0.000093622	0.041	0.020
30	90	7.41	341	1	341	1813.38	0.000113209	0.050	0.025
30	120	7.43	428	1	428	2276.03	0.000142092	0.063	0.032
30	150	7.71	472	1	472	2510.01	0.000156700	0.072	0.036
30	180	7.83	467	1	467	2483.42	0.000155040	0.073	0.036
30	210	7.73	458	1	458	2435.56	0.000152052	0.071	0.035
30	240	7.91	462	1	462	2456.83	0.000153380	0.073	0.036
30	270	8.23	466	1	466	2478.11	0.000154708	0.076	0.038
30	300	8.15	439	1	439	2334.52	0.000145744	0.071	0.036
30	330	7.83	396	1	396	2105.86	0.000131469	0.062	0.031
30	360	8.29	387	1	387	2058.00	0.000128481	0.064	0.032
30	390	8.19	366	1	366	1946.32	0.000121509	0.060	0.030
30	420	8.53	345	1	345	1834.65	0.000114537	0.059	0.029
30	450	8.37	351	1	351	1866.56	0.000116529	0.059	0.029
30	480	8.23	342	1	342	1818.70	0.000113541	0.056	0.028
Averages		7.84	382.24	1.00	382.24	2032.66	0.000126899	0.060	0.029

Total Emission in pounds:

0.495

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$PPM_g = PPM \text{ measured} * K$$

$$C_{g:m} = PPM_g * (Mg/K3)$$

$$C_g = C_{g:m} * 62.43 \text{E-}09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$$

$$PMR = PMR_g * ((T_2 - T_1)/60)$$

Q_{std} = Flow at DSCFM

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v , Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m}$ = mg/dsm^3 , mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = $24.07 \text{ dsm}^3/1\text{E}6 \text{ mg-mole}$, mass to volume conversion factor at STP

C_g = lb/dcsf , mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr , pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address TISDALE'S QUICKSTOP 1989 THURGOOD MARSHALL KINGSTREE, SC							
4. Generator's Phone ()							
5. Transporter 1 Company Name HERR, Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-657-6399			
				C. State Transporter's ID			
				D. Transporter 2 Phone			
9. Designated Facility Name and Site Address HERR, Inc. 817 N 701 Bypass TAGORE CITY, NC 28463		10. US EPA ID Number NCR-000139816		E. State Facility's ID			
				F. Facility's Phone 910-657-6399			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		14. Unit Wt./Vol.	
a. Non-HAZ Petroleum Contact Water NL				1 1 U.T. 1628		Gals	
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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date Month Day Year	
Printed/Typed Name Steve Rivenbank				Signature Steve Rivenbank		5/3/11	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date Month Day Year	
Printed/Typed Name							
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.				Signature		Date Month Day Year	
Printed/Typed Name Mark Cox				Signature Mark Cox		5/4/11	



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399

Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, May 16, 2011

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

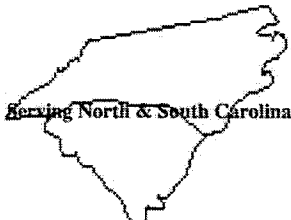
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on May 4, 2011. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
May 4, 2011

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 05/04/11. The ambient temperature was 67 deg F and weather conditions were overcast. The depths to product and water were measured prior to and subsequent to the AFVR event. (See attached data) Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.576 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1351 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A
AFVR FIELD NOTES

HERR, Inc.

AFVR - Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC
AFVR Contractor: HERR, Inc. - Steve Personnel: GRI -
Date: 5/4/11 Ambient Air Temperature and General Weather Condition: Overcast 67.0
Start Time 1: 8:00 Stop Time 1: 4:00 Start Time 2: _____ Stop Time 2: _____
Total volume of water removed during the 8-hour AFVR Event: 1351 gal
Total volume of product removed during the 8-hour AFVR Event: Approx. 2 gal
Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
<u>MW 3</u>	<u>13.93</u>	<u>13.74</u>	<u>1.00</u>	<u>15.70</u>	<u>1351 gal</u>	

Aggressive Fluid/Vapor Recovery Notes

[illegible]

Vacuum at Pump: 22

TISDALE'S QUICKSTOP - 5/4/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

TISDALE'S QUICK STOP - 5/4/11

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
5/4/11	8:00	529	0.022	78.0	65	0.013394060	11.27
5/4/11	8:30	521	0.022	82.0	65	0.015312026	10.99
5/4/11	9:00	532	0.022	85.0	65	0.016908559	11.15
5/4/11	9:30	545	0.022	94.0	65	0.022638549	11.17
5/4/11	10:00	563	0.022	100.0	65	0.027380918	11.36
5/4/11	10:30	566	0.022	101.0	65	0.028253968	11.39
5/4/11	11:00	574	0.022	103.0	65	0.030076874	11.49
5/4/11	11:30	582	0.022	104.0	65	0.031028151	11.61
5/4/11	12:00	589	0.022	104.0	65	0.031028151	11.75
5/4/11	12:30	592	0.022	104.0	65	0.031028151	11.81
5/4/11	1:00	588	0.022	105.0	65	0.032006961	11.70
5/4/11	1:30	596	0.022	105.0	65	0.032006961	11.86
5/4/11	2:00	603	0.022	105.0	65	0.032006961	12.00
5/4/11	2:30	592	0.022	105.0	65	0.032006961	11.78
5/4/11	3:00	608	0.022	105.0	65	0.032006961	12.10
5/4/11	3:30	605	0.022	105.0	65	0.032006961	12.04
5/4/11	4:00	598	0.022	105.0	65	0.032006961	11.90
Averages		575.47	0.022	99.41	65.00	0.027711655	11.611

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0	11.27	312	1	312	1659.16	0.000103581	0.070	0.000
30	30	10.99	328	1	328	1744.25	0.000108893	0.072	0.036
30	60	11.15	411	1	411	2185.63	0.000136449	0.091	0.046
30	90	11.17	377	1	377	2004.82	0.000125161	0.084	0.042
30	120	11.36	352	1	352	1871.87	0.000116861	0.080	0.040
30	150	11.39	336	1	336	1786.79	0.000111549	0.076	0.038
30	180	11.49	324	1	324	1722.97	0.000107565	0.074	0.037
30	210	11.61	312	1	312	1659.16	0.000103581	0.072	0.036
30	240	11.75	305	1	305	1621.94	0.000101257	0.071	0.036
30	270	11.81	296	1	296	1574.08	0.000098270	0.070	0.035
30	300	11.70	299	1	299	1590.03	0.000099266	0.070	0.035
30	330	11.86	281	1	281	1494.31	0.000093290	0.066	0.033
30	360	12.00	275	1	275	1462.40	0.000091298	0.066	0.033
30	390	11.78	263	1	263	1398.59	0.000087314	0.062	0.031
30	420	12.10	271	1	271	1441.13	0.000089970	0.065	0.033
30	450	12.04	278	1	278	1478.35	0.000092294	0.067	0.033
30	480	11.90	281	1	281	1494.31	0.000093290	0.067	0.033
Averages		11.61	311.82	1.00	311.82	1658.22	0.000103523	0.072	0.034
Total Emission in pounds:									0.576

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = $24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

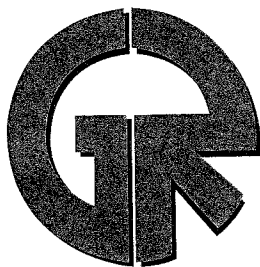
APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address TISDALES QUICKSTOP 1989 THURGOOD MARSHALL KINGSTREE, SC							
4. Generator's Phone ()							
5. Transporter 1 Company Name HEER Inc.		6. US EPA ID Number 1 NCR-000139816		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-653-6399			
9. Designated Facility Name and Site Address HEER Inc. 217 N 701 Bypass TAROM CITY, NC 28463		10. US EPA ID Number 1 NCR-000139816		C. State Transporter's ID			
				D. Transporter 2 Phone			
				E. State Facility's ID 910-653-6399			
				F. Facility's Phone			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit	
a. Non-HAZ Petroleum Contact Water W/L				1 V.T.		1351 GAC	
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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date	
Steve Riveabank				Steve Riveabank		5/4/11	
18. Transporter 2 Acknowledgement of Receipt of Materials				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				Signature		Date	
Marc Co				Marc Co		5/4/11	



Geological Resources, Inc.

June 7, 2011

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management


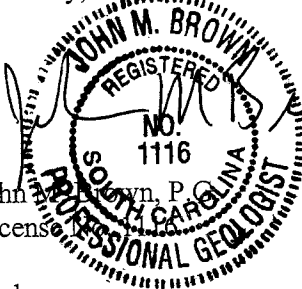


Re: Aggressive Fluid Vapor Recovery Events
Tisdale's Quick Stop
1989 Thurgood Marshall Blvd., Kingstree, Williamsburg County, South Carolina
UST Permit No. 18686
CA No. 41220

Dear Mr. Martin:

Geological Resources, Inc. (GRI) has completed the third of four aggressive fluid vapor recovery (AFVR) events at the above referenced site in Kingstree, South Carolina. The AFVR event was conducted on May 24, 2011. A copy of the AFVR reports and an interim invoice are attached. Please contact me at (704) 845-4010 with any questions.

Sincerely,

John M. Brown, P.
License

enclosure

cc: file

2301 Crown Point Executive Drive Suite F Charlotte, NC 28227
Phone: (704) 845-4010 / (888) 870-4133 Fax: (704) 845-4012



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, May 30, 2011

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on May 24, 2011. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-2.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
May 24, 2011

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 05/24/11. The ambient temperature was 84 deg F and weather conditions were sunny. The depths to product and water were measured prior to and subsequent to the AFVR event. (See attached data) Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.866 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1326 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISOAGIE'S QUICK STOP Location: KYN 63 TRAIL, SC

AFVR Contractor: HFELG, Inc. - Steve

Personnel: GRI -

Date: 5-24-11 Ambient Air Temperature and General Weather Condition: Sunny - Temp 84°

Start Time 1:	Stop Time 1:	Start Time 2:	Stop Time 2:
8:00	4:00		

Total volume of water removed during the 8-hour AFVR Event: 1326 gal

Total volume of product removed during the 8-hour AFVR Event: Approx: 2.5 gal

Product Recovery Rate:

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 2	14.77 13.64	14.09	—	15.215"	1306 gal	

TISDALE'S QUICKSTOP - 5/24/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

Time	MW- 2	MW-	MW-	Stinger Placement			
	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Stinger Depth	Product Depth	Water Level	Notes
8:00	23			15'	13.66	14.09	
8:30	23						
9:00	23						
9:30	23						
10:00	23						
10:30	23						
11:00	23						
11:30	23						
12:00	23						
12:30	23						
1:00	23						
1:30	23						
2:00	23						
2:30	23						
3:00	23						
3:30	23						
4:00	23						

Vacuum at Pump: 25

TISDALE'S QUICK STOP - 5/24/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
5/24/11	8:00	428	0.022	96	48	0.017639427	8.78
5/24/11	8:30	447	0.022	98	48	0.018781507	9.13
5/24/11	9:00	472	0.022	100	48	0.019989612	9.59
5/24/11	9:30	485	0.022	108	48	0.025554736	9.67
5/24/11	10:00	508	0.022	115	48	0.031538722	9.94
5/24/11	10:30	512	0.022	118	48	0.034474598	9.93
5/24/11	11:00	516	0.022	118	48	0.034474598	10.01
5/24/11	11:30	522	0.022	120	48	0.036569080	10.07
5/24/11	12:00	519	0.022	122	48	0.038780279	9.96
5/24/11	12:30	528	0.022	125	48	0.042329898	10.04
5/24/11	1:00	521	0.022	125	48	0.042329898	9.91
5/24/11	1:30	526	0.022	125	48	0.042329898	10.00
5/24/11	2:00	534	0.022	125	48	0.042329898	10.15
5/24/11	2:30	541	0.022	125	48	0.042329898	10.29
5/24/11	3:00	546	0.022	125	48	0.042329898	10.38
5/24/11	3:30	552	0.022	125	48	0.042329898	10.50
5/24/11	4:00	557	0.022	125	48	0.042329898	10.59
Averages		512.59	0.022	117.35	48	0.035084808	9.938

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0	8.78	609	1	609	3238.55	0.000202183	0.107	0.000
30	30	9.13	623	1	623	3313.00	0.000206831	0.113	0.057
30	60	9.59	618	1	618	3286.41	0.000205171	0.118	0.059
30	90	9.67	610	1	610	3243.87	0.000202515	0.117	0.059
30	120	9.94	578	1	578	3073.70	0.000191891	0.114	0.057
30	150	9.93	571	1	571	3036.48	0.000189567	0.113	0.056
30	180	10.01	535	1	535	2845.04	0.000177616	0.107	0.053
30	210	10.07	557	1	557	2962.03	0.000184919	0.112	0.056
30	240	9.96	548	1	548	2914.17	0.000181931	0.109	0.054
30	270	10.04	532	1	532	2829.08	0.000176620	0.106	0.053
30	300	9.91	526	1	526	2797.17	0.000174628	0.104	0.052
30	330	10.00	528	1	528	2807.81	0.000175292	0.105	0.053
30	360	10.15	521	1	521	2770.59	0.000172968	0.105	0.053
30	390	10.29	514	1	514	2733.36	0.000170644	0.105	0.053
30	420	10.38	502	1	502	2669.55	0.000166660	0.104	0.052
30	450	10.50	488	1	488	2595.10	0.000162012	0.102	0.051
30	480	10.59	455	1	455	2419.61	0.000151056	0.096	0.048
Averages		9.94	547.94	1.00	547.94	2913.85	0.000181912	0.108	0.051
Total Emission in pounds:									0.866

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528 \text{degrees R}/(\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = $24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

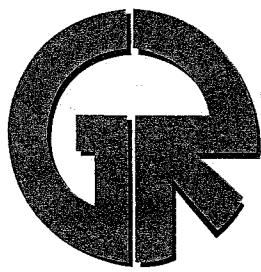
LIQUID DISPOSAL MANIFEST

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.	2. Page 1 of
3. Generator's Name and Mailing Address TISDALES QUICKSTOP 1989 THURGOOD MARSHALL KINGSTREE, SC					
4. Generator's Phone ()					
5. Transporter 1 Company Name HERR, Inc.		6. US EPA ID Number INCZ-000139816		A. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-653-6399	
9. Designated Facility Name and Site Address HERR, Inc. 217 N. 701 Bypass TABOR CITY, NC 28463		10. US EPA ID Number INCZ-000139816		C. State Transporter's ID	
				D. Transporter 2 Phone	
				E. State Facility's ID	
				F. Facility's Phone 910-653-6399	
11. WASTE DESCRIPTION				12. Containers	
				No.	Type
a. NON-HAZ Petroleum Contact Water Mix				1	V.T.
b.					
c.					
d.					
13. Total Quantity				132 L	
14. Unit WL/Vol.				GAL	
G. Additional Descriptions for Materials Listed Above				H. Handling Codes for Wastes Listed Above	
15. Special Handling Instructions and Additional Information					
<div style="background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px); height: 10px; width: 100%; margin: 10px auto;"></div>					
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				Date	
Signature				Month Day Year	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name Steve Rivenbark				Date 5/24/11	
Signature				Month Day Year	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name				Date	
Signature				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 Marc Cwo				Date 5/24/11	
Signature				Month Day Year	

NON-HAZARDOUS WASTE

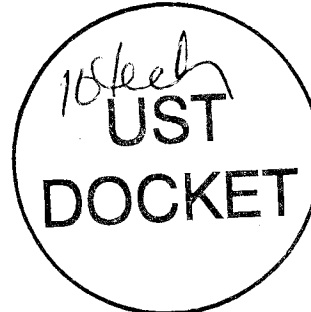


Geological Resources, Inc.

June 24, 2011

Mr. Jim Martin, Hydrogeologist
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: AFVR Report
Tisdales Quick Stop
Kingstree, Williamsburg County
UST Permit #: 18686
CA #: 41220



Dear Mr. Martin:

This report presents the results of four aggressive fluid-vapor recovery (AFVR) activities conducted on May 3, May 4, May 24 and June 14, 2011 at the above referenced site. The activities were conducted in accordance with the requirements outlined in correspondence from the SCDHEC dated April 22, 2011 and addressed to Mr. Marty Easler. The purpose of the activities was to remove free product from and reduce dissolved phase contaminant concentrations in monitoring wells MW-2 and MW-3. The following Figures, Tables and Appendices have been included:

Figure 1: Site Location Map
Figure 2: Site Map

Table 1A: AFVR Event Chronology – May 3, 2011
Table 1B: AFVR Event Chronology – May 4, 2011
Table 1C: AFVR Event Chronology – May 24, 2011
Table 1D: AFVR Event Chronology – June 14, 2011
Table 2: Summary of Monitoring Well Gauging Data

Appendix A: AFVR Reports, Calculations, Disposal Manifests

GRI personnel and the AFVR contractor, Hazmat Emergency Response and Remediation, Inc. (HERR) arrived on-site on May 3, 2011 for the first of four AFVR events. The first event was conducted on monitoring well MW-2. General weather conditions were sunny with an ambient air temperature of approximately 71°F at the time of system start-up. No free product was detected in MW-2 prior to system startup. AFVR activities were conducted for eight (8) hours on MW-2 using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the well remained steady at 20 in. Hg throughout the day. Please note that the

2301 Crown Point Executive Drive Suite F Charlotte, NC 28227
Phone: (704) 845-4010 / (888) 870-4133 Fax: (704) 845-4012

vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 1,628 gallons of liquid were removed during the event. No measurable free product was present in MW-2 at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 0.495 pounds (approximately 0.079 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on May 4, 2011 for the second of four AFVR events. The second event was conducted on monitoring well MW-3. General weather conditions were overcast with an ambient air temperature of approximately 67°F at the time of system start-up. Approximately 0.03 feet of free product was measured in MW-3 prior to system startup. AFVR activities were conducted for eight (8) hours on MW-3 using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the well remained steady at 20 in. Hg throughout the day. Please note that the vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 1,351 gallons of liquid were removed during the event of which an estimated 2.0 gallons were liquid phase free product. No measurable free product was present in MW-3 at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 0.576 pounds (approximately 0.092 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on May 24, 2011 for the third of four AFVR events. The third event was conducted on monitoring well MW-2. General weather conditions were sunny with an ambient air temperature of approximately 84°F at the time of system start-up. Approximately 0.43 feet of free product was measured in MW-2 prior to system startup. AFVR activities were conducted for eight (8) hours on MW-2 using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the well remained steady at 23 in. Hg throughout the day. Please note that the vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 1,326 gallons of liquid were removed during the event of which an estimated 2.5 gallons were liquid phase free product. No measurable free product was present in MW-2 at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 0.866 pounds (approximately 0.139 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on June 14, 2011 for the fourth of four AFVR events. The fourth event was conducted on monitoring well MW-3. General weather conditions were sunny with an ambient air temperature of approximately 74°F at the time of system start-up. Approximately 0.12 feet of free product was measured in MW-3 prior to system startup. AFVR activities were conducted for eight (8) hours on MW-3 using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the well remained steady at 22 in. Hg throughout the day. Please note that the vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 1,251 gallons of liquid were removed during the event of which an estimated 1.5 gallons were liquid phase free product. No measurable free product was present in MW-3 at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 0.603 pounds (approximately 0.096 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

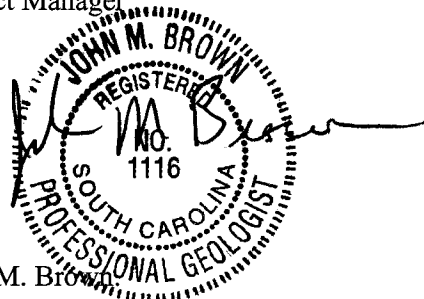
Tisdale Quick Stop
AFVR Report
Page 3 of 3

If you have any comments or questions concerning this project, please do not hesitate to contact the undersigned at (704) 845-4010.

Sincerely,



Scott Ball
Project Manager

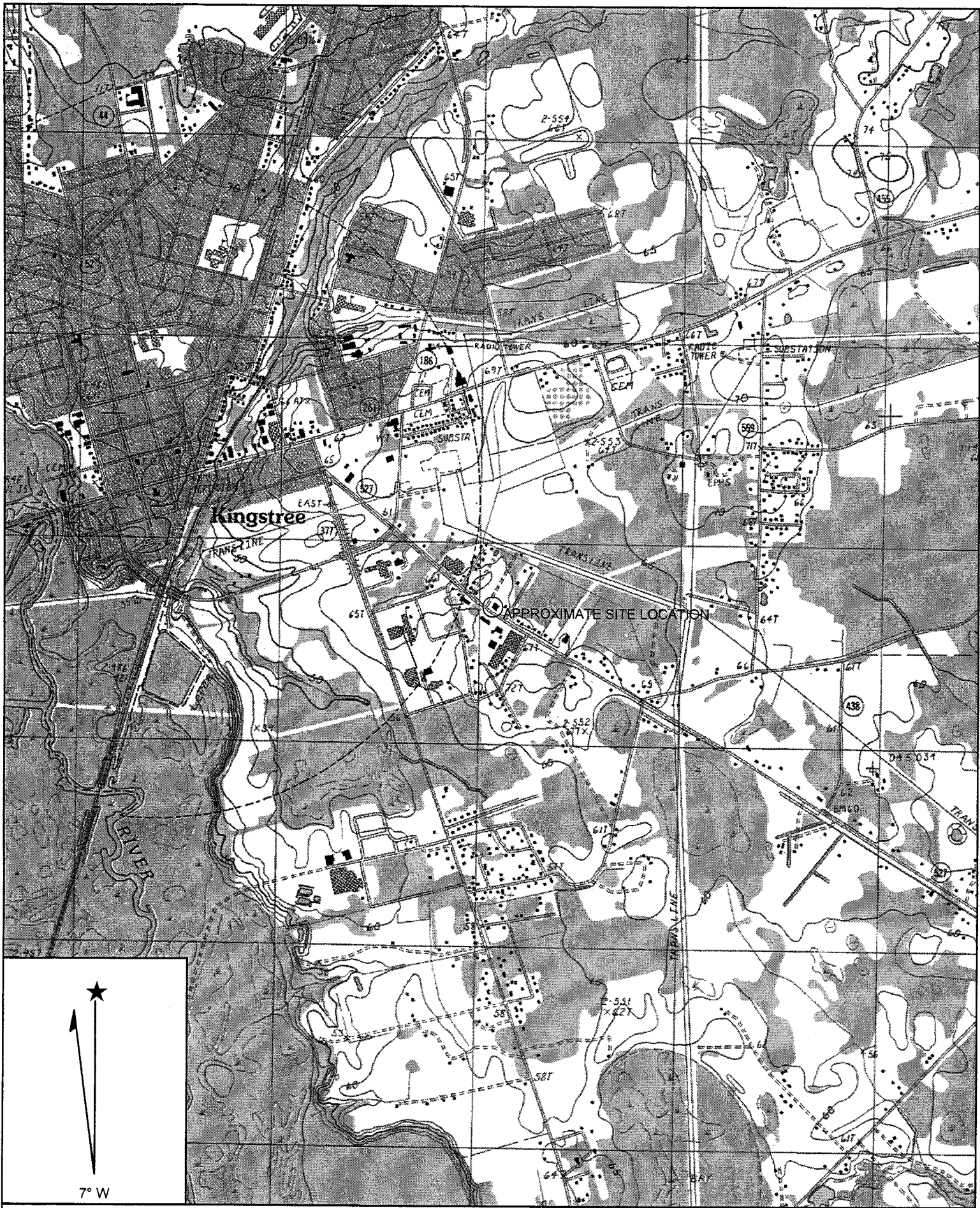


John M. Brown
License No. 1116

enclosures

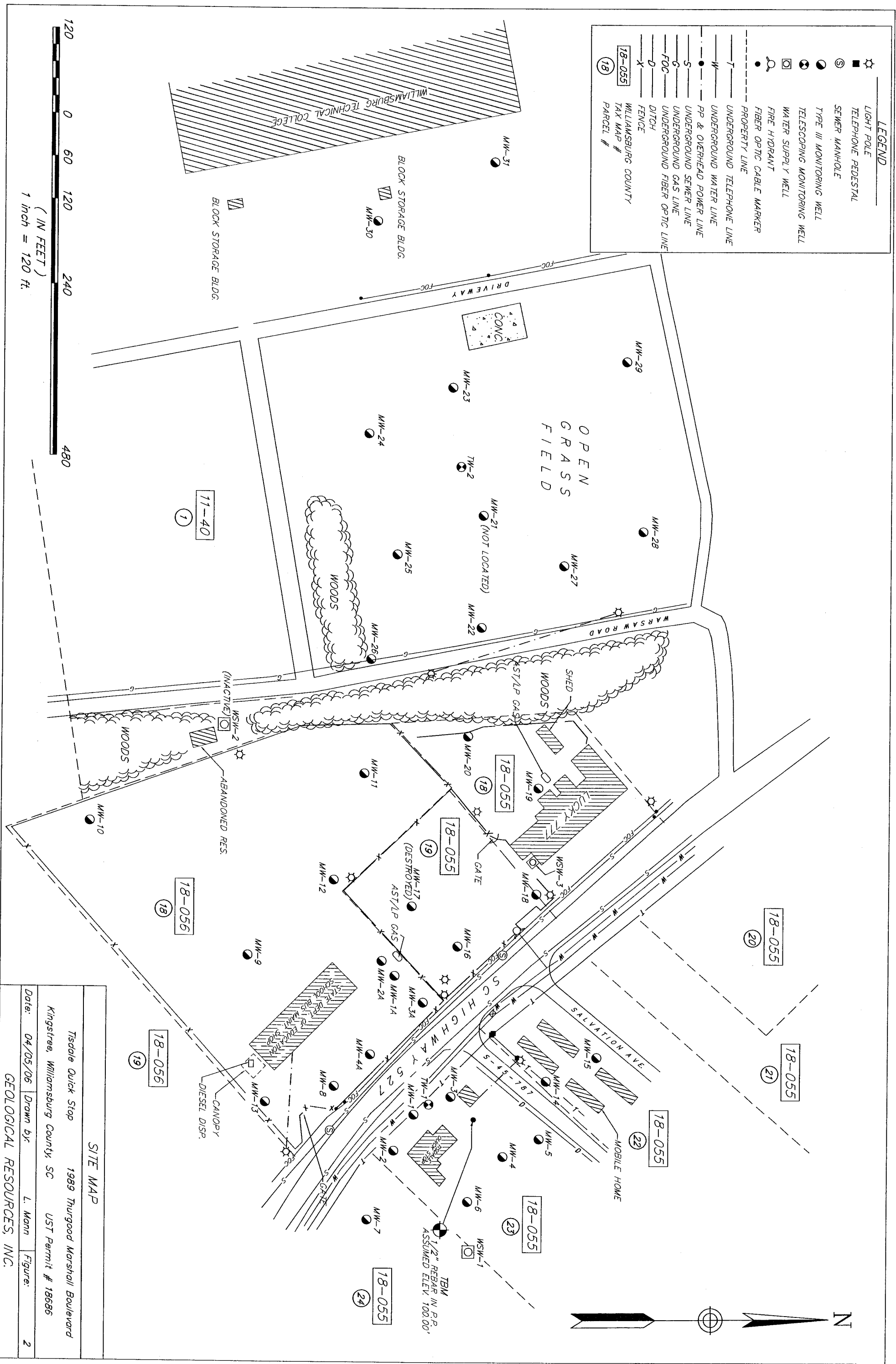
cc: Mr. Marty Easler
file

FIGURES



Name: KINGSTREE
Date: 2/11/2009
Scale: 1 inch equals 2000 feet

Location: 033° 39' 29.0" N 079° 48' 46.8" W
Caption: Site Location Map
Tisdale's Quick Stop
Figure 1 UST Permit # 18686



TABLES

TABLE 1A
AFVR EVENT CHRONOLOGY
MAY 3, 2011
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-2	7:45	HERR	Interface Probe	HERR
Vacuum Truck Setup for Fluid Removal in MW-2	7:45 - 8:00	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	7:45 - 8:15	GRI	NA	GRI
Fluid Recovery in MW-2	8:00 - 16:00	HERR	Vacuum Truck	HERR
Gauge Liquid Level in MW-2	16:15	HERR	Interface Probe	HERR

TABLE 1B
AFVR EVENT CHRONOLOGY
MAY 4, 2011
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-3	7:45	HERR	Interface Probe	HERR
Vacuum Truck Setup for Fluid Removal in MW-3	7:45 - 8:00	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	7:45 - 8:15	GRI	NA	GRI
Fluid Recovery in MW-3	8:00 - 16:00	HERR	Vacuum Truck	HERR
Gauge Liquid Level in MW-3	16:15	HERR	Interface Probe	HERR

TABLE 1C
AFVR EVENT CHRONOLOGY
MAY 24, 2011
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-2	7:45	HERR	Interface Probe	HERR
Vacuum Truck Setup for Fluid Removal in MW-2	7:45 - 8:00	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	7:45 - 8:15	GRI	NA	GRI
Fluid Recovery in MW-2	8:00 - 16:00	HERR	Vacuum Truck	HERR
Gauge Liquid Level in MW-2	16:15	HERR	Interface Probe	HERR

TABLE 1D
AFVR EVENT CHRONOLOGY
JUNE 14, 2011
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-3	7:45	HERR	Interface Probe	HERR
Vacuum Truck Setup for Fluid Removal in MW-3	7:45 - 8:00	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	7:45 - 8:15	GRI	NA	GRI
Fluid Recovery in MW-3	8:00 - 16:00	HERR	Vacuum Truck	HERR
Gauge Liquid Level in MW-3	16:15	HERR	Interface Probe	HERR

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA
TISDALE'S QUICK STOP
UST PERMIT #18686

Well No.	Date	Time	Depth to Free Product	Depth to Ground Water	Free Product Thickness
MW-2	05/03/11	7:45	---	14.29	---
		16:15	---	17.69	---
MW-3	05/04/11	7:45	13.93	13.96	0.03
		16:15	---	15.90	---
MW-2	05/24/11	7:45	13.66	14.09	0.43
		16:15	---	15.45	---
MW-3	06/14/11	7:45	15.10	15.22	0.12
		16:15	---	16.67	---

Note:
• Data reported in feet.

APPENDIX

APPENDIX A
AFVR Reports, Calculations, Disposal Manifests



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, May 16, 2011

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

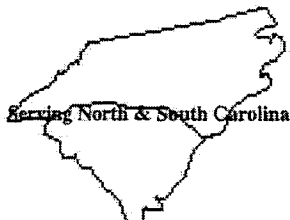
Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on May 3, 2011. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-2. If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
May 10, 2011

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 05/03/11. The ambient temperature was 71 deg F and weather conditions were sunny. The depths to product and water were measured prior to and subsequent to the AFVR event. (See attached data) Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.495 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1628 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
 - B. POLLUTANT MASS REMOVAL DATA SHEET**
 - C. LIQUID DISPOSAL MANIFEST**
-

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERZ, Inc. - Steve Personnel: GRI -

Date: 5/3/11 Ambient Air Temperature and General Weather Condition: Sunny-Fair 71.3

Start Time 1:	Stop Time 1:	Start Time 2:	Stop Time 2:
8:00	4:00		

Total volume of water removed during the 8-hour AFVR Event: 1628 gal

Total volume of product removed during the 8-hour AFVR Event: _____

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 2	~ ~ ~	14.29	~ ~ ~	17.69	1628 gal	

TISDALE'S QUICK STOP 5/3/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 22

TISDALE'S QUICKSTOP 5/3/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

TISDALE'S QUICKSTOP - 5/3/11

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
5/3/11	8:00	332	0.022	96.0	45	0.016507704	6.82
5/3/11	8:30	364	0.022	100.0	45	0.018702695	7.41
5/3/11	9:00	358	0.022	103.0	45	0.020517186	7.23
5/3/11	9:30	369	0.022	106.0	44	0.021971220	7.41
5/3/11	10:00	372	0.022	108.0	44	0.023345247	7.43
5/3/11	10:30	385	0.022	107.0	44	0.022648832	7.71
5/3/11	11:00	392	0.022	108.0	44	0.023345247	7.83
5/3/11	11:30	387	0.022	108.0	44	0.023345247	7.73
5/3/11	12:00	396	0.022	108.0	44	0.023345247	7.91
5/3/11	12:30	412	0.022	108.0	44	0.023345247	8.23
5/3/11	1:00	408	0.022	108.0	44	0.023345247	8.15
5/3/11	1:30	392	0.022	108.0	44	0.023345247	7.83
5/3/11	2:00	415	0.022	108.0	44	0.023345247	8.29
5/3/11	2:30	410	0.022	108.0	44	0.023345247	8.19
5/3/11	3:00	426	0.022	107.0	44	0.022648832	8.53
5/3/11	3:30	418	0.022	107.0	44	0.022648832	8.37
5/3/11	4:00	411	0.022	107.0	44	0.022648832	8.23
Averages		391	0.022	106.18	44.18	0.022258903	7.841

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0	6.82	218	1	218	1159.29	0.000072374	0.030	0.000
30	30	7.41	278	1	278	1478.35	0.000092294	0.041	0.021
30	60	7.23	282	1	282	1499.63	0.000093622	0.041	0.020
30	90	7.41	341	1	341	1813.38	0.000113209	0.050	0.025
30	120	7.43	428	1	428	2276.03	0.000142092	0.063	0.032
30	150	7.71	472	1	472	2510.01	0.000156700	0.072	0.036
30	180	7.83	467	1	467	2483.42	0.000155040	0.073	0.036
30	210	7.73	458	1	458	2435.56	0.000152052	0.071	0.035
30	240	7.91	462	1	462	2456.83	0.000153380	0.073	0.036
30	270	8.23	466	1	466	2478.11	0.000154708	0.076	0.038
30	300	8.15	439	1	439	2334.52	0.000145744	0.071	0.036
30	330	7.83	396	1	396	2105.86	0.000131469	0.062	0.031
30	360	8.29	387	1	387	2058.00	0.000128481	0.064	0.032
30	390	8.19	366	1	366	1946.32	0.000121509	0.060	0.030
30	420	8.53	345	1	345	1834.65	0.000114537	0.059	0.029
30	450	8.37	351	1	351	1866.56	0.000116529	0.059	0.029
30	480	8.23	342	1	342	1818.70	0.000113541	0.056	0.028
Averages		7.84	382.24	1.00	382.24	2032.66	0.000126899	0.060	0.029
Total Emission in pounds:									0.495

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

$Mg = 128 \text{ mg/mg-mole}$, molecular weight of gasoline

$K3 = 24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address TISDALES QUICKSTOP 1989 THURGOOD MARSHALL KINGSTREE, SC							
4. Generator's Phone ()							
5. Transporter 1 Company Name HERTZ, Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-657-6399		C. State Transporter's ID	
				D. Transporter 2 Phone			
9. Designated Facility Name and Site Address HERTZ, Inc. 217 N 701 Bypass Tabor City, NC 28463		10. US EPA ID Number NCR-000139816		E. State Facility's ID			
				F. Facility's Phone 910-657-6399			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit	
a. Non-HAZ Petroleum Contact Water NW				1 1 U.T. 1628		Gals	
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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name Steve Rivenbark				Signature [Signature]		Month Day Year 5/3/11	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name				Signature		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 Mark Cox				Signature [Signature]		Date	
						Month Day Year 5/4/11	





HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, May 16, 2011

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

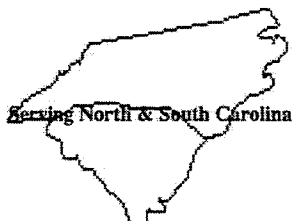
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on May 4, 2011. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,


Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
May 4, 2011

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 05/04/11. The ambient temperature was 67 deg F and weather conditions were overcast. The depths to product and water were measured prior to and subsequent to the AFVR event. (See attached data) Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.576 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1351 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI -

Date: 5/4/11 Ambient Air Temperature and General Weather Condition: Overcast 67.0

Start Time 1: 8:00 Stop Time 1: 4:00 Start Time 2: Stop Time 2:

Total volume of water removed during the 8-hour AFVR Event: 1351 gal

Total volume of product removed during the 8-hour AFVR Event: Approx: 2 gal

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
<u>MW 3</u>	<u>13.93</u>	<u>13.76</u>	<u>1.00</u>	<u>15.90</u>	<u>1351 gal</u>	

TISDALE'S QUICK STOP - 5/4/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 22

TISDALE'S QUICKSTOP - 5/4/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

TISDALE'S QUICK STOP. 5/4/11

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
5/4/11	8:00	529	0.022	78.0	65	0.013394060	11.27
5/4/11	8:30	521	0.022	82.0	65	0.015312026	10.99
5/4/11	9:00	532	0.022	85.0	65	0.016908559	11.15
5/4/11	9:30	545	0.022	94.0	65	0.022638549	11.17
5/4/11	10:00	563	0.022	100.0	65	0.027380918	11.36
5/4/11	10:30	566	0.022	101.0	65	0.028253968	11.39
5/4/11	11:00	574	0.022	103.0	65	0.030076874	11.49
5/4/11	11:30	582	0.022	104.0	65	0.031028151	11.61
5/4/11	12:00	589	0.022	104.0	65	0.031028151	11.75
5/4/11	12:30	592	0.022	104.0	65	0.031028151	11.81
5/4/11	1:00	588	0.022	105.0	65	0.032006961	11.70
5/4/11	1:30	596	0.022	105.0	65	0.032006961	11.86
5/4/11	2:00	603	0.022	105.0	65	0.032006961	12.00
5/4/11	2:30	592	0.022	105.0	65	0.032006961	11.78
5/4/11	3:00	608	0.022	105.0	65	0.032006961	12.10
5/4/11	3:30	605	0.022	105.0	65	0.032006961	12.04
5/4/11	4:00	598	0.022	105.0	65	0.032006961	11.90
Averages		575.47	0.022	99.41	65.00	0.027711655	11.611

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0	11.27	312	1	312	1659.16	0.000103581	0.070	0.000
30	30	10.99	328	1	328	1744.25	0.000108893	0.072	0.036
30	60	11.15	411	1	411	2185.63	0.000136449	0.091	0.046
30	90	11.17	377	1	377	2004.82	0.000125161	0.084	0.042
30	120	11.36	352	1	352	1871.87	0.000116861	0.080	0.040
30	150	11.39	336	1	336	1786.79	0.000111549	0.076	0.038
30	180	11.49	324	1	324	1722.97	0.000107565	0.074	0.037
30	210	11.61	312	1	312	1659.16	0.000103581	0.072	0.036
30	240	11.75	305	1	305	1621.94	0.000101257	0.071	0.036
30	270	11.81	296	1	296	1574.08	0.000098270	0.070	0.035
30	300	11.70	299	1	299	1590.03	0.000099266	0.070	0.035
30	330	11.86	281	1	281	1494.31	0.000093290	0.066	0.033
30	360	12.00	275	1	275	1462.40	0.000091298	0.066	0.033
30	390	11.78	263	1	263	1398.59	0.000087314	0.062	0.031
30	420	12.10	271	1	271	1441.13	0.000089970	0.065	0.033
30	450	12.04	278	1	278	1478.35	0.000092294	0.067	0.033
30	480	11.90	281	1	281	1494.31	0.000093290	0.067	0.033
Averages		11.61	311.82	1.00	311.82	1658.22	0.000103523	0.072	0.034
Total Emission in pounds:									0.576

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = $24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address TISOALES QUICKSTOP 1989 THURGOOD MARSHALL KINSTREE, SC							
4. Generator's Phone (
5. Transporter 1 Company Name HEER Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-657-6399			
				C. State Transporter's ID			
				D. Transporter 2 Phone			
9. Designated Facility Name and Site Address HEER Inc. 217 N 701 Bypass TARAP CITY, NC 28463		10. US EPA ID Number NCR-000139816		E. State Facility's ID 910-657-6399			
				F. Facility's Phone			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		14. Unit Wt./Vol.	
a. Non-Haz Petroleum Contact Watermilk				1		V.T. 1351 GAC	
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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Date			
Printed/Typed Name Steve Riverbank				Signature Steve Riverbank		Date 5/4/11	
18. Transporter 2 Acknowledgement of Receipt of Materials				Date			
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 Marc Co				Signature Marc Co		Date 5/4/11	

NON-HAZARDOUS WASTE



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, May 30, 2011

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on May 24, 2011. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-2.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
May 24, 2011

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 05/24/11. The ambient temperature was 84 deg F and weather conditions were sunny. The depths to product and water were measured prior to and subsequent to the AFVR event. (See attached data) Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.866 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1326 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISOAGE'S QUICKSTOP Location: KNOXVILLE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GAT -

Date: 5-24-11 Ambient Air Temperature and General Weather Condition: Sunny - Temp 84°

Start Time 1: 8:00 Stop Time 1: 4:00 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 1326 gal

Total volume of product removed during the 8-hour AFVR Event: Approx 2.5 gal

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW2	14.77 13.66	14.09	---	15.75	1306 gal	

TISDALE'S QUICKSTOP - 5/24/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 25

TISDALE'S QUICK STOP - 5/24/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
5/24/11	8:00	428	0.022	96	48	0.017639427	8.78
5/24/11	8:30	447	0.022	98	48	0.018781507	9.13
5/24/11	9:00	472	0.022	100	48	0.019989612	9.59
5/24/11	9:30	485	0.022	108	48	0.025554736	9.67
5/24/11	10:00	508	0.022	115	48	0.031538722	9.94
5/24/11	10:30	512	0.022	118	48	0.034474598	9.93
5/24/11	11:00	516	0.022	118	48	0.034474598	10.01
5/24/11	11:30	522	0.022	120	48	0.036569080	10.07
5/24/11	12:00	519	0.022	122	48	0.038780279	9.96
5/24/11	12:30	528	0.022	125	48	0.042329898	10.04
5/24/11	1:00	521	0.022	125	48	0.042329898	9.91
5/24/11	1:30	526	0.022	125	48	0.042329898	10.00
5/24/11	2:00	534	0.022	125	48	0.042329898	10.15
5/24/11	2:30	541	0.022	125	48	0.042329898	10.29
5/24/11	3:00	546	0.022	125	48	0.042329898	10.38
5/24/11	3:30	552	0.022	125	48	0.042329898	10.50
5/24/11	4:00	557	0.022	125	48	0.042329898	10.59
Averages		512.59	0.022	117.35	48	0.035084808	9.938

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0	8.78	609	1	609	3238.55	0.000202183	0.107	0.000
30	30	9.13	623	1	623	3313.00	0.000206831	0.113	0.057
30	60	9.59	618	1	618	3286.41	0.000205171	0.118	0.059
30	90	9.67	610	1	610	3243.87	0.000202515	0.117	0.059
30	120	9.94	578	1	578	3073.70	0.000191891	0.114	0.057
30	150	9.93	571	1	571	3036.48	0.000189567	0.113	0.056
30	180	10.01	535	1	535	2845.04	0.000177616	0.107	0.053
30	210	10.07	557	1	557	2962.03	0.000184919	0.112	0.056
30	240	9.96	548	1	548	2914.17	0.000181931	0.109	0.054
30	270	10.04	532	1	532	2829.08	0.000176620	0.106	0.053
30	300	9.91	526	1	526	2797.17	0.000174628	0.104	0.052
30	330	10.00	528	1	528	2807.81	0.000175292	0.105	0.053
30	360	10.15	521	1	521	2770.59	0.000172968	0.105	0.053
30	390	10.29	514	1	514	2733.36	0.000170644	0.105	0.053
30	420	10.38	502	1	502	2669.55	0.000166660	0.104	0.052
30	450	10.50	488	1	488	2595.10	0.000162012	0.102	0.051
30	480	10.59	455	1	455	2419.61	0.000151056	0.096	0.048
Averages		9.94	547.94	1.00	547.94	2913.85	0.000181912	0.108	0.051
Total Emission in pounds:									0.866

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$\text{PPMg} = \text{PPM measured} * K$$

$$\text{Cg:m} = \text{PPMg} * (\text{Mg}/K3)$$

$$\text{Cg} = \text{Cg:m} * 62.43 \text{E-}09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$\text{PMRg} = \text{Cg} * Q_{std} * 60 \text{ min/hr}$$

$$\text{PMR} = \text{PMRg} * ((T2 - T1)/60)$$

$$Q_{std} = \text{Flow at DSCFM}$$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPMg = PPMv, Volumetric concentration as gasoline emission, dry basis at STP

Cg:m = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

Cg = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMRg = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address TISDALES QUICKSTOP 1989 THURGOOD MARSHALL KINGSTREE, SC							
4. Generator's Phone ()							
5. Transporter 1 Company Name HEPP, Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-653-6399			
				C. State Transporter's ID			
				D. Transporter 2 Phone			
9. Designated Facility Name and Site Address HEPP, Inc. 217 N. 701 Bypass Tabor City, NC 28463		10. US EPA ID Number NCR-000139816		E. State Facility's ID			
				F. Facility's Phone 910-653-6399			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit	
a. Non-Haz Petroleum Contact Water Mix				1 1 V.T.		132 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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name Steve Breenbark				Signature Steve Breenbark		Month Day Year 5 27 11	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name						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.				Signature		Date	
Printed/Typed Name Marc. Cw				Signature MK		Month Day Year 5 24 11	



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Wednesday, June 22, 2011

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

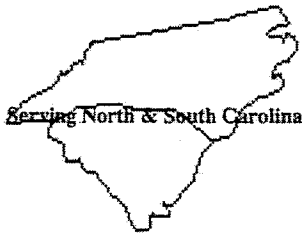
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on June 14, 2011. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
June 14, 2011

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 06/14/11. The ambient temperature was 74 deg F and weather conditions were sunny. The depths to product and water were measured prior to and subsequent to the AFVR event. (See attached data) Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event. The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.603 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1251 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A
AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: 1989 THURGOOD MARSHALL - KINGSTREE, SC

AFVR Contractor: HEPEC, Inc. - Steve Personnel: GELI -

Date: 6/14/11 Ambient Air Temperature and General Weather Condition: 74° Fair Sunny

Start Time 1: 8:00 Stop Time 1: 4:00 Start Time 2: Stop Time 2:

Total volume of water removed during the 8-hour AFVR Event: 1251 gcl

Total volume of product removed during the 8-hour AFVR Event: Approx 1.25-1.5 gals

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 3	15.10	15.22	—	16.67	1251 gcl	

CAR MICHAEL 66 - 6/14/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

	MW- 3	MW-	MW-	Stinger Placement			
Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Stinger Depth	Product Depth	Water Level	Notes
8:00	22			15'6"	15.10	15.22	
8:30	22						
9:00	22						
9:30	22						
10:00	22						
10:30	22						
11:00	22						
11:30	22						
12:00	22						
12:30	22						
1:00	22						
1:30	22						
2:00	22						
2:30	22						
3:00	22						
3:30	22						
4:00	22				-0-	16.67	

Vacuum at Pump: 24

CARMICHAEL

66 -

6/19/11

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

CARMICHAEL 66 - 6/14/11

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
6/14/11	8:00	507	0.022	95	78	0.028260024	10.31
6/14/11	8:30	516	0.022	98	78	0.031107004	10.41
6/14/11	9:00	521	0.022	102	78	0.035313888	10.39
6/14/11	9:30	538	0.022	105	78	0.038807747	10.63
6/14/11	10:00	546	0.022	106	78	0.040041944	10.76
6/14/11	10:30	545	0.022	106	78	0.040041944	10.74
6/14/11	11:00	552	0.022	107	78	0.041312626	10.84
6/14/11	11:30	548	0.022	107	78	0.041312626	10.76
6/14/11	12:00	555	0.022	107	78	0.041312626	10.90
6/14/11	12:30	557	0.022	107	78	0.041312626	10.94
6/14/11	1:00	568	0.022	107	78	0.041312626	11.16
6/14/11	1:30	574	0.022	107	78	0.041312626	11.27
6/14/11	2:00	591	0.022	107	78	0.041312626	11.61
6/14/11	2:30	608	0.022	107	78	0.041312626	11.94
6/14/11	3:00	612	0.022	107	78	0.041312626	12.02
6/14/11	3:30	618	0.022	107	78	0.041312626	12.14
6/14/11	4:00	621	0.022	107	78	0.041312626	12.20
Averages		563.35	0.022	105.24	78.00	0.039294791	11.118

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0	10.31	329	1	329	1749.56	0.000109225	0.068	0.000
30	30	10.41	345	1	345	1834.65	0.000114537	0.072	0.036
30	60	10.39	361	1	361	1919.73	0.000119849	0.075	0.037
30	90	10.63	382	1	382	2031.41	0.000126821	0.081	0.040
30	120	10.76	416	1	416	2212.21	0.000138109	0.089	0.045
30	150	10.74	394	1	394	2095.22	0.000130805	0.084	0.042
30	180	10.84	391	1	391	2079.27	0.000129809	0.084	0.042
30	210	10.76	378	1	378	2010.14	0.000125493	0.081	0.041
30	240	10.90	366	1	366	1946.32	0.000121509	0.079	0.040
30	270	10.94	352	1	352	1871.87	0.000116861	0.077	0.038
30	300	11.16	344	1	344	1829.33	0.000114205	0.076	0.038
30	330	11.27	312	1	312	1659.16	0.000103581	0.070	0.035
30	360	11.61	297	1	297	1579.39	0.000098602	0.069	0.034
30	390	11.94	301	1	301	1600.66	0.000099929	0.072	0.036
30	420	12.02	288	1	288	1531.53	0.000095614	0.069	0.034
30	450	12.14	271	1	271	1441.13	0.000089970	0.066	0.033
30	480	12.20	259	1	259	1377.32	0.000085986	0.063	0.031
Averages		11.12	340.35	1.00	340.35	1809.94	0.000112994	0.075	0.035
Total Emission in pounds:									0.603

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

$Mg = 128 \text{ mg/mg-mole}$, molecular weight of gasoline

$K3 = 24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address TISDALES QUICKSTOP 1989 THORGOOD MARSHALL KINGSTREE, SC							
4. Generator's Phone ()							
5. Transporter 1 Company Name HEER, Inc.		6. US EPA ID Number INCR-000139816		A. State Transporter's ID		B. Transporter 1 Phone 910-653-6399	
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 HEER, Inc. 217 N 701 Bypass Tabor City, NC 28463		10. US EPA ID Number INCR-000139816		E. State Facility's ID		F. Facility's Phone 910-653-6399	
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit	
a. Non-HAZ Petroleum Contact Water Mix				1 V.T.		1251 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	
17. Transporter 1 Acknowledgement of Receipt of Materials						Date	
Printed/Typed Name Steve Bivenbank				Signature Steve Bivenbank		Month Day Year 6 14 11	
18. Transporter 2 Acknowledgement of Receipt of Materials						Date	
Printed/Typed Name				Signature		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 Marc Cor				Signature		Date	
						Month Day Year 6 14 11	

NON-HAZARDOUS WASTE

TRANSPORTER

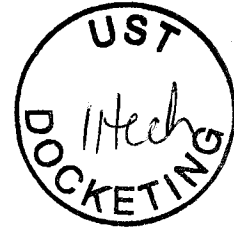
FACILITY





C. Earl Hunter, Commissioner

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



MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

SEP 08 2011

Re: **QAPP Contractor Addendum Directive**
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686
Release reported March 30, 2001
AFVR Report received June 27, 2011
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report. The report indicates the presence of chemicals of concern in the groundwater.

To determine what risk the referenced 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 a Groundwater-sampling event in which samples should be collected for BTEX, Naphthalene, MtBE, 1,2-DCA, ethanol, and 8-Oxygenates from all wells associated with this site as outlined in the UST Quality Assurance Program Plan (QAPP) is necessary. The groundwater-sampling event should be conducted in accordance with the UST QAPP and in compliance with all applicable regulations. A copy of the SCDHEC QAPP for the UST Division is available at:

<http://www.dhec.sc.gov/environment/lwm/html/ust.htm>

Please have your contractor complete and submit the QAPP Contractor Addendum and Cost Agreement to the UST Division within thirty (30) days of the date of this letter. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that technical and financial pre-approval from the SCDHEC must be issued before work begins.**

On all correspondence regarding this site, please reference **UST Permit #18686**. If you have questions or need additional information, feel free to contact me by telephone at (803) 896-4085, by fax at (803) 896-6245, or by e-mail to martinjm@dhec.sc.gov.

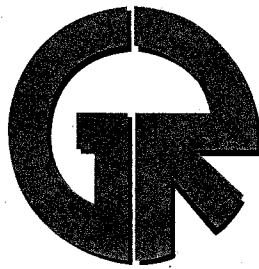
Sincerely,

Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Geological Resources, Inc., 2301 Crown Point Executive Drive, Suite F, Charlotte, NC 28227
Technical File

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

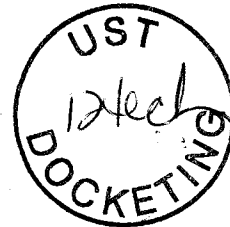
2600 Bull Street • Columbia, SC 29201 • Phone: (803) 898-3432 • www.scdhec.gov



Geological Resources, Inc.

September 30, 2011

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management



Re: GRI Proposal No. 11-353
Cost Agreement and QAPP Contractor Addendum
Tisdale's Quick Stop
1989 Thurgood Marshall Blvd., Kingstree, Williamsburg County
UST Permit No. 18686

Dear Mr. Martin:

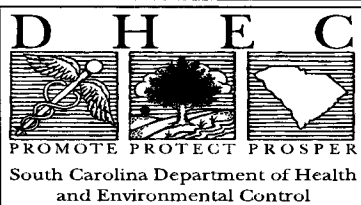
In response to your September 08, 2011 QAPP Contractor Addendum Directive, Geological Resources, Inc. (GRI) submits the attached Cost Agreement to conduct a comprehensive ground sampling event at the above referenced site. The associated QAPP Contractor Addendum is also attached. Please contact me at (704) 845-4010 with any questions.

Sincerely,
Geological Resources, Inc.
S.C. Site Rehabilitation Contractor #74

W. Scott Ball
Senior Project Manager

enclosure

cc: file



July 1, 2011

**ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA**

Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account

Facility Name: Tisdales Quick Stop		GRI Proposal No. 11-353		
UST Permit #:	18686	Cost Agreement #:		
ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan*				
B. Tax Map		x	\$50.00	\$0.00
C. Tier II or Comp. Plan /QAPP Appendix B	1	x	\$525.00	\$525.00
2. Receptor Survey *				
		x	\$500.00	\$0.00
3. Survey (500 x 500 feet)				
A. Comprehensive Survey		x	\$1,000.00	\$0.00
B. Subsurface Geophysical Survey				
1. < 10 meters below grade		x	\$2,750.00	\$0.00
2. > 10 meters below grade		x	\$3,250.00	\$0.00
C. Geophysical UST or Drum Survey		x	\$1,125.00	\$0.00
4. Mob/Demob (Each)				
A. Equipment		x	\$575.00	\$0.00
B. Personnel	2	x	\$290.00	\$580.00
C. Adverse Terrain Vehicle to install wells		x	\$575.00	\$0.00
5. Soil Borings (hand auger)* (Feet)				
		feet x	\$14.00	\$0.00
6. Soil Borings (drilled) & Field Screening *				
Rate includes collection of water sample or soil sample, and lab or other analyses				
A. Standard		feet x	\$17.00	\$0.00
C. Fractured Rock		feet x	\$27.50	\$0.00
7. Soil Leachability Model (Each)				
		each x	\$200.00	\$0.00
8. Abandonment* (per foot)				
A. 2" diameter or less		feet x	\$5.00	\$0.00
B. Greater than 2" to 6" diameter		feet x	\$5.50	\$0.00
C. Dug/Bored well (up to 6 foot diameter)		feet x	\$18.00	\$0.00
9. Well Installation* (per foot)				
A. Water Table (hand augered)		feet x	\$20.00	\$0.00
B. Water Table (drill rig)		feet x	\$38.00	\$0.00
C. Telescoping/ Pit Cased		feet x	\$58.00	\$0.00
D. Rock Drilling		feet x	\$58.00	\$0.00
E. 2" Rock Coring		feet x	\$45.00	\$0.00
G. Rock Multi-sampling ports/screens		feet x	\$47.20	\$0.00
H. Recovery Well (4 inch diameter)		each x	\$45.00	\$0.00
I. Pushed Pre-packed screen (1.25 diameter)		each x	\$18.50	\$0.00
J. Rotasonic (2 inch diameter)		each x	\$45.00	\$0.00
10. Groundwater Sample Collection / Gauge Depth to Water or Product (Each)				
A. Groundwater Purge	33	wells x	\$55.00	\$1,815.00
B. Air or Vapors		samples x	\$90.00	\$0.00
C. Water Supply	2	samples x	\$30.00	\$60.00
D. Groundwater No Purge or Duplicate	2	samples x	\$35.00	\$70.00
E. Gauge Well only (MWs 1A, 2A, 3A, 4A)	4	per well x	\$20.00	\$80.00
F. Sample Below Product		wells x	\$50.00	\$0.00
G. Pasive Diffusion Bag		each x	\$40.00	\$0.00
H. Field Blank	1	each x	\$5.00	\$5.00

11. Laboratory Analyses-Groundwater (Each Sample)					
A1. BTEX+Naphth.+ Oxyg's+ 1,2 DCA + Ethanol	39	samples x	\$100.00		\$3,900.00
AA. Lead, Filtered		samples x	\$46.00		\$0.00
B1. Rush EPA Method 8260B (All of item A.)		samples x	\$143.00		\$0.00
C1. Trimethal, Butyl, and Isopropyl Benzenes		samples x	\$40.00		\$0.00
D. PAH's		samples x	\$120.00		\$0.00
E. Lead, Unfiltered		samples x	\$20.00		\$0.00
F. EDB by EPA 8011		samples x	\$55.00		\$0.00
FF. EDB by EPA Method 8011 Rush		samples x	\$75.00		\$0.00
G. 8 RCRA Metals		samples x	\$140.00		\$0.00
H. TPH (9070)		samples x	\$55.00		\$0.00
I. pH		samples x	\$10.00		\$0.00
J. BOD		samples x	\$40.00		\$0.00
P1. Ethanol		samples x	\$21.50		\$0.00
11. Analyses-Soil (Each Sample)					
Q. BTEX + Naphth.		samples x	\$100.00		\$0.00
R. PAH's		samples x	\$120.00		\$0.00
S. 8 RCRA Metals		samples x	\$150.00		\$0.00
T. Oil & Grease (9071)		samples x	\$60.00		\$0.00
U. TPH-DRO (3550B/8015B)		samples x	\$65.00		\$0.00
V. TPH- GRO (5030B/8015B)		samples x	\$65.00		\$0.00
W. Grain size/hydrometer		samples x	\$99.00		\$0.00
X. Total Organic Carbon		samples x	\$35.00		\$0.00
11. Analyses-Air (Each Sample)					
Y. BTEX + Naphthalene		samples x	\$247.50		\$0.00
11. Analyses-Free Phase Product (Each Sample)					
Z. Hydrocarbon Fuel Identification		samples x	\$620.00		\$0.00
12. Aquifer Characterization*					
A. Pumping Test		hours x	\$120.00		\$0.00
B. Slug Test*		tests x	\$150.00		\$0.00
C. Fractured Rock		tests x	\$500.00		\$0.00
13. Free Product Recovery Rate Test* (Each)		tests x	\$120.00		\$0.00
14. Fate/Transport Modeling					
A. Mathematical Model		each x	\$300.00		\$0.00
B. Computer Model		each x	\$500.00		\$0.00
15. Risk Evaluation					
A. Tier I Risk Evaluation		x	\$300.00		\$0.00
B. Tier II Risk Evaluation		x	\$500.00		\$0.00
16. Subsequent Survey*		x	\$300.00		\$0.00
17. Disposal* (gallons or tons)					
A. Wastewater	180	gallons x	\$0.80		\$144.00
B1. Free Product		gallons x	\$0.85		\$0.00
C. Soil Treatment/Disposal		tons x	\$72.50		\$0.00
D. Drilling fluids		gallons x	\$0.80		\$0.00
18. Miscellaneous (attach receipts)					
		x			\$0.00
		x			\$0.00
		x			\$0.00
20. Tier I Assessment (Use DHEC 3665 form)		x			\$0.00
21. IGWA (Use DHEC 3666 form)		x			\$0.00
22. Corrective Action (Use DHEC 3667 form)		x			\$0.00

23. Aggressive Fluid & Vapor Recovery (AFVR)					
A. 8-hour Event*		each x	\$3,000.00		\$0.00
B. AFVR per-hour Continuance		per hour x	\$204.00		\$0.00
C. Off-gas treatment per-hour Continuance		per hour x	\$35.00		\$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:					
A. New GAC System Installation*		each x	\$2,500.00		\$0.00
B1. Refurbished GAC Sys. Install*		each x	\$1,180.00		\$0.00
C. Filter replacement/removal*		each x	\$450.00		\$0.00
D1. GAC System removal, cleaning, & refurbishment*		each x	\$720.00		\$0.00
E. GAC System housing		each x	\$450.00		\$0.00
F. In-line particulate filter		each x	\$150.00		\$0.00
G. Additional piping & fittings		feet x	\$4.00		\$0.00
25. Well Repair					
A. Additional Copies of the Report Delivered		each x	\$32.50		\$0.00
B. Repair 2x2 MW pad		each x	\$100.00		\$0.00
C. Repair 4x4 MW pad		each x	\$150.00		\$0.00
D. Repair well vault		each x	\$225.00		\$0.00
F. Replace well cover bolts		each x	\$10.00		\$0.00
G. Replace locking well cap & lock		each x	\$15.00		\$0.00
H. Replace/Repair stick-up		each x	\$137.50		\$0.00
I. Convert Flush-mount to Stick-up		each x	\$175.00		\$0.00
J. Convert Stick-up to Flush-mount		each x	\$125.00		\$0.00
K. Replace missing/illegible well ID plate		each x	\$22.50		\$0.00
Report Prep & Project Management	15%	x	\$7,179.00		\$1,076.85
TOTAL					\$8,255.85

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

Geological Resources, Inc.
S.C. Rehabilitation Contractor #74
Tisdales Quick Stop
QAPP Revision 0
September 30, 2011

Appendix B: Contractor Addendum

RECEIVED OCT 05 2011

Geological Resources, Inc.
S.C. Rehabilitation Contractor #74
Tisdales Quick Stop
QAPP Revision 0
September 30, 2011

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Tisdales Quick Stop – UST Permit No. 18686

1989 Thurgood Marshall Blvd., Kingstree, Williamsburg County, South Carolina

Prepared by: W. Scott Ball

Geological Resources, Inc.
S.C. Site Rehabilitation Contractor #74

Date: 9/30/2011

Geological Resources, Inc.

Approvals

Jim Martin
SC DHEC Project Manager

Signature Date _____

John M. Brown, PG - GRI
Contractor QA Manager

John M Brown
Signature Date 10/05/11

Scott Ball - GRI
Site Rehabilitation Contractor

W. Scott Ball
Signature Date 10-5-11

Harry Behzadi
Laboratory Director

[Signature]
Signature Date 09-30-2011

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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Jim Martin	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-8085	803-896-6245	Jim Martin (martinjm@dhec.sc.gov)
John M. Brown, P.G.	Project Verifier	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	johnbrown@geologicalresourcesinc.com
John M. Brown, P.G.	QA Officer	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	johnbrown@geologicalresourcesinc.com
Scott Ball	Site Rehabilitation Contractor	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	wsb@geologicalresourcesinc.com
Scott Ball	Field Manager	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	wsb@geologicalresourcesinc.com
NA	Well Services/Driller	NA	NA	NA	NA
Harry Behzadi	Laboratory Director	Accutest, 4405 Vineland Road, Suite C-15, Orlando, FL 32811	407-425-6700	427-425-0707	harryb@accutest.com

Table 1A Addendum Distribution List

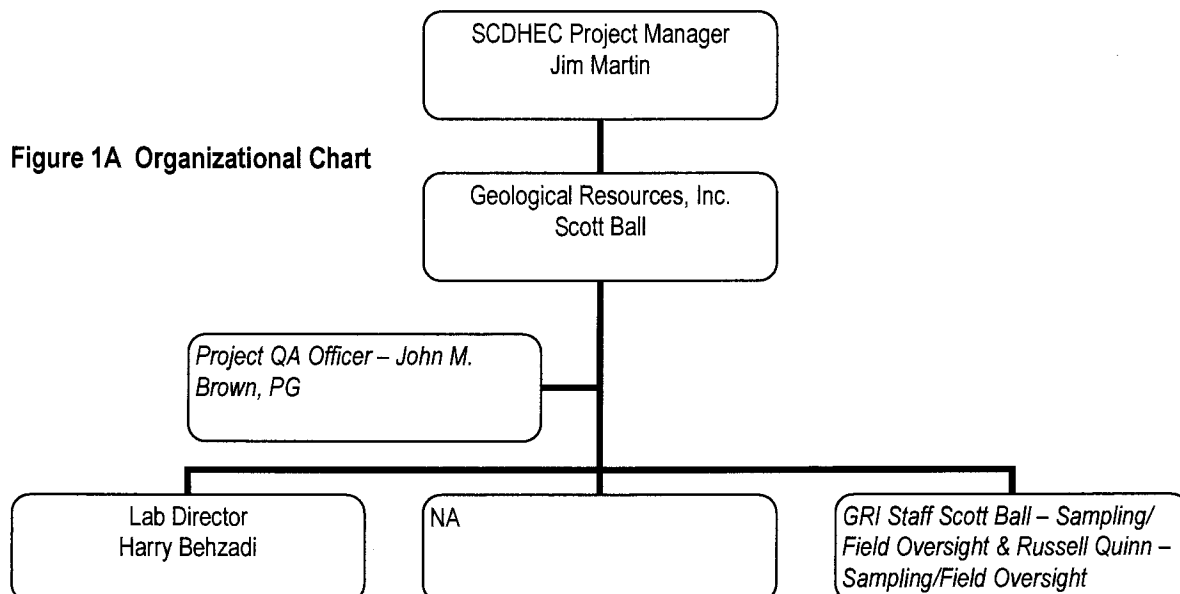
A4 Project Organization

Geological Resources, Inc.
S.C. Rehabilitation Contractor #74
Tisdales Quick Stop
QAPP Revision 0
September 30, 2011

Role from the UST Master QAPP	Name of person in this Role for this Project	Organization/Address	Telephone Number	Fax Number	Email Address
Project Manager	Jim Martin	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-8085	803-896-6245	Jim Martin (martinjm@dhec.sc.gov)
John M. Brown, P.G.	QA Officer	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	johnbrown@geologicalresourcesinc.com
Site Rehabilitation Contractor	Scott Ball	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	wsb@geologicalresourcesinc.com
Field Manager	Scott Ball	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	wsb@geologicalresourcesinc.com
Analytical Laboratory Director	Harry Behzadi	Accutest, 4405 Vineland Road, Suite C-15, Orlando, FL 32811	407-425-6700	427-425-0707	harryb@accutest.com
Soil Boring and Monitoring Well Driller	NA	NA	NA	NA	NA
Project Verifier	John M. Brown, PG	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	johnbrown@geologicalresourcesinc.com

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.

Release reported in March 2001. IGWA completed in December 2001. Tier II completed March 2003. Tier II Addendum completed in October 2004. 35 shallow monitoring wells (MW-1 through MW-31 and MW-1A through MW-4A) and 2 telescoping wells (TW-1 and TW-2) have been installed at the site. Numerous ground water sampling events and AFVR events were conducted at the site from February 2004 through June 2011. The last comprehensive ground water sampling event was conducted in November 2009. **MW-1A through MW-4A have historically contained free product and will only be gauged for free product during the proposed sampling event. In the event that any of the wells do not contain free product, samples will be collected from them.**

The release is currently being assessed to monitor contaminant concentrations in the ground water.

Please answer the following: Does this project fall under UST or Brownfields area?

UST

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).***

Comprehensive ground water sampling event.

2. ***The work will begin within*** 5 business days ***after cost approval and sampling should be complete by*** 30 days after approval of cost agreement.

3. ***Are there are time or resource constraints? Yes Include those factors that may interfere with the tentative schedule.*** Inclement weather, personnel availability, equipment failures, could possibly bring changes such as delay of final report submittal, to the tentative schedule.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

Detail the geographical area that is to be part of the project. Maps should be included to show not only the topography and the geographical area of the State, but also to show more detail of the site itself including property lines.

Tisdales Quick Stop, 1989 Thurgood Marshal Blvd, Kingstree, Williamsburg County, SC (see attached Figures 1 & 2)

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Project Manager	Scott Ball	8 hour HAZWOPER	8/5/2011	NA	NA
Field Geologist	Russell Quinn	8 hour HAZWOPER	8/5/2011	NA	NA
Senior Geologist	John Brown, P.G.	NA	3/10/1994	P.G.	S.C. 1116
NA	Accutest	SC Certification	NA	SC Certification	96038001

Table 3A Required Training and Licenses

Terry Kennedy of Geological Resources, 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: Geological Resources, Inc. Corporate Files

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 Accutest

Name of Lab Director Harry Behzadi
SC DHEC Certification Number 96038001
Parameters this Lab will analyze for this project: BTEX, MTBE, naphthalene, 1,2-DCA, ethanol and 8 Oxygenates by Method 8260

Full Name of the Laboratory _____
Name of Lab Director _____
SC DHEC Certification Number _____
Parameters this Lab will analyze for this project: _____

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A9 Documents and Records

*Personnel will receive the most current version of the QAPP Addendum via:
(Check all that apply)*

☒ US Mail ☐ Courier ☒ Hand delivered

Other (please specify): e-mail

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Field Notes	GRI	Hardcopy and electric	20 Years	Yes – Computer and GRI library
Chain of Custody	Accutest	Hardcopy and electric - EDD	10 Years	Yes - Electronic
Chain of Custody	GRI	Hardcopy and electric	20 Years	Yes – Computer and GRI library
Report	GRI	Hardcopy and electric	20 Years	Yes - Computer and GRI library
Lab Data	Accutest- Orlando	Hardcopy and electric - EDD	10 Years	Yes - Electronic

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
QAPP Preparation	9/8/2011	9/30/11	In Progress
QAPP Approval	1 business day after submittal to DHEC	30 calender days from date received by DHEC	Assume 30 day turnaround
Ground Water Sampling	5 days from receipt of approved ACCA	1 – 2 weeks after QAPP approval	
Report Preparation	15 days from receipt of lab report	3 – 4 weeks from receipt of lab 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

33 (MW-1 through MW-31, TW-1 and TW-2) as shown on attached Figure 2

From Drinking/Irrigation water wells

WSW-1 and WSW-3 as shown on attached Figure 2

From surface water features _____

Other

temperature blank, field blank, trip blank and 2 duplicates

Total number of Water samples

39

Equipment needed for sampling: Sampling equipment will include water level indicator, interface probe (if required), Horiba for field measurements (pH, DO, Temp., specific conductivity), disposable polyethylene bailers, nylon string, nitrile gloves, cooler, ice, sample kits provided by the laboratory, sample data forms, drum to containerize purge water (if required).

The samples will be (check as many as apply): ☐ Homogenized ☒ Split

If any of the above are circled please indicate how will it be done and the equipment needed.

Depth to water and free product (if present) will be measured using a decontaminated water level indicator and/or an interface probe. Readings will be recorded on sample data forms. "No purge" wells will be sampled by lowering a polyethylene bailer attached to a nylon string down into the well until filled. Water sample will then be decanted from bailer into the laboratory provided sample kits and placed on ice. If purging is required, Approximately 3 well volumes will be removed and field measurements (pH, DO, temperature, specific conductivity) will be recorded initially, after each volume and after sample collection on sample data forms. Purge water will be placed in 55-gallon drum. Nitrile gloves will be worn during sampling activities.

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

Water level indicator, interface probe and Horiba are decontaminated between each sample collection. Nitrile gloves, string and bailers are 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. Water level indicator, interface probe and Horiba will be cleaned with alconox or a phosphate free soap and tap water. Rinse water will be drummed if necessary.

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.

Fed-Ex for shipping of samples

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
Horiba	Repair @ Enviro Equipment	Field Book/Notes	Russell Quinn
Water level meter	Repair @ Enviro Equipment	Field Book/Notes	Russell Quinn
Interface probe	Repair @ Enviro Equipment	Field Book/Notes	Russell Quinn

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?

After each sample is collected, it is placed in an ice filled cooler that is secured with the sampling personnel's company vehicle. Upon completion of sampling activities, sampling personnel sends the secured cooler and chain of custody via Fed-Ex to the laboratory. Samples are generally sent out via Fed-Ex at the end of each day's sampling event. Or, if possible, the samples/cooler are taken directly to the laboratory's service center where possession of the samples is taken by the lab. Samples requiring analyses that have short hold times are always sent out the same day the samples were collected. Even if short hold times are not a concern, collected samples are never kept in the sampler's/contractors possession for more than 24 hours.

2. How will the contactors cool the samples and keep the samples cool? Ice is placed in each cooler containing the empty sample kits prior to the start of sampling activities. The ice is chipped/cubed and typically purchased in 10 to 20 pound bags from a grocery or convenience store. The ice is checked periodically throughout the day during sampling and replenished when needed, typically 2 – 3 times a day during the summer months. Some of the cold water from the melted ice is retained in the cooler with replenished ice to retain an ice "slurry". Fresh ice is placed on the samples at the end of each sampling day prior to delivery to a laboratory service center or prior to shipping via Fed-Ex.

3. How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank? A temperature blank should be included with each cooler of samples delivered to the laboratory. The lab will determine and record the temperature of the temperature blank using I/R thermometer. If a temperature blank is not submitted, the surface temperature of a

sample will be determined using an I/R thermometer. If the initial temperature reading is greater than 6° C, the lab will spot-check samples from four corners and center of the cooler using an I/R thermometer. If any of these temperatures are below 6° C, the lab will check the surface temperature of each sample and make note of any samples received with the 0.5° C to 6° C range. If the temperature of the samples upon receipt exceeds storage requirements, the exceedance shall be documented in laboratory records and discussed with GRI. The decision regarding the potentially affected samples shall also be documented.

4. *Where will the samples be stored in the Lab once they are received?*

Samples are unpacked and inspected in the sample receipt area. After sample entry, samples are placed in an assigned and identified storage location until needed for analysis. Samples requiring cold storage will be stored between 0.5° to 6°C in an assigned and identified storage location. Samples which can be stored at room temperature will be stored in an assigned and identified room temperature storage location. Sample storage locations are secured and monitored for accurate temperature control.

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.*

Chain of custody (COC) will be maintained from collection through data reporting. The COC record will be used as the primary documentation mechanism to ensure that information pertaining to the custody of each sample from field to laboratory is recorded. An example COC record is attached.

Sample possession during all sampling efforts must be traceable from the time of collection until the results are verified and reported. The sample custody procedures provide a mechanism for documentation of all information related to sample collection and handling to achieve this objective. The sample collector is responsible for the care and custody of samples until they are transferred to another person or dispatched properly under COC rules. A sample is defined as being under a person's custody if any of the following conditions exist: (1) it is in their possession, (2) it is in their view, after being in their possession, (3) it was in their possession and they have secured it, or (4) it is in a designated secure area.

All sample shipments will be accompanied by a COC record, which identifies its contents. The COC record will include the following information:

- Project name or number
- Project location
- Unique sample identification
- Date and time of sample collection
- Sample matrix (e.g., water, soil, etc.)

- Sample type (e.g., composite, grab, etc.)
- Preservatives used
- Number and type of containers used
- Analytical method to be performed
- Printed name and signature of sample collector(s)
- Custody transfer signatures and dates and times of sample transfer from the field to transporters and to the laboratory
- Bill of lading or transporter tracking number (if applicable)

All shipping containers will be secured with custody seals for transportation to the laboratory. Protective packing will be used with sample bottles to minimize the risk of breakage during transport. Shipping containers will be lined with plastic to minimize the effect of any breakage and to contain any spills. Samples that are known or suspected to be highly contaminated (based on field observations) will be packaged and shipped separately from other samples. When samples are required to be stored at a temperature that is less than or equal to 6°C, generous amounts of ice will be packed with the samples.

Sample Control is responsible for unpacking the cooler, signing the COC record, and documenting the date and time that samples arrived at the lab. Sample Control tracks the custody of the sample between receipt and entry where a unique sample ID is assigned. The condition, temperature, and appropriate preservation of samples shall be checked and documented on the COC record or alternate laboratory documentation that will be included in the laboratory report. After entry and review, the COC record is scanned into the LIMS and the original is stored with the client paperwork.

The security system used by the laboratory allows Accutest to designate the entire facility as a secure area since all exterior doors are either locked or attended. A record of sample preparation and analysis is included in the laboratory report, consisting of the analyst's initials, and date and time for all preparations and analyses performed on the sample.

Standard operating procedures (SOP) describing sample control and custody shall be maintained by the laboratory.

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	Equipment	Comments
-----------	---------	--------	-----------	----------

		Referenced		
BTEX, MTBE, 1,2-DCA, Naphthalene	MS005	8260B	Agilent 5973 or 5975, OI Analytical purge and trap system	
8 Oxygenates	MS005	8260B-oxy	Agilent 5973 or 5975, OI Analytical purge and trap system	
pH			Horiba	
Dissolved Oxygen			Horiba	
Conductivity			Horiba	
temperature			Horiba	

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
MS005	MS005	Analysis of Volatile Organics by GC/MS

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
CCV or ICV outside of control Limits	Perform maintenance, recalibrate	Run Log	Bench Analyst
MS/MSD outside of control limits	Investigate matrix effect, reference Blank Spike	Run Log	Bench Analyst
Blank Spike outside of control limits	Investigate cause of failure, perform maintenance if necessary, re-analyze affected samples	Run Log and Maintenance Log	Bench Analyst and section supervisor
Tune outside of control criteria	Perform detector maintenance, check for leaks	Run Log	Bench Analyst
pH meter – Horiba	Calibrate, clean, replace battery	Field Log Book	Russell Quinn
DO Meter – Horiba	Calibrate, clean, replace battery	Field Log Book	Russell Quinn
Temperature meter – Horiba	Calibrate, clean, replace battery	Field Log Book	Russell Quinn
Conductivity meter - Horiba	Calibrate, clean, replace battery	Field Log Book	Russell Quinn

Table 9A Corrective Action Procedures

3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
8260B	Ground Water	In cool storage for a minimum 30 days after report submission, then stored at ambient until disposal	Glass crusher, water neutralized and siphoned off to a holding tank, which is pumped out by licensed waste handling company	

Table 10A Sample Disposal

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. Not the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
Horiba	GRI1	Calibration	Prior to each sampling event	Batteries, calibration solutions, replacement DO membranes – GRI equipment room	Russell Quinn
Water Level Indicator	GRI1	Replace batteries	As needed	Batteries – GRI equipment room	Russell Quinn
Interface Probe	GRI1	Replace Batteries	As needed	Batteries – GRI equipment room	Russell Quinn
Agilent 5973 of 5975, OI analytical purge and trap system	Multiple units	Leak check, gas pressure check, detector check, septa replacement	As warranted by passing instrument QC and batch QC	As recommended in operator's manual. Accutest Laboratories Southeast, Inc. Orlando, FL	Bench Analyst

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
Horiba	Physical	Calibrate/Repair as needed	Russell Quinn	Return to

				manufacturer if needed
Water Level Indicator	Physical	Repair as needed	Russell Quinn	Return to manufacturer if needed
Interface probe	Physical	Repair as needed	Russell Quinn	Return to manufacturer if needed
Agilent 5973 or 5975, OI analytical purge and trap system	Tune check pass control before every analytical shift, then daily CCV passes method-defined criteria	Daily	Bench Analyst	Perform maintenance, recalibrate if necessary

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*
Horiba	Manufacturer's Directions	Prior to the sampling event	Within limits established by manufacturer	Send to manufacturer or Enviro-Equipment	Send to manufacturer or Enviro-Equipment	Send to manufacturer or Enviro-Equipment
Agilent 5973 or 5975 equipped with OI analytical purge and trap system	Calibrate with series of standards as described in SW-846 8260B, internal standard calibration procedure	Initial calibration performed as necessary and verified daily (CCV)	As described in SW-846 8260B method	In case of daily calibration (CCV) failure, investigate cause of failure, perform maintenance if necessary and recalibrate	Bench Analyst	MS005

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*

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.
VOC vials	Scientific Products, LLC	Free of contamination above ½ RL	Accutest Laboratories Southeast shipping department	Bench Analyst
Calibration Standards	Various	Within expiration date as specified by method	Standard refrigerators according to manufacturer's instructions	Bench Analyst
Analytical columns	Restek	In good condition	In the lab	Bench Analyst
Teflon Bailers	EON	Sealed in unbroken plastic	GRI Warehouse in cardboard boxes	Scott Ball
Nitrile Gloves	EON	Sealed in unbroken dispenser boxes	GRI Warehouse in cardboard boxes	Scott Ball
Nylon String	EON	Sealed in plastic	GRI Warehouse in cardboard boxes	Scott Ball

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
Computer database and GRI library	Historical ground water elevation and quality data	For showing contaminant concentration and ground water flow trends	
SCDHEC FOI	Historical ground water elevation and quality data	For showing contaminant concentration and ground water flow trends	

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.
 GRI orders lab kit from Accutest
 Accutest ships kit to GRI office (if done directly from Orlando facility) or courier delivers kit to GRI office from service center
 Field personnel collects lab samples and returns lab samples and field notes to office.
 Accutest courier picks up samples and signs COC. (Alternately - GRI ships coolers to Accutest Southeast)
 Samples are analyzed as per the COC and SOPs.
 Lab report is emailed to Project manager. Data is checked if usable is populated into tables for report deliverable.
 Data is stored at lab and in GRI office (electronic and hard copies).
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?

Laboratory - CoC are scanned into PDF upon log-in, subsequent changes in tests ordered (if any) are made via formal request. Computer records are incrementally backed up through LAN every 20 minutes and fully backed up once a week.

Field Staff - Original field notes are reviewed by a senior geologist and project manager upon return of field staff to the GRI office then scanned into a PDF file and saved to working files stored at GRI.

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.

Every piece of analytical data is reviewed once by bench analyst upon initial data processing and undergoes secondary review by section supervisor or senior analyst prior to release to the clients. Third level review performed by QA staff at 10-15% of data.

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).

Raw analytical data is incrementally backed up; full automatic backup occurs once a week and tapes are produced in duplicates. One copy stored off-site. Bench run logs, CoC and other hand-written records are scanned into PDF files; sample reports are converted into PDF files and stored on local servers. Logbooks, Certificates of Analysis, etc. are secured on-site in lockable storage.

As with field notes, GRI reports are converted into PDF files and stored on the GRI server. Hard copies of reports are stored in the GRI library.

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. **The samples will be collected by the on-site supervisor** Will this person have the authority to stop work if severe problems are seen? **Yes***
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? **1. GRI's Contract QA Manager (John M. Brown, P.G.) will review the QC Data Summary associated with each Accutest Report to determine that all QA/QC requirements of the laboratory's SOP are met. 2. Accutest Laboratories Southeast participates in the semiannual analyses of PT samples in order to maintain primary state***

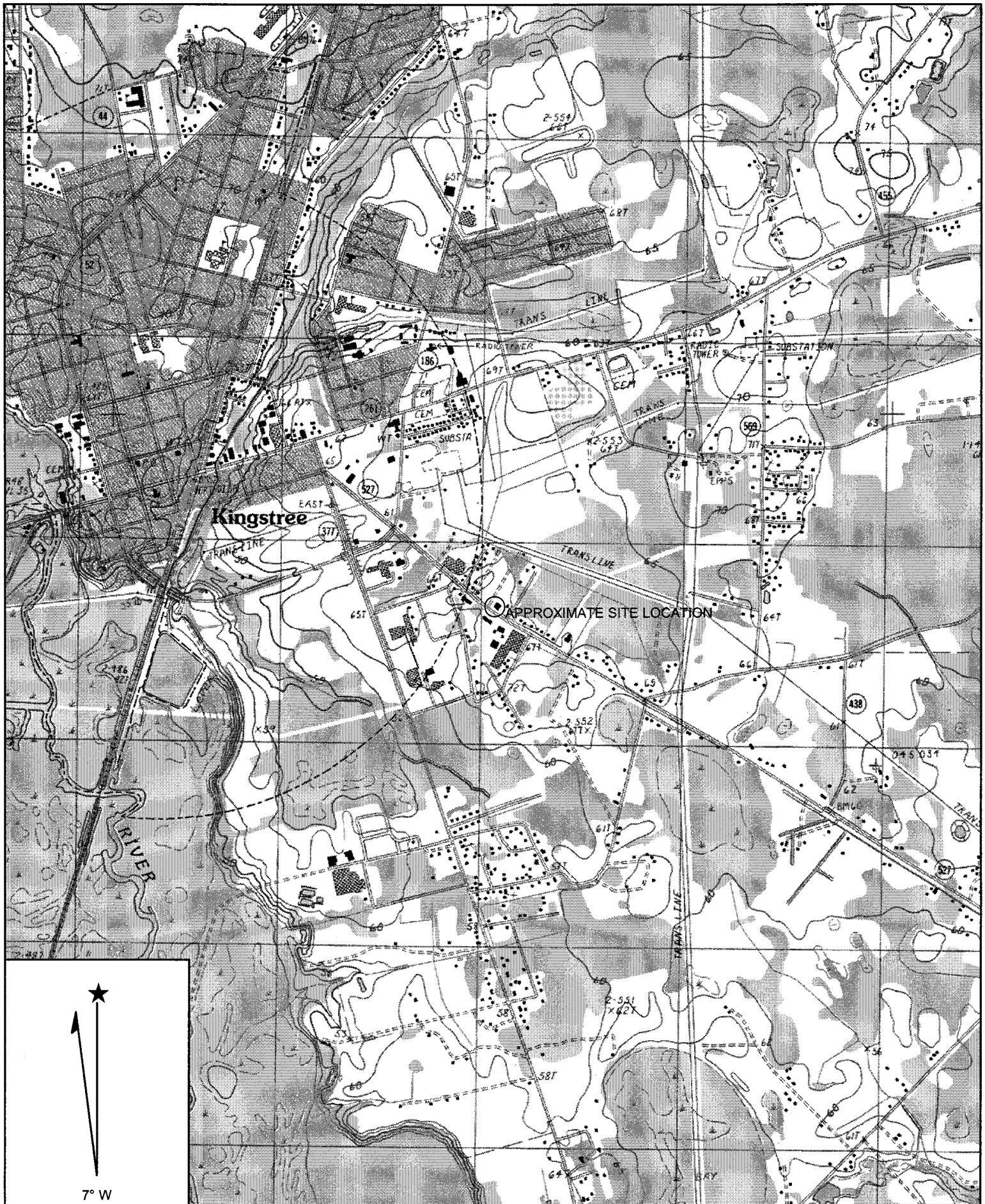
certification and for the benefit of other states' certification program. Accutest Laboratories Inc. maintains corporate purchasing contract with ERA, Waters Company, and results are on file with DHEC, lab certification group *When or how often are these done?* 1. Upon receipt of each laboratory report. 2. Semi-annually *Who will the results be given to and who has the ability to stop work if problems are severe?* 1. GRI's Contract QA Manager, Mr. John M. Brown. 2. Accutest Lab Director.

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).



Name: KINGSTREE
Date: 2/11/2009
Scale: 1 inch equals 2000 feet

Location: 033° 39' 29.0" N 079° 48' 46.8" W
Caption: Site Location Map
Tisdale's Quick Stop
Figure 1 UST Permit # 18686

LEGEND

☆

LIGHT POLE

■

TELEPHONE PEDESTAL

Ⓢ

SEWER MANHOLE

●

TYPE III MONITORING WELL

⊗

TELESCOPING MONITORING WELL

⊙

WATER SUPPLY WELL

⊠

FIRE HYDRANT

●

FIBER OPTIC CABLE MARKER

PROPERTY LINE

UNDERGROUND TELEPHONE LINE

UNDERGROUND WATER LINE

PP & OVERHEAD POWER LINE

UNDERGROUND SEWER LINE

UNDERGROUND GAS LINE

UNDERGROUND FIBER OPTIC LINE

DITCH

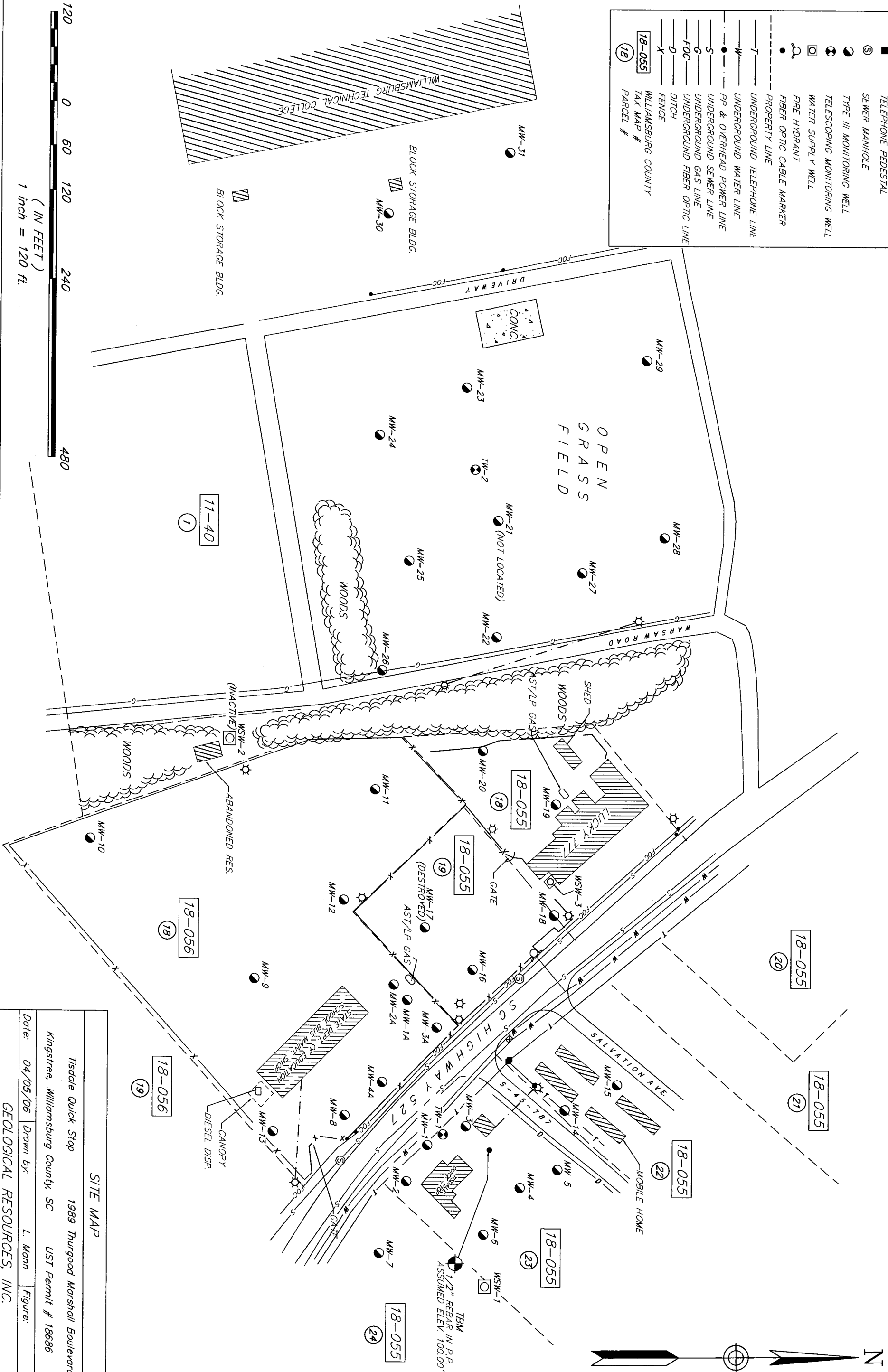
FENCE

18-055

WILLIAMSBURG COUNTY TAX MAP #

18

PARCEL #





Chain of Custody

TEL. 407-425-6700 • FAX. 407-425-0707

www.accutest.com

PAGE OF

Accutest Quote #	Customer Name	Product	Price	Quantity	Total	Notes

TSKIFF#

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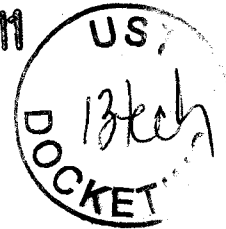


C. Earl Hunter, Commissioner

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

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

OCT 26 2011



Re: **Groundwater Sampling Directive**
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686, CA#42281
Release reported March 30, 2001
GRI Proposal October 7, 2011
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced addendum submitted on your behalf by Geological Resources, Inc. The previous assessment work for this release indicates that petroleum Chemicals of Concern (CoC) are present in the groundwater at concentrations that exceed risk-based screening levels (RBSLs). In order to obtain current groundwater quality data, a comprehensive groundwater sampling event is necessary. All work should be conducted in accordance with the UST Quality Assurance Program Plan (QAPP) and must be conducted in compliance with all applicable regulations. A copy of SCDHEC QAPP for the UST Management Division is available at <http://www.scdhec.gov/environment/lwm/html/ust.htm>.

Groundwater sampling activities at the site should begin immediately upon receipt of this letter. Cost Agreement #42281 has been approved for the amount shown on the enclosed cost agreement form for the sampling of all monitoring wells associated with the release. Groundwater samples should be collected and analyzed for BTEX, Naphthalene, MtBE, 1,2-DCA, the 8 Oxygenates, and Ethanol. Analyses should be in accordance with Appendix E of the QAPP and shall include a duplicate sample, field blank, and trip blank.

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

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

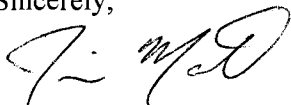
Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the UST Division is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the UST Division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

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

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

On all correspondence regarding this site, please reference **UST Permit #18686 and Cost Agreement #42281**. If you have any questions regarding this correspondence, please contact me by telephone at (803) 896-4085, by fax at (803) 896-6245, or by e-mail to martinjm@dhec.sc.gov.

Sincerely,



Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement
Signed Site Specific QAPP Contractor Addendum

cc: Geological Resources, Inc., 2301 Crown Point Executive Drive, Suite F, Charlotte, NC 28227(w/
enc.)
Technical File (w/ enc.)

RECEIVED OCT 05 2011

Geological Resources, Inc.
S.C. Rehabilitation Contractor #74
Tisdales Quick Stop
QAPP Revision 0
September 30, 2011

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Tisdales Quick Stop – UST Permit No. 18686

1989 Thurgood Marshall Blvd., Kingstree, Williamsburg County, South Carolina

Prepared by: W. Scott Ball

Geological Resources, Inc.
S.C. Site Rehabilitation Contractor #74

Date: 9/30/2011

Geological Resources, Inc.

Approvals

Jim Martin
SC DHEC Project Manager

Jim Martin Date 10-18-11
Signature

John M. Brown, PG - GRI
Contractor QA Manager

John M. Brown Date 10/05/11
Signature

Scott Ball - GRI
Site Rehabilitation Contractor

W. Scott Ball Date 10-5-11
Signature

Harry Behzadi
Laboratory Director

Harry Behzadi Date 09-30-2011
Signature

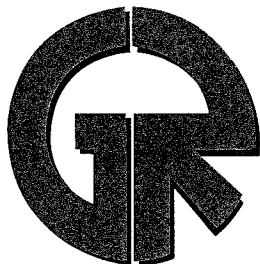
Approved Cost Agreement 42281

Facility: 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
01 PLAN		C TIER II/COMP. PLAN/QAPP APP B	1.0000	525.00	525.00
04 MOB/DEMOB		B PERSONNEL	2.0000	290.00	580.00
10 SAMPLE COLLECTION		A GROUND WATER	33.0000	55.00	1,815.00
		C WATER SUPPLY	2.0000	30.00	60.00
		D GROUNDWATER NO-PURGE	2.0000	35.00	70.00
		E GAUGE WELL ONLY	4.0000	20.00	80.00
		H FIELD BLANK	1.0000	5.00	5.00
11 ANALYSES					
	GW GROUNDWATER	A1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	39.0000	100.00	3,900.00
17 DISPOSAL		A WASTEWATER	180.0000	0.80	144.00
19 RPT/PROJECT MNGT & COORDINATIO		PCT PERCENT	0.1500	7,179.00	1,076.85
Total Amount					8,255.85



Geological Resources, Inc.

December 29, 2011

Mr. Jim Martin, Hydrogeologist
SCDHEC UST Section
2600 Bull Street
Columbia, South Carolina 29201

Re: Ground Water Monitoring Report
November 2011
Tisdale's Quick Stop
1989 Thurgood Marshall Boulevard
Kingstree, Williamsburg County, SC
UST Permit No. 18686
CA #36792



Dear Mr. Martin:

Please find enclosed the referenced report for the above mentioned site. If you have any questions, please do not hesitate to contact W. Scott Ball at (704) 845-4010.

Sincerely,
Geological Resources, Inc.

Hannah Brown

Hannah Brown
Administrative Assistant

Enclosure

cc: Mr. Marty Easler
file

**GROUND WATER MONITORING REPORT
NOVEMBER 2011
TISDALE'S QUICK STOP
1989 THURGOOD MARSHALL BOULEVARD
KINGSTREE, WILLIAMSBURG COUNTY
SOUTH CAROLINA
UST PERMIT NO. 18686**

Prepared for:

Mr. Marty Easler
196 Richburg Road
Greeleyville, SC 29056

Prepared by:

Geological Resources, Inc.
2301-F Crown Point Executive Drive
Charlotte, North Carolina 28227
Class I UST Site Rehabilitation Contractor # 74

December 29, 2011

W. Scott Ball

W. Scott Ball
Senior Project Manager

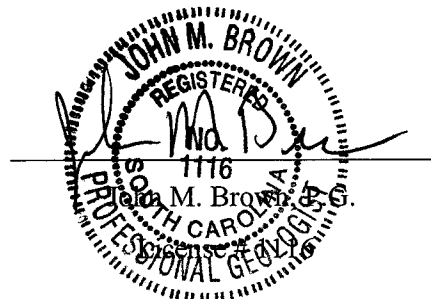


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3.0	GROUND WATER QUALITY	2
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Table 2:	Summary of Laboratory Analytical Results – Ground Water Samples
Table 3:	Summary of Laboratory Analytical Results – Ground Water Samples – Oxygenates

APPENDICES

Appendix A:	Laboratory Analytical Report - Ground Water Samples
Appendix B:	Ground Water Sampling Data Sheets
Appendix C:	Disposal Manifest
Appendix D:	Contractor Checklist

1.0 INTRODUCTION

This report presents the results of comprehensive ground water sampling activities conducted in November 2011 at the Tisdales Quick Stop site located at 1989 Thurgood Marshall Highway, in Kingstree, Williamsburg County, South Carolina (**Figures 1 and 2**). The activities were conducted in accordance with the "Groundwater Sampling Directive" dated October 26, 2011 from the SCDHEC. The purpose of the activities was to obtain current ground water quality data for the site.

The site is a former petroleum retail location. There are two buildings on site, the first is used as a convenience store and grill and the second building is used for a liquor store. Surrounding properties are a mix of commercial and residential. According to the South Carolina Underground Storage Tank (UST) registry database, a release at the site occurred on March 30, 2001, and the confirmation date of the release is listed as April 6, 2001. Two 550 gallon gasoline tanks and one 1,000 gallon diesel tank were removed March 1, 2001. A total of 37 monitoring wells (MW-1 through MW-31, MW-1A through MW-4A, TW-1 and TW-2) have been installed previously at the site. Please refer to earlier submittals for additional information regarding previous assessment activities.

2.0 FACILITY INFORMATION

- **Facility Name:** Tisdales Quick Stop
- **Location:** 1989 Thurgood Marshall Blvd (Highway 527)
Kingstree, Williamsburg County
- **UST Permit No.** 18686
- **Property Owner:** Andy McKnight
316 McCullough Lop
Kingstree, South Carolina 29566
(843) 382-2474
- **UST Owner/Operator:** Marty Easler
196 Richburg Road
Greeleyville, South Carolina 29056
(843) 372-2502
- **Site Rehabilitation Contractor:** Geological Resources, Inc.
2301-F Crown Point Executive Drive
Charlotte, North Carolina 28227
(704) 845-4010
Class 1, Certification Number 74
- **Laboratory:** Accutest Laboratories - Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811
(407) 425-6700
State Certification Number: 96038001

Release Information:

- **Date Discovered:** March 30, 2001
- **Estimated Amount of Release:** Unknown
- **Source of Release:** Leaking UST System
- **UST Size/Contents:** Two 550 gallon gasoline tanks and one 1,000 gallon diesel tank (Removed March 1, 2001)
- **Latitude:** 33.658056° North **Longitude:** 79.813° West

3.0 GROUND WATER QUALITY

Thirty-one Type III monitoring wells (MW-1, MW-2, MW-6 through MW-10, MW-13 through MW-15, MW-18 through MW-31 and MW-1A through MW-4A) and two telescoping monitoring wells (TW-1 and TW-2) were gauged, purged and/or sampled on November 22, 23 and 30, 2011. Two water supply wells (WSW-1 and WSW-3) were purged and sampled on November 23, 2011. Monitoring wells MW-3, MW-1A, MW-3A, and MW-4A contained free product and therefore were not sampled. Free product thicknesses ranged from 0.02 feet (MW-4A) to 0.85 feet (MW-1A). Monitoring well MW-17 was previously destroyed and therefore, could not be sampled. Monitoring wells MW-11, MW-12 and MW-16 could not be found and were not sampled. Monitoring wells MW-4 and MW-5 were obstructed and could not be sampled. All monitoring wells were purged prior to sampling. The depths to ground water in the Type III monitoring wells which did not contain free product during the October 2011 sampling event ranged from 14.92 to 20.93 feet below the top of casings. Ground water elevations in the Type III monitoring wells relative to a temporary benchmark with an assumed datum of 100.00 feet ranged from 77.85 to 81.03 feet. Based on this data, ground water flow was generally toward the west. The horizontal hydraulic gradient across the site was less than 0.002 feet per foot. The vertical hydraulic gradient calculated for MW-1 and TW-1 was 0.04 feet per foot downward. A Site Map showing the locations of the monitoring wells and the structures on-site has been included as **Figure 2**. A Water Table Surface Map for the November 2011 sampling event has been included as **Figure 3**. A summary of well construction and gauging information is presented in **Table 1**.

Laboratory analyses were performed on the ground water samples collected from the monitoring wells during the November 2011 sampling event for BTEX, MTBE, naphthalene, 1,2-DCA and eight oxygenates using EPA Method 8260. Concentrations of one or more BTEX constituents, MTBE, and/or naphthalene that exceeded the RBSLs were reported in the ground water samples collected from MW-1, MW-2, MW-2 DUP, MW-8, MW-14, MW-21 through MW-23, MW-27, MW-2A and TW-2. Detectable concentrations of one or more BTEX constituents, MTBE and/or naphthalene that did not exceed the RBSLs were reported in ground water samples collected from MW-7, MW-9, MW-13, MW-19 DUP, MW-20, MW-26 and MW-28. Detectable concentrations of oxygenates were reported in the samples collected from MW-1, MW-2, MW-2

DUP, MW-8, MW-14, MW-18, MW-19, MW-19 DUP, MW-20 through MW-23, MW-27, MW-2A and TW-2. No detectable concentrations of requested method constituents were reported in the water supply well samples, the field blank or the trip blank. A Ground Water Quality Map based on data from the November 2011 sampling event has been included as **Figure 4**. Summaries of ground water sample analytical results are presented in **Tables 2** and **3**. A complete laboratory report has been included in **Appendix A**. Ground water sampling data sheets have been included in **Appendix B**. A copy of the purge water disposal manifest is included as **Appendix C**.

4.0 QA/QC

Monitoring well gauging, purging and sampling was conducted in general accordance with the SCDHEC Programmatic QAPP and the approved site specific Contractor Addendum. All wells were purged and/or sampled with dedicated disposable bailers. All field measurement equipment was properly decontaminated between sampling locations. Duplicate samples from monitoring wells MW-2 and MW-19, as well as a field blank were collected during the sampling activities. A trip blank was included in the sample cooler. Laboratory results for MW-2 and MW-2 DUP as well as MW-19 and MW-19 DUP showed similar concentrations. No detectable concentrations of requested method constituents were reported for the field blank or trip blank. All applicable items on the Contractor Checklist were reviewed and verified. A copy of the Contractor Checklist is included as **Appendix D**.

5.0 CONCLUSIONS AND RECOMMENDATIONS

- A total of thirty-three monitoring wells and two water supply wells were gauged, purged and/or sampled in November 2011. Free product was present in monitoring wells MW-3, MW-1A, MW-3A, and MW-4A. Free product thicknesses ranged from 0.02 to 0.85 feet. Ground water flow at the site based on the November 2011 event was generally toward the west. The horizontal hydraulic gradient across the site was less than 0.002 feet per foot. The vertical hydraulic gradient was 0.04 feet per foot downward.
- Concentrations of one or more BTEX constituents, MTBE, and/or naphthalene that exceeded the RBSLs were reported in the ground water samples collected from MW-1, MW-2, MW-2 DUP, MW-8, MW-14, MW-21 through MW-23, MW-27, MW-2A and TW-2. Detectable concentrations of oxygenates were reported in the samples collected from MW-1, MW-2, MW-2 DUP, MW-8, MW-14, MW-18, MW-19, MW-19 DUP, MW-20 through MW-23, MW-27, MW-2A and TW-2.

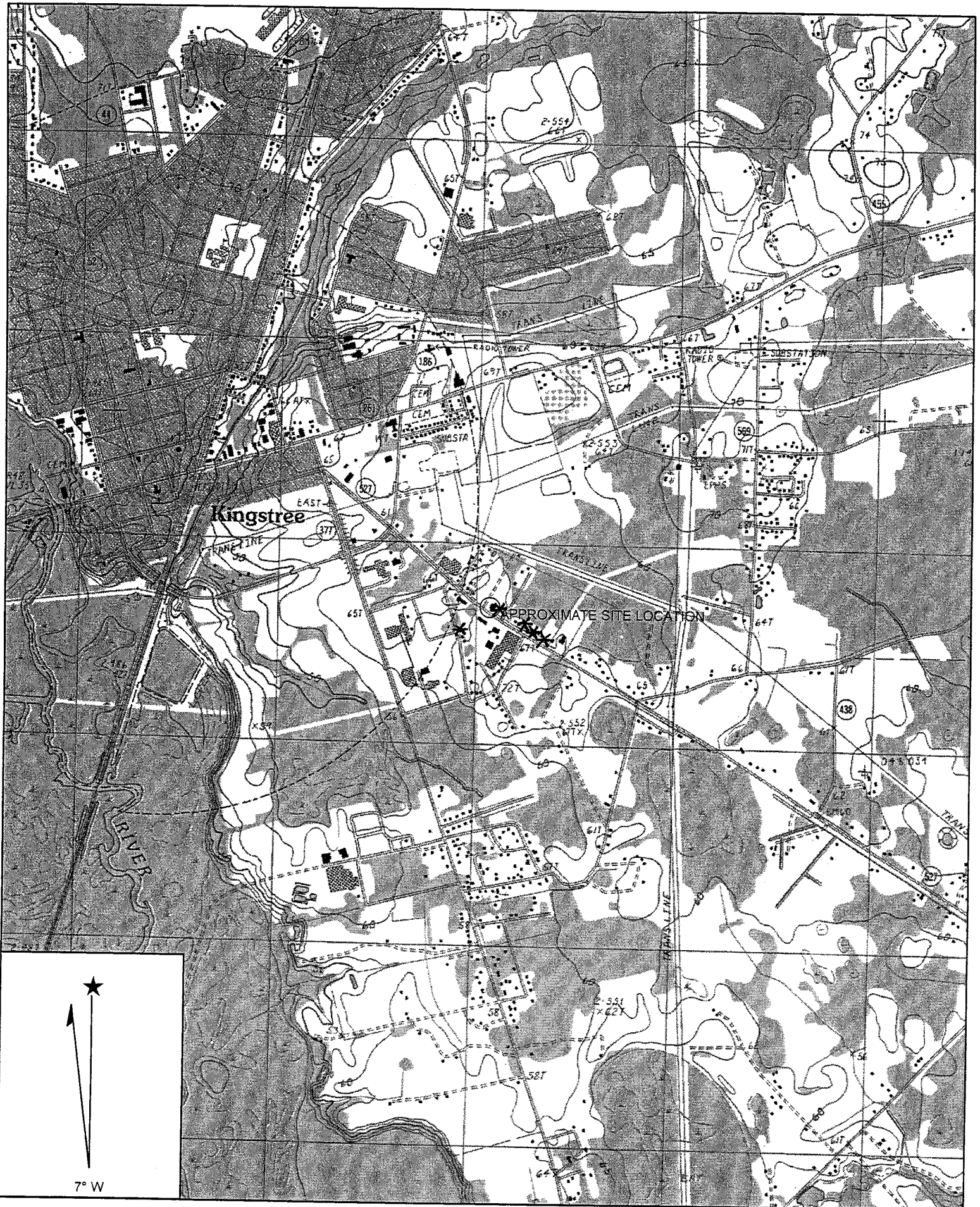
- Based on the historical presence of free product, an AFVR or MMPE event is recommended for the affected wells.
- Ground water sampling should continue as directed by the SCDHEC.

6.0 LIMITATIONS

This report has been prepared for the exclusive use of Mr. Marty Easler and the SCDHEC for specific application to the referenced site in Williamsburg County, South Carolina. The assessment was conducted based on the scope of work and level of effort specified by the SCDHEC and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of South Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

The data that are presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. In addition, the data obtained from samples would be interpreted as being meaningful with respect to parameters indicated in the laboratory report. No additional information can logically be inferred from these data.

FIGURES



Name: KINGSTREE

Date: 2/11/2009

Scale: 1 inch equals 2000 feet

*Water Supply well

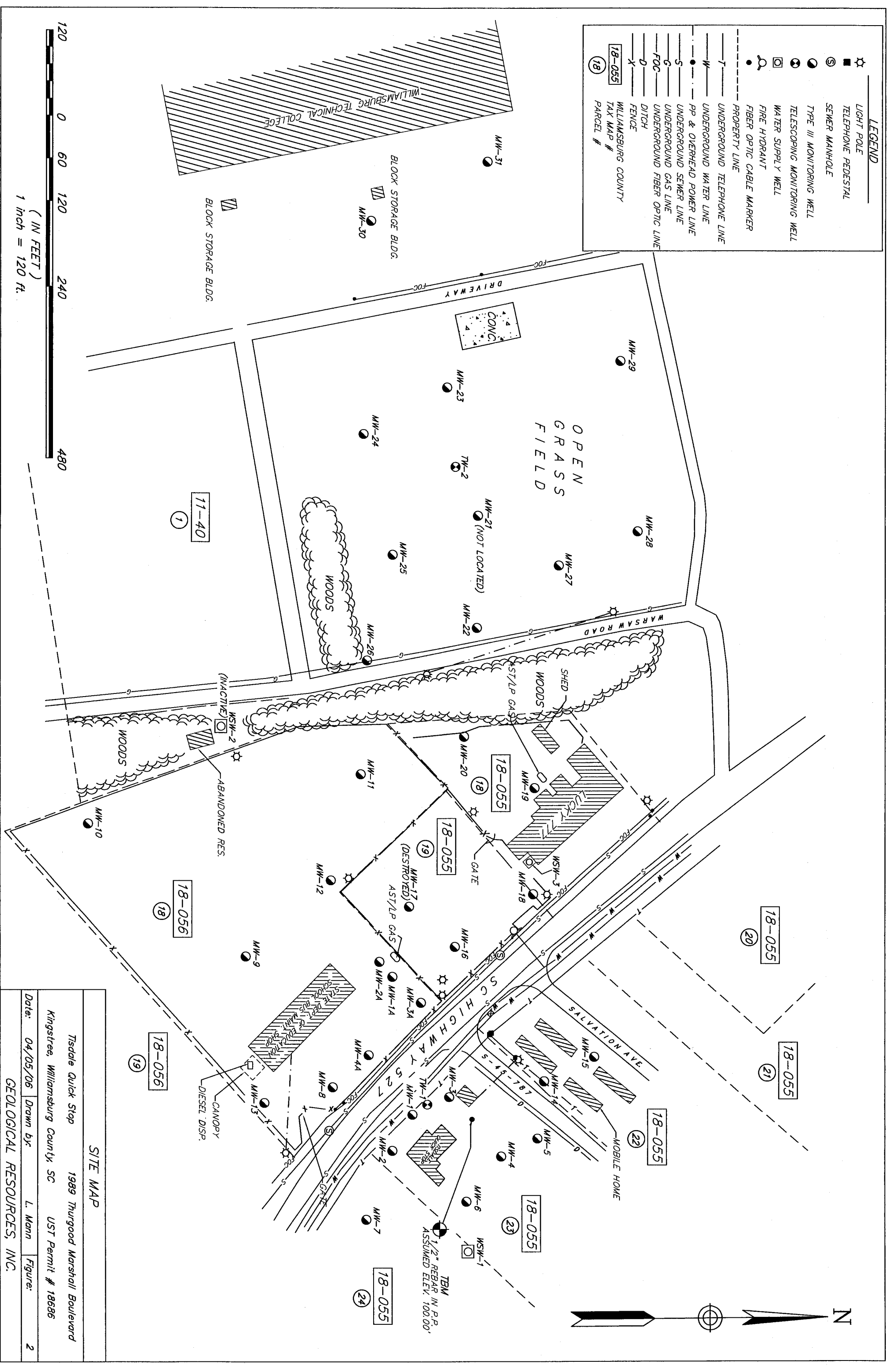
Location: 033° 39' 29.0" N 079° 48' 46.8" W

Caption: Site Location Map

Tisdale's Quick Stop

Figure 1

UST Permit # 18686



LEGEND

- ☆ LIGHT POLE
- TELEPHONE PEDESTAL
- ⊙ SEWER MANHOLE
- TYPE III MONITORING WELL
- ⊙ TELESCOPING MONITORING WELL
- ⊙ WATER SUPPLY WELL
- ⊙ FIRE HYDRANT
- ⊙ FIBER OPTIC CABLE MARKER
- PROPERTY LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND WATER LINE
- PP & OVERHEAD POWER LINE
- UNDERGROUND SEWER LINE
- UNDERGROUND GAS LINE
- FOC UNDERGROUND FIBER OPTIC LINE
- DITCH
- FENCE

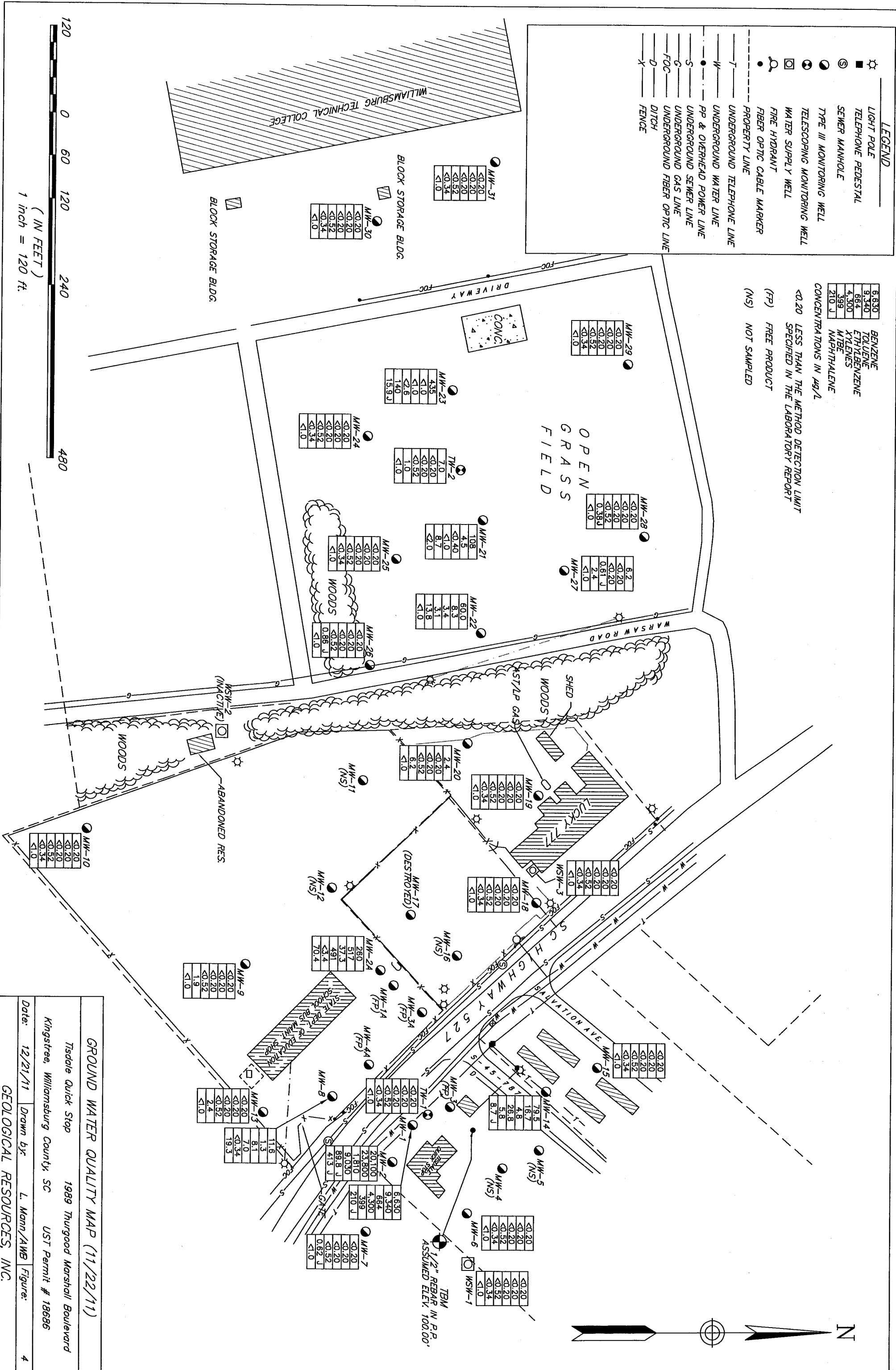
6,630	BENZENE
9,340	TOLUENE
664	ETHYLBENZENE
4,300	XYLENES
399	MTBE
210 J	NAPHTHALENE

CONCENTRATIONS IN µg/L

<0.20 LESS THAN THE METHOD DETECTION LIMIT
SPECIFIED IN THE LABORATORY REPORT

(FP) FREE PRODUCT

(NS) NOT SAMPLED



TABLES

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-1	01/16/03	98.81	15.72		83.09	20	10-20
	02/09/04		14.25		84.56		
	09/23/04		11.94		86.87		
	01/21/05		13.09		85.72		
	03/23/06		12.43		86.38		
	01/07/09		15.12		83.69		
	11/04/09		15.58		83.23		
	11/22/11		17.46		81.35		
MW-2	01/16/03	98.82	17.35	1.90	83.10	25	10-25
	02/09/04		15.17	1.07	84.57		
	09/23/04		12.95	1.18	86.88		
	01/21/05		13.61	0.61	85.73		
	03/23/06		12.43		86.39		
	01/07/09		15.03	0.02	83.81		
	11/03/09		15.97	0.11	82.94		
	11/22/11		17.87		80.95		
MW-3	01/16/03	98.74	15.36	0.33	83.66	25	10-25
	02/09/04		14.34	0.19	84.56		
	09/23/04		12.12	0.06	86.67		
	01/21/05		13.38	0.02	85.38		
	03/23/06		12.37		86.37		
	01/07/09		15.27	0.12	83.57		
	11/03/09		15.82	0.12	83.02		
	11/22/11		17.47	0.04	81.30		
MW-4	01/16/03	98.58	15.06		83.52	25	10-25
	02/09/04		14.01		84.57		
	09/23/04		11.96		86.62		
	01/21/05		13.13		85.45		
	03/23/06		12.24		86.34		
	01/07/09		14.84		83.74		
	11/04/09		15.68		82.90		
	11/22/11		OBS		OBS		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-5	01/16/03	98.13	14.77		83.36	22	12-22
	02/09/04		13.77		84.36		
	09/23/04		11.71		86.42		
	01/21/05		13.14		84.99		
	03/23/06		12.80		85.33		
	01/07/09		14.96		83.17		
	11/04/09		15.26		82.87		
	11/22/11		OBS		OBS		
MW-6	01/16/03	98.50	14.64		83.86	21.5	11.5-21.5
	02/09/04		13.86		84.64		
	09/23/04		11.86		86.64		
	01/21/05		13.38		85.12		
	03/23/06		12.81		85.69		
	01/07/09		15.00		83.50		
	11/03/09		15.23		83.27		
	11/22/11		17.47		81.03		
MW-7	01/16/03	98.19	14.69		83.50	22	12-22
	02/09/04		13.56		84.63		
	09/23/04		11.56		86.63		
	01/21/05		12.78		85.41		
	03/23/06		11.73		86.46		
	01/07/09		14.60		83.59		
	11/03/09		15.27		82.92		
	11/22/11		17.32		80.87		
MW-8	01/16/03	98.17	14.85		83.32	22	12-22
	02/09/04		13.98		84.19		
	09/23/04		12.07		86.10		
	01/21/05		13.33		84.84		
	03/23/06		12.14		86.03		
	01/08/09		15.00		83.17		
	11/03/09		15.45		82.72		
	11/22/11		17.55		80.62		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-9	01/16/03	98.52	15.79		82.73	22	12-22
	02/09/04		15.00		83.52		
	09/23/04		13.12		85.40		
	01/21/05		14.64		83.88		
	03/23/06		13.29		85.23		
	01/08/09		16.01		82.51		
	11/03/09		16.56		81.96		
	11/22/11		18.73		79.79		
MW-10	01/16/03	98.68	16.52		82.16	25	10-25
	02/09/04		15.79		82.89		
	09/23/04		13.97		84.71		
	01/21/05		15.35		83.33		
	03/23/06		14.18		84.50		
	01/08/09		15.75		82.93		
	11/03/09		17.41		81.27		
	11/22/11		19.43		79.25		
MW-11	01/16/03	94.65	12.89		81.76	22	7-22
	02/09/04		12.10		82.55		
	09/23/04		10.51		84.14		
	01/21/05		11.68		82.97		
	03/23/06		10.55		84.10		
	01/08/09		NM		NM		
	11/03/09		NM		NM		
	11/22/11		NM		NM		
MW-12	01/16/03	95.70	13.13		82.57	22	7-22
	02/09/04		12.35		83.35		
	09/23/04		12.67		83.03		
	01/21/05		12.06		83.64		
	03/23/06		10.80		84.90		
	01/08/09		NM		NM		
	11/03/09		NM		NM		
	11/22/11		NM		NM		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-13	01/16/03	99.01	15.65		83.36	25	10-25
	02/09/04		14.70		84.31		
	09/23/04		12.90		86.11		
	01/21/05		14.05		84.96		
	03/23/06		12.82		86.19		
	01/08/09		15.68		83.33		
	11/03/09		16.30		82.71		
	11/22/11		18.57		80.44		
MW-14	01/16/03	98.36	15.12		83.24	25	10-25
	02/09/04		14.24		84.12		
	09/23/04		12.03		86.33		
	01/21/05		13.78		84.58		
	03/23/06		12.75		85.61		
	01/08/09		15.32		83.04		
	11/04/09		15.77		82.59		
	11/22/11		17.72		80.64		
MW-15	01/16/03	99.59	16.40		83.19	25	10-25
	02/09/04		15.55		84.04		
	09/23/04		13.50		86.09		
	01/21/05		14.89		84.70		
	03/23/06		13.92		85.67		
	01/08/09		16.63		82.96		
	11/04/09		17.16		82.43		
	11/22/11		19.15		80.44		
MW-16	01/16/03	98.93	16.21	0.04	82.75	23	8-23
	02/09/04		15.24	0.04	83.72		
	09/23/04		13.55		85.38		
	01/21/05		14.81	0.02	84.14		
	03/23/06		13.60		85.33		
	01/08/09		16.21		82.72		
	11/04/09		16.57		82.36		
	11/22/11		NM		NM		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-17	01/16/03	98.25	16.00	0.07	82.31	23	8-23
	02/09/04		14.55		83.70		
	09/23/04		12.82		85.43		
	01/21/05		13.78		84.47		
	03/23/06		NM		NM		
	11/03/09		NM		NM		
	11/22/11		NM		NM		
MW-18	01/16/03	99.83	17.70		82.13	25	10-25
	02/09/04		16.91		82.92		
	09/23/04		15.06		84.77		
	01/21/05		16.45		83.38		
	03/23/06		15.31		84.52		
	01/08/09		17.89		81.94		
	11/04/09		18.40		81.43		
	11/22/11		20.20		79.63		
MW-19	01/16/03	100.27	18.54		81.73	25	10-25
	02/09/04		17.63		82.64		
	09/23/04		16.00		84.27		
	01/21/05		17.21		83.06		
	03/23/06		16.15		84.12		
	01/08/09		NM		NM		
	11/04/09		19.22		81.05		
	11/22/11		20.93		79.34		
MW-20	01/16/03	97.21	15.59		81.62	25	10-25
	02/09/04		14.74		82.47		
	09/23/04		13.15		84.06		
	01/21/05		14.33		82.88		
	03/23/06		13.21		84.00		
	01/08/09		NM		NM		
	11/04/09		16.30		80.91		
	11/22/11		18.02		79.19		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-21	01/16/03	95.72	14.70		81.02	23	8-23
	02/09/04		13.85		81.87		
	09/23/04		12.27		83.45		
	01/21/05		13.42		82.30		
	03/23/06		NM		NM		
	01/08/09		NM		NM		
	11/04/09		15.35		80.37		
	11/22/11		17.01		78.71		
MW-22	01/16/03	96.68	15.40		80.32	25	10-25
	02/09/04		14.61		82.07		
	09/23/04		12.92		83.76		
	01/21/05		14.15		82.53		
	03/23/06		13.21		83.47		
	01/08/09		15.54		81.14		
	11/04/09		16.08		80.60		
	11/22/11		17.75		78.93		
MW-23	01/16/03	95.78	15.08		80.70	24	9-24
	02/09/04		14.30		81.48		
	09/23/04		12.72		83.06		
	01/20/05		13.82		81.96		
	03/23/06		13.09		82.69		
	01/08/09		15.21		80.57		
	11/04/09		15.64		80.14		
	11/22/11		17.28		78.50		
MW-24	01/16/03	93.86	13.00		80.86	23	8-23
	02/09/04		12.19		81.67		
	09/23/04		10.58		83.28		
	01/20/05		11.71		82.15		
	03/23/06		10.87		82.99		
	01/08/09		13.17		80.69		
	11/04/09		13.79		80.07		
	11/22/11		15.28		78.58		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-25	01/16/03	94.30	13.20		81.10	23	8-23
	02/09/04		12.37		81.93		
	09/23/04		10.74		83.56		
	01/20/05		11.99		82.31		
	03/23/06		11.00		83.30		
	01/08/09		13.34		80.96		
	11/04/09		13.83		80.47		
	11/22/11		15.56		78.74		
MW-26	01/16/03	93.88	12.38		81.50	21	6-21
	02/09/04		11.62		82.26		
	09/23/04		10.03		83.85		
	01/20/05		11.18		82.70		
	03/23/06		10.58		83.30		
	01/08/09		12.44		81.44		
	11/04/09		13.26		80.62		
	11/22/11		14.92		78.96		
MW-27	01/16/03	98.15	16.99		81.16	25	10-25
	02/09/04		16.20		81.95		
	09/23/04		14.61		83.54		
	01/21/05		15.81		82.34		
	03/23/06		14.84		83.31		
	01/08/09		17.20		80.95		
	11/04/09		17.64		80.51		
	11/22/11		19.30		78.85		
MW-28	01/16/03	98.45	17.46		80.99	25	10-25
	02/09/04		16.55		81.90		
	09/23/04		15.00		83.45		
	01/21/05		16.17		82.28		
	03/23/06		15.21		83.24		
	01/08/09		NM		NM		
	11/04/09		18.00		80.45		
	11/22/11		19.60		78.85		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-29	01/16/03	96.78	16.17		80.61	25	10-25
	02/09/04		15.30		81.48		
	09/23/04		13.74		83.04		
	01/20/05		14.69		82.09		
	03/23/06		14.12		82.66		
	01/08/09		16.31		80.47		
	11/04/09		16.71		80.07		
	11/22/11		18.26		78.52		
MW-30	01/16/03	95.38	15.18		80.20	22	7-22
	02/09/04		14.36		81.02		
	09/23/04		12.85		82.53		
	01/20/05		13.72		81.66		
	03/23/06		13.04		82.34		
	01/08/09		15.41		79.97		
	11/04/09		15.74		79.64		
	11/22/11		17.36		78.02		
MW-31	09/23/04	96.05	13.88		82.17	20	10-20
	01/20/05		14.73		81.32		
	03/23/06		14.22		81.83		
	01/08/09		16.49		79.56		
	11/04/09		16.37		79.68		
	11/22/11		18.20		77.85		
MW-1A	01/21/05	97.20	13.46	0.09	83.82	Unknown	Unknown
	03/23/06		12.11		85.09		
	01/08/09		14.99		82.21		
	11/03/09		15.25	0.06	82.00		
	11/22/11		17.76	0.85	80.17		
MW-2A	01/21/05	97.30	13.63	0.28	83.91	Unknown	Unknown
	03/23/06		12.54	0.31	85.03		
	01/08/09		15.86	0.54	81.90		
	11/03/09		15.61	0.02	81.71		
	11/22/11		17.26		80.04		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-3A	01/21/05	97.27	13.46	0.22	84.00	Unknown	Unknown
	03/23/06		12.22	0.03	85.08		
	01/08/09		15.68	1.00	82.45		
	11/03/09		15.63	0.47	82.04		
	11/22/11		18.02	0.82	79.95		
MW-4A	01/21/05	98.09	13.06	0.02	85.05	Unknown	Unknown
	03/23/06		12.43		85.66		
	01/08/09		16.02	0.85	82.80		
	11/03/09		15.62	0.02	82.49		
	11/22/11		17.84	0.02	80.27		
TW-1	01/16/03	99.01	15.14		83.87	46	41-46
	02/09/04		14.81		84.20		
	09/23/04		13.16		85.85		
	01/21/05		14.39		84.62		
	03/23/06		13.35		85.66		
	01/08/09		15.97		83.04		
	11/04/09		16.84		82.17		
	11/22/11		18.76		80.25		
TW-2	01/16/03	95.26	14.33		80.93	51	46-51
	02/09/04		13.58		81.68		
	09/23/04		11.98		83.28		
	01/21/05		13.07		82.19		
	03/23/06		12.10		83.16		
	01/08/09		14.52		80.74		
	11/04/09		15.01		80.25		
	11/22/11		16.63		78.63		

Notes:

- Elevations relative to a temporary benchmark with an assumed datum of 100.00 feet; data reported in feet.
- **: If free product is present in a well, groundwater elevation calculated by: [Top of Casing Elevation - Depth to Water] + [free product thickness x 0.8581].
- NM: Not measured; monitoring well is destroyed, covered or could not be located.
- OBS: Monitoring well obstructed.
- Monitoring wells MW-1A through MW-4A were installed by S&ME Consultants in January 2000.
- Monitoring wells MW-16 and MW-17 were completed above grade with stand up covers; depths to ground water were measured from the tops of casing; well depths and screened intervals were measured from the ground surface.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-1	01/17/03	17,300	31,000	2,220	12,800	495	515	-	0.13
	02/09/04	11,400	19,600	1,010	12,000	395	525	-	NR
	10/07/04	4,160	7,500	504	4,400	348	290	-	0.03
	01/21/05	8,150	13,500	790	7,170	560	<500	-	NR
	03/24/06	7,800	11,800	552	6,640	833	<100	-	NR
	01/07/09	15,700	15,100	1,600	12,310	1,120	878	<500	0.092
	11/04/09	7,120	12,600	988	6,940	<500	<500	<500	0.056
	11/23/11	6,630	9,340	664	4,300	399	210 J	<20	NR
MW-2	01/17/03	FP	FP	FP	FP	FP	FP	FP	FP
	02/09/04	FP	FP	FP	FP	FP	FP	FP	FP
	10/07/04	FP	FP	FP	FP	FP	FP	FP	FP
	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	14,600	17,900	2,240	12,000	164	495	FP	NR
	01/07/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/23/11	20,100	23,800	1,810	9,030	89.8 J	413 J	<50	NR
MW-2 DUP (DUP 2)	11/23/11	20,600	24,500	2,030	10,000	92.5 J	620 J	<50	NR
MW-3	01/17/03	FP	FP	FP	FP	FP	FP	FP	FP
	02/09/04	FP	FP	FP	FP	FP	FP	FP	FP
	10/07/04	FP	FP	FP	FP	FP	FP	FP	FP
	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	54.6	44.4	17.1	660	2.04	8	FP	NR
	01/07/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
MW-4	01/17/03	3.7	<1.0	1.8	7.2	<1.0	7.4	FP	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	NR
	03/24/06	0.200J	<1.00	<1.00	1.44	0.340J	<1.00	FP	NR
	01/07/09	5.9	<5.0	<5.0	6.0	<5.0	8.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-5	01/17/03	<1.0	<1.0	1.7	3.4	<1.0	7.1	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	0.350J	<1.00	<1.00	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.066
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	01/17/03	<1.0	<1.0	1.9	3.8	<1.0	7	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-7	01/17/03	70.3	145	24.3	308	1.8	25.7	-	<0.02
	02/09/04	<1.0	11.4	60.2	441	<1.0	40.7	-	NR
	10/07/04	<1.0	1.1	2.4	25	<1.0	5.8	-	<0.02
	01/21/05	<1.0	<1.0	4.5	26.9	<1.0	17.5	-	NR
	03/24/06	<1.00	<1.00	<1.00	23.3	0.260J	9.62	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	12.2	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	0.62 J	<1.0	<0.20	NR
MW-8	01/17/03	1,480	11,800	1,930	9,930	6.3	<500	-	<0.02
	02/09/04	59	1,700	424	2,380	<5.0	96	-	NR
	10/07/04	<1.0	3.2	7.4	71.1	<1.0	9	-	<0.02
	01/21/05	12	161	55.6	1,100	<1.0	52.2	-	NR
	03/24/06	4.19	24.1	118	1,070	<1.00	102	-	NR
	01/08/09	16.8	<5.0	<5.0	200.6	<5.0	18.5	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	12.8	<5.0	34.7	<5.0	<0.020
	11/22/11	11.6	1.3	8.1	7.0	<0.34	19.3	<0.20	NR

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-9	01/17/03	<1.0	<1.0	<1.0	<1.0	34	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	11.1	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	1.2	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	12.5	<5.00	-	NR
	03/24/06	<1.00	<1.00	0.270J	2.49	1.5	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/30/11	<0.20	<0.20	<0.20	<0.52	1.9	<1.0	<0.20	NR
MW-10	01/17/03	<1.0	<1.0	<1.0	<1.0	1.5	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	0.490J	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/30/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-11	01/17/03	<1.0	<1.0	<1.0	<1.0	1.6	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	23.7	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	5.1	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	0.250J	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	01/17/03	<1.0	<1.0	<1.0	<1.0	2	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-13	01/17/03	<1.0	<1.0	<1.0	<1.0	42.5	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	145	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	6.3	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	40.8	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	11	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/30/11	<0.20	<0.20	<0.20	<0.52	2.4	<1.0	<0.20	NR
MW-14	01/17/03	3.4	<1.0	<1.0	4.5	<1.0	10.9	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	79.5	16.7	4.8	26.8	5.8	8.7 J	<0.40	NR
MW-15	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-16	01/17/03	FP	FP	FP	FP	FP	FP	-	FP
	02/09/04	FP	FP	FP	FP	FP	FP	-	FP
	10/07/04	FP	FP	FP	FP	FP	FP	-	FP
	01/21/05	FP	FP	FP	FP	FP	FP	-	FP
	03/24/06	14,600	20,300	2,080	11,800	536	1,080	-	NR
	01/08/09	2,660	6,520	930	5,100	<25.0	633	<25.0	<0.020
	11/04/09	18,500	33,300	2,880	16,300	454	928	<250	0.30
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-17	01/17/03	FP	FP	FP	FP	FP	FP	-	FP
	02/09/04	<1.0	13.2	12.5	74.2	19	10.1	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
MW-18	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	15.4	5.5	<1.0	5.6	<1.0	<5.00	-	NR
	10/07/04	1.5	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	19.2	1.1	<1.0	7.1	<1.0	<5.00	-	NR
	03/24/06	36.2	1.27	<1.00	6.16	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
MW-19	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	3.1	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
MW-19 DUP (DUP 1)	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-20	11/22/11	1.3	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	01/17/03	1,520	314	108	298	80.4	26.3	-	<0.02
	02/09/04	3,220	530	15.2	830	78	61.2	-	NR
	10/07/04	90.2	6.6	<1.0	19.8	94.4	<5.00	-	<0.02
	01/21/05	1,120	43.1	5.8	95.1	73	36.9	-	NR
	03/24/06	44.9	0.300J	0.310J	3.54	9.14	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	9.5	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	2.4	<0.20	<0.20	<0.52	6.2	<1.0	<0.20	NR

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-21	01/17/03	269	27.5	12	118	42.6	12.6	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	NS	NS	NS	NS	NS	NS	-	NS
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	108	4.5	<0.40	<1.0	8.7	<2.0	<0.40	NR
MW-22	01/17/03	2,080	281	279	576	257	67.9	-	<0.02
	02/09/04	782	49.2	41.4	77.5	93.4	15.8	-	NR
	10/07/04	109	11.3	3.2	19.5	71.4	<5.00	-	<0.02
	01/21/05	3,980	300	197	454	67	112	-	NR
	03/23/06	0.340J	<1.00	<1.00	<1.00	8.11	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	60.0	8.3	3.4	3.1	13.8	<1.0	<0.20	NR
MW-23	01/17/03	27.6	<1.0	<1.0	3.7	27.2	10.5	-	<0.02
	02/09/04	1,760	72	<1.0	592	372	17.2	-	NR
	10/07/04	1,620	103	<1.0	598	286	46	-	<0.02
	01/20/05	1,670	111	<1.0	578	172	19.9	-	NR
	03/23/06	1,290	44.1	<1.00	266	168	38.4	-	NR
	01/08/09	574	<5.0	<5.0	30.8	65.2	<5.0	<5.0	<0.019
	11/04/09	1,250	<25.0	<25.0	98.9	152	31.0	<25.0	<0.019
	11/22/11	435	<1.0	<1.0	<2.6	140	15.9 J	<1.0	NR
MW-24	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
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Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-25	01/17/03	<1.0	<1.0	<1.0	<1.0	4.9	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	0.330J	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-26	01/17/03	1.3	<1.0	<1.0	<1.0	4.7	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	0.86 J	<1.0	<0.20	NR
MW-27	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	1.7	<5.00	-	NR
	03/23/06	0.320J	<1.00	<1.00	<1.00	3.95	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	6.2	<0.20	<0.20	0.61 J	2.4	<1.0	<0.20	NR
MW-28	01/17/03	<1.0	<1.0	<1.0	<1.0	1.4	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	0.340 J	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	0.38 J	<1.0	<0.20	NR

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-29	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-30	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	11.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-31	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-1A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	20,700	30,600	3,310	17,600	1,880	891	-	NR
	01/08/09	14,300	29,300	8,930	48,800	1,250	6,060	<500	0.066
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
MW-2A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/23/06	FP	FP	FP	FP	FP	FP	FP	FP
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/30/11	260	517	37.3	491	<3.4	70.4	<2.0	NR

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-3A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/23/06	FP	FP	FP	FP	FP	FP	FP	FP
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
MW-4A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	19,600	34,800	3,900	21,500	247	952	FP	NR
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
TW-1	01/17/03	25.5	46.6	6.9	19.8	<1.0	9.3	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/23/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
TW-2	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	11.7	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	7.22	<1.00	<1.00	<1.00	1.7	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	7.0	<0.20	<0.20	<0.52	1.0	<1.0	<0.20	NR

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TISDALES QUICK STOP
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Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
WSW-1	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
WSW-2	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
WSW-3	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
FIELD BLANK	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
TRIP BLANK	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR

Notes:

- Analyses for selected volatile organic compounds by EPA Method 8260B; lead by EPA Method 6010B or 200.7; and EDB by Method 8011; results reported in µg/l.
- RBSL: May 2001 Risk Based Screening Level.
- Concentrations in bold face type exceeded the RBSL.
- <: Less than the report limit specified in the laboratory report.
- NS: Not sampled.
- NR: Analysis not requested.
- I or J: Estimated value.
- FP: Free product.

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-1	03/24/06	<5,000	5,030	<50.0	<50.0	<50.0	<1,000	1,280	35,000
	11/04/09	<20,000	<10,000	<1,000	<1,000	<500	<5,000	<10,000	10,200
	11/23/11	<2,500	<2,500	<31	<39	<35	<500	<300	24,100
MW-2	03/24/06	<5,000	4,620	<50.0	54	<50.0	<1,000	1,020	25,700
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/23/11	<6,300	<6,300	<78	<98	<88	<1,300	<750	37,800
MW-2 DUP (DUP 2)	11/23/11	<6,300	<6,300	<78	<98	<88	<1,300	<750	37,000
MW-3	03/24/06	<100	99.1	<1.00	<1.00	<1.00	<20.0	26.7	223
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
MW-4	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	11/03/09	<200	115	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-7	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-8	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	11.2 J
MW-9	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/30/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-10	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/30/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-11	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-12	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
MW-13	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/30/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-14	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<50	<50	<0.62	<0.78	<0.70	<10	<6.0	450
MW-15	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-16	03/24/06	<5,000	5,140	<50.0	72.5	<50.0	<1,000	1,560	34,600
	11/04/09	<10,000	<5,000	<500	<500	<250	<2,500	<5,000	45,400
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
MW-17	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
MW-18	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	19.2 J
MW-19	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	5.6 J
MW-19 DUP (DUP 1)	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	12.5 J
MW-20	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	9.3 J	151
MW-21	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<50	<50	<0.62	1.1 J	<0.70	<10	25.0 J	343
MW-22	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	0.60 J	3.6	<0.35	<5.0	45.3	1,370
MW-23	11/04/09	<1,000	<500	<50.0	<50.0	<25.0	<250	<500	1,490
	11/22/11	<130	<130	<1.6	9.7 J	<1.8	<25	<15	3,200
MW-24	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-25	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-26	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-27	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	43.2
MW-28	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-29	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-30	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-31	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
MW-1A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
MW-2A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/30/11	<250	<250	<3.1	<3.9	<3.5	<50	<30	83.3 J
MW-3A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
MW-4A	11/04/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
TW-1	03/24/06	<100	<10.0	<1.00	<1.00	<1.00	<20.0	<20.0	<20.0
	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/23/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
TW-2	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	15.9 J

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
WSW-1	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
WSW-3	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
FIELD BLANK	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
TRIP BLANK	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0

Notes:

- Analyses for oxygenates by Method 8260B; results reported in µg/l.
- <: Less than the report limit specified in the laboratory report.

APPENDICES

APPENDIX A

Laboratory Analytical Report – Ground Water Samples



12/08/11

Technical Report for

GRI (Geological Resources Inc.)

Tisdale Quick Stop; Kingston, SC

Accutest Job Number: F88222

Sampling Dates: 11/22/11 - 11/23/11


Report to:

GRI
2301 F Crown Point EX Dr
Charlotte, NC 28207
wsb@geologicalresourcesinc.com; carriekennedy@geologicalresourcesinc.com;
johnbrown@geologicalresourcesinc.com; jjr@geologicalresourcesinc.com
ATTN: Scott Ball

Total number of pages in report: 54



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


Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Muna Mohammed 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001)
DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), AK, AR, GA, KY, MA, NV, OK, UT, VA, WA, WI
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Test results relate only to samples analyzed.

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Sample Summary

GRI (Geological Resources Inc.)

Tisdale Quick Stop; Kingston, SC

Job No: F88222

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
F88222-1	11/23/11	10:12 RQ	11/29/11	AQ	Ground Water	MW 1
F88222-2	11/23/11	10:21 RQ	11/29/11	AQ	Ground Water	MW 2
F88222-3	11/22/11	10:15 RQ	11/29/11	AQ	Ground Water	MW 6
F88222-4	11/22/11	10:34 RQ	11/29/11	AQ	Ground Water	MW 7
F88222-5	11/22/11	17:41 RQ	11/29/11	AQ	Ground Water	MW 8
F88222-6	11/22/11	10:47 RQ	11/29/11	AQ	Ground Water	MW 14
F88222-7	11/22/11	10:58 RQ	11/29/11	AQ	Ground Water	MW 15
F88222-8	11/22/11	11:28 RQ	11/29/11	AQ	Ground Water	MW 18
F88222-9	11/22/11	11:44 RQ	11/29/11	AQ	Ground Water	MW 19
F88222-10	11/22/11	12:01 RQ	11/29/11	AQ	Ground Water	MW 20
F88222-11	11/22/11	14:20 RQ	11/29/11	AQ	Ground Water	MW 21
F88222-12	11/22/11	13:00 RQ	11/29/11	AQ	Ground Water	MW 22
F88222-13	11/22/11	16:00 RQ	11/29/11	AQ	Ground Water	MW 23

Sample Summary
(continued)

GRI (Geological Resources Inc.)

Job No: F88222

Tisdale Quick Stop; Kingston, SC

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F88222-14	11/22/11	15:21 RQ	11/29/11	AQ	Ground Water	MW 24
F88222-15	11/22/11	13:47 RQ	11/29/11	AQ	Ground Water	MW 25
F88222-16	11/22/11	13:24 RQ	11/29/11	AQ	Ground Water	MW 26
F88222-17	11/22/11	12:37 RQ	11/29/11	AQ	Ground Water	MW 27
F88222-18	11/22/11	12:21 RQ	11/29/11	AQ	Ground Water	MW 28
F88222-19	11/22/11	16:29 RQ	11/29/11	AQ	Ground Water	MW 29
F88222-20	11/22/11	17:12 RQ	11/29/11	AQ	Ground Water	MW 30
F88222-21	11/22/11	16:47 RQ	11/29/11	AQ	Ground Water	MW 31
F88222-22	11/23/11	09:45 RQ	11/29/11	AQ	Ground Water	TW 1
F88222-23	11/22/11	14:57 RQ	11/29/11	AQ	Ground Water	TW 2
F88222-24	11/22/11	11:34 RQ	11/29/11	AQ	Ground Water	WSW 1
F88222-25	11/22/11	11:34 RQ	11/29/11	AQ	Ground Water	WSW 3
F88222-26	11/22/11	11:44 RQ	11/29/11	AQ	Ground Water	MW DUP 1



Sample Summary

(continued)

GRI (Geological Resources Inc.)

Job No: F88222

Tisdale Quick Stop; Kingston, SC

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
F88222-27	11/23/11	10:21 RQ	11/29/11	AQ Ground Water	MW DUP 2
F88222-28	11/22/11	11:59 RQ	11/29/11	AQ Field Blank Water	FIELD BLANK
F88222-29	11/22/11	00:00 RQ	11/29/11	AQ Trip Blank Water	TRIP BLANK



Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

Client Sample ID:	MW 1	Date Sampled:	11/23/11
Lab Sample ID:	F88222-1	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070766.D	100	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6630	100	20	ug/l	
108-88-3	Toluene	9340	100	20	ug/l	
100-41-4	Ethylbenzene	664	100	20	ug/l	
1330-20-7	Xylene (total)	4300	300	52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	399	100	34	ug/l	
91-20-3	Naphthalene	210	500	100	ug/l	J
107-06-2	1,2-Dichloroethane	ND	100	20	ug/l	
108-20-3	Di-Isopropyl ether	ND	100	35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	5000	2500	ug/l	
64-17-5	Ethyl Alcohol	ND	10000	2500	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	100	31	ug/l	
75-85-4	Tert-Amyl Alcohol	24100	2000	500	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	200	39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	2000	300	ug/l	
762-75-4	Tert-Butyl Formate	ND	2000	500	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	97%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	90%		84-120%

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

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

Report of Analysis

Client Sample ID:	MW 2	Date Sampled:	11/23/11
Lab Sample ID:	F88222-2	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070794.D	250	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	20100	250	50	ug/l	
108-88-3	Toluene	23800	250	50	ug/l	
100-41-4	Ethylbenzene	1810	250	50	ug/l	
1330-20-7	Xylene (total)	9030	750	130	ug/l	
1634-04-4	Methyl Tert Butyl Ether	89.8	250	85	ug/l	J
91-20-3	Naphthalene	413	1300	250	ug/l	J
107-06-2	1,2-Dichloroethane	ND	250	50	ug/l	
108-20-3	Di-Isopropyl ether	ND	250	88	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	13000	6300	ug/l	
64-17-5	Ethyl Alcohol	ND	25000	6300	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	250	78	ug/l	
75-85-4	Tert-Amyl Alcohol	37800	5000	1300	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	500	98	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	5000	750	ug/l	
762-75-4	Tert-Butyl Formate	ND	5000	1300	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	99%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	89%		84-120%

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

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

Report of Analysis

Client Sample ID:	MW 6	Date Sampled:	11/22/11
Lab Sample ID:	F88222-3	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070748.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		87-116%
17060-07-0	1,2-Dichloroethane-D4	98%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	90%		84-120%

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

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

Report of Analysis

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Client Sample ID:	MW 7	Date Sampled:	11/22/11
Lab Sample ID:	F88222-4	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070749.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.62	1.0	0.34	ug/l	J
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	101%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	91%		84-120%

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

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

Report of Analysis

Client Sample ID:	MW 8	Date Sampled:	11/22/11
Lab Sample ID:	F88222-5	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070750.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	11.6	1.0	0.20	ug/l	
108-88-3	Toluene	1.3	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	8.1	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	7.0	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	19.3	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	11.2	20	5.0	ug/l	J
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		87-116%
17060-07-0	1,2-Dichloroethane-D4	100%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	85%		84-120%

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

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

Report of Analysis

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Client Sample ID:	MW 14	Date Sampled:	11/22/11
Lab Sample ID:	F88222-6	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070790.D	2	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	79.5	2.0	0.40	ug/l	
108-88-3	Toluene	16.7	2.0	0.40	ug/l	
100-41-4	Ethylbenzene	4.8	2.0	0.40	ug/l	
1330-20-7	Xylene (total)	26.8	6.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5.8	2.0	0.68	ug/l	
91-20-3	Naphthalene	8.7	10	2.0	ug/l	J
107-06-2	1,2-Dichloroethane	ND	2.0	0.40	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.70	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	100	50	ug/l	
64-17-5	Ethyl Alcohol	ND	200	50	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.62	ug/l	
75-85-4	Tert-Amyl Alcohol	450	40	10	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	4.0	0.78	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	40	6.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	40	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		87-116%
17060-07-0	1,2-Dichloroethane-D4	95%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	93%		84-120%

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

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

Report of Analysis

Client Sample ID:	MW 15	Date Sampled:	11/22/11
Lab Sample ID:	F88222-7	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070751.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	101%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	94%		84-120%

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

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

Report of Analysis

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Client Sample ID:	MW 18	Date Sampled:	11/22/11
Lab Sample ID:	F88222-8	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070752.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	19.2	20	5.0	ug/l	J
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	99%		84-120%

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

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

Report of Analysis

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Client Sample ID:	MW 19	Date Sampled:	11/22/11
Lab Sample ID:	F88222-9	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070753.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	5.6	20	5.0	ug/l	J
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		87-116%
17060-07-0	1,2-Dichloroethane-D4	101%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	92%		84-120%

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

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

Report of Analysis

Client Sample ID:	MW 20	Date Sampled:	11/22/11
Lab Sample ID:	F88222-10	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070754.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.4	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	6.2	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	151	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	9.3	20	3.0	ug/l	J
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	101%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	90%		84-120%

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

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

Report of Analysis

Client Sample ID: MW 21
 Lab Sample ID: F88222-11
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Tisdale Quick Stop; Kingston, SC

Date Sampled: 11/22/11
 Date Received: 11/29/11
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070791.D	2	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	108	2.0	0.40	ug/l	
108-88-3	Toluene	4.5	2.0	0.40	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.40	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	8.7	2.0	0.68	ug/l	
91-20-3	Naphthalene	ND	10	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	0.40	ug/l	
108-20-3	Di-Isopropyl ether	ND	2.0	0.70	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	100	50	ug/l	
64-17-5	Ethyl Alcohol	ND	200	50	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.62	ug/l	
75-85-4	Tert-Amyl Alcohol	343	40	10	ug/l	
994-05-8	Tert-Amyl Methyl Ether	1.1	4.0	0.78	ug/l	J
75-65-0	Tert-Butyl Alcohol	25.0	40	6.0	ug/l	J
762-75-4	Tert-Butyl Formate	ND	40	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	98%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	93%		84-120%

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

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

Report of Analysis

Client Sample ID: MW 22
 Lab Sample ID: F88222-12
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Tisdale Quick Stop; Kingston, SC

Date Sampled: 11/22/11
 Date Received: 11/29/11
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070755.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2	J070793.D	2	12/06/11	MM	n/a	n/a	VJ3789

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	60.0	1.0	0.20	ug/l	
108-88-3	Toluene	8.3	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	3.4	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	3.1	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	13.8	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	0.60	1.0	0.31	ug/l	J
75-85-4	Tert-Amyl Alcohol	1370 ^a	40	10	ug/l	
994-05-8	Tert-Amyl Methyl Ether	3.6	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	45.3	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	101%	87-116%
17060-07-0	1,2-Dichloroethane-D4	97%	96%	76-127%
2037-26-5	Toluene-D8	94%	94%	86-112%
460-00-4	4-Bromofluorobenzene	92%	90%	84-120%

(a) Result is from Run# 2

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

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

Report of Analysis

Client Sample ID:	MW 23	Date Sampled:	11/22/11
Lab Sample ID:	F88222-13	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070792.D	5	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	435	5.0	1.0	ug/l	
108-88-3	Toluene	ND	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/l	
1330-20-7	Xylene (total)	ND	15	2.6	ug/l	
1634-04-4	Methyl Tert Butyl Ether	140	5.0	1.7	ug/l	
91-20-3	Naphthalene	15.9	25	5.0	ug/l	J
107-06-2	1,2-Dichloroethane	ND	5.0	1.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	1.8	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	250	130	ug/l	
64-17-5	Ethyl Alcohol	ND	500	130	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	1.6	ug/l	
75-85-4	Tert-Amyl Alcohol	3200	100	25	ug/l	
994-05-8	Tert-Amyl Methyl Ether	9.7	10	2.0	ug/l	J
75-65-0	Tert-Butyl Alcohol	ND	100	15	ug/l	
762-75-4	Tert-Butyl Formate	ND	100	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	97%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	92%		84-120%

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

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

Report of Analysis

Client Sample ID:	MW 24	Date Sampled:	11/22/11
Lab Sample ID:	F88222-14	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070756.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		87-116%
17060-07-0	1,2-Dichloroethane-D4	99%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	92%		84-120%

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

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

Report of Analysis

Client Sample ID:	MW 25	Date Sampled:	11/22/11
Lab Sample ID:	F88222-15	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070757.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	102%		76-127%
2037-26-5	Toluene-D8	100%		86-112%
460-00-4	4-Bromofluorobenzene	89%		84-120%

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

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

Report of Analysis

Client Sample ID: MW 26
Lab Sample ID: F88222-16
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: Tisdale Quick Stop; Kingston, SC

Date Sampled: 11/22/11
Date Received: 11/29/11
Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070758.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.86	1.0	0.34	ug/l	J
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	100%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	90%		84-120%

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

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

Report of Analysis

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Client Sample ID:	MW 27	Date Sampled:	11/22/11
Lab Sample ID:	F88222-17	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070759.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6.2	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	0.61	3.0	0.52	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	2.4	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	43.2	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	100%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	89%		84-120%

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

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

Report of Analysis

Client Sample ID: MW 28
 Lab Sample ID: F88222-18
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Tisdale Quick Stop; Kingston, SC

Date Sampled: 11/22/11
 Date Received: 11/29/11
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070760.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.38	1.0	0.34	ug/l	J
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	100%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	92%		84-120%

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

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

Report of Analysis

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Client Sample ID: MW 29
 Lab Sample ID: F88222-19
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Tisdale Quick Stop; Kingston, SC

Date Sampled: 11/22/11
 Date Received: 11/29/11
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070761.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	100%		76-127%
2037-26-5	Toluene-D8	94%		86-112%
460-00-4	4-Bromofluorobenzene	91%		84-120%

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

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

Report of Analysis

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Client Sample ID:	MW 30	Date Sampled:	11/22/11
Lab Sample ID:	F88222-20	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070762.D	1	12/05/11	MM	n/a	n/a	VJ3787
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	101%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	90%		84-120%

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

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

Report of Analysis

Client Sample ID: MW 31
 Lab Sample ID: F88222-21
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Tisdale Quick Stop; Kingston, SC

Date Sampled: 11/22/11
 Date Received: 11/29/11
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070781.D	1	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	98%		76-127%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	90%		84-120%

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

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

Report of Analysis

Client Sample ID: TW 1
 Lab Sample ID: F88222-22
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Tisdale Quick Stop; Kingston, SC

Date Sampled: 11/23/11
 Date Received: 11/29/11
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070782.D	1	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	99%		76-127%
2037-26-5	Toluene-D8	93%		86-112%
460-00-4	4-Bromofluorobenzene	89%		84-120%

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	TW 2	Date Sampled:	11/22/11
Lab Sample ID:	F88222-23	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070783.D	1	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	7.0	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.0	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	15.9	20	5.0	ug/l	J
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	99%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	90%		84-120%

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

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

Report of Analysis

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Client Sample ID:	WSW 1	Date Sampled:	11/22/11
Lab Sample ID:	F88222-24	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070784.D	1	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	101%		76-127%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	89%		84-120%

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	WSW 3	Date Sampled:	11/22/11
Lab Sample ID:	F88222-25	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070785.D	1	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	90%		84-120%

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

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

Report of Analysis

Client Sample ID:	MW DUP 1	Date Sampled:	11/22/11
Lab Sample ID:	F88222-26	Date Received:	11/29/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070786.D	1	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.3	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	12.5	20	5.0	ug/l	J
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	100%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	92%		84-120%

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

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

Report of Analysis

Client Sample ID: MW DUP 2
 Lab Sample ID: F88222-27
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Tisdale Quick Stop; Kingston, SC

Date Sampled: 11/23/11
 Date Received: 11/29/11
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070826.D	250	12/07/11	MM	n/a	n/a	VJ3791
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	20600	250	50	ug/l	
108-88-3	Toluene	24500	250	50	ug/l	
100-41-4	Ethylbenzene	2030	250	50	ug/l	
1330-20-7	Xylene (total)	10000	750	130	ug/l	
1634-04-4	Methyl Tert Butyl Ether	92.5	250	85	ug/l	J
91-20-3	Naphthalene	620	1300	250	ug/l	J
107-06-2	1,2-Dichloroethane	ND	250	50	ug/l	
108-20-3	Di-Isopropyl ether	ND	250	88	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	13000	6300	ug/l	
64-17-5	Ethyl Alcohol	ND	25000	6300	ug/l	
637-92-3	Ethyl Tert Butyl Ether ^a	ND	250	78	ug/l	
75-85-4	Tert-Amyl Alcohol	37000	5000	1300	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	500	98	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	5000	750	ug/l	
762-75-4	Tert-Butyl Formate	ND	5000	1300	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	96%		76-127%
2037-26-5	Toluene-D8	95%		86-112%
460-00-4	4-Bromofluorobenzene	89%		84-120%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

Client Sample ID:	FIELD BLANK	Date Sampled:	11/22/11
Lab Sample ID:	F88222-28	Date Received:	11/29/11
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070787.D	1	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	97%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	90%		84-120%

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

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

Report of Analysis

Client Sample ID: TRIP BLANK
 Lab Sample ID: F88222-29
 Matrix: AQ - Trip Blank Water
 Method: SW846 8260B
 Project: Tisdale Quick Stop; Kingston, SC

Date Sampled: 11/22/11
 Date Received: 11/29/11
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	J070788.D	1	12/06/11	MM	n/a	n/a	VJ3789
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

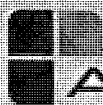
CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	99%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	91%		84-120%

(a) Sample vial(s) contained significant headspace; reported results are considered minimum values.

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

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



Southeast

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (SC)
- Chain of Custody



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LABORATORIES

F88222

Parameter Certification Exceptions

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Job Number: F88222

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
3,3-Dimethyl-1-Butanol	624-95-3	SW846 8260B	AQ	Certified by SOP MS005
Di-Isopropyl ether	108-20-3	SW846 8260B	AQ	Certified by SOP MS005
Tert-Amyl Alcohol	75-85-4	SW846 8260B	AQ	Certified by SOP MS005
Tert-Butyl Formate	762-75-4	SW846 8260B	AQ	Certified by SOP MS005

Accutest Laboratories Southeast Chain of Custody

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LABORATORIES

4405 Vineland Road, Suite C-15 Orlando, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707
www.accutest.com

F88222 PAGE 1 OF 3
Accutest JOB # SKIFF#

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes	
any Name Geological Resources	Project Name: TISDALES	Street	City	State	ZIP		
Address 2301 E. Lynn Pkwy. W	City Charlotte	State NC	ZIP 28227				
Project Contact Scott Ruff	Project #	Phone # 704 845 4510	Fax #				
Sample(s) Name(s) (Printed) Russell Quinn	Client Purchase Order #						
Field ID / Point of Collection		Collection		Container Information		LAB USE ONLY	
Accutest Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER
1	MW1	11/22	10:12	RLC	GW	3	X
2	MW2	11/22	10:21				
3	MW6	11/22	10:45				
4	MW7	11	6:37				
5	MW8	11	17:11				
6	MW14		10:47				
7	MW15		10:58				
8	MW18		11:28				
9	MW19		11:44				
10	MW20		12:11				
11	MW21		14:20				
12	MW22		13:04				
TURNAROUND TIME (Business Days)		Data Deliverable Information		Comments / Remarks			
<input checked="" type="checkbox"/> 10 Days Standard <input type="checkbox"/> 7 Day RUSH <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY <input type="checkbox"/> OTHER		Approved By: / Rush Code <input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 4) <input type="checkbox"/> FULT1 (EPA LEVEL 4) <input type="checkbox"/> EDD'S		ACCUTEST 2828-C QUEEN CITY DR CLT NC 28208			
Emergency or Rush T/A Data Available VIA Email or Lablink							
Sample Custody must be documented below each time samples change possession, including courier delivery.							
Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished by:	Date Time:	Received By:	Date Time:
1. <i>[Signature]</i>	11/22 0800	2. <i>[Signature]</i>	11/28 9:15	3. <i>[Signature]</i>	11/28 15:00	4. <i>[Signature]</i>	11/28 15:00
5. <i>[Signature]</i>	11-29-11 1100	6. <i>[Signature]</i>	11-29-11 1100	7. <i>[Signature]</i>	11-29-11 1100	8. <i>[Signature]</i>	11-29-11 1100
Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius: 2.6							

F88222: Chain of Custody
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F88222

[illegible]

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F88222: Chain of Custody

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ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F88222 CLIENT: Geo. Resources PROJECT: Tisdale's
 DATE/TIME RECEIVED: 11-29-11 1100 (MM/DD/YY 24:00) NUMBER OF COOLERS RECEIVED: 1
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER
 AIRBILL NUMBERS: 8764 4718 6265

COOLER INFORMATION

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

TRIP BLANK INFORMATION

- ☒ TRIP BLANK PROVIDED
- ☐ TRIP BLANK NOT PROVIDED
- ☐ TRIP BLANK NOT ON COC
- ☐ TRIP BLANK INTACT
- ☒ TRIP BLANK NOT INTACT
- ☒ RECEIVED WATER TRIP BLANK
- ☐ RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES? 25-GRAM 5-GRAM
 NUMBER OF 5035 FIELD KITS?
 NUMBER OF LAB FILTERED METALS?

TEMPERATURE INFORMATION

- ☐ IR THERM ID 1 CORR. FACTOR +0.2
- ☐ OBSERVED TEMPS: 2.4
- ☐ CORRECTED TEMPS: 2.6

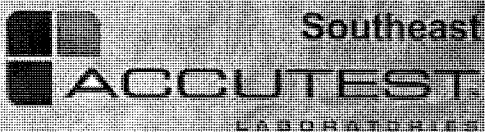
SAMPLE INFORMATION

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

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

SUMMARY OF COMMENTS: CLIENT PROVIDED TRIP BLANK (1 40 ML HCL VIAL)

TECHNICIAN SIGNATURE/DATE R. Williams 11-29-11 REVIEWER SIGNATURE/DATE [Signature] 11/29/11
 NF 12/10 receipt confirmation 122910.xls



GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: F88222
Account: GRINCC GRI (Geological Resources Inc.)
Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3787-MB	J070747.D	1	12/05/11	MM	n/a	n/a	VJ3787

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-1, F88222-3, F88222-4, F88222-5, F88222-7, F88222-8, F88222-9, F88222-10, F88222-12, F88222-14, F88222-15, F88222-16, F88222-17, F88222-18, F88222-19, F88222-20

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	102% 87-116%
17060-07-0	1,2-Dichloroethane-D4	101% 76-127%
2037-26-5	Toluene-D8	98% 86-112%
460-00-4	4-Bromofluorobenzene	91% 84-120%

Method Blank Summary

Page 1 of 1

Job Number: F88222
Account: GRINCC GRI (Geological Resources Inc.)
Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3789-MB	J070780.D	1	12/06/11	MM	n/a	n/a	VJ3789

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-2, F88222-6, F88222-11, F88222-12, F88222-13, F88222-21, F88222-22, F88222-23, F88222-24, F88222-25,
F88222-26, F88222-28, F88222-29

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	102% 87-116%
17060-07-0	1,2-Dichloroethane-D4	99% 76-127%
2037-26-5	Toluene-D8	99% 86-112%
460-00-4	4-Bromofluorobenzene	91% 84-120%

Method Blank Summary

Page 1 of 1

Job Number: F88222

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3791-MB	J070814.D	1	12/07/11	MM	n/a	n/a	VJ3791

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-27

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103% 87-116%
17060-07-0	1,2-Dichloroethane-D4	98% 76-127%
2037-26-5	Toluene-D8	97% 86-112%
460-00-4	4-Bromofluorobenzene	92% 84-120%

Blank Spike Summary

Page 1 of 1

Job Number: F88222
Account: GRINCC GRI (Geological Resources Inc.)
Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3787-BS	J070744.D	1	12/05/11	MM	n/a	n/a	VJ3787

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-1, F88222-3, F88222-4, F88222-5, F88222-7, F88222-8, F88222-9, F88222-10, F88222-12, F88222-14, F88222-15, F88222-16, F88222-17, F88222-18, F88222-19, F88222-20

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	26.5	106	83-124
107-06-2	1,2-Dichloroethane	25	24.7	99	76-122
108-20-3	Di-Isopropyl ether	25	24.0	96	75-125
100-41-4	Ethylbenzene	25	25.5	102	87-118
64-17-5	Ethyl Alcohol	500	445	89	67-134
637-92-3	Ethyl Tert Butyl Ether	25	23.9	96	89-130
1634-04-4	Methyl Tert Butyl Ether	25	23.0	92	75-116
91-20-3	Naphthalene	25	25.4	102	59-125
75-85-4	Tert-Amyl Alcohol	250	270	108	71-108
994-05-8	Tert-Amyl Methyl Ether	25	24.2	97	81-116
75-65-0	Tert-Butyl Alcohol	250	236	94	74-106
108-88-3	Toluene	25	24.6	98	86-116
1330-20-7	Xylene (total)	75	74.9	100	86-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	87-116%
17060-07-0	1,2-Dichloroethane-D4	95%	76-127%
2037-26-5	Toluene-D8	98%	86-112%
460-00-4	4-Bromofluorobenzene	93%	84-120%

Blank Spike Summary

Page 1 of 1

Job Number: F88222
Account: GRINCC GRI (Geological Resources Inc.)
Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3787-BS	J070745.D	1	12/05/11	MM	n/a	n/a	VJ3787

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-1, F88222-3, F88222-4, F88222-5, F88222-7, F88222-8, F88222-9, F88222-10, F88222-12, F88222-14, F88222-15, F88222-16, F88222-17, F88222-18, F88222-19, F88222-20

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
624-95-3	3,3-Dimethyl-1-Butanol	1250	1570	126	50-150 ^a
64-17-5	Ethyl Alcohol	500	477	95	67-134
762-75-4	Tert-Butyl Formate	250	335	134	50-150 ^a

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	87-116%
17060-07-0	1,2-Dichloroethane-D4	99%	76-127%
2037-26-5	Toluene-D8	98%	86-112%
460-00-4	4-Bromofluorobenzene	91%	84-120%

(a) Advisory control limits.

Blank Spike Summary

Page 1 of 1

Job Number: F88222

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3789-BS	J070777.D	1	12/06/11	MM	n/a	n/a	VJ3789

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-2, F88222-6, F88222-11, F88222-12, F88222-13, F88222-21, F88222-22, F88222-23, F88222-24, F88222-25, F88222-26, F88222-28, F88222-29

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.8	99	83-124
107-06-2	1,2-Dichloroethane	25	24.1	96	76-122
108-20-3	Di-Isopropyl ether	25	22.4	90	75-125
100-41-4	Ethylbenzene	25	24.3	97	87-118
64-17-5	Ethyl Alcohol	500	478	96	67-134
637-92-3	Ethyl Tert Butyl Ether	25	22.4	90	89-130
1634-04-4	Methyl Tert Butyl Ether	25	21.2	85	75-116
91-20-3	Naphthalene	25	25.9	104	59-125
75-85-4	Tert-Amyl Alcohol	250	264	106	71-108
994-05-8	Tert-Amyl Methyl Ether	25	22.3	89	81-116
75-65-0	Tert-Butyl Alcohol	250	251	100	74-106
108-88-3	Toluene	25	23.2	93	86-116
1330-20-7	Xylene (total)	75	70.8	94	86-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	87-116%
17060-07-0	1,2-Dichloroethane-D4	96%	76-127%
2037-26-5	Toluene-D8	96%	86-112%
460-00-4	4-Bromofluorobenzene	90%	84-120%

Blank Spike Summary

Page 1 of 1

Job Number: F88222

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3789-BS	J070778.D	1	12/06/11	MM	n/a	n/a	VJ3789

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-2, F88222-6, F88222-11, F88222-12, F88222-13, F88222-21, F88222-22, F88222-23, F88222-24, F88222-25, F88222-26, F88222-28, F88222-29

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
624-95-3	3,3-Dimethyl-1-Butanol	1250	1570	126	50-150 ^a
64-17-5	Ethyl Alcohol	500	540	108	67-134
762-75-4	Tert-Butyl Formate	250	339	136	50-150 ^a

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	87-116%
17060-07-0	1,2-Dichloroethane-D4	99%	76-127%
2037-26-5	Toluene-D8	96%	86-112%
460-00-4	4-Bromofluorobenzene	94%	84-120%

(a) Advisory control limits.

Blank Spike Summary

Page 1 of 1

Job Number: F88222
Account: GRINCC GRI (Geological Resources Inc.)
Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3791-BS	J070812.D	1	12/07/11	MM	n/a	n/a	VJ3791

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-27

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.1	96	83-124
107-06-2	1,2-Dichloroethane	25	22.6	90	76-122
108-20-3	Di-Isopropyl ether	25	21.2	85	75-125
100-41-4	Ethylbenzene	25	23.9	96	87-118
64-17-5	Ethyl Alcohol	500	437	87	67-134
637-92-3	Ethyl Tert Butyl Ether	25	21.5	86*	89-130
1634-04-4	Methyl Tert Butyl Ether	25	20.1	80	75-116
91-20-3	Naphthalene	25	25.0	100	59-125
75-85-4	Tert-Amyl Alcohol	250	254	102	71-108
994-05-8	Tert-Amyl Methyl Ether	25	21.5	86	81-116
75-65-0	Tert-Butyl Alcohol	250	238	95	74-106
108-88-3	Toluene	25	23.6	94	86-116
1330-20-7	Xylene (total)	75	70.4	94	86-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	87-116%
17060-07-0	1,2-Dichloroethane-D4	96%	76-127%
2037-26-5	Toluene-D8	98%	86-112%
460-00-4	4-Bromofluorobenzene	88%	84-120%

Blank Spike Summary

Page 1 of 1

Job Number: F88222
Account: GRINCC GRI (Geological Resources Inc.)
Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3791-BS	J070813.D	1	12/07/11	MM	n/a	n/a	VJ3791

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-27

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
624-95-3	3,3-Dimethyl-1-Butanol	1250	1440	115	50-150 ^a
64-17-5	Ethyl Alcohol	500	541	108	67-134
762-75-4	Tert-Butyl Formate	250	294	118	50-150 ^a

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	87-116%
17060-07-0	1,2-Dichloroethane-D4	99%	76-127%
2037-26-5	Toluene-D8	98%	86-112%
460-00-4	4-Bromofluorobenzene	91%	84-120%

(a) Advisory control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F88222

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F88222-24MS	J070799.D	1	12/06/11	MM	n/a	n/a	VJ3789
F88222-24MSD	J070800.D	1	12/06/11	MM	n/a	n/a	VJ3789
F88222-24	J070784.D	1	12/06/11	MM	n/a	n/a	VJ3789

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-2, F88222-6, F88222-11, F88222-12, F88222-13, F88222-21, F88222-22, F88222-23, F88222-24, F88222-25, F88222-26, F88222-28, F88222-29

CAS No.	Compound	F88222-24 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	25.3	101	23.0	92	10	83-124/11
107-06-2	1,2-Dichloroethane	ND		25	23.3	93	21.8	87	7	76-122/11
108-20-3	Di-Isopropyl ether	ND		25	21.9	88	20.5	82	7	75-125/10
624-95-3	3,3-Dimethyl-1-Butanol	ND		1250	211	17*	197	16*	7	50-150/30 ^a
100-41-4	Ethylbenzene	ND		25	24.3	97	23.2	93	5	87-118/10
64-17-5	Ethyl Alcohol	ND		500	448	90	400	80	11	67-134/22
637-92-3	Ethyl Tert Butyl Ether	ND		25	21.7	87*	20.4	82*	6	89-130/10
1634-04-4	Methyl Tert Butyl Ether	ND		25	20.5	82	19.0	76	8	75-116/10
91-20-3	Naphthalene	ND		25	24.5	98	23.8	95	3	59-125/15
75-85-4	Tert-Amyl Alcohol	ND		250	259	104	261	104	1	71-108/12
994-05-8	Tert-Amyl Methyl Ether	ND		25	21.7	87	20.4	82	6	81-116/10
75-65-0	Tert-Butyl Alcohol	ND		250	251	100	248	99	1	74-106/11
762-75-4	Tert-Butyl Formate	ND		250	ND	0*	ND	0*	nc	50-150/30 ^a
108-88-3	Toluene	ND		25	23.1	92	21.3	85*	8	86-116/10
1330-20-7	Xylene (total)	ND		75	70.0	93	64.1	85*	9	86-120/10

CAS No.	Surrogate Recoveries	MS	MSD	F88222-24	Limits
1868-53-7	Dibromofluoromethane	99%	100%	102%	87-116%
17060-07-0	1,2-Dichloroethane-D4	96%	96%	101%	76-127%
2037-26-5	Toluene-D8	96%	95%	95%	86-112%
460-00-4	4-Bromofluorobenzene	86%	87%	89%	84-120%

(a) Advisory control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F88222

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F88222-20MS	J070803.D	1	12/06/11	MM	n/a	n/a	VJ3787
F88222-20MSD	J070804.D	1	12/06/11	MM	n/a	n/a	VJ3787
F88222-20	J070762.D	1	12/05/11	MM	n/a	n/a	VJ3787

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-1, F88222-3, F88222-4, F88222-5, F88222-7, F88222-8, F88222-9, F88222-10, F88222-12, F88222-14, F88222-15, F88222-16, F88222-17, F88222-18, F88222-19, F88222-20

CAS No.	Compound	F88222-20 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	25	25.3	101	25.2	101	0	83-124/11
107-06-2	1,2-Dichloroethane	ND	25	24.2	97	23.8	95	2	76-122/11
108-20-3	Di-Isopropyl ether	ND	25	22.6	90	22.8	91	1	75-125/10
100-41-4	Ethylbenzene	ND	25	24.5	98	25.7	103	5	87-118/10
64-17-5	Ethyl Alcohol	ND	500	355	71	536	107	41*	67-134/22
637-92-3	Ethyl Tert Butyl Ether	ND	25	22.3	89	22.6	90	1	89-130/10
1634-04-4	Methyl Tert Butyl Ether	ND	25	21.1	84	21.1	84	0	75-116/10
91-20-3	Naphthalene	ND	25	24.7	99	26.3	105	6	59-125/15
75-85-4	Tert-Amyl Alcohol	ND	250	279	112*	292	117*	5	71-108/12
994-05-8	Tert-Amyl Methyl Ether	ND	25	22.3	89	22.6	90	1	81-116/10
75-65-0	Tert-Butyl Alcohol	ND	250	258	103	269	108*	4	74-106/11
108-88-3	Toluene	ND	25	23.8	95	24.0	96	1	86-116/10
1330-20-7	Xylene (total)	ND	75	71.5	95	70.6	94	1	86-120/10

CAS No.	Surrogate Recoveries	MS	MSD	F88222-20	Limits
1868-53-7	Dibromofluoromethane	97%	99%	104%	87-116%
17060-07-0	1,2-Dichloroethane-D4	96%	95%	101%	76-127%
2037-26-5	Toluene-D8	98%	96%	97%	86-112%
460-00-4	4-Bromofluorobenzene	88%	88%	90%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F88222

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F88312-4MS	J070834.D	1	12/07/11	MM	n/a	n/a	VJ3791
F88312-4MSD	J070835.D	1	12/07/11	MM	n/a	n/a	VJ3791
F88312-4	J070815.D	1	12/07/11	MM	n/a	n/a	VJ3791

The QC reported here applies to the following samples:

Method: SW846 8260B

F88222-27

CAS No.	Compound	F88312-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	26.2	105	27.7	111	6	83-124/11
107-06-2	1,2-Dichloroethane	ND		25	24.0	96	25.9	104	8	76-122/11
108-20-3	Di-Isopropyl ether	ND		25	22.1	88	23.4	94	6	75-125/10
100-41-4	Ethylbenzene	ND		25	23.9	96	25.2	101	5	87-118/10
64-17-5	Ethyl Alcohol	ND		500	340	68	362	72	6	67-134/22
637-92-3	Ethyl Tert Butyl Ether	ND		25	22.0	88*	23.7	95	7	89-130/10
1634-04-4	Methyl Tert Butyl Ether	ND		25	21.6	86	22.9	92	6	75-116/10
91-20-3	Naphthalene	ND		25	22.4	90	26.3	105	16*	59-125/15
75-85-4	Tert-Amyl Alcohol	ND		250	254	102	263	105	3	71-108/12
994-05-8	Tert-Amyl Methyl Ether	ND		25	21.7	87	23.1	92	6	81-116/10
75-65-0	Tert-Butyl Alcohol	ND		250	243	97	253	101	4	74-106/11
108-88-3	Toluene	ND		25	23.7	95	24.8	99	5	86-116/10
1330-20-7	Xylene (total)	ND		75	68.1	91	71.2	95	4	86-120/10

CAS No.	Surrogate Recoveries	MS	MSD	F88312-4	Limits
1868-53-7	Dibromofluoromethane	98%	97%	101%	87-116%
17060-07-0	1,2-Dichloroethane-D4	93%	94%	100%	76-127%
2037-26-5	Toluene-D8	95%	95%	98%	86-112%
460-00-4	4-Bromofluorobenzene	86%	86%	89%	84-120%



12/12/11

Technical Report for

GRI (Geological Resources Inc.)

Tisdale Quick Stop; Kingston, SC

Accutest Job Number: F88355

Sampling Date: 11/30/11

Report to:

GRI
2301 F Crown Point EX Dr
Charlotte, NC 28207
wsb@geologicalresourcesinc.com; carriekennedy@geologicalresourcesinc.com;
johnbrown@geologicalresourcesinc.com; jjr@geologicalresourcesinc.com
ATTN: Scott Ball

Total number of pages in report: 17



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

Harry Behzadi
Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Muna Mohammed 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001)
DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), AK, AR, GA, KY, MA, NV, OK, UT, VA, WA, WI
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Test results relate only to samples analyzed.

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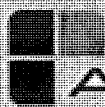
Sample Summary

GRI (Geological Resources Inc.)

Job No: F88355

Tisdale Quick Stop; Kingston, SC

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
F88355-1	11/30/11	16:12 RQ	12/03/11	AQ	Ground Water	MW 9
F88355-2	11/30/11	16:00 RQ	12/03/11	AQ	Ground Water	MW 10
F88355-3	11/30/11	16:40 RQ	12/03/11	AQ	Ground Water	MW 13
F88355-4	11/30/11	14:29 RQ	12/03/11	AQ	Ground Water	MW 2A



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2

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW 9	Date Sampled:	11/30/11
Lab Sample ID:	F88355-1	Date Received:	12/03/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070843.D	1	12/08/11	MM	n/a	n/a	VJ3792
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.9	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether ^a	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	96%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	89%		84-120%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	MW 10	Date Sampled:	11/30/11
Lab Sample ID:	F88355-2	Date Received:	12/03/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070844.D	1	12/08/11	MM	n/a	n/a	VJ3792
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether ^a	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	97%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	89%		84-120%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	MW 13	Date Sampled:	11/30/11
Lab Sample ID:	F88355-3	Date Received:	12/03/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070845.D	1	12/08/11	MM	n/a	n/a	VJ3792
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.4	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether ^a	ND	1.0	0.31	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	97%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	91%		84-120%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

Page 1 of 1

Client Sample ID:	MW 2A	Date Sampled:	11/30/11
Lab Sample ID:	F88355-4	Date Received:	12/03/11
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale Quick Stop; Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J070862.D	10	12/08/11	MM	n/a	n/a	VJ3792
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	260	10	2.0	ug/l	
108-88-3	Toluene	517	10	2.0	ug/l	
100-41-4	Ethylbenzene	37.3	10	2.0	ug/l	
1330-20-7	Xylene (total)	491	30	5.2	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	3.4	ug/l	
91-20-3	Naphthalene	70.4	50	10	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	2.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	10	3.5	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	500	250	ug/l	
64-17-5	Ethyl Alcohol	ND	1000	250	ug/l	
637-92-3	Ethyl Tert Butyl Ether ^a	ND	10	3.1	ug/l	
75-85-4	Tert-Amyl Alcohol	83.3	200	50	ug/l	J
994-05-8	Tert-Amyl Methyl Ether	ND	20	3.9	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	200	30	ug/l	
762-75-4	Tert-Butyl Formate	ND	200	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	97%		76-127%
2037-26-5	Toluene-D8	94%		86-112%
460-00-4	4-Bromofluorobenzene	87%		84-120%

(a) Associated BS recovery outside control limits.

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

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



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Certification Exceptions (SC)
- Chain of Custody

Parameter Certification Exceptions

Page 1 of 1

Job Number: F88355

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
3,3-Dimethyl-1-Butanol	624-95-3	SW846 8260B	AQ	Certified by SOP MS005
Di-Isopropyl ether	108-20-3	SW846 8260B	AQ	Certified by SOP MS005
Tert-Amyl Alcohol	75-85-4	SW846 8260B	AQ	Certified by SOP MS005
Tert-Butyl Formate	762-75-4	SW846 8260B	AQ	Certified by SOP MS005

Accutest Laboratories Southeast Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811
TEL. 407-425-6700 • FAX: 407-425-0707

Accutest JOB # **F88355** PAGE 1 OF 1

Accutest Quote #	Customer Name	Product	Quantity	Unit Price	Total Price	Notes
12345	ABC Corp	Product X	100	\$1.50	\$150.00	
67890	DEF Inc	Product Y	50	\$2.00	\$100.00	
11111	GHI LLC	Product Z	25	\$4.00	\$100.00	
22222	JKL Co	Product A	10	\$10.00	\$100.00	
33333	MNO Ltd	Product B	5	\$20.00	\$100.00	
44444	PQR Inc	Product C	2	\$50.00	\$100.00	
55555	STU Corp	Product D	1	\$100.00	\$100.00	
66666	VWX LLC	Product E	1	\$100.00	\$100.00	
77777	YZA Co	Product F	1	\$100.00	\$100.00	
88888	BCD Inc	Product G	1	\$100.00	\$100.00	
99999	EFG Ltd	Product H	1	\$100.00	\$100.00	
00000	HIJ Co	Product I	1	\$100.00	\$100.00	

SKIFF#

[illegible]

F88355: Chain of Custody

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COOLER INFORMATION

- ### TEMPERATURE INFORMATION

- TRIP BLANK INFORMATION**

- SAMPLE INFORMATION**

- MISC. INFORMATION

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE 12.3.11 REVIEWER SIGNATURE/DATE 12.3.11
NF 12/10 receipt confirmation 122910.xls

receipt confirmation 122910.xls



GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: F88355
Account: GRINCC GRI (Geological Resources Inc.)
Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3792-MB	J070842.D	1	12/08/11	MM	n/a	n/a	VJ3792

The QC reported here applies to the following samples:

Method: SW846 8260B

F88355-1, F88355-2, F88355-3, F88355-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.35	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	25	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	25	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	1.0	0.31	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.34	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.39	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	3.0	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103% 87-116%
17060-07-0	1,2-Dichloroethane-D4	100% 76-127%
2037-26-5	Toluene-D8	96% 86-112%
460-00-4	4-Bromofluorobenzene	91% 84-120%

Blank Spike Summary

Page 1 of 1

Job Number: F88355

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3792-BS	J070840.D	1	12/08/11	MM	n/a	n/a	VJ3792

The QC reported here applies to the following samples:

Method: SW846 8260B

F88355-1, F88355-2, F88355-3, F88355-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.0	96	83-124
107-06-2	1,2-Dichloroethane	25	23.2	93	76-122
108-20-3	Di-Isopropyl ether	25	21.4	86	75-125
100-41-4	Ethylbenzene	25	24.1	96	87-118
64-17-5	Ethyl Alcohol	500	482	96	67-134
637-92-3	Ethyl Tert Butyl Ether	25	21.8	87*	89-130
1634-04-4	Methyl Tert Butyl Ether	25	20.3	81	75-116
91-20-3	Naphthalene	25	25.2	101	59-125
75-85-4	Tert-Amyl Alcohol	250	255	102	71-108
994-05-8	Tert-Amyl Methyl Ether	25	21.7	87	81-116
75-65-0	Tert-Butyl Alcohol	250	254	102	74-106
108-88-3	Toluene	25	23.0	92	86-116
1330-20-7	Xylene (total)	75	69.8	93	86-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	87-116%
17060-07-0	1,2-Dichloroethane-D4	95%	76-127%
2037-26-5	Toluene-D8	96%	86-112%
460-00-4	4-Bromofluorobenzene	88%	84-120%

Blank Spike Summary

Page 1 of 1

Job Number: F88355

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ3792-BS	J070841.D	1	12/08/11	MM	n/a	n/a	VJ3792

The QC reported here applies to the following samples:

Method: SW846 8260B

F88355-1, F88355-2, F88355-3, F88355-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
624-95-3	3,3-Dimethyl-1-Butanol	1250	1480	118	50-150 ^a
64-17-5	Ethyl Alcohol	500	538	108	67-134
762-75-4	Tert-Butyl Formate	250	298	119	50-150 ^a

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	87-116%
17060-07-0	1,2-Dichloroethane-D4	99%	76-127%
2037-26-5	Toluene-D8	95%	86-112%
460-00-4	4-Bromofluorobenzene	92%	84-120%

(a) Advisory control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F88355

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale Quick Stop; Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F88328-1MS	J070863.D	1	12/08/11	MM	n/a	n/a	VJ3792
F88328-1MSD	J070864.D	1	12/08/11	MM	n/a	n/a	VJ3792
F88328-1	J070846.D	1	12/08/11	MM	n/a	n/a	VJ3792

The QC reported here applies to the following samples:

Method: SW846 8260B

F88355-1, F88355-2, F88355-3, F88355-4

CAS No.	Compound	F88328-1 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.0 U	25	28.6	114	27.6	110	4	83-124/11
107-06-2	1,2-Dichloroethane	1.0 U	25	26.4	106	25.5	102	3	76-122/11
108-20-3	Di-Isopropyl ether	1.0 U	25	24.4	98	23.9	96	2	75-125/10
100-41-4	Ethylbenzene	1.0 U	25	25.9	104	25.2	101	3	87-118/10
64-17-5	Ethyl Alcohol	100 U	500	489	98	512	102	5	67-134/22
637-92-3	Ethyl Tert Butyl Ether	1.0 U	25	24.3	97	23.9	96	2	89-130/10
1634-04-4	Methyl Tert Butyl Ether	1.0 U	25	23.4	94	22.7	91	3	75-116/10
91-20-3	Naphthalene	5.0 U	25	25.1	100	24.5	98	2	59-125/15
75-85-4	Tert-Amyl Alcohol	20 U	250	284	114*	278	111*	2	71-108/12
994-05-8	Tert-Amyl Methyl Ether	2.0 U	25	23.9	96	23.6	94	1	81-116/10
75-65-0	Tert-Butyl Alcohol	20 U	250	253	101	257	103	2	74-106/11
108-88-3	Toluene	1.0 U	25	25.9	104	24.3	97	6	86-116/10
1330-20-7	Xylene (total)	3.0 U	75	74.5	99	71.9	96	4	86-120/10

CAS No.	Surrogate Recoveries	MS	MSD	F88328-1	Limits
1868-53-7	Dibromofluoromethane	99%	99%	103%	87-116%
17060-07-0	1,2-Dichloroethane-D4	95%	96%	100%	76-127%
2037-26-5	Toluene-D8	95%	95%	97%	86-112%
460-00-4	4-Bromofluorobenzene	88%	87%	90%	84-120%

APPENDIX B
Ground Water Sampling Data Sheets

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): 11-23-11

Field Personnel: RR

General Weather Conditions: Sunny

Ambient Air Temperature: 70 °F

Quality Assurance

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

Chain of Custody

Requisitioned by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES

Site ID #: 18686 Monitoring Well #: MW1

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 = 0.052

* Free Product Thickness: 17.46 feet

Depth to Ground Water (DGW) 20.15 feet

Total Well Depth (TWD) 2.8 feet

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

1 casing volume (CV = LWC X C) = 1.4 1.4/3 = .5 gals (standard purge volume)

3 casing volume 3 X CV = 4.2 gals (standard purge volume)

Total volume of Water Purged Before Sampling gals

Total volume of Water Purged for Post Sampling 0.75 gals

Total Purged gals

*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						
Flow (military)	1007	1012						
pH (s.u.)	6.0	6.1	dry					
Specific Cond. (umhos/cm)	.06	.09						
Water Temperature (degrees C)	27	26						
Turbidity (subjective: clear, slightly cloudy, cloudy)	cl1	cdy						
Dissolved Oxygen (mg/l)	0.6	1.0						
Notes/Remarks, if required								

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): 11-23-11

Field Personnel: RG

General Weather Conditions: Sunny

Ambient Air Temperature: 70° F

Quality Assurance

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

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISOLES

Site ID # 18686 Monitoring Well # MW2

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 = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 17.87 feet

Total Well Depth (TWD) 25.5 feet

Length of the water column (LWC = TWD-DGW) 7.3 feet

1 casing volume (CV = LWC X C) = 7.3/2 3.6/3 = 1.2 gal (standard purge volume)

3 casing volume 3 X CV = 7.3/2 gal (standard purge volume)

Total volume of Water Purged Before Sampling _____ gal

Total volume of Water Purged for Post Sampling _____ gal

2.6 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)	1.25	1.4	2.6					
Flow (military)	1014	1018	1021	dry				
pH (s.u.)	5.9	5.8	5.8					
Specific Cond. (umhos/cm)	108	107	107					
Water Temperature (degrees C)	25	24	24					
Visibility (subjective: clear, slightly cloudy, cloudy)	clr	clr	clr					
Dissolved Oxygen (mg/l)	0.7	1.4	1.4					
Field 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): 11-30-11

Field Personnel: RL

General Weather Conditions: Sunny

Ambient Air Temperature: 60° F

Quality Assurance

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

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISOALES

Site ID #: 1286 Monitoring Well #: MW 2A

Well Diameter (D): 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 17.76 feet

Total Well Depth (TWD) 21.25 feet

Length of the water column (LWC = TWD-DGW) 3.4 feet

1 casing volume (CV = LWC X C) = 2/3 gallon

3 casing volume 3 X CV = 2 gallons (standard purge volume)

Total volume of Water Purged Before Sampling _____ gallons

Total volume of Water Purged for Post Sampling _____ gallons

1.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	.85	1.15					
Time (military)	1417	1421	1429	dry				
pH (s.u.)	5.7	5.8	5.8					
Specific Cond. (umhos/cm)	.08	.07	.07					
Water Temperature (degrees C)	22	22.2	21					
visibility (subjective: clear, slightly cloudy, cloudy)	cl	cdy	cdy					
Dissolved Oxygen (mg/l)	0.9	1.6	1.6					
ID 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): 11-22-11

Field Personnel: RLC

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

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

Chain of Custody

Requisitioned by	Date/Time	Received by	Date/Time
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Facility Name: Tisdale Quick Stop

Site ID #: 18684 Monitoring Well #: MW 6

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 = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 17.47 feet

Total Well Depth (TWD) 20.80 feet

Length of the water column (LWC = TWD-DGW) 3.4 feet

1 casing volume (CV = LWC X C) = 1.7/3 = 0.6

3 casing volume 3 X CV = 3.4/2 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals

Total volume of Water Purged for Post Sampling _____ gals

.85 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)	.85	.85						
Time (military)	1012 4.4	1015	DRY					
pH (s.u.)	4.4	4.3						
Specific Cond. (umhos/cm)	.22	.16						
Water Temperature (degrees C)	22	21.2						
Turbidity (subjective: clear, slightly cloudy, cloudy)	clr	cdy						
Dissolved Oxygen (mg/l)	1.5	1.2						
210 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/yyyy): 11-22-11

Field Personnel: RG

General Weather Conditions: Sunny

Ambient Air Temperature: 71 °F

Quality Assurance

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

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale Quick stop

Site ID #: 18686 Monitoring Well #: MW7

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 = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 17.32 feet

Total Well Depth (TWD) 20.65 feet

Length of the water column (LWC = TWD-DGW) 3.3 feet

1 casing volume (CV = LWC X C) = 1.7 gallons

3 casing volume 3 X CV = 5.1 gallons (standard purge volume)

Total volume of Water Purged Before Sampling gallons

Total volume of Water Purged for Post Sampling 0.85 gallons

Total Purged 5.95 gallons

*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)	1.25	1.85						
Time (military)	1026	1029	Dry					
pH (a.u.)	4.8	4.7						
Specific Cond. (umhos/cm)	104	103						
Water Temperature (degrees C)	22	22						
Turbidity (subjective: clear, slightly cloudy, cloudy)	cdy	cdy						
Dissolved Oxygen (mg/l)	3.3	3.0						
ID 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): 11-22-11

Field Personnel: RC

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

Relinquished by _____	Date/Time _____	Received by _____	Date/Time _____
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Facility Name: Tisdale Quick Stop

Site ID #: 18686 Monitoring Well #: MW8

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 17.55 feet

Total Well Depth (TWD) 21.64 feet

Length of the water column (LWC = TWD-DGW) 4.1 feet

1 casing volume (CV = LWC X C) = 0.7

3 casing volume 3 X CV = 2.1 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals

Total volume of Water Purged for Post Sampling _____ gals

0.95 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	.95						
Time (military)	1739	1741						
pH (s.u.)	5.9	6.1						
Specific Cond. (micro/cm)	.06	.06						
Water Temperature (degrees C)	22	21						
visibility (subjective: clear, slightly cloudy, cloudy)	cl	cdy						
Dissolved Oxygen (mg/l)	1.4	2.3						
ID 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): 11-30-11

Field Personnel: Rle

General Weather Conditions: Sunny

Ambient Air Temperature: 60° F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: TISDALES

Site ID # 18686 Monitoring Well # MW 9

Well Diameter (D): _____ 0.167 foot

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0 foot

Depth to Ground Water (DGW) 18.73 foot

Total Well Depth (TWD) 21.55 foot

Length of the water column (LWC = TWD-DGW) 2.82 foot

$1.7/3 = 0.6$

1 casing volume (CV = LWC X C) = _____

3 casing volume 3 X CV = 1.7 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals

Total volume of Water Purged for Post Sampling _____ gals

1.85 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)	<u>.25</u>	<u>.85</u>						
Time (military)	<u>1609</u>	<u>1612</u>	<u>PRY</u>					
PH (s.u.)	<u>5.8</u>	<u>5.8</u>						
Specific Cond. (umhos/cm)	<u>108</u>	<u>109</u>						
Water Temperature (degrees C)	<u>21</u>	<u>21</u>						
visibility (subjective: clear, slightly cloudy, cloudy)	<u>clr</u>	<u>ldy</u>						
Dissolved Oxygen (mg/l)								
ID 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): 11/20/11

Field Personnel: RO

General Weather Conditions: Sunny

Ambient Air Temperature: 60° F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: TISDALES

Site ID #: 18686 Monitoring Well #: mw10

Well Diameter (D): _____ 0.167 foot

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
 for a 4 inch well C = 0.052

* Free Product Thickness: _____ 0 _____ foot

Depth to Ground Water (DGW) _____ 19.43 _____ foot

Total Well Depth (TWD) _____ 24.20 _____ foot

Length of the water column (LWC = TWD-DGW) _____ 5.3 _____ foot

1 casing volume (CV = LWC X C) = _____ 2.7 _____ gals (standard purge volume)

3 casing volume 3 X CV = _____ 2.7 _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals

Total volume of Water Purged for Post Sampling _____ gals

1.1 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)	1.25	1.1						
Time (military)	1554	1600	0204					
Flow (g.p.m.)	5.1	5.1						
Pecific Cond. (umhos/cm)	106	105						
Water Temperature (degrees C)	21	21						
Visibility (subjective: clear, slightly cloudy, cloudy)	cr	cdy						
Dissolved Oxygen (mg/l)	2.9	3.2						
ID 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):	11-30-11		
Field Personnel:	RG		
General Weather Conditions:	Sunny		
Ambient Air Temperature:	60°	F	
Quality Assurance			
pH Meter	Conductivity Meter		
Serial no.		Serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	
Chain of Custody			
Relinquished by	Date/Time	Received by	Date/Time

Facility Name:		TISDALES	
Site ID #	18686	Monitoring Well #	MW13
Well Diameter (D):	0.167 foot		
Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163 for a 4 inch well C = 0.052			
* Free Product Thickness:	0	feet	
Depth to Ground Water (DGW)	18.57	feet	
Total Well Depth (TWD)	23.34	feet	
Length of the water column (LWC = TWD-DGW)	4.8	feet	
1 casing volume (CV = LWC X C)	4.8/2	2.4/3 = 0.8	
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	
	1.05	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	1.05						
Flow (military)	1634	1640	dry					
pH (s.u.)	5.8	5.7						
Specific Cond. (umhos/cm)	.06	.06						
Water Temperature (degrees C)	.21	.21						
Turbidity (subjective: clear, slightly cloudy, cloudy)	clr	cdy						
Dissolved Oxygen (mg/l)	1.1	2.3						
ID 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): 11-22-11 Tisdale Quick
Field Personnel: RLG
General Weather Conditions: SUNNY
Ambient Air Temperature: 74 °F
Quality Assurance
pH Meter serial no. _____ 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: Tisdale Quick Stop
Site ID # 18686 Monitoring Well # mw 14
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 = 0.052
* Free Product Thickness: _____ feet
Depth to Ground Water (DGW) 2 17.72 feet
Total Well Depth (TWD) 23.95 feet
Length of the water column (LWC = TWD-DGW) 6.3 feet
1 casing volume (CV = LWC X C) = 1.05
3 casing volume 3 X CV = 3.15 gals (standard purge volume)
Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
1.3 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)	<u>.25</u>	<u>1.3</u>						
Time (military)	<u>1042</u>	<u>1047</u>	<u>DRY</u>					
pH (s.u.)	<u>5.4</u>	<u>5.5</u>						
Specific Cond. (umhos/cm)	<u>.18</u>	<u>.19</u>						
Water Temperature (degrees C)	<u>23</u>	<u>22</u>						
visibility (subjective: clear, slightly cloudy, cloudy)	<u>cl</u>	<u>cl</u>						
Dissolved Oxygen (mg/l)	<u>0.9</u>	<u>2.1</u>						
Field 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): 11-22-11

Field Personnel: RCE

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

pH Meter	Conductivity Meter
Serial no.	Serial no.
pH=4.0	Standard
pH=7.0	Standard
pH=10.0	Standard

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdales

Site ID #: 18686 Monitoring Well #: MW-15

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
 for a 4 inch well C = 0.052

* Free Product Thickness: _____ feet

Depth to Ground Water (DGW) 19.15 feet

Total Well Depth (TWD) 24.35 feet

Length of the water column (LWC = TWD-DGW) 5.25 feet

1 casing volume (CV = LWC X C) = 5.25/2 24/3 = 1.2

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

1.4 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)	<u>1.25</u>	<u>1.4</u>						
Time (minutes)	<u>1051</u>	<u>1058</u>	<u>dry</u>					
pH (s.u.)	<u>5.5</u>	<u>5.4</u>						
Specific Cond. (micro/cm)	<u>11</u>	<u>110</u>						
Water Temperature (degrees C)	<u>21</u>	<u>21</u>						
visibility (subjective: clear, slightly cloudy, cloudy)	<u>clr</u>	<u>cdy</u>						
Dissolved Oxygen (mg/l)	<u>2.9</u>	<u>4.5</u>						
Field 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): 11-22-11

Field Personnel: RLB

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

pH Meter	Conductivity Meter
Serial no. _____	Serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

Requisitioned by _____	Date/Time _____	Received by _____	Date/Time _____
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Facility Name: TISDALES

Site ID #: 18686 Monitoring Well #: MW 18

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.852

* Free Product Thickness: _____ feet

Depth to Ground Water (DGW) _____ 20.20 feet

Total Well Depth (TWD) _____ 23.94 feet

Length of the water column (LWC = TWD-DGW) _____ 3.7 feet

1 casing volume (CV = LWC X C) = 3.7/2 1.85/3 = .65

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

1.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	.9	1.5					
Time (military)	1114	1120	1128	PKY				
pH (s.u.)	5.3	4.2	5.1					
Specific Cond. (umhos/cm)	.06	.05	.05					
Water Temperature (degrees C)	23	24	24					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cdv	cdv	cdv					
Dissolved Oxygen (mg/l)	1.0	1.3	1.4					
ID 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): 11-22-11

Field Personnel: RCE

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

Released by	Date/Time	Received by	Date/Time

Facility Name: TISDALES

Site ID #: B686 Monitoring Well #: MW 19

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 20.93 feet

Total Well Depth (TWD) 24.70 feet

Length of the water column (LWC = TWD-DGW) 3.8 feet

1 casing volume (CV = LWC X C) = 3.8/2 1.9/3 = .7

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

1.6 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	.9	1.6					
pH (military)	1138	1140	1144	084				
pH (S.U.)	5.2	5.2	5.2					
Specific Cond. (umhos/cm)	.08	.08	.08					
Water Temperature (degrees C)	22	22	22					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cl	cdy	cdy					
Dissolved Oxygen (mg/l)	3.3	3.3	3.3					
ID 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): 11-22-11

Field Personnel: RG

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

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

Chain of Custody

Retrieved by	Date/Time	Received by	Date/Time
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Facility Name: TISOALES

Site ID #: 18686 Monitoring Well #: MW20

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
 for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 18.02 feet

Total Well Depth (TWD) 23.65 feet

Length of the water column (LWC = TWD-DGW) 5.6 feet

1 casing volume (CV = LWC X C) = 5.6/2 2.8/3 = .95

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

2.1 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	1.2	2+2.1					
Time (minutes)	1154	1158	1201	OK				
pH (a.u.)	5.3	5.3	5.3					
Specific Cond. (microhm/cm)	105	105	105					
Water Temperature (degrees C)	21	21	21					
Cloudiness (subjective: clear, slightly cloudy, cloudy)	cl	cdy	cdy					
Dissolved Oxygen (mg/l)	2.2	3.1	3.1					
ID 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): 11-22-11

Field Personnel: RC

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

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

Chain of Custody

Retrieved by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES

Site ID #: 18626 Monitoring Well #: MW 21

Well Diameter (D): _____ 0.167 foot

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
 for a 4 inch well C = 0.052

* Free Product Thickness: 0 foot

Depth to Ground Water (DGW) 17.01 foot

Total Well Depth (TWD) 20.21 foot

Length of the water column (LWC = TWD-DGW) 3.2 foot

1 casing volume (CV = LWC X C) = 1.6/3 = .55

3 casing volume 3 X CV = 3.2/2 * gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals

Total volume of Water Purged for Post Sampling _____ gals

1.4 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	.8	1.4					
Time (minutes)	1412	1416	1420	DRS				
pH (a.u.)	5.3	5.4	5.4					
Specific Cond. (microhm/cm)	.03	.04	.04					
Water Temperature (degrees C)	24	23	23					
Turbidity (subjective: clear, slightly cloudy, cloudy)	clr	cdy	cdy					
Dissolved Oxygen (mg/l)	4.7	3.3	3.3					
ID 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): 11-22-11

Field Personnel: RC

General Weather Conditions: Sunny

Ambient Air Temperature: 79 °F

Quality Assurance

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

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: TISDALES

Site ID #: 18686 Monitoring Well #: MW 22

Well Diameter (D): 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 17.75 feet

Total Well Depth (TWD) 23.55 feet

Length of the water column (LWC = TWD-DGW) 5.8 feet

1 casing volume (CV = LWC X C) = 5.8/2 2.9/3 ≈ 1.0 gals (standard purge volume)

3 casing volume 3 X CV = 3.1 gals (standard purge volume)

Total volume of Water Purged Before Sampling gals

Total volume of Water Purged for Post Sampling gals

3.1 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	1.25	2.25	3.1				
Time (military)	1251	1254	1256	1300				
pH (s.u.)	5.4	5.5	5.5	5.5				
Specific Cond. (micros/cm)	104	105	105	105				
Water Temperature (degrees C)	27	21	21	21				
Turbidity (subjective: clear, slightly cloudy, cloudy)	cl	cdy	cdy	cdy				
Dissolved Oxygen (mg/l)	3.1	1.8	3.62	1.9				
10 readings, if required			1.82					
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): 11-22-11

Field Personnel: RB

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

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

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISOALES

Site ID #: 12696 Monitoring Well #: MW 23

Well Diameter (D): 0.167 feet

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

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 17.28 feet

Total Well Depth (TWD) 22.50 feet

Length of the water column (LWC = TWD-DGW) 5.3 feet

1 casing volume (CV = LWC X C) = 2.7/3 = 0.9

3 casing volume 3 X CV = 5.3/2 * gals (standard purge volume)

Total volume of Water Purged Before Sampling gals

Total volume of Water Purged for Post Sampling gals

2.9 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)	1.25	1.2	2.1	2.9				
Time (minutes)	1549	1552	1556	1600				
pH (s.u.)	5.9	5.9	5.9	5.9				
Specific Cond. (micro/cm)	.04	.04	.04	.04				
Water Temperature (degrees C)	27	21	21	21				
visibility (subjective: clear, slightly cloudy, cloudy)	W	cdn	cdy	cdy				
Dissolved Oxygen (mg/l)	.7	1.8	1.9	1.9				
Field 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): 11-22-11

Field Personnel: PLE

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

pH Meter	Conductivity Meter
Serial no.	Serial no.
pH=4.0	Standard
pH=7.0	Standard
pH=10.0	Standard

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES

Site ID #: 18696 Monitoring Well #: mw 24

Well Diameter (D): 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
 for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 15.28 feet

Total Well Depth (TWD) 21.15 feet

Length of the water column (LWC = TWD-DGW) 5.9 feet

1 casing volume (CV = LWC X C) = 5.9/2 3/3 = 1.0

3 casing volume 3 X CV = 1.25 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)	<u>.25</u>	<u>1.25</u>	<u>Dry</u>					
Flow (military)	<u>1518</u>	<u>1521</u>						
pH (s.u.)	<u>6.2</u>	<u>6.0</u>						
Specific Cond. (umhos/cm)	<u>.04</u>	<u>.03</u>						
Water Temperature (degrees C)	<u>27</u>	<u>27</u>						
Visibility (subjective: clear, slightly cloudy, cloudy)	<u>cl</u>	<u>cdy</u>						
Dissolved Oxygen (mg/l)	<u>2.9</u>	<u>3.1</u>						
ID 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): 11-22-11

Field Personnel: RG

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

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

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES

Site ID #: 17686 Monitoring Well #: MW 25

Well Diameter (D): 0.107 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 15.56 feet

Total Well Depth (TWD) 20.40 feet

Length of the water column (LWC = TWD-DGW) 4.9 feet

1 casing volume (CV = LWC X C) = 4.9/2 2.5/3 = 34.85 gals (standard purge volume)

3 casing volume 3 X CV = 4.9/2 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals

Total volume of Water Purged for Post Sampling _____ gals

Total Purged _____ gals

*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)	1.25	1.1	1.9	2.5				
pH (military)	1338	1241	1244	1347				
pH (s.u.)	5.6	5.2	5.2	5.2				
Specific Cond. (micros/cm)	103	102	107	103				
Water Temperature (degrees C)	22	22	22	22				
Visibility (subjective: clear, slightly cloudy, cloudy)	clr	cdy	cdy	cdy				
Dissolved Oxygen (mg/l)	4.0	4.7	4.7	4.7				
ID 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): 11-22-11

Field Personnel: RLG

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

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

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES

Site ID #: 18686 Monitoring Well #: MW26

Well Diameter (D): 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 14.92 feet

Total Well Depth (TWD) 19.50 feet

Length of the water column (LWC = TWD-DGW) 4.6 feet

1 casing volume (CV = LWC X C) = 4.6/2 2.3/3 = .8 gals (standard purge volume)

3 casing volume 3 X CV = 1.3 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals

Total volume of Water Purged for Post Sampling _____ gals

1.3 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	1.0	1.8					
Time (military)	1717	1321	1324	dry				
pH (s.u.)	5.5	5.5	5.5					
Specific Cond. (micro/cm)	.05	.05	.05					
Water Temperature (degrees C)	21	21	21					
visibility (subjective: clear, slightly cloudy, cloudy)	clr	cdy	cdy					
Dissolved Oxygen (mg/l)	2.4	3.6	3.6					
ID 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): 11-22-11

Field Personnel: RCE

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

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

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES

Site ID #: 18686 Monitoring Well #: MW-27

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
 for a 4 inch well C = 0.052

* Free Product Thickness: _____ feet

Depth to Ground Water (DGW) _____ feet

Total Well Depth (TWD) _____ feet

Length of the water column (LWC = TWD-DGW) 5.4 feet

1 casing volume (CV = LWC X C) = 5.4/2 2.7/3 = 0.9 gallons (standard purge volume)

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

Total volume of Water Purged Before Sampling _____ gallons

Total volume of Water Purged for Post Sampling _____ gallons

Total Purged _____ gallons

*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)	1225	1229	1234	1237				
pH (s.u.)	5.4	5.3	5.3	5.3				
Specific Cond. (micros/cm)	107	107	107	107				
Water Temperature (degrees C)	22	22	22	22				
Cloudiness (subjective: clear, slightly cloudy, cloudy)	CV	cdy	cdy	cdy				
Dissolved Oxygen (mg/l)	2.5	2.8	2.8	2.8				
ID 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): 11-22-11

Field Personnel: Rb

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

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

Chain of Custody

Requisitioned by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES

Site ID #: 18686 Monitoring Well #: MW 28

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: _____ feet

Depth to Ground Water (DGW) 19.60 feet

Total Well Depth (TWD) 24.75 feet

Length of the water column (LWC = TWD-DGW) 5.15 feet

1 casing volume (CV = LWC X C) = 5.15/2 2.6/3 ≈ 1.2

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

2.6 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)	1.25	1.4	2.6					
pH (military)	12.15	12.18	12.1	DPH				
pH (S.U.)	4.9	5.0	5.0					
Specific Cond. (umhos/cm)	1.16	1.18	1.18					
Water Temperature (degrees C)	22	22	22					
Turbidity (subjective: clear, slightly cloudy, cloudy)	ck		cdly					
Dissolved Oxygen (mg/l)	4.7	5.5	5.5					
ID 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): 11-22-11

Field Personnel: RQ

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

pH Meter	Conductivity Meter
Serial no.	Serial no.
pH=4.0	Standard
pH=7.0	Standard
pH=10.0	Standard

Chain of Custody

Released by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES

Site ID #: 12696 Monitoring Well #: MW29

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
 for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 18.24 feet

Total Well Depth (TWD) 23.75 feet

Length of the water column (LWC = TWD-DGW) 5.51 feet

1 casing volume (CV = LWC X C) = 2.7/3 = 0.9

3 casing volume 3 X CV = 5.5/2 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals

Total volume of Water Purged for Post Sampling _____ gals

2.7 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)	1.25	1.1	2.0	2.7				
Time (minutes)	1614	1618	1621	1624				
pH (a.u.)	5.5	5.5	5.3	5.3				
Specific Cond. (microhm/cm)	106	108	108	108				
Water Temperature (degrees C)	21	21	21	21				
Visibility (subjective: clear, slightly cloudy, cloudy)	OK	cdy	cdy	cdy				
Dissolved Oxygen (mg/l)	4.7	5.2	5.3	5.3				
Other 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): 11-22-11

Field Personnel: Rle

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

Relinquished by _____	Date/Time _____	Received by _____	Date/Time _____
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Facility Name: TISDALES

Site ID #: 18686 Monitoring Well #: MW30

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
 for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 17.76 feet

Total Well Depth (TWD) 18.80 feet

Length of the water column (LWC = TWD-DGW) 1.5 feet

1 casing volume (CV = LWC X C) = 2.25/3 = .25

3 casing volume 3 X CV = ~1.5/2 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals

Total volume of Water Purged for Post Sampling _____ gals

0.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	1.25	1.5						
Time (military)	1710	1712	OK					
pH (s.u.)	5.5	5.5						
Specific Cond. (umhos/cm)	103	103						
Water Temperature (degrees C)	21	21						
Turbidity (subjective: clear, slightly cloudy, cloudy)	ok	cdy						
Dissolved Oxygen (mg/l)	5.5	6.3						
TD 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): 11-22-11

Field Personnel: RLC

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

Relinquished by _____	Date/Time _____	Received by _____	Date/Time _____
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Facility Name: TISDALES

Site ID # 18686 Monitoring Well # MW31

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 = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 18.20 feet

Total Well Depth (TWD) 20.24 feet

Length of the water column (LWC = TWD-DGW) 2.04 feet

1 casing volume (CV = LWC X C) = 2.04/2 1.02/3 = .33 gals (standard purge volume)

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

0.7 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	.5						
Time (minutes)	1647	1647						
pH (a.u.)	5.4	5.8						
Specific Cond. (umhos/cm)	.04	.04						
Water Temperature (degrees C)	22	22						
Visibility (subjective: clear, slightly cloudy, cloudy)	cl	cl						
Dissolved Oxygen (mg/l)	5.7	5.8						
ID 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): 11-23-11 ^{WSB}

Field Personnel: RE

General Weather Conditions: Sunny

Ambient Air Temperature: 70° F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale's

Site ID # 18686 **Monitoring Well #** TW-1

Well Diameter (D): _____ **0.167 feet**

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

*** Free Product Thickness:** 0 feet

Depth to Ground Water (DGW) 18.76 feet

Total Well Depth (TWD) 45.65 feet

Length of the water column (LWC = TWD-DGW) 27 feet

1 casing volume (CV = LWC X C) = 14/3 = 4.7

3 casing volume 3 X CV = 14 **gals (standard purge volume)**

Total volume of Water Purged Before Sampling _____ **gals**

Total volume of Water Purged for Post Sampling 14.25 **gals**

Total Purged 14.25

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	4.9	9.6	14				
pH (military)	9/9	929	936	945				
pH (a.u.)	6.0	6.0	6.0	6.0				
Specific Cond. (microhm/cm)	.08	.08	.08	.08				
Water Temperature (degrees C)	26	22	22	22				
Turbidity (subjective: clear, slightly cloudy, cloudy)	clr	clr	clr	clr				
Dissolved Oxygen (mg/l)	3.7	1.4	1.2	2.4/1.2				
ID 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): 11-22-11

Field Personnel: RLB

General Weather Conditions: Sunny

Ambient Air Temperature: 74 °F

Quality Assurance

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

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: TISDALES

Site ID #: 18086 Monitoring Well #: TW2

Well Diameter (D): 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 16.63 feet

Total Well Depth (TWD) 81 feet

Length of the water column (LWC = TWD-DGW) 24.0 feet

1 casing volume (CV = LWC X C) = 57

3 casing volume 3 X CV = 17 gals (standard purge volume)

Total volume of Water Purged Before Sampling gals

Total volume of Water Purged for Post Sampling gals

17.25 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	5.9	11.6	17.25				
pH (military)	1431	1437	1444	1457				
pH (a.u.)	6.4	6.5	6.7	6.7				
Specific Cond. (micros/cm)	.10	.15	.15	.15				
Water Temperature (degrees C)	22	20	20	20				
Turbidity (subjective: clear, slightly cloudy, cloudy)	clr	clr	clr	clr				
Dissolved Oxygen (mg/l)	3.2	.9	.7	.7				
ID readings, if required								
Remarks:								

APPENDIX C
Disposal Manifest

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.	2. Page 1 of 1
3. Generator's Name and Mailing Address <i>T3dels Quick Stop</i>					
4. Generator's Phone ()					
5. Transporter 1 Company Name <i>Geological Resources Inc</i>		6. US EPA ID Number		A. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone <i>704-845-9410</i>	
9. Designated Facility Name and Site Address <i>HERR, Inc</i>		10. US EPA ID Number <i>NCR00013816</i>		C. State Transporter's ID	
				D. Transporter 2 Phone	
				E. State Facility's ID	
				F. Facility's Phone <i>910-653-6399</i>	
11. WASTE DESCRIPTION				12. Containers	
				No.	Type
				13. Total Quantity	
				14. Unit Wt/Vol	
a. <i>Non-regulated petroleum contact water, new</i>				01	DR
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	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name <i>Bussell Quinn</i>				Signature <i>Bussell Quinn</i>	
				Date Month Day Year <i>11 23 11</i>	
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 <i>Mark Cox</i>				Signature <i>Mark Cox</i>	
				Date Month Day Year <i>11 23 11</i>	

NON-HAZARDOUS WASTE

Appendix D
Contractor Checklist

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

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?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete?	X		
24	If free-product is present, has the thickness been provided?	X		
25	Does the report include a brief discussion of the assessment done and the results?	X		
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?	X		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	X		
34	Has the current and historical laboratory data been provided in tabular format?	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? (Appendix G)	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	X		

South Carolina
Underground Storage Tank Program
Tisdales Quick Stop

Title: Programmatic QAPP
Revision Number: 0
Revision Date: October 2011

Explanation for missing or incomplete information.

Item 44: UST permit # not included on COC or in sample identification numbers; site name included on COC and well numbers used as sample identification numbers. Sample type (grab or composite) not included on COC; no space provided; all samples were grab. Program area not shown on COC; SC work indicated on COC.



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment



MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

JUL 13 2012

Re: Four AFVR Event Directive
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686, CA#43031
Release reported March 30, 2001
Monitoring Report received December 30, 2011
Williamsburg County

Dear Mr. Easler

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Geological Resources, Inc. as your contractor. The next appropriate scope of work is to continue aggressive fluid and vapor recovery (AFVR) events to remove residual free-phase product and reduce concentrations of chemicals of concern (CoC). Please have your contractor conduct four events on MW-3, MW-1A, MW-3A, and MW-4A simultaneously. The events should be spaced a minimum of twenty days apart to allow equilibrium conditions to reestablish, and must be conducted in accordance with the UST Quality Assurance Program Plan (QAPP). A copy of the QAPP is available at <http://www.dhec.sc.gov/environment/lwm/html/ust.htm>.

Cost Agreement #43031 has been approved in the amount shown on the enclosed cost agreement form for the AFVR events. AFVR activities may proceed immediately upon receipt of this letter, and must be performed by a South Carolina-Certified Underground Storage Tank Site Rehabilitation Contractor. All applicable South Carolina certification requirements apply to preparation of an AFVR report.

An AFVR report and invoice must be submitted to the Division within 90 days from the date of this letter. Your contractor may directly bill the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Interim invoices may be submitted for this scope of work. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

The Division grants pre-approval for transportation of up to 5,000 gallons of free-phase product and petroleum-contaminated groundwater from the referenced facility to a permitted treatment facility for disposal. The transport and disposal must be conducted in accordance with the QAPP.

On all correspondence concerning this facility, please reference UST Permit #18686. If there are any questions concerning this project, feel free to contact me by telephone at (803) 896-4085, by fax at (803) 896-6245, or by e-mail at martinjm@dhec.sc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Martin", written in a cursive style.

Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved cost agreement form

cc: Scott Ball, Geological Resources, Inc., 2301 Crown Point Executive Dr. Suite F Charlotte,
NC 28227 (w/ enc)
Technical File (w/ enc)

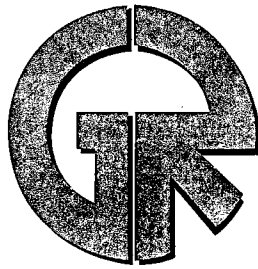
Approved Cost Agreement 43031

Facility: 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
04 MOB/DEMOB		A EQUIPMENT	4.0000	575.00	2,300.00
		B PERSONNEL	4.0000	290.00	1,160.00
17 DISPOSAL		A WASTEWATER	5,000.0000	0.80	4,000.00
19 RPT/PROJECT MNGT & COORDINATIO		PCT PERCENT	0.1500	20,580.00	3,087.00
23 EFR		A 8 HOUR EVENT	4.0000	3,000.00	12,000.00
		C OFF GAS TREATMENT	32.0000	35.00	1,120.00
Total Amount					23,667.00



Geological Resources, Inc.

August 21, 2012

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management



Re: Aggressive Fluid Vapor Recovery Event
Tisdales Quick Stop
1989 Thurgood Marshall Blvd
Kingstree, Williamsburg County, South Carolina
UST Permit No. 18686
CA No. 43031

Dear Mr. Martin:

Geological Resources, Inc. (GRI) has completed the first of four aggressive fluid vapor recovery (AFVR) events at the above referenced site in Kingstree, South Carolina. The AFVR event was conducted on August 9, 2012. A copy of the AFVR Report and an interim invoice are attached. Please contact Scott Ball at (704) 845-4010 with any questions.

Sincerely,

John M. Brown
Professional Geologist
License No. 1116

enclosure

cc: file

2301 Crown Point Executive Drive Suite F Charlotte, NC 28227
Phone: (704) 845-4010 / (888) 870-4133 Fax: (704) 845-4012



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

**Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com**

Thursday, Aug 16, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

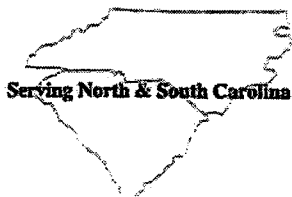
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on August 9, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
August 9, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 08/09/12. The ambient temperature was 78 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.676 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 678 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A
AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: Tiedale's Location: Kings Tree DC

AFVR Contractor: HERR INC - Steve Personnel: Bri -

Date: 8-9-12 Ambient Air Temperature and General Weather Condition: 78° Sunny-Fair

Start Time 1: 7:30 Stop Time 1: 3:30 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 678 gal

Total volume of product removed during the 8-hour AFVR Event: _____

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
<u>M13</u>	<u>- 0 -</u>	<u>19.25</u>	<u>- 0 -</u>	<u>19.31</u>	<u>678 gal</u>	

Vacuum at Pump: 22" @ Pump

Aggressive Fluid/Vapor Recovery Notes

[illegible]

TISO ALI'S - 8/9/12

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
8/9/12	7:30						0.00
8/9/12	8:00	619	0.022	89	46	0.013514822	12.92
8/9/12	8:30	745	0.022	98	46	0.017976328	15.23
8/9/12	9:00	751	0.022	112	46	0.027578612	14.83
8/9/12	9:30	748	0.022	119	47	0.034726589	14.49
8/9/12	10:00	743	0.022	123	47	0.039047480	14.23
8/9/12	10:30	755	0.022	127	48	0.044861487	14.27
8/9/12	11:00	752	0.022	136	48	0.058112248	13.80
8/9/12	11:30	758	0.022	144	48	0.072941929	13.51
8/9/12	12:00	756	0.022	146	48	0.077185306	13.37
8/9/12	12:30	763	0.022	148	48	0.081669427	13.39
8/9/12	1:00	760	0.022	149	49	0.085998502	13.25
8/9/12	1:30	766	0.022	149	48	0.084006393	13.38
8/9/12	2:00	763	0.022	149	48	0.084006393	13.33
8/9/12	2:30	768	0.022	149	48	0.084006393	13.42
8/9/12	3:00	769	0.022	149	48	0.084006393	13.44
8/9/12	3:30	771	0.022	149	48	0.084006393	13.47
Averages		749.19	0.022	133.50	47.56	0.060852793	12.961

UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0	0.00							0.000
30	30	12.92	263	1	263	1398.59	0.000087314	0.068	0.034
30	60	15.23	394	1	394	2095.22	0.000130805	0.120	0.060
30	90	14.83	372	1	372	1978.23	0.000123501	0.110	0.055
30	120	14.49	355	1	355	1887.83	0.000117857	0.102	0.051
30	150	14.23	350	1	350	1861.24	0.000116197	0.099	0.050
30	180	14.27	347	1	347	1845.28	0.000115201	0.099	0.049
30	210	13.80	323	1	323	1717.66	0.000107233	0.089	0.044
30	240	13.51	301	1	301	1600.66	0.000099929	0.081	0.041
30	270	13.37	296	1	296	1574.08	0.000098270	0.079	0.039
30	300	13.39	291	1	291	1547.49	0.000096610	0.078	0.039
30	330	13.25	284	1	284	1510.26	0.000094286	0.075	0.037
30	360	13.38	278	1	278	1478.35	0.000092294	0.074	0.037
30	390	13.33	269	1	269	1430.49	0.000089306	0.071	0.036
30	420	13.42	266	1	266	1414.54	0.000088310	0.071	0.036
30	450	13.44	259	1	259	1377.32	0.000085986	0.069	0.035
30	480	13.47	254	1	254	1350.73	0.000084326	0.068	0.034
Averages		13.77	306.38	1.00	306.38	1629.25	0.000101714	0.085	0.042
Total Emission in pounds:									0.676

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\text{PI} * (\text{diameter}/24)^2) * (528 \text{degrees R}/(\text{Temp} + 460))$$

$$\text{PPMg} = \text{PPM measured} * K$$

$$\text{Cg:m} = \text{PPMg} * (\text{Mg}/K3)$$

$$\text{Cg} = \text{Cg:m} * 62.43\text{E-}09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$\text{PMRg} = \text{Cg} * Q_{std} * 60 \text{ min/hr}$$

$$\text{PMR} = \text{PMRg} * ((T2 - T1)/60)$$

$$Q_{std} = \text{Flow at DSCFM}$$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPMg = PPMv, Volumetric concentration as gasoline emission, dry basis at STP

Cg:m = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

Cg = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMRg = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

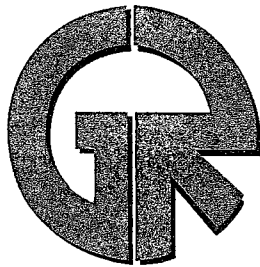
NON-HAZARDOUS WASTE MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address TISDALE'S QUICK STOP							
4. Generator's Phone () 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC							
5. Transporter 1 Company Name HEERY, Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID		B. Transporter 1 Phone 910-657-6299	
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 HEERY, Inc.		10. US EPA ID Number		E. State Facility's ID		F. Facility's Phone 910-657-63990	
9. Designated Facility Name and Site Address 217 N. 7th BYPASS		10. US EPA ID Number TAPOR CITY, NC 28463		10. US EPA ID Number NCR-000139816		F. Facility's Phone 910-657-63990	
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No.	Type	14. Unit Wt./Vol.	
a. Non-Reg. Petroleum Contact Water Mix				42	VT	678	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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name Steve Bruehman				Steve Bruehman		Month Day Year 8 7 12	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name						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 Mark Cox				Signature Mark Cox		Date 8 7 12	

NON-HAZARDOUS WASTE

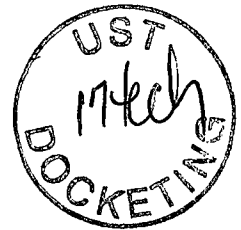




Geological Resources, Inc.

September 17, 2012

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management



Re: Aggressive Fluid Vapor Recovery Event
Tisdales Quick Stop
1989 Thurgood Marshall Blvd
Kingstree, Williamsburg County, South Carolina
UST Permit No. 18686
CA No. 43031

Dear Mr. Martin:

Geological Resources, Inc. (GRI) has completed the second of four aggressive fluid vapor recovery (AFVR) events at the above referenced site in Kingstree, South Carolina. The AFVR event was conducted on August 29, 2012. A copy of the AFVR Report and an interim invoice are attached. Please contact Scott Ball at (704) 845-4010 with any questions.

Sincerely,

John M. Brown, P.
Lic. No. 1116
PROFESSIONAL GEOLOGIST

enclosure

cc: file

2301 Crown Point Executive Drive Suite F Charlotte, NC 28227
Phone: (704) 845-4010 / (888) 870-4133 Fax: (704) 845-4012



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399

Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Friday, September 14, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

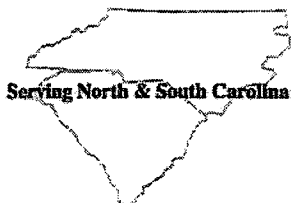
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on August 29, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring wells MW-1A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
August 29, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 08/29/12. The ambient temperature was 72 deg F and weather conditions were partly cloudy. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 2.638 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 600 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Harold

Date: 8/29/12 Ambient Air Temperature and General Weather Condition: Part Cloudy - 72°

Start Time 1: 8:30 Stop Time 1: 4:30 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 600 gal

Total volume of product removed during the 8-hour AFVR Event: _____

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 4A	18.10	18.54	---	18.72	600 gal	
MW 1A	17.30	18.89	---	18.26		
MW 3A	17.35	17.90	---	18.34		

T1504LE5 QUICK STOP - 8/29/12

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

TISDALE'S QUICK STOP - 8/29/12

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
8/29/12	8:30						
8/29/12	9:00	1420	0.022	84	63	0.015844277	29.84
8/29/12	9:30	1434	0.022	98	63	0.024885550	29.11
8/29/12	10:00	1451	0.022	117	63	0.044679685	27.91
8/29/12	10:30	1466	0.022	126	63	0.058477208	27.36
8/29/12	11:00	1482	0.022	134	63	0.074075829	26.83
8/29/12	11:30	1496	0.022	137	63	0.080910349	26.75
8/29/12	12:00	1489	0.022	138	63	0.083323369	26.51
8/29/12	12:30	1507	0.022	138	63	0.083323369	26.83
8/29/12	1:00	1526	0.022	138	63	0.083323369	27.17
8/29/12	1:30	1548	0.022	138	63	0.083323369	27.56
8/29/12	2:00	1559	0.022	138	62	0.081826783	27.81
8/29/12	2:30	1621	0.022	138	62	0.081826783	28.91
8/29/12	3:00	1637	0.022	139	62	0.084260915	29.07
8/29/12	3:30	1639	0.022	139	62	0.084260915	29.11
8/29/12	4:00	1642	0.022	138	62	0.081826783	29.29
8/29/12	4:30	1648	0.022	138	62	0.081826783	29.39
Averages		1535.31	0.022	129.88	62.63	0.070499708	28.091

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	29.84	672	1	672	3573.58	0.000223098	0.399	0.200
30	60	29.11	647	1	647	3440.63	0.000214799	0.375	0.188
30	90	27.91	628	1	628	3339.59	0.000208491	0.349	0.175
30	120	27.36	614	1	614	3265.14	0.000203843	0.335	0.167
30	150	26.83	596	1	596	3169.42	0.000197867	0.319	0.159
30	180	26.75	591	1	591	3142.83	0.000196207	0.315	0.157
30	210	26.51	586	1	586	3116.24	0.000194547	0.309	0.155
30	240	26.83	585	1	585	3110.93	0.000194215	0.313	0.156
30	270	27.17	581	1	581	3089.66	0.000192887	0.314	0.157
30	300	27.56	577	1	577	3068.38	0.000191559	0.317	0.158
30	330	27.81	575	1	575	3057.75	0.000190895	0.318	0.159
30	360	28.91	571	1	571	3036.48	0.000189567	0.329	0.164
30	390	29.07	566	1	566	3009.89	0.000187907	0.328	0.164
30	420	29.11	552	1	552	2935.44	0.000183259	0.320	0.160
30	450	29.29	547	1	547	2908.85	0.000181599	0.319	0.160
30	480	29.39	542	1	542	2882.26	0.000179939	0.317	0.159
Averages		28.09	589.38	1.00	589.38	3134.19	0.000195668	0.330	0.165
Total Emission in pounds:									2.638

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\text{PI} * (\text{diameter}/24)^2) * (528 \text{degrees R}/(\text{Temp} + 460))$$

$$\text{PPM}_g = \text{PPM measured} * K$$

$$\text{Cg:m} = \text{PPM}_g * (\text{Mg}/K3)$$

$$\text{Cg} = \text{Cg:m} * 62.43\text{E-}09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$\text{PMR}_g = \text{Cg} * Q_{std} * 60 \text{ min/hr}$$

$$\text{PMR} = \text{PMR}_g * ((T2 - T1)/60)$$

$$Q_{std} = \text{Flow at DSCFM}$$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

Cg:m = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

Cg = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

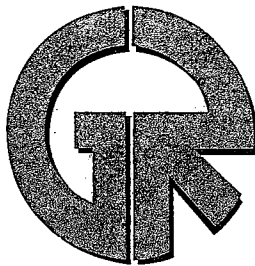
LIQUID DISPOSAL MANIFEST

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.	2. Page 1 of
3. Generator's Name and Mailing Address TISDALE'S QUICK STOP KINGSTREE, SC					
4. Generator's Phone ()					
5. Transporter 1 Company Name HERR, Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-657-6319	
9. Designated Facility Name and Site Address CWS 303 S. MAULSBY ST. WHITEVILLE, NC		10. US EPA ID Number		C. State Transporter's ID	
				D. Transporter 2 Phone	
				E. State Facility's ID	
				F. Facility's Phone 910-657-6399	
11. WASTE DESCRIPTION		12. Containers		13. Total Quantity	14. Unit Wt./Vol.
		No.	Type		
a. Non-Reg. Petroleum Contam Water		H2	UT	600	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
17. Transporter 1 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name Steve Rivenbark		Signature <i>Steve Rivenbark</i>		Month	Day Year
				8	29 12
18. Transporter 2 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name		Signature		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 Ryan Cox		Signature <i>Ryan Cox</i>		Date	
				Month	Day Year
				8	29 12

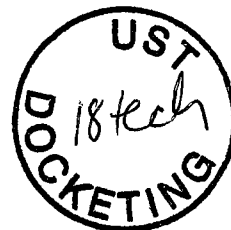
NON-HAZARDOUS WASTE



Geological Resources, Inc.

October 4, 2012

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management


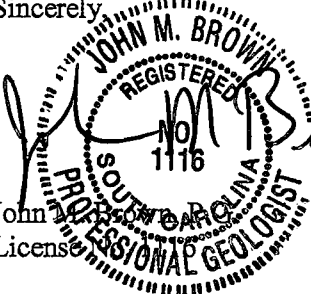


Re: Aggressive Fluid Vapor Recovery Event
Tisdales Quick Stop
1989 Thurgood Marshall Blvd
Kingstree, Williamsburg County, South Carolina
UST Permit No. 18686
CA No. 43031

Dear Mr. Martin:

Geological Resources, Inc. (GRI) has completed the third of four aggressive fluid vapor recovery (AFVR) events at the above referenced site in Kingstree, South Carolina. The AFVR event was conducted on September 20, 2012. A copy of the AFVR Report and an interim invoice are attached. Please contact Scott Ball at (704) 845-4010 with any questions.

Sincerely,



John M. Brown
License

enclosure

cc: file

2301 Crown Point Executive Drive Suite F Charlotte, NC 28227
Phone: (704) 845-4010 / (888) 870-4133 Fax: (704) 845-4012



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

**Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail:herrteam@hotmail.com • www.herrteam.com**

Wednesday, October 3, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on September 20, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
September 20, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 09/20/12. The ambient temperature was 68 deg F and weather conditions were fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.354 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 528 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A
AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TIDACE'S QUICK STOP Location: KINGSTREE, SC
AFVR Contractor: HERR, Inc - Steve Personnel: GRI - Russell
Date: 9/20/12 Ambient Air Temperature and General Weather Condition: 68° Fair
Start Time 1: 7:30 Stop Time 1: 3:30 Start Time 2: _____ Stop Time 2: _____
Total volume of water removed during the 8-hour AFVR Event: 528 gal
Total volume of product removed during the 8-hour AFVR Event: Steve
Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
<u>MW 3</u>	<u>17.59</u>	<u>17.65</u>	<u>-</u>	<u>18.31</u>		
					<u>528 gal</u>	

Aggressive Fluid/Vapor Recovery Notes

[illegible]

Vacuum at Pump: 24 @ Pump

TISDALES QUICK STOP - 9/20/12

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

~~24 Oct 1968~~

TISDALE'S QUICK STOP - 9/20/12

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B
POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
9/20/12	7:30						
9/20/12	8:00	357	0.022	88	54	0.015418351	7.45
9/20/12	8:30	362	0.022	99	54	0.021884450	7.36
9/20/12	9:00	358	0.022	106	54	0.027182906	7.15
9/20/12	9:30	362	0.022	110	54	0.030710228	7.15
9/20/12	10:00	364	0.022	121	54	0.042690257	6.97
9/20/12	10:30	365	0.022	128	54	0.052438654	6.83
9/20/12	11:00	368	0.022	132	54	0.058914643	6.80
9/20/12	11:30	371	0.022	132	54	0.058914643	6.85
9/20/12	12:00	375	0.022	132	54	0.058914643	6.92
9/20/12	12:30	378	0.022	135	54	0.064264287	6.91
9/20/12	1:00	379	0.022	135	54	0.064264287	6.92
9/20/12	1:30	382	0.022	135	54	0.064264287	6.98
9/20/12	2:00	385	0.022	135	54	0.064264287	7.03
9/20/12	2:30	383	0.022	135	54	0.064264287	7.00
9/20/12	3:00	387	0.022	133	54	0.060648668	7.12
9/20/12	3:30	390	0.022	133	54	0.060648668	7.18
Averages		372.88	0.022	124.31	54.00	0.050605471	7.038

Site: Tisdale's
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	7.45	297	1	297	1579.39	0.000098602	0.044	0.022
30	60	7.36	315	1	315	1675.11	0.000104577	0.046	0.023
30	90	7.15	308	1	308	1637.89	0.000102253	0.044	0.022
30	120	7.15	310	1	310	1648.53	0.000102917	0.044	0.022
30	150	6.97	312	1	312	1659.16	0.000103581	0.043	0.022
30	180	6.83	309	1	309	1643.21	0.000102585	0.042	0.021
30	210	6.80	314	1	314	1669.80	0.000104245	0.043	0.021
30	240	6.85	320	1	320	1701.70	0.000106237	0.044	0.022
30	270	6.92	321	1	321	1707.02	0.000106569	0.044	0.022
30	300	6.91	324	1	324	1722.97	0.000107565	0.045	0.022
30	330	6.92	325	1	325	1728.29	0.000107897	0.045	0.022
30	360	6.98	323	1	323	1717.66	0.000107233	0.045	0.022
30	390	7.03	321	1	321	1707.02	0.000106569	0.045	0.022
30	420	7.00	319	1	319	1696.39	0.000105905	0.044	0.022
30	450	7.12	315	1	315	1675.11	0.000104577	0.045	0.022
30	480	7.18	316	1	316	1680.43	0.000104909	0.045	0.023
Averages		7.04	315.56	1.00	315.56	1678.11	0.000104764	0.044	0.022
Total Emission in pounds:									0.354

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = \text{PPM measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

$M_g = 128 \text{ mg/mg-mole}$, molecular weight of gasoline

$K3 = 24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

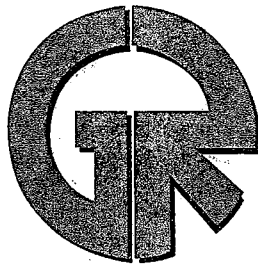
NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1 of	
3. Generator's Name and Mailing Address TISDALE'S QUICK STOP KINGSTREE, SC							
4. Generator's Phone ()							
5. Transporter 1 Company Name HEER Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-657-6399			
9. Designated Facility Name and Site Address CWS 303 S. MAULDSBY ST WHITEHALL, NC 28472		10. US EPA ID Number		C. State Transporter's ID			
				D. Transporter 2 Phone			
				E. State Facility's ID			
				F. Facility's Phone 910-688-5012			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No.	Type	14. Unit Wt./Vol.	
a. Non-Reg. Petroleum Contam Water Mx				H2	VT	528	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	
17. Transporter 1 Acknowledgement of Receipt of Materials						Date	
Printed/Typed Name Steve R. Venbank				Signature <i>[Signature]</i>		Month Day Year 9/20/12	
18. Transporter 2 Acknowledgement of Receipt of Materials						Date	
Printed/Typed Name				Signature		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 Ryan Cox				Signature <i>[Signature]</i>		Date 9/20/12	

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY



Geological Resources, Inc.



October 26, 2012

Mr. Jim Martin, Hydrogeologist
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: AFVR Report
Tisdales Quick Stop
1989 Thurgood Marshall Blvd.
Kingstree, Williamsburg County
UST Permit #: 18686
CA #: 43031

Dear Mr. Martin:

This report presents the results of four aggressive fluid-vapor recovery (AFVR) activities conducted on August 9, August 29, September 20, and October 11, 2012 at the above referenced site. The activities were conducted in accordance with the requirements outlined in correspondence from the SCDHEC dated July 13, 2012 and addressed to Mr. Marty Easler. The purpose of the activities was to remove residual free-phase product and reduce dissolved phase contaminant concentrations in monitoring wells MW-1A, MW-3, MW-3A and MW-4A. The following Figures, Tables and Appendix have been included:

Figure 1: Site Location Map
Figure 2: Site Map

Table 1A: AFVR Event Chronology – August 9, 2012
Table 1B: AFVR Event Chronology – August 29, 2012
Table 1C: AFVR Event Chronology – September 20, 2012
Table 1D: AFVR Event Chronology – October 11, 2012
Table 2: Summary of Monitoring Well Gauging Data

Appendix A: AFVR Reports, Calculations, Disposal Manifests

GRI personnel and the AFVR contractor, Hazmat Emergency Response and Remediation, Inc. (HERR) arrived on-site on August 9, 2012 for the first of four AFVR events. The first event was conducted on monitoring well MW-3. General weather conditions were sunny with an ambient air temperature of approximately 78°F at the time of system start-up. No free product was detected in MW-3 prior to system startup. AFVR activities were conducted for eight (8) hours on MW-3 using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the well remained steady at 20 in. Hg throughout the day. Please note that the vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 678 gallons of liquid were removed during the event. No measurable free product was present in MW-3 at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 0.676 pounds (approximately 0.108 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on August 29, 2012 for the second of four AFVR events. The second event was conducted on monitoring wells MW-1A, MW-3A and MW-4A. General weather conditions were partly cloudy with an ambient air temperature of approximately 72°F at the time of system start-up. Approximately 1.59, 0.55 and 0.44 feet of free product were measured in MW-1A, MW-3A and MW-4A, respectively, prior to system startup. AFVR activities were conducted for eight (8) hours on MW-1A, MW-3A and MW-4A using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the wells remained steady at 20 in. Hg throughout the day. Please note that the vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 600 gallons of liquid were removed during the event however, there was no measureable amount of liquid phase free product. No measurable free product was present in MW-1A, MW-3A or MW-4A at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 2.638 pounds (approximately 0.422 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on September 20, 2012 for the third of four AFVR events. The third event was conducted on monitoring well MW-3. General weather conditions were fair with an ambient air temperature of approximately 68°F at the time of system start-up. Approximately 0.06 feet of free product was measured in MW-3 prior to system startup. AFVR activities were conducted for eight (8) hours on MW-3 using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the well remained steady at 22 in. Hg throughout the day. Please note that the vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 528 gallons of liquid were removed during the event however, there was no measureable amount of liquid phase free product. Product sheen was visible on the extracted liquid. No measurable free product was present in MW-3 at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 0.354 pounds (approximately 0.057 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on October 11, 2012 for the fourth of four AFVR events. The fourth event was conducted on monitoring wells MW-1A, MW-2A, MW-3A and MW-4A. General weather conditions were sunny with an ambient air temperature of approximately 56°F at the time of system start-up. Free product thicknesses of 1.05, 1.06, 0.78 and 0.09 feet were measured in MW-1A, MW-2A, MW-3A and MW-4A, respectively, prior to system startup. AFVR activities were conducted for eight (8) hours on MW-1A, MW-2A, MW-3A and MW-4A using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the wells remained steady at 22 in. Hg throughout the day. Please note that the vacuum truck was equipped with a charcoal-activated filter for off-gas treatment of vapor phase hydrocarbons. A total of 647 gallons of

Tisdales Quick Stop
AFVR Report
UST Permit # 18686

liquid were removed during the event however, there was no measureable amount of liquid phase free product. Product sheen was visible on the extracted liquid. No measurable free product was present in MW-1A, MW-2A, MW-3A or MW-4A at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 2.052 pounds (approximately 0.328 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

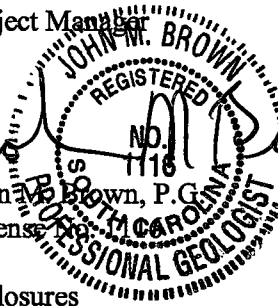
Based on this information, it appears that the AFVR events were successful in removing free product from the monitoring wells at the site. GRI recommends returning to the site in December 2012 to gauge and/or sample the monitoring wells addressed during the last four AFVR events.

If you have any comments or questions concerning this project, please do not hesitate to contact the undersigned at (704) 845-4010.

Sincerely,



Scott Ball
Project Manager



John M. Brown, P.G.
License No. 1118
PROFESSIONAL GEOLOGIST
NORTH CAROLINA

enclosures

cc: Mr. Marty Easler
file



Name: KINGSTREE
Date: 2/11/2009
Scale: 1 inch equals 2000 feet

Location: 033° 39' 29.0" N 079° 48' 46.8" W
Caption: Site Location Map
Tisdale's Quick Stop
Figure 1 UST Permit # 18686

LEGEND

☆

LIGHT POLE

■

TELEPHONE PEDESTAL

⊗

SEWER MANHOLE

●

TYPE III MONITORING WELL

⊙

TELESCOPING MONITORING WELL

⊕

WATER SUPPLY WELL

⊖

FIRE HYDRANT

⊗

FIBER OPTIC CABLE MARKER

PROPERTY LINE

UNDERGROUND TELEPHONE LINE

UNDERGROUND WATER LINE

PP & OVERHEAD POWER LINE

UNDERGROUND SEWER LINE

UNDERGROUND GAS LINE

UNDERGROUND FIBER OPTIC LINE

DITCH

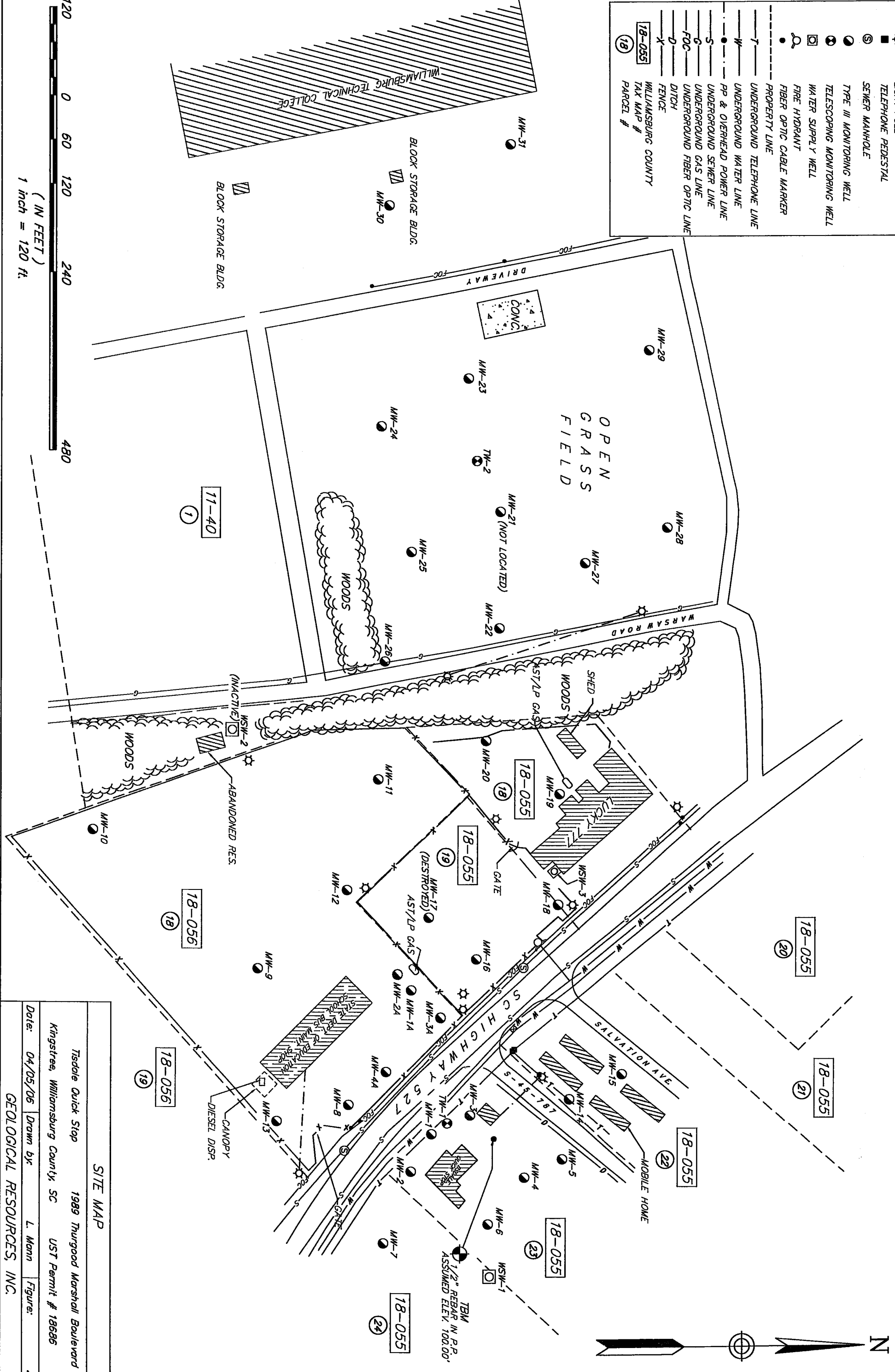
FENCE

18-055

WILLIAMSBURG COUNTY TAX MAP #

18

PARCEL #



SITE MAP

Tisdale Quick Stop

1989 Thurgood Marshall Boulevard

Kingstree, Williamsburg County, SC

UST Permit # 18686

Date: 04/05/06

Drawn by: L. Mann

Figure: 2

GEOLOGICAL RESOURCES, INC.

TABLE 1A
AFVR EVENT CHRONOLOGY
AUGUST 9, 2012
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-3	7:15	Vacuum Truck Operator	Interface Probe	HERR
Vacuum Truck Setup for Fluid Removal in MW-3	7:15 - 7:30	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	7:55 - 8:34	GRI	NA	GRI
Fluid Recovery in MW-3	7:30-15:30	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Level in MW-3	15:45	Vacuum Truck Operator	Interface Probe	HERR

TABLE 1B
AFVR EVENT CHRONOLOGY
AUGUST 29, 2012
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-1A, MW-3A, MW-4A	8:15	GRI	Interface Probe	GRI
Vacuum Truck Setup for Fluid Removal in MW-1A, MW-3A, MW-4A	8:15 - 8:30	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	7:37 - 9:02	GRI	NA	GRI
Fluid Recovery in MW-1A, MW-3A, MW-4A	8:30 - 16:30	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Level in MW-1A, MW-3A, MW-4A	16:45	Vacuum Truck Operator	Interface Probe	HERR

TABLE 1C
AFVR EVENT CHRONOLOGY
SEPTEMBER 20, 2012
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-3	7:15	GRI	Interface Probe	GRI
Vacuum Truck Setup for Fluid Removal in MW-3	7:15 - 7:30	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	7:15 - 9:00	GRI	NA	GRI
Fluid Recovery in MW-3	7:30 - 15:30	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Level in MW-3	15:45	Vacuum Truck Operator	Interface Probe	HERR

TABLE 1D
AFVR EVENT CHRONOLOGY
OCTOBER 11, 2012
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A, MW-4A	9:00	GRI	Interface Probe	GRI
Vacuum Truck Setup for Fluid Removal in MW-1A, MW-2A, MW-3A, MW-4A	9:00 - 9:15	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	7:48 - 9:46	GRI	NA	GRI
Fluid Recovery in MW-1A, MW-2A, MW-3A, MW-4A	9:15 - 17:15	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Level in MW-1A, MW-2A, MW-3A, MW-4A	17:30	Vacuum Truck Operator	Interface Probe	HERR

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA
TISDALE'S QUICK STOP
UST PERMIT #18686

Well No.	Date	Time	Depth to Free Product	Depth to Ground Water	Free Product Thickness
MW-3	08/09/12	7:15	---	18.05	---
		15:45	---	19.31	---
MW-3	09/20/12	7:15	17.59	17.65	0.06
		15:45	---	18.31	---
MW-1A	08/29/12	8:15	17.30	18.89	1.59
		16:45	---	19.26	---
MW-1A	10/11/12	9:00	16.78	17.83	1.05
		17:30	---	18.39	---
MW-2A	10/11/12	9:00	16.93	17.99	1.06
		17:30	---	18.60	---
MW-3A	08/29/12	8:15	17.35	17.90	0.55
		16:45	---	18.34	---
MW-3A	10/11/12	9:00	16.75	17.53	0.78
		17:30	---	17.93	---
MW-4A	08/29/12	8:15	18.10	18.54	0.44
		16:45	---	18.72	---
MW-4A	10/11/12	9:00	17.46	17.55	0.09
		17:30	---	18.54	---

Note:

- Data reported in feet.

APPENDIX A
AFVR Reports, Calculations, Disposal Manifests



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399

Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Thursday, Aug 16, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

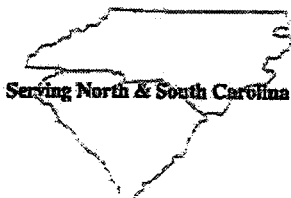
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on August 9, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
August 9, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 08/09/12. The ambient temperature was 78 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.676 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 678 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: Tiedale's Location: Kings Lake SC
AFVR Contractor: HERR INC - Steve Personnel: Bri -
Date: 8-9-12 Ambient Air Temperature and General Weather Condition: 78° Sunny-Fair
Start Time 1: 7.30 Stop Time 1: 3.30 Start Time 2: _____ Stop Time 2: _____
Total volume of water removed during the 8-hour AFVR Event: 678 gal
Total volume of product removed during the 8-hour AFVR Event: _____
Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
<u>MW-3</u>	<u>- 3 -</u>	<u>19.25</u>	<u>- 6 -</u>	<u>19.31</u>	<u>678 gal</u>	

Aggressive Fluid/Vapor Recovery Notes

[illegible]

Vacuum at Pump: 22" @ Pump

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

TISOAL'S - 8/9/12

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
8/9/12	7:30						0.00
8/9/12	8:00	619	0.022	89	46	0.013514822	12.92
8/9/12	8:30	745	0.022	98	46	0.017976328	15.23
8/9/12	9:00	751	0.022	112	46	0.027578612	14.83
8/9/12	9:30	748	0.022	119	47	0.034726589	14.49
8/9/12	10:00	743	0.022	123	47	0.039047480	14.23
8/9/12	10:30	755	0.022	127	48	0.044861487	14.27
8/9/12	11:00	752	0.022	136	48	0.058112248	13.80
8/9/12	11:30	758	0.022	144	48	0.072941929	13.51
8/9/12	12:00	756	0.022	146	48	0.077185306	13.37
8/9/12	12:30	763	0.022	148	48	0.081669427	13.39
8/9/12	1:00	760	0.022	149	49	0.085998502	13.25
8/9/12	1:30	766	0.022	149	48	0.084006393	13.38
8/9/12	2:00	763	0.022	149	48	0.084006393	13.33
8/9/12	2:30	768	0.022	149	48	0.084006393	13.42
8/9/12	3:00	769	0.022	149	48	0.084006393	13.44
8/9/12	3:30	771	0.022	149	48	0.084006393	13.47
Averages		749.19	0.022	133.50	47.56	0.060852793	12.961

UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0	0.00							0.000
30	30	12.92	263	1	263	1398.59	0.000087314	0.068	0.034
30	60	15.23	394	1	394	2095.22	0.000130805	0.120	0.060
30	90	14.83	372	1	372	1978.23	0.000123501	0.110	0.055
30	120	14.49	355	1	355	1887.83	0.000117857	0.102	0.051
30	150	14.23	350	1	350	1861.24	0.000116197	0.099	0.050
30	180	14.27	347	1	347	1845.28	0.000115201	0.099	0.049
30	210	13.80	323	1	323	1717.66	0.000107233	0.089	0.044
30	240	13.51	301	1	301	1600.66	0.000099929	0.081	0.041
30	270	13.37	296	1	296	1574.08	0.000098270	0.079	0.039
30	300	13.39	291	1	291	1547.49	0.000096610	0.078	0.039
30	330	13.25	284	1	284	1510.26	0.000094286	0.075	0.037
30	360	13.38	278	1	278	1478.35	0.000092294	0.074	0.037
30	390	13.33	269	1	269	1430.49	0.000089306	0.071	0.036
30	420	13.42	266	1	266	1414.54	0.000088310	0.071	0.036
30	450	13.44	259	1	259	1377.32	0.000085986	0.069	0.035
30	480	13.47	254	1	254	1350.73	0.000084326	0.068	0.034
Averages		13.77	306.38	1.00	306.38	1629.25	0.000101714	0.085	0.042
Total Emission in pounds:									0.676

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$\text{PPM}_g = \text{PPM measured} * K$$

$$\text{Cg:m} = \text{PPM}_g * (\text{Mg}/K3)$$

$$\text{Cg} = \text{Cg:m} * 62.43\text{E-}09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$\text{PMR}_g = \text{Cg} * Q_{std} * 60 \text{ min/hr}$$

$$\text{PMR} = \text{PMR}_g * ((T2 - T1)/60)$$

$$Q_{std} = \text{Flow at DSCFM}$$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

Cg:m = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

Cg = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address TISDALE'S QUICK STOP							
4. Generator's Phone () 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC							
5. Transporter 1 Company Name HERR, Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-657-6299			
9. Designated Facility Name and Site Address HERR, Inc.		10. US EPA ID Number		C. State Transporter's ID			
217 N. 701 BYPASS				D. Transporter 2 Phone			
TAPSCOTT CITY, NC 28463		1 NCR-000139816		E. State Facility's ID			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit	
a. Non-Res. Petroleum Contact Water Mix				42 VT		678 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	
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name Steve Bivenbark				Signature <i>[Signature]</i>		Date	
						Month Day Year 8/7/12	
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 18.							
Printed/Typed Name Mark Cox				Signature <i>[Signature]</i>		Date	
						Month Day Year 8/7/12	

NON-HAZARDOUS WASTE





HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399

Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Friday, September 14, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

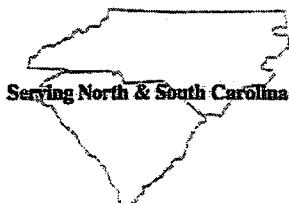
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on August 29, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring wells MW-1A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
August 29, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 08/29/12. The ambient temperature was 72 deg F and weather conditions were partly cloudy. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 2.638 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 600 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Harsh

Date: 8/29/12 Ambient Air Temperature and General Weather Condition: Partly Cloudy - 72°

Start Time 1: 8:30 Stop Time 1: 4:30 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 600 gal

Total volume of product removed during the 8-hour AFVR Event: _____

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 4A	18.10	18.54	---	18.72	600 gal	
MW 1A	17.30	18.89	---	19.26		
MW 3A	17.35	179.0	---	18.34		

Aggressive Fluid/Vapor Recovery Notes

[illegible]

22" @ 1/4"

TISDALE'S QUICK STOP - 8/29/12

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

TISDALE'S QUICK STOP - 8/29/12

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
8/29/12	8:30						
8/29/12	9:00	1420	0.022	84	63	0.015844277	29.84
8/29/12	9:30	1434	0.022	98	63	0.024885550	29.11
8/29/12	10:00	1451	0.022	117	63	0.044679685	27.91
8/29/12	10:30	1466	0.022	126	63	0.058477208	27.36
8/29/12	11:00	1482	0.022	134	63	0.074075829	26.83
8/29/12	11:30	1496	0.022	137	63	0.080910349	26.75
8/29/12	12:00	1489	0.022	138	63	0.083323369	26.51
8/29/12	12:30	1507	0.022	138	63	0.083323369	26.83
8/29/12	1:00	1526	0.022	138	63	0.083323369	27.17
8/29/12	1:30	1548	0.022	138	63	0.083323369	27.56
8/29/12	2:00	1559	0.022	138	62	0.081826783	27.81
8/29/12	2:30	1621	0.022	138	62	0.081826783	28.91
8/29/12	3:00	1637	0.022	139	62	0.084260915	29.07
8/29/12	3:30	1639	0.022	139	62	0.084260915	29.11
8/29/12	4:00	1642	0.022	138	62	0.081826783	29.29
8/29/12	4:30	1648	0.022	138	62	0.081826783	29.39
Averages		1535.31	0.022	129.88	62.63	0.070499708	28.091

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	29.84	672	1	672	3573.58	0.000223098	0.399	0.200
30	60	29.11	647	1	647	3440.63	0.000214799	0.375	0.188
30	90	27.91	628	1	628	3339.59	0.000208491	0.349	0.175
30	120	27.36	614	1	614	3265.14	0.000203843	0.335	0.167
30	150	26.83	596	1	596	3169.42	0.000197867	0.319	0.159
30	180	26.75	591	1	591	3142.83	0.000196207	0.315	0.157
30	210	26.51	586	1	586	3116.24	0.000194547	0.309	0.155
30	240	26.83	585	1	585	3110.93	0.000194215	0.313	0.156
30	270	27.17	581	1	581	3089.66	0.000192887	0.314	0.157
30	300	27.56	577	1	577	3068.38	0.000191559	0.317	0.158
30	330	27.81	575	1	575	3057.75	0.000190895	0.318	0.159
30	360	28.91	571	1	571	3036.48	0.000189567	0.329	0.164
30	390	29.07	566	1	566	3009.89	0.000187907	0.328	0.164
30	420	29.11	552	1	552	2935.44	0.000183259	0.320	0.160
30	450	29.29	547	1	547	2908.85	0.000181599	0.319	0.160
30	480	29.39	542	1	542	2882.26	0.000179939	0.317	0.159
Averages		28.09	589.38	1.00	589.38	3134.19	0.000195668	0.330	0.165
Total Emission in pounds:									2.638

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = \text{PPM measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

$Mg = 128 \text{ mg/mg-mole}$, molecular weight of gasoline

$K3 = 24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address TISDALE'S QUICK STOP KINGSTREE, SC							
4. Generator's Phone ()							
5. Transporter 1 Company Name HERR, Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-657-6319			
9. Designated Facility Name and Site Address CWS 303 S. MAULSBY ST. WHITEHOUSE, NC		10. US EPA ID Number		C. State Transporter's ID			
				D. Transporter 2 Phone			
				E. State Facility's ID			
				F. Facility's Phone 910-657-6399			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		14. Unit Wt./Vol.	
a. Non-Reg. Petroleum Contam Water				H2 VT		600 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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date	
Steve Riverbank				Steve Riverbank		8/27/12	
18. Transporter 2 Acknowledgement of Receipt of Materials				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				Signature		Date	
Ryan Co				Ryan Co		8/29/12	

NON-HAZARDOUS WASTE





HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Wednesday, October 3, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on September 20, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
September 20, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 09/20/12. The ambient temperature was 68 deg F and weather conditions were fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.354 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 528 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TIDACE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Russell

Date: 9/20/12 Ambient Air Temperature and General Weather Condition: 68° Fair

Start Time 1: 7:30 Stop Time 1: 3:30 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 528 gal

Total volume of product removed during the 8-hour AFVR Event: Steve

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
<u>MW3</u>	<u>17.59</u>	<u>17.65</u>	<u>---</u>	<u>18.31</u>		
					<u>528 gal</u>	

Aggressive Fluid/Vapor Recovery Notes

[illegible]

Vacuum at Pump: 24 in Hg

TISDALES QUICK STOP - 9/20/12

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

~~24 Oct 1968~~

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
9/20/12	7:30						
9/20/12	8:00	357	0.022	88	54	0.015418351	7.45
9/20/12	8:30	362	0.022	99	54	0.021884450	7.36
9/20/12	9:00	358	0.022	106	54	0.027182906	7.15
9/20/12	9:30	362	0.022	110	54	0.030710228	7.15
9/20/12	10:00	364	0.022	121	54	0.042690257	6.97
9/20/12	10:30	365	0.022	128	54	0.052438654	6.83
9/20/12	11:00	368	0.022	132	54	0.058914643	6.80
9/20/12	11:30	371	0.022	132	54	0.058914643	6.85
9/20/12	12:00	375	0.022	132	54	0.058914643	6.92
9/20/12	12:30	378	0.022	135	54	0.064264287	6.91
9/20/12	1:00	379	0.022	135	54	0.064264287	6.92
9/20/12	1:30	382	0.022	135	54	0.064264287	6.98
9/20/12	2:00	385	0.022	135	54	0.064264287	7.03
9/20/12	2:30	383	0.022	135	54	0.064264287	7.00
9/20/12	3:00	387	0.022	133	54	0.060648668	7.12
9/20/12	3:30	390	0.022	133	54	0.060648668	7.18
Averages		372.88	0.022	124.31	54.00	0.050605471	7.038

Site: Tisdale's
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	7.45	297	1	297	1579.39	0.000098602	0.044	0.022
30	60	7.36	315	1	315	1675.11	0.000104577	0.046	0.023
30	90	7.15	308	1	308	1637.89	0.000102253	0.044	0.022
30	120	7.15	310	1	310	1648.53	0.000102917	0.044	0.022
30	150	6.97	312	1	312	1659.16	0.000103581	0.043	0.022
30	180	6.83	309	1	309	1643.21	0.000102585	0.042	0.021
30	210	6.80	314	1	314	1669.80	0.000104245	0.043	0.021
30	240	6.85	320	1	320	1701.70	0.000106237	0.044	0.022
30	270	6.92	321	1	321	1707.02	0.000106569	0.044	0.022
30	300	6.91	324	1	324	1722.97	0.000107565	0.045	0.022
30	330	6.92	325	1	325	1728.29	0.000107897	0.045	0.022
30	360	6.98	323	1	323	1717.66	0.000107233	0.045	0.022
30	390	7.03	321	1	321	1707.02	0.000106569	0.045	0.022
30	420	7.00	319	1	319	1696.39	0.000105905	0.044	0.022
30	450	7.12	315	1	315	1675.11	0.000104577	0.045	0.022
30	480	7.18	316	1	316	1680.43	0.000104909	0.045	0.023
Averages		7.04	315.56	1.00	315.56	1678.11	0.000104764	0.044	0.022
Total Emission in pounds:									0.354

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528 \text{degrees R}/(\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

$M_g = 128 \text{ mg/mg-mole}$, molecular weight of gasoline

$K3 = 24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.	2. Page 1 of
3. Generator's Name and Mailing Address TISDALE'S QUICK STOP KINGSTREE, SC					
4. Generator's Phone ()					
5. Transporter 1 Company Name HEERY Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-657-6399	
9. Designated Facility Name and Site Address CWS 303 S. MAULDSBY ST WHITEVILLE, NC 28472		10. US EPA ID Number		C. State Transporter's ID	
				D. Transporter 2 Phone	
				E. State Facility's ID	
				F. Facility's Phone 910-688-5012	
11. WASTE DESCRIPTION			12. Containers	13. Total Quantity	14. Unit
			No.	Type	Vol.
a. Non-Reg. Petroleum Contam Water Wt			42	VT	528 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
17. Transporter 1 Acknowledgement of Receipt of Materials			Signature		Date
Printed/Typed Name Steve Rivenbark			SR		Month Day Year 9/20/12
18. Transporter 2 Acknowledgement of Receipt of Materials			Signature		Date
Printed/Typed Name					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 1B.					
Printed/Typed Name Ryan Cox			Signature Ry-Cox		Date 9/20/12





HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Tuesday, October 16, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

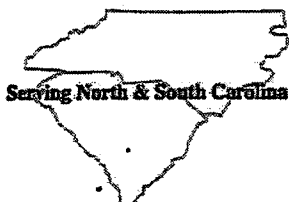
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on October 11, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring wells MW-1A, MW-2A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
October 11, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 10/11/12. The ambient temperature was 56 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 2.052 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 647 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

Good Business Image

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Stone Personnel: GRI - Kimbly

Date: 10/11/12 Ambient Air Temperature and General Weather Condition: 56° Sunny - Fair

Start Time 1: 9:15 Stop Time 1: 5:15 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 647.9 gal

Total volume of product removed during the 8-hour AFVR Event: Free Product - 0 gals

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 1A 18'	16.78	17.83	~	18.39	647.9 gal	
MW 2A 18'	16.93	17.95	~	18.60		
MW 3A 18'	16.75	17.53	~	17.93		
MW 4A	17.46	17.55	~	18.54		

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

Vacuum at Pump:

24" E pmp

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
10/11/12	9:15						
10/11/12	9:45	1126	0.022	76	42	0.008031567	24.21
10/11/12	10:15	1124	0.022	87	42	0.011547389	23.59
10/11/12	10:45	1131	0.022	96	42	0.015379978	23.27
10/11/12	11:15	1128	0.022	108	42	0.022246147	22.56
10/11/12	11:45	1125	0.022	113	42	0.025842457	22.22
10/11/12	12:15	1127	0.022	119	42	0.030849046	21.91
10/11/12	12:45	1128	0.022	126	42	0.037800212	21.51
10/11/12	1:15	1131	0.022	128	42	0.040035562	21.45
10/11/12	1:45	1134	0.022	129	42	0.041198476	21.44
10/11/12	2:15	1137	0.022	129	42	0.041198476	21.50
10/11/12	2:45	1132	0.022	129	42	0.041198476	21.41
10/11/12	3:15	1130	0.022	129	42	0.041198476	21.37
10/11/12	3:45	1129	0.022	129	42	0.041198476	21.35
10/11/12	4:15	1125	0.022	129	42	0.041198476	21.27
10/11/12	4:45	1128	0.022	129	42	0.041198476	21.33
10/11/12	5:15	1134	0.022	129	42	0.041198476	21.44
Averages		1129.31	0.022	117.81	42.00	0.032582511	21.989

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	24.21	599	1	599	3185.38	0.000198863	0.289	0.144
30	60	23.59	615	1	615	3270.46	0.000204175	0.289	0.145
30	90	23.27	608	1	608	3233.24	0.000201851	0.282	0.141
30	120	22.56	594	1	594	3158.79	0.000197203	0.267	0.133
30	150	22.22	595	1	595	3164.10	0.000197535	0.263	0.132
30	180	21.91	593	1	593	3153.47	0.000196871	0.259	0.129
30	210	21.51	591	1	591	3142.83	0.000196207	0.253	0.127
30	240	21.45	587	1	587	3121.56	0.000194879	0.251	0.125
30	270	21.44	585	1	585	3110.93	0.000194215	0.250	0.125
30	300	21.50	581	1	581	3089.66	0.000192887	0.249	0.124
30	330	21.41	577	1	577	3068.38	0.000191559	0.246	0.123
30	360	21.37	573	1	573	3047.11	0.000190231	0.244	0.122
30	390	21.35	571	1	571	3036.48	0.000189567	0.243	0.121
30	420	21.27	568	1	568	3020.52	0.000188571	0.241	0.120
30	450	21.33	564	1	564	2999.25	0.000187243	0.240	0.120
30	480	21.44	560	1	560	2977.98	0.000186915	0.239	0.120
Averages		21.99	585.06	1.00	585.06	3111.26	0.000194236	0.256	0.128
Total Emission in pounds:									2.052

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$PPM_g = \text{PPM measured} * K$$

$$C_{g:m} = PPM_g * (\text{Mg}/K3)$$

$$C_g = C_{g:m} * 62.43 \text{E-}09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$$

$$PMR = PMR_g * ((T2 - T1)/60)$$

Q_{std} = Flow at DSCFM

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

PPM_g = PPMv, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m}$ = mg/dsm^3 , mass concentration of gasoline emission

Mg = 128 $\text{mg}/\text{mg-mole}$, molecular weight of gasoline

K3 = $24.07 \text{ dsm}^3/1\text{E}6 \text{ mg-mole}$, mass to volume conversion factor at STP

C_g = lb/dcsf , mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr , pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.	2. Page 1 of
3. Generator's Name and Mailing Address TISDALES QUICK STOP KINGSTREE, SC					
4. Generator's Phone ()					
5. Transporter 1 Company Name HEAR, Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-653-6399	
9. Designated Facility Name and Site Address CWS 303 S. MAULTSBY ST. WHITEVILLE, NC 28472		10. US EPA ID Number		C. State Transporter's ID	
				D. Transporter 2 Phone	
				E. State Facility's ID	
				F. Facility's Phone 910-625-5012	
11. WASTE DESCRIPTION			12. Containers	13. Total Quantity	14. Unit Wt./Vol.
			No.	Type	
a. Non-Reg. Petroleum Contact Water			H2	VT	647 GAC
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				Date	
Signature				Month	Day Year
17. Transporter 1 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name Steve R. Greenbriels				Month	Day Year
Signature [Signature]				10	11 12
18. Transporter 2 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name				Month	Day Year
Signature					
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 RYAN Cox				Date	
Signature [Signature]				Month	Day Year
				10	11 12



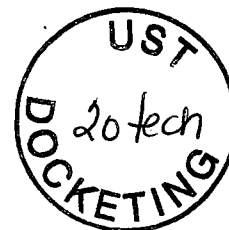


Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

NOV 07 2012

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056



Re: Four AFVR Event and Gauging Directive
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686, CA#44799
Release reported March 30, 2001
AFVR Report received October 29, 2012
Williamsburg County

Dear Mr. Easler

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Geological Resources, Inc. as your contractor. The next appropriate scope of work is to continue aggressive fluid and vapor recovery (AFVR) events to remove residual free-phase product and reduce concentrations of chemicals of concern (CoC). Please have your contractor conduct four events on MW-3, MW-1A, MW-3A, and MW-4A simultaneously. The events should be spaced a minimum of twenty days apart to allow equilibrium conditions to reestablish, and must be conducted in accordance with the UST Quality Assurance Program Plan (QAPP). Approximately one month after the final event, please gauge the afore mentioned wells for free product. A copy of the QAPP is available at <http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm>.

Cost Agreement #44799 has been approved in the amount shown on the enclosed cost agreement form for the AFVR events. AFVR activities may proceed immediately upon receipt of this letter, and must be performed by a South Carolina-Certified Underground Storage Tank Site Rehabilitation Contractor. All applicable South Carolina certification requirements apply to preparation of an AFVR report.

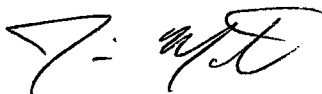
An AFVR report and invoice must be submitted to the Division within 120 days from the date of this letter. Your contractor may directly bill the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Interim invoices may be submitted for this scope of work. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

The Division grants pre-approval for transportation of up to 5,000 gallons of free-phase product and petroleum-contaminated groundwater from the referenced facility to a permitted treatment facility for disposal. The transport and disposal must be conducted in accordance with the QAPP.

On all correspondence concerning this facility, please reference UST Permit #18686. If there are any questions concerning this project, feel free to contact me by telephone at (803) 896-4085, by fax at (803) 896-6245, or by e-mail at martinjm@dhec.sc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Martin", with a stylized flourish at the end.

Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved cost agreement form

cc: Scott Ball, Geological Resources, Inc., 2301 Crown Point Executive Dr. Suite F Charlotte,
NC 28227 (w/ enc)
✓ Technical File (w/ enc)

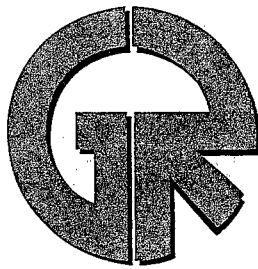
Approved Cost Agreement 44799

Facility: 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
04 MOB/DEMOB		A EQUIPMENT	4.0000	575.00	2,300.00
		B PERSONNEL	5.0000	290.00	1,450.00
10 SAMPLE COLLECTION		E GAUGE WELL ONLY	4.0000	20.00	80.00
17 DISPOSAL		A WASTEWATER	5,000.0000	0.80	4,000.00
19 RPT/PROJECT MNGT & COORDINATIO		PCT PERCENT	0.1500	20,950.00	3,142.50
23 EFR		A 8 HOUR EVENT	4.0000	3,000.00	12,000.00
		C OFF GAS TREATMENT	32.0000	35.00	1,120.00
Total Amount					24,092.50



Geological Resources, Inc.



January 15, 2013

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management




Re: Aggressive Fluid Vapor Recovery Event
Tisdales Quick Stop
1989 Thurgood Marshall Blvd
Kingstree, Williamsburg County, South Carolina
UST Permit No. 18686
CA No. 44799

Dear Mr. Martin:

Geological Resources, Inc. (GRI) has completed three of four aggressive fluid vapor recovery (AFVR) events at the above referenced site in Kingstree, South Carolina. The AFVR events were conducted on November 30, 2012, December 21, 2012 and January 10, 2013. Copies of the AFVR Reports and an interim invoice are attached. Please contact Scott Ball at (704) 845-4010 with any questions.

Sincerely,


JOHN M. BROWN
REGISTERED
NO. 1116
SOUTH CAROLINA
PROFESSIONAL GEOLOGIST

John M. Brown, P.
License No.

enclosure

cc: file



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Wednesday, December 5, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

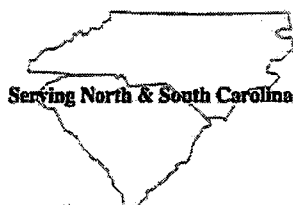
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on November 30, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
November 30, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 11/30/12. The ambient temperature was 36 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.223 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 632 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A
AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Hamish

Date: 11/30/12 Ambient Air Temperature and General Weather Condition: 36° Fair Sunny

Start Time 1: 8:30 Stop Time 1: 4:30 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 632 gal

Total volume of product removed during the 8-hour AFVR Event: Nil

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
<u>MW 3</u>	<u>17.84</u>	<u>17.84</u>	<u>--</u>	<u>18.70</u>	<u>632 gal</u>	

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 27 (30/12/77)

~~vacuum conversion: (inches of water X 0.07355 = inches of mercury)~~

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
11/30/12	8:30						
11/30/12	9:00	379	0.022	84	39	0.009714096	8.01
11/30/12	9:30	388	0.022	118	39	0.027722511	7.58
11/30/12	10:00	392	0.022	124	39	0.032996605	7.54
11/30/12	10:30	406	0.022	131	39	0.040301300	7.66
11/30/12	11:00	405	0.022	139	39	0.050466674	7.46
11/30/12	11:30	409	0.022	146	39	0.061287078	7.36
11/30/12	12:00	401	0.022	145	39	0.059616992	7.24
11/30/12	12:30	407	0.022	145	39	0.059616992	7.35
11/30/12	1:00	412	0.022	145	39	0.059616992	7.44
11/30/12	1:30	415	0.022	145	39	0.059616992	7.49
11/30/12	2:00	416	0.022	145	39	0.059616992	7.51
11/30/12	2:30	415	0.022	145	39	0.059616992	7.49
11/30/12	3:00	418	0.022	144	39	0.057990221	7.57
11/30/12	3:30	423	0.022	144	39	0.057990221	7.66
11/30/12	4:00	425	0.022	144	39	0.057990221	7.70
11/30/12	4:30	428	0.022	143	39	0.056405602	7.78
Averages		408.69	0.022	136.69	39.00	0.050660405	7.553

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	8.01	204	1	204	1084.84	0.000067726	0.033	0.016
30	60	7.58	205	1	205	1090.15	0.000068058	0.031	0.015
30	90	7.54	207	1	207	1100.79	0.000068722	0.031	0.016
30	120	7.66	201	1	201	1068.88	0.000066730	0.031	0.015
30	150	7.46	196	1	196	1042.29	0.000065070	0.029	0.015
30	180	7.36	192	1	192	1021.02	0.000063742	0.028	0.014
30	210	7.24	188	1	188	999.75	0.000062414	0.027	0.014
30	240	7.35	186	1	186	989.12	0.000061750	0.027	0.014
30	270	7.44	180	1	180	957.21	0.000059759	0.027	0.013
30	300	7.49	178	1	178	946.57	0.000059095	0.027	0.013
30	330	7.51	176	1	176	935.94	0.000058431	0.026	0.013
30	360	7.49	177	1	177	941.25	0.000058763	0.026	0.013
30	390	7.57	175	1	175	930.62	0.000058099	0.026	0.013
30	420	7.66	172	1	172	914.67	0.000057103	0.026	0.013
30	450	7.70	168	1	168	893.39	0.000055775	0.026	0.013
30	480	7.78	165	1	165	877.44	0.000054779	0.026	0.013
Averages		7.55	185.63	1.00	185.63	987.12	0.000061626	0.028	0.014
Total Emission in pounds:									0.223

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528 \text{degrees R}/(\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

$Mg = 128 \text{ mg/mg-mole}$, molecular weight of gasoline

$K3 = 24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1 of	
3. Generator's Name and Mailing Address TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC							
4. Generator's Phone ()							
5. Transporter 1 Company Name HERR, Inc.		6. US EPA ID Number NCR-000139816		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone 910-657-6399			
9. Designated Facility Name and Site Address CWS 303 S. MAULSBY ST. WHITEVILLE, NC		10. US EPA ID Number		C. State Transporter's ID			
				D. Transporter 2 Phone			
				E. State Facility's ID			
				F. Facility's Phone 910-625-5012			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		14. Unit Wt./Vol.	
a. Non-Reg. Petroleum Cont'd Water				42 VT		632 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	
17. Transporter 1 Acknowledgement of Receipt of Materials						Date	
Printed/Typed Name Steve R. Venbank				Signature <i>[Signature]</i>		Month Day Year 11/30/12	
18. Transporter 2 Acknowledgement of Receipt of Materials						Date	
Printed/Typed Name				Signature		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 18.							
Printed/Typed Name TCY Co				Signature <i>[Signature]</i>		Date	
						Month Day Year 11/30/12	



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Thursday, December 27, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingtree, SC
UST Permit #: 18686

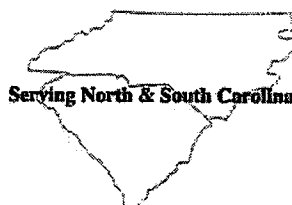
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on December 21, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring wells MW-1A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
December 21, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 12/21/12. The ambient temperature was 43 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.280 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 572 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Howard

Date: 12/21/12 Ambient Air Temperature and General Weather Condition: 43° Dewy - Fair

Start Time 1: 9:00 Stop Time 1: 5:00 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 572 gal

Total volume of product removed during the 8-hour AFVR Event: _____

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 1A	17.68	17.88	---	18.23	572 gal	
MW 312	17.14	17.73	---	17.88		
MW 4H	18.24	18.31	---	18.81		

151
17.8
15.8

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 22 @ Pump

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
12/21/12	9:00						
12/21/12	9:30	389	0.022	72	41	0.006842956	8.44
12/21/12	10:00	392	0.022	86	41	0.010908335	8.25
12/21/12	10:30	398	0.022	94	41	0.014090345	8.23
12/21/12	11:00	402	0.022	103	41	0.018638786	8.14
12/21/12	11:30	406	0.022	126	41	0.036846891	7.75
12/21/12	12:00	409	0.022	135	41	0.047609072	7.60
12/21/12	12:30	412	0.022	135	41	0.047609072	7.66
12/21/12	1:00	416	0.022	138	41	0.051802985	7.66
12/21/12	1:30	420	0.022	138	41	0.051802985	7.74
12/21/12	2:00	425	0.022	138	41	0.051802985	7.83
12/21/12	2:30	424	0.022	138	41	0.051802985	7.81
12/21/12	3:00	426	0.022	138	41	0.051802985	7.85
12/21/12	3:30	430	0.022	138	41	0.051802985	7.92
12/21/12	4:00	436	0.022	138	41	0.051802985	8.03
12/21/12	4:30	442	0.022	138	41	0.051802985	8.14
12/21/12	5:00	447	0.022	138	41	0.051802985	8.23
Averages		417.13	0.022	124.56	41.00	0.040548270	7.955

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	8.44	236	1	236	1255.01	0.000078350	0.040	0.020
30	60	8.25	241	1	241	1281.60	0.000080010	0.040	0.020
30	90	8.23	249	1	249	1324.14	0.000082666	0.041	0.020
30	120	8.14	245	1	245	1302.87	0.000081338	0.040	0.020
30	150	7.75	238	1	238	1265.64	0.000079014	0.037	0.018
30	180	7.60	240	1	240	1276.28	0.000079678	0.036	0.018
30	210	7.66	234	1	234	1244.37	0.000077686	0.036	0.018
30	240	7.66	231	1	231	1228.42	0.000076690	0.035	0.018
30	270	7.74	226	1	226	1201.83	0.000075030	0.035	0.017
30	300	7.83	211	1	211	1122.06	0.000070050	0.033	0.016
30	330	7.81	205	1	205	1090.15	0.000068058	0.032	0.016
30	360	7.85	207	1	207	1100.79	0.000068722	0.032	0.016
30	390	7.92	203	1	203	1079.52	0.000067394	0.032	0.016
30	420	8.03	194	1	194	1031.66	0.000064406	0.031	0.016
30	450	8.14	191	1	191	1015.70	0.000063410	0.031	0.015
30	480	8.23	186	1	186	989.12	0.000061750	0.031	0.015
Averages		7.95	221.06	1.00	221.06	1175.57	0.000073391	0.035	0.018
Total Emission in pounds:									0.280

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\text{PI} * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$\text{PPMg} = \text{PPM measured} * K$$

$$\text{Cg:m} = \text{PPMg} * (\text{Mg}/K3)$$

$$\text{Cg} = \text{Cg:m} * 62.43 \text{E-09 lb-m}^3/\text{mg-ft}^3$$

$$\text{PMRg} = \text{Cg} * Q_{std} * 60 \text{ min/hr}$$

$$\text{PMR} = \text{PMRg} * ((T2 - T1)/60)$$

Q_{std} = Flow at DSCFM

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPMg = PPMv, Volumetric concentration as gasoline emission, dry basis at STP

Cg:m = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

Cg = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMRg = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.	2. Page 1 of 1
3. Generator's Name and Mailing Address TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC					
4. Generator's Phone ()		5. Transporter 1 Company Name HEPP, Inc.		A. State Transporter's ID	
		B. US EPA ID Number NCR-000139816		B. Transporter 1 Phone 910-633-6399	
7. Transporter 2 Company Name		B. US EPA ID Number		C. State Transporter's ID	
				D. Transporter 2 Phone	
9. Designated Facility Name and Site Address CWS 303 S. MAULTSBY ST. WHITEVILLE, NC		10. US EPA ID Number		E. State Facility's ID	
				F. Facility's Phone 910-625-5612	
11. WASTE DESCRIPTION			12. Containers	13. Total Quantity	14. Unit Wt./Vol.
			No.	Type	
a. Non-Reg Petroleum Contect Water			H2	VT	572 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
17. Transporter 1 Acknowledgement of Receipt of Materials			Date		
Printed/Typed Name Steve R. venbark			Signature <i>St E. R. venbark</i>		Month Day Year 12/27/12
18. Transporter 2 Acknowledgement of Receipt of Materials			Date		
Printed/Typed Name			Signature		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 RYAN COX			Signature <i>Ry - C. Cox</i>		Date Month Day Year 12/27/12

NON-HAZARDOUS WASTE



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Tuesday, January 15, 2013

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

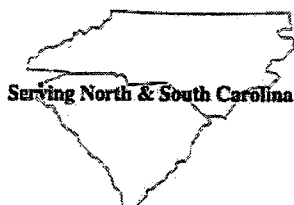
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on January 10, 2013. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
January 10, 2013

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 1/10/13. The ambient temperature was 61 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 2.627 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 426 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A
AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Personnel

Date: 1/10/13 Ambient Air Temperature and General Weather Condition: 61° Sunny - Fair

Start Time 1: 9:00 Stop Time 1: 5:00 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 426 gal

Total volume of product removed during the 8-hour AFVR Event: _____

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
<u>MW3</u>	<u>---</u>	<u>18.15</u>	<u>---</u>	<u>19.34</u>	<u>426 gal</u>	

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 27 C Pumps

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
1/10/13	9:00						
1/10/13	9:30	936	0.022	92	38	0.012239006	19.46
1/10/13	10:00	915	0.022	105	38	0.018320169	18.47
1/10/13	10:30	921	0.022	112	39	0.023225162	18.27
1/10/13	11:00	908	0.022	126	39	0.034948490	17.37
1/10/13	11:30	912	0.022	134	39	0.043866306	17.05
1/10/13	12:00	879	0.022	145	39	0.059616992	15.87
1/10/13	12:30	856	0.022	159	38	0.084994727	14.70
1/10/13	1:00	835	0.022	163	38	0.094761554	14.09
1/10/13	1:30	862	0.022	165	38	0.100055714	14.42
1/10/13	2:00	865	0.022	165	38	0.100055714	14.47
1/10/13	2:30	863	0.022	165	38	0.100055714	14.43
1/10/13	3:00	866	0.022	165	38	0.100055714	14.48
1/10/13	3:30	869	0.022	165	38	0.100055714	14.53
1/10/13	4:00	871	0.022	165	38	0.100055714	14.57
1/10/13	4:30	875	0.022	165	38	0.100055714	14.64
1/10/13	5:00	873	0.022	165	38	0.100055714	14.60
Averages		881.63	0.022	147.25	38.25	0.073276133	15.714

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	19.46	905	1	905	4812.63	0.000300452	0.351	0.175
30	60	18.47	1012	1	1012	5381.64	0.000335976	0.372	0.186
30	90	18.27	1086	1	1086	5775.16	0.000360543	0.395	0.198
30	120	17.37	1136	1	1136	6041.05	0.000377143	0.393	0.197
30	150	17.05	1171	1	1171	6227.17	0.000388762	0.398	0.199
30	180	15.87	1208	1	1208	6423.93	0.000401046	0.382	0.191
30	210	14.70	1235	1	1235	6567.51	0.000410010	0.362	0.181
30	240	14.09	1270	1	1270	6753.64	0.000421629	0.357	0.178
30	270	14.42	1275	1	1275	6780.22	0.000423289	0.366	0.183
30	300	14.47	1225	1	1225	6514.33	0.000406690	0.353	0.177
30	330	14.43	1176	1	1176	6253.76	0.000390422	0.338	0.169
30	360	14.48	952	1	952	5062.57	0.000316056	0.275	0.137
30	390	14.53	878	1	878	4669.05	0.000291489	0.254	0.127
30	420	14.57	804	1	804	4275.53	0.000266921	0.233	0.117
30	450	14.64	751	1	751	3993.69	0.000249326	0.219	0.109
30	480	14.60	708	1	708	3765.02	0.000235050	0.206	0.103
Averages		15.71	1049.50	1.00	1049.50	5581.06	0.000348425	0.328	0.164
Total Emission in pounds:									2.627

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$PPM_g = PPM \text{ measured} * K$$

$$C_{g:m} = PPM_g * (Mg/K3)$$

$$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$$

$$PMR = PMR_g * ((T2 - T1)/60)$$

Q_{std} = Flow at DSCFM

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v , Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m}$ = mg/dsm^3 , mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = $24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

C_g = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

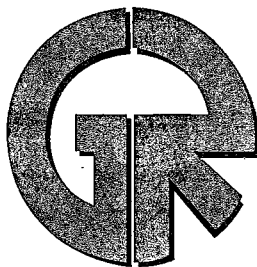
NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

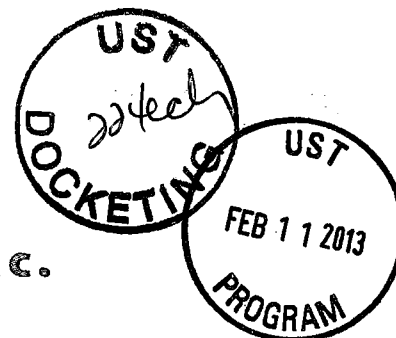
NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1 of	
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC					
4. Generator's Phone ()		6. US EPA ID Number		A. State Transporter's ID			
5. Transporter 1 Company Name		HERR, Inc.		B. Transporter 1 Phone		910-652-6779	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID			
9. Designated Facility Name and Site Address		10. US EPA ID Number		D. Transporter 2 Phone			
CWS 303 S. MAULDSBY ST. WHITEVILLE, NC		1		E. State Facility's ID			
F. Facility's Phone		910-625-5012					
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit	
a. Non-Reg. Petroleum Contact Water				H2 VT		42L 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							
<div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> 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. </div>							
Printed/Typed Name				Signature		Date	
						Month Day Year	
17. Transporter 1 Acknowledgement of Receipt of Materials						Date	
Printed/Typed Name				Signature		Month Day Year	
Steve R. ventmark				[Signature]		1 10 13	
18. Transporter 2 Acknowledgement of Receipt of Materials						Date	
Printed/Typed Name				Signature		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				Signature		Date	
RYAN Cox				[Signature]		1 10 13	

NON-HAZARDOUS WASTE





Geological Resources, Inc.



February 8, 2013


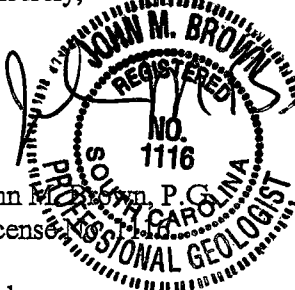
Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

Re: Aggressive Fluid Vapor Recovery Event
Tisdales Quick Stop
1989 Thurgood Marshall Blvd
Kingstree, Williamsburg County, South Carolina
UST Permit No. 18686
CA No. 44799

Dear Mr. Martin:

Geological Resources, Inc. (GRI) has completed the fourth of four aggressive fluid vapor recovery (AFVR) events at the above referenced site in Kingstree, South Carolina. The AFVR event was conducted on January 30, 2013. A copy of the AFVR Report and an interim invoice are attached. A final report will be submitted after the March 4, 2013 post-AFVR gauging activities are completed. Please contact Scott Ball at (704) 845-4010 with any questions.

Sincerely,



John M. Brown, P.G.
License No. 1116
PROFESSIONAL GEOLOGIST
SOUTH CAROLINA

enclosure

cc: file

2301 Crown Point Executive Drive Suite F Charlotte, NC 28227
Phone: (704) 845-4010 / (888) 870-4133 Fax: (704) 845-4012



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

**Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail:herrteam@hotmail.com • www.herrteam.com**

Thursday, February 7, 2013

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

· Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on January 30, 2013. Included is the documentation for the event. The 8 hour event was conducted on monitoring wells MW-1A, MW-2A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
January 30, 2013

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 1/30/13. The ambient temperature was 68 deg F and weather conditions were overcast. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 3.055 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 478 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Russell

Date: 1/30/13 Ambient Air Temperature and General Weather Condition: 68 Cloudy - Overcast

Start Time 1: 9:15 Stop Time 1: 5:15 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 478 gal

Total volume of product removed during the 8-hour AFVR Event: Shum

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 1A	17.46	18.49		18.76	478 gal	
MW 3A	17.34	17.49		17.82		
MW 4A	---	18.19	---	18.73		
MW 2A	17.79	17.80		18.30		

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

27 Опр

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

1

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
1/30/13	9:15						
1/30/13	9:45	1189	0.022	89	48	0.014115758	24.80
1/30/13	10:15	1176	0.022	96	48	0.017639427	24.14
1/30/13	10:45	1141	0.022	105	48	0.023322035	22.91
1/30/13	11:15	1155	0.022	111	48	0.027979622	22.84
1/30/13	11:45	1149	0.022	119	48	0.035507632	22.23
1/30/13	12:15	1143	0.022	126	48	0.043578579	21.67
1/30/13	12:45	1132	0.022	134	48	0.054882508	20.92
1/30/13	1:15	1126	0.022	148	48	0.081669427	19.76
1/30/13	1:45	1136	0.022	156	48	0.102330526	19.23
1/30/13	2:15	1128	0.022	164	48	0.128281835	18.30
1/30/13	2:45	1143	0.022	165	48	0.131972828	18.44
1/30/13	3:15	1134	0.022	165	48	0.131972828	18.29
1/30/13	3:45	1127	0.022	164	48	0.128281835	18.29
1/30/13	4:15	1136	0.022	164	48	0.128281835	18.43
1/30/13	4:45	1130	0.022	164	48	0.128281835	18.34
1/30/13	5:15	1134	0.022	164	48	0.128281835	18.40
Averages		1142.44	0.022	139.63	48.00	0.081648772	20.437

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	24.80	858	1	858	4562.69	0.000284849	0.424	0.212
30	60	24.14	865	1	865	4599.92	0.000287173	0.416	0.208
30	90	22.91	893	1	893	4748.82	0.000296469	0.408	0.204
30	120	22.84	946	1	946	5030.66	0.000314064	0.430	0.215
30	150	22.23	969	1	969	5152.97	0.000321700	0.429	0.215
30	180	21.67	992	1	992	5275.28	0.000329336	0.428	0.214
30	210	20.92	986	1	986	5243.37	0.000327344	0.411	0.205
30	240	19.76	984	1	984	5232.74	0.000326680	0.387	0.194
30	270	19.23	975	1	975	5184.88	0.000323692	0.373	0.187
30	300	18.30	979	1	979	5206.15	0.000325020	0.357	0.178
30	330	18.44	947	1	947	5035.98	0.000314396	0.348	0.174
30	360	18.29	937	1	937	4982.80	0.000311076	0.341	0.171
30	390	18.29	951	1	951	5057.25	0.000315724	0.346	0.173
30	420	18.43	924	1	924	4913.67	0.000306760	0.339	0.170
30	450	18.34	915	1	915	4865.81	0.000303772	0.334	0.167
30	480	18.40	921	1	921	4897.71	0.000305764	0.338	0.169
Averages		20.44	940.13	1.00	940.13	4999.42	0.000312114	0.382	0.191
Total Emission in pounds:									3.055

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528 \text{degrees R}/(\text{Temp} + 460))$$

$$PPM_g = PPM \text{ measured} * K$$

$$C_{g:m} = PPM_g * (Mg/K3)$$

$$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$$

$$PMR = PMR_g * ((T2 - T1)/60)$$

$$Q_{std} = \text{Flow at DSCFM}$$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

C_{g:m} = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

C_g = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

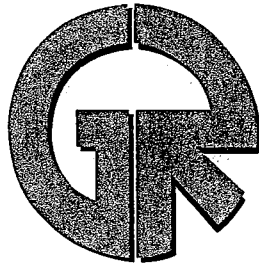
LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTALE, SC					
4. Generator's Phone ()		6. US EPA ID Number		A. State Transporter's ID			
5. Transporter 1 Company Name		7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone	
HERB, Inc.				NCR-000139816		910-653-6399	
9. Designated Facility Name and Site Address		10. US EPA ID Number		C. State Transporter's ID		D. Transporter 2 Phone	
CWS 303 S. MAULSBY ST. WHITEVILLE, NC				E. State Facility's ID		F. Facility's Phone	
						910-625-5612	
11. WASTE DESCRIPTION				12. Containers		13. Total	
				No. Type		Quantity	
a. Non-Reg. Petroleum Contam Water				42 VT		478 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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name				Signature		Month Day Year	
STEVE RIVEROBANK				Steve Riverbank		1 30 13	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name				Signature		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				Signature		Date	
KEVIN Cox				Kevin C. Cox		1 30 13	

NON-HAZARDOUS WASTE



Geological Resources, Inc.



March 11, 2013

Mr. Jim Martin, Hydrogeologist
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: AFVR Report
Tisdales Quick Stop
1989 Thurgood Marshall Blvd.
Kingstree, Williamsburg County
UST Permit #: 18686
CA #: 44799

Dear Mr. Martin:

This report presents the results of four aggressive fluid-vapor recovery (AFVR) activities conducted on November 30, 2012, December 21, 2012, January 10, 2013 and January 30, 2013 at the above referenced site. The activities were conducted in accordance with the requirements outlined in correspondence from the SCDHEC dated November 7, 2012 and addressed to Mr. Marty Easler. The purpose of the activities was to remove residual free-phase product and reduce dissolved phase contaminant concentrations in monitoring wells MW-1A, MW-3, MW-3A and MW-4A. The following Figures, Tables and Appendix have been included:

- Figure 1: Site Location Map
- Figure 2: Site Map

- Table 1A: AFVR Event Chronology – November 30, 2012
- Table 1B: AFVR Event Chronology – December 21, 2012
- Table 1C: AFVR Event Chronology – January 10, 2013
- Table 1D: AFVR Event Chronology – January 30, 2013
- Table 2: Summary of Monitoring Well Gauging Data

- Appendix A: AFVR Reports, Calculations, Disposal Manifests

GRI personnel and the AFVR contractor, Hazmat Emergency Response and Remediation, Inc. (HERR) arrived on-site on November 30, 2012 for the first of four AFVR events. The first event was conducted on monitoring well MW-3. General weather conditions were sunny with an ambient air temperature of approximately 36°F at the time of system start-up. Approximately 0.10 feet of free product were measured in MW-3 prior to system startup. AFVR activities were conducted for eight (8) hours on MW-3 using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the well remained steady at 20 in. Hg throughout the day. Please note that the vacuum truck was equipped with an activated charcoal filter for off-gas treatment of vapor phase hydrocarbons. A total of 632 gallons of liquid were removed during the event. A petroleum sheen was noted on the recovered ground water. No measurable free product was present in MW-3 at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 0.223 pounds (approximately 0.036 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on December 21, 2012 for the second of four AFVR events. The second event was conducted on monitoring wells MW-1A, MW-3A and MW-4A. General weather conditions were sunny with an ambient air temperature of approximately 43°F at the time of system start-up. Approximately 0.30, 0.59 and 0.05 feet of free product were measured in MW-1A, MW-3A and MW-4A, respectively, prior to system startup. AFVR activities were conducted for eight (8) hours on MW-1A, MW-3A and MW-4A using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the wells remained steady at 20 in. Hg throughout the day. Please note that the vacuum truck was equipped with an activated charcoal filter for off-gas treatment of vapor phase hydrocarbons. A total of 572 gallons of liquid were removed during the event however, there was no measureable amount of liquid phase free product. No measurable free product was present in MW-1A, MW-3A or MW-4A at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 0.280 pounds (approximately 0.045 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on January 10, 2013 for the third of four AFVR events. The third event was conducted on monitoring well MW-3. General weather conditions were sunny with an ambient air temperature of approximately 61°F at the time of system start-up. No free product was measured in MW-3 prior to system startup. AFVR activities were conducted for eight (8) hours on MW-3 using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the well remained steady at 20 in. Hg throughout the day. Please note that the vacuum truck was equipped with an activated charcoal filter for off-gas treatment of vapor phase hydrocarbons. A total of 426 gallons of liquid were removed during the event however, there was no measureable amount of liquid phase free product. No measurable free product was present in MW-3 at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 2.627 pounds (approximately 0.42 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on January 30, 2013 for the fourth of four AFVR events. The fourth event was conducted on monitoring wells MW-1A, MW-2A, MW-3A and MW-4A. General weather conditions were overcast with an ambient air temperature of approximately 68°F at the time of system start-up. Free product thicknesses of 1.03, 0.02 and 0.13 feet were measured in MW-1A, MW-2A and MW-3A, respectively, prior to system startup. No measurable amount of free product was noted in MW-4A. AFVR activities were conducted for eight (8) hours on MW-1A, MW-2A, MW-3A and MW-4A using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the wells remained steady at 20 in. Hg throughout the day.

Tisdales Quick Stop
AFVR Report
UST Permit # 18686

Please note that the vacuum truck was equipped with an activated charcoal filter for off-gas treatment of vapor phase hydrocarbons. A total of 478 gallons of liquid were removed during the event however, there was no measureable amount of liquid phase free product. Product sheen was visible on the extracted liquid. No measurable free product was present in MW-1A, MW-2A, MW-3A or MW-4A at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 3.055 pounds (approximately 0.49 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI returned to the site on March 4, 2013 to gauge monitoring wells MW-3, MW-1A, MW-2A, MW-3A and MW-4A. No free product was observed in MW-3 or MW-4A. Free product was measured in monitoring wells MW-1A, MW-2A and MW-3A at thicknesses of 0.76, 0.10 and 0.89 feet, respectively. GRI recommends continued free product removal activities be conducted at the site.

If you have any comments or questions concerning this project, please do not hesitate to contact the undersigned at (704) 845-4010.

Sincerely,

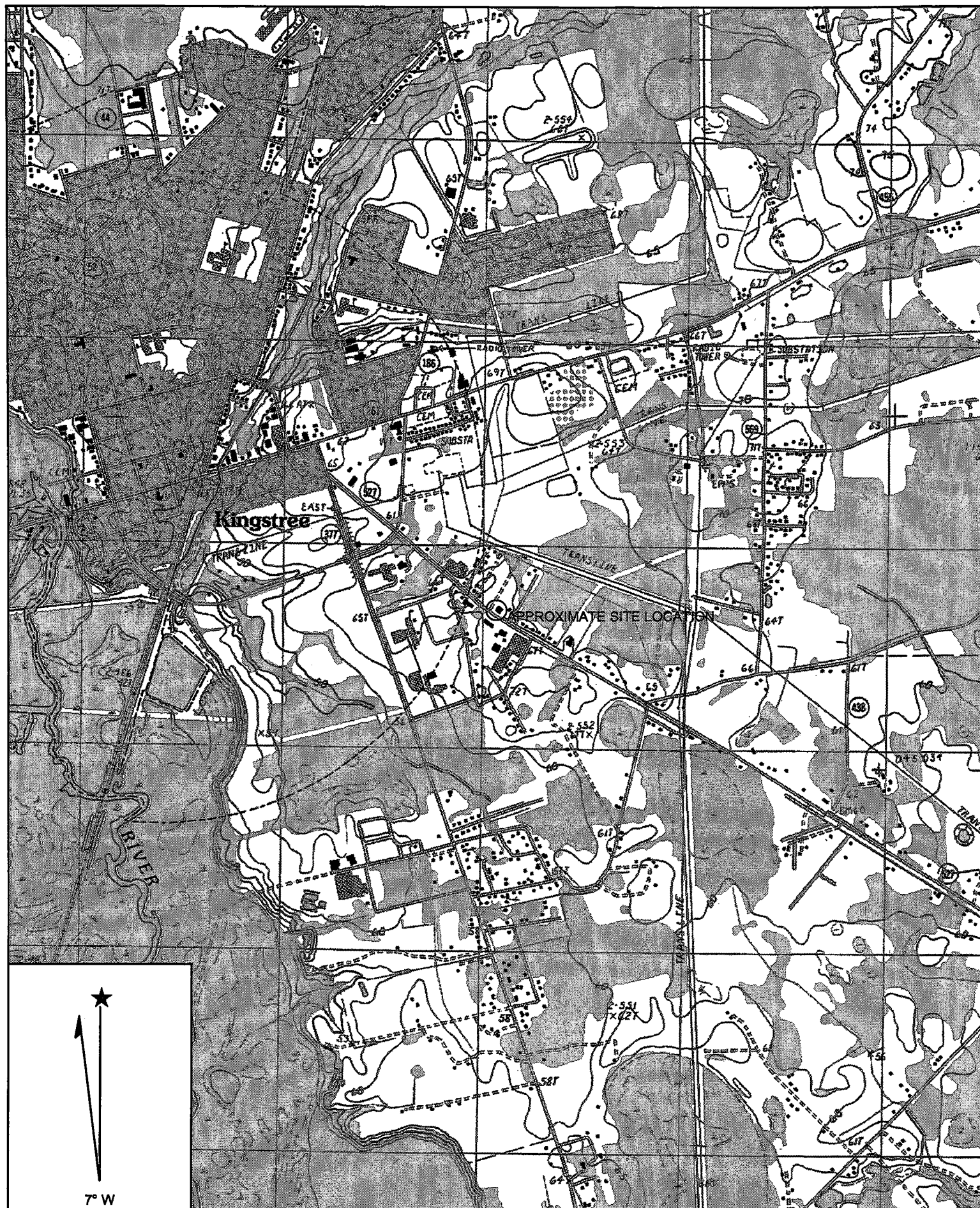
Scott W. Ball

Scott Ball
Project Manager

John M. Brown, P.G.
License No. 1116

Enclosures

cc: Mr. Marty Easler
File



Name: KINGSTREE
 Date: 2/11/2009
 Scale: 1 inch equals 2000 feet

Location: 033° 39' 29.0" N 079° 48' 46.8" W
 Caption: Site Location Map
 Tisdale's Quick Stop
 Figure 1 UST Permit # 18686

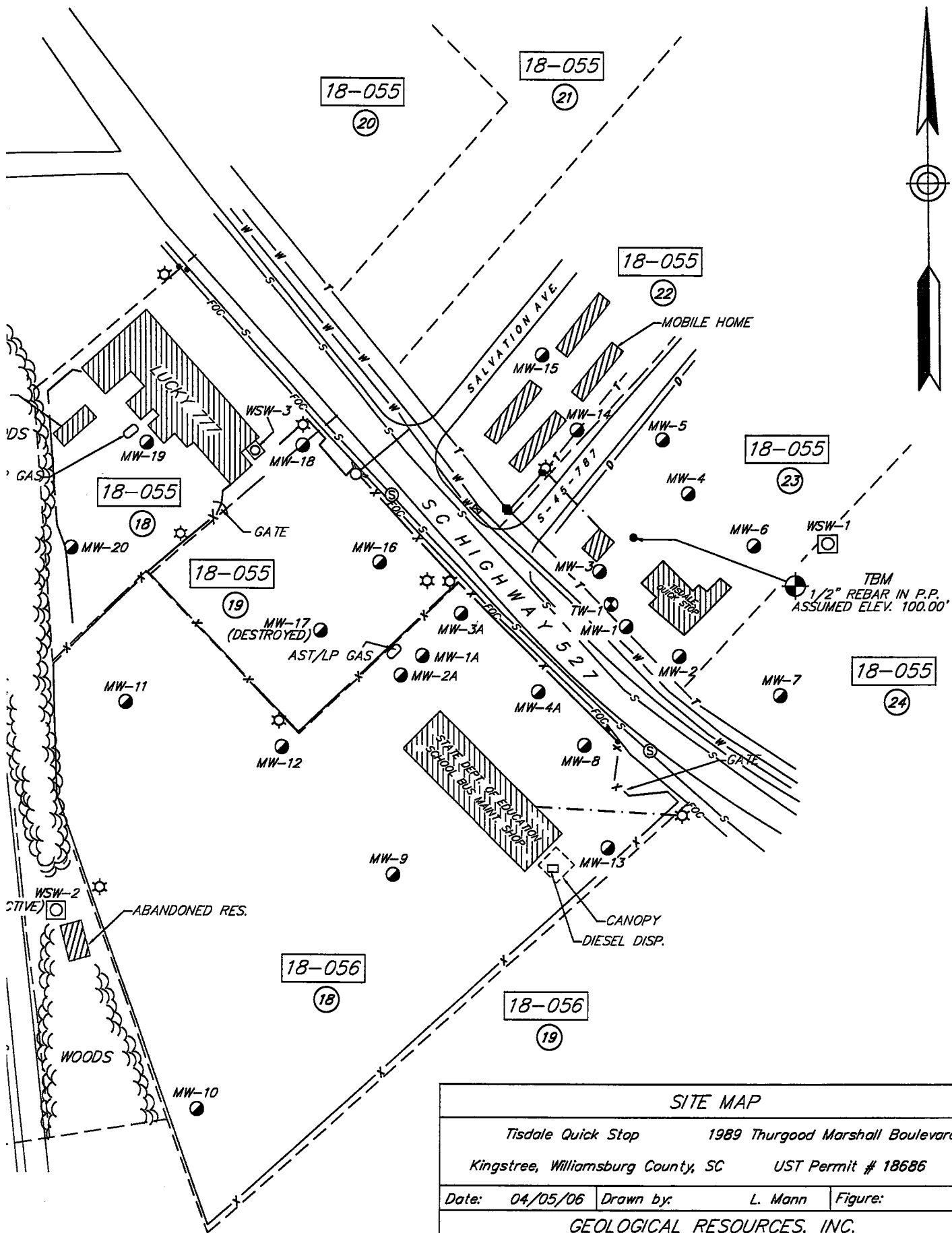


TABLE 1A
AFVR EVENT CHRONOLOGY
NOVEMBER 30, 2012
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-3	8:15	Vacuum Truck Operator	Interface Probe	HERR
Vacuum Truck Setup for Fluid Removal in MW-3	8:15 - 8:30	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	8:12 - 8:52	GRI	NA	GRI
Fluid Recovery in MW-3	8:30-16:30	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Level in MW-3	16:45	Vacuum Truck Operator	Interface Probe	HERR

TABLE 1B
AFVR EVENT CHRONOLOGY
DECEMBER 21, 2013
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-1A, MW-3A, MW-4A	8:30	GRI	Interface Probe	GRI
Vacuum Truck Setup for Fluid Removal in MW-1A, MW-3A, MW-4A	8:45 - 9:00	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	7:49 - 9:15	GRI	NA	GRI
Fluid Recovery in MW-1A, MW-3A, MW-4A	9:00 - 17:00	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Level in MW-1A, MW-3A, MW-4A	17:15	Vacuum Truck Operator	Interface Probe	HERR

TABLE 1C
AFVR EVENT CHRONOLOGY
JANUARY 10, 2013
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-3	8:30	GRI	Interface Probe	GRI
Vacuum Truck Setup for Fluid Removal in MW-3	8:45 - 9:00	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	8:40 - 9:45	GRI	NA	GRI
Fluid Recovery in MW-3	9:00 - 17:00	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Level in MW-3	17:15	Vacuum Truck Operator	Interface Probe	HERR

TABLE 1D
AFVR EVENT CHRONOLOGY
JANUARY 30, 2013
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A, MW-4A	9:00	GRI	Interface Probe	GRI
Vacuum Truck Setup for Fluid Removal in MW-1A, MW-2A, MW-3A, MW-4A	9:00 - 9:15	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	8:15 - 9:49	GRI	NA	GRI
Fluid Recovery in MW-1A, MW-2A, MW-3A, MW-4A	9:15 - 17:15	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Level in MW-1A, MW-2A, MW-3A, MW-4A	17:30	Vacuum Truck Operator	Interface Probe	HERR

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA
TISDALE'S QUICK STOP
UST PERMIT #18686

Well No.	Date	Time	Depth to Free Product	Depth to Ground Water	Free Product Thickness
MW-3	11/30/12	08:15	17.84	17.94	0.10
		16:45	---	18.70	---
MW-1A	12/21/12	08:30	17.68	17.98	0.30
		17:15	---	18.23	---
MW-3A	12/21/12	08:30	17.14	17.73	0.59
		17:15	---	17.88	---
MW-4A	12/21/12	08:30	18.26	18.31	0.05
		17:15	---	18.81	---
MW-3	01/10/13	08:30	---	18.15	---
		17:15	---	19.34	---
MW-1A	01/30/13	09:00	17.46	18.49	1.03
		17:30	---	18.76	---
MW-2A	01/30/13	09:00	17.78	17.80	0.02
		17:30	---	18.30	---
MW-3A	01/30/13	09:00	17.36	17.49	0.13
		17:30	---	17.82	---
MW-4A	01/30/13	09:00	---	18.18	---
		17:30	---	18.73	---
MW-3	03/04/13	13:40	---	17.50	---
MW-1A	03/04/13	13:45	17.05	17.81	0.76
MW-2A	03/04/13	13:50	17.32	17.42	0.10
MW-3A	03/04/13	13:55	17.04	17.93	0.89
MW-4A	03/04/13	14:00	---	17.61	---

Note:

- Data reported in feet.

APPENDIX A
AFVR Reports, Calculations, Disposal Manifests



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Wednesday, December 5, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

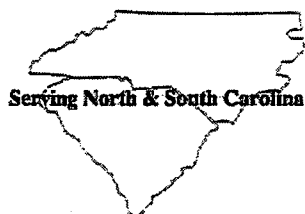
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on November 30, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingtree, SC
November 30, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 11/30/12. The ambient temperature was 36 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.223 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 632 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Homark

Date: 11/30/12 Ambient Air Temperature and General Weather Condition: 36° Fair Sunny

Start Time 1: 8:30 Stop Time 1: 4:30 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 638 gal

Total volume of product removed during the 8-hour AFVR Event: 3 heem

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
<u>MW 3</u>	<u>17.84</u>	<u>17.84</u>	<u>--</u>	<u>18.70</u>	<u>638 gal</u>	

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

Vacuum at Pump: 27 (5/2.10)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
11/30/12	8:30						
11/30/12	9:00	379	0.022	84	39	0.009714096	8.01
11/30/12	9:30	388	0.022	118	39	0.027722511	7.58
11/30/12	10:00	392	0.022	124	39	0.032996605	7.54
11/30/12	10:30	406	0.022	131	39	0.040301300	7.66
11/30/12	11:00	405	0.022	139	39	0.050466674	7.46
11/30/12	11:30	409	0.022	146	39	0.061287078	7.36
11/30/12	12:00	401	0.022	145	39	0.059616992	7.24
11/30/12	12:30	407	0.022	145	39	0.059616992	7.35
11/30/12	1:00	412	0.022	145	39	0.059616992	7.44
11/30/12	1:30	415	0.022	145	39	0.059616992	7.49
11/30/12	2:00	416	0.022	145	39	0.059616992	7.51
11/30/12	2:30	415	0.022	145	39	0.059616992	7.49
11/30/12	3:00	418	0.022	144	39	0.057990221	7.57
11/30/12	3:30	423	0.022	144	39	0.057990221	7.66
11/30/12	4:00	425	0.022	144	39	0.057990221	7.70
11/30/12	4:30	428	0.022	143	39	0.056405602	7.78
Averages		408.69	0.022	136.69	39.00	0.050660405	7.553

Tisdale's Quick Stop

UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	8.01	204	1	204	1084.84	0.000067726	0.033	0.016
30	60	7.58	205	1	205	1090.15	0.000068058	0.031	0.015
30	90	7.54	207	1	207	1100.79	0.000068722	0.031	0.016
30	120	7.66	201	1	201	1068.88	0.000066730	0.031	0.015
30	150	7.46	196	1	196	1042.29	0.000065070	0.029	0.015
30	180	7.36	192	1	192	1021.02	0.000063742	0.028	0.014
30	210	7.24	188	1	188	999.75	0.000062414	0.027	0.014
30	240	7.35	186	1	186	989.12	0.000061750	0.027	0.014
30	270	7.44	180	1	180	957.21	0.000059759	0.027	0.013
30	300	7.49	178	1	178	946.57	0.000059095	0.027	0.013
30	330	7.51	176	1	176	935.94	0.000058431	0.026	0.013
30	360	7.49	177	1	177	941.25	0.000058763	0.026	0.013
30	390	7.57	175	1	175	930.62	0.000058099	0.026	0.013
30	420	7.66	172	1	172	914.67	0.000057103	0.026	0.013
30	450	7.70	168	1	168	893.39	0.000055775	0.026	0.013
30	480	7.78	165	1	165	877.44	0.000054779	0.026	0.013
Averages		7.55	185.63	1.00	185.63	987.12	0.000061626	0.028	0.014
Total Emission in pounds:									0.223

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528 \text{degrees R}/(\text{Temp} + 460))$

$PPM_g = \text{PPM measured} * K$

$C_{g:m} = PPM_g * (M_g/K_3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T_2 - T_1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

$M_g = 128 \text{ mg/mg-mole}$, molecular weight of gasoline

$K_3 = 24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on site (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1 of	
3. Generator's Name and Mailing Address		TIDALEY QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC					
4. Generator's Phone ()							
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID			
HERP, Inc.		NCR-000139816		B. Transporter 1 Phone		910-657-6799	
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			
CWS 303 S. MAULSBY ST. WHITEVILLE, NC				F. Facility's Phone		910-625-5012	
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit Wt./Vol.	
a. Non-Reg. Petroleum Cont'd Water				42 VT		632 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	
17. Transporter 1 Acknowledgement of Receipt of Materials						Date	
Printed/Typed Name				Signature		Month Day Year	
Steve R. Venbank				[Signature]		11/30/12	
18. Transporter 2 Acknowledgement of Receipt of Materials						Date	
Printed/Typed Name				Signature		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				Signature		Date	
Teyan Co				[Signature]		11/30/12	

NON-HAZARDOUS WASTE



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399

Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Thursday, December 27, 2012

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

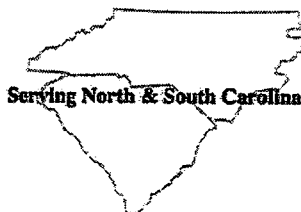
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on December 21, 2012. Included is the documentation for the event. The 8 hour event was conducted on monitoring wells MW-1A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
December 21, 2012

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 12/21/12. The ambient temperature was 43 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 0.280 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 572 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC
AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Hammond
Date: 12/21/12 Ambient Air Temperature and General Weather Condition: 43° Sunny - 7am
Start Time 1: 9:00 Stop Time 1: 5:00 Start Time 2: _____ Stop Time 2: _____
Total volume of water removed during the 8-hour AFVR Event: 572 gal
Total volume of product removed during the 8-hour AFVR Event: _____
Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 1A	17.68	17.98	---	18.23	572 gal	
MW 312	17.14	17.73	---	17.88		
MW 4H	18.24	18.31	---	18.51		

15.1
17.5
15.3

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump:

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
12/21/12	9:00						
12/21/12	9:30	389	0.022	72	41	0.006842956	8.44
12/21/12	10:00	392	0.022	86	41	0.010908335	8.25
12/21/12	10:30	398	0.022	94	41	0.014090345	8.23
12/21/12	11:00	402	0.022	103	41	0.018638786	8.14
12/21/12	11:30	406	0.022	126	41	0.036846891	7.75
12/21/12	12:00	409	0.022	135	41	0.047609072	7.60
12/21/12	12:30	412	0.022	135	41	0.047609072	7.66
12/21/12	1:00	416	0.022	138	41	0.051802985	7.66
12/21/12	1:30	420	0.022	138	41	0.051802985	7.74
12/21/12	2:00	425	0.022	138	41	0.051802985	7.83
12/21/12	2:30	424	0.022	138	41	0.051802985	7.81
12/21/12	3:00	426	0.022	138	41	0.051802985	7.85
12/21/12	3:30	430	0.022	138	41	0.051802985	7.92
12/21/12	4:00	436	0.022	138	41	0.051802985	8.03
12/21/12	4:30	442	0.022	138	41	0.051802985	8.14
12/21/12	5:00	447	0.022	138	41	0.051802985	8.23
Averages		417.13	0.022	124.56	41.00	0.040548270	7.955

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C- gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	8.44	236	1	236	1255.01	0.000078350	0.040	0.020
30	60	8.25	241	1	241	1281.60	0.000080010	0.040	0.020
30	90	8.23	249	1	249	1324.14	0.000082666	0.041	0.020
30	120	8.14	245	1	245	1302.87	0.000081338	0.040	0.020
30	150	7.75	238	1	238	1265.64	0.000079014	0.037	0.018
30	180	7.60	240	1	240	1276.28	0.000079678	0.036	0.018
30	210	7.66	234	1	234	1244.37	0.000077686	0.036	0.018
30	240	7.66	231	1	231	1228.42	0.000076690	0.035	0.018
30	270	7.74	226	1	226	1201.83	0.000075030	0.035	0.017
30	300	7.83	211	1	211	1122.06	0.000070050	0.033	0.016
30	330	7.81	205	1	205	1090.15	0.000068058	0.032	0.016
30	360	7.85	207	1	207	1100.79	0.000068722	0.032	0.016
30	390	7.92	203	1	203	1079.52	0.000067394	0.032	0.016
30	420	8.03	194	1	194	1031.66	0.000064406	0.031	0.016
30	450	8.14	191	1	191	1015.70	0.000063410	0.031	0.015
30	480	8.23	186	1	186	989.12	0.000061750	0.031	0.015
Averages		7.95	221.06	1.00	221.06	1175.57	0.000073391	0.035	0.018
Total Emission in pounds:									0.280

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$PPM_g = \text{PPM measured} * K$$

$$C_{g:m} = PPM_g * (Mg/K3)$$

$$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$$

$$PMR = PMR_g * ((T2 - T1)/60)$$

$$Q_{std} = \text{Flow at DSCFM}$$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

C_{g:m} = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

C_g = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC					
4. Generator's Phone ()							
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID			
HERR, Inc.		NCR-000139816		B. Transporter 1 Phone		910-633-6399	
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			
CWS 303 S. MAULESBY ST. WHITEVILLE, NC				F. Facility's Phone		910-625-5812	
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		14. Unit Wt./Vol.	
a. Non-Reg Petroleum Cont'd Water				42 VT		572 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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date	
Steve R. Venbarik				[Signature]		12/27/12	
18. Transporter 2 Acknowledgement of Receipt of Materials				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				Signature		Date	
RYAN Cox				[Signature]		12/27/12	

NON-HAZARDOUS WASTE



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399

Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Tuesday, January 15, 2013

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

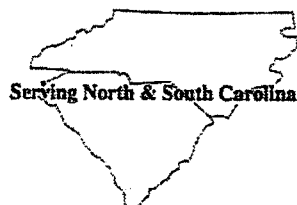
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on January 10, 2013. Included is the documentation for the event. The 8 hour event was conducted on monitoring well MW-3.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
January 10, 2013

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 1/10/13. The ambient temperature was 61 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 2.627 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 426 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A
AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Personnel

Date: 1/10/13 Ambient Air Temperature and General Weather Condition: 61° Sunny - Fair

Start Time 1: 9:00 Stop Time 1: 5:00 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 426 gal

Total volume of product removed during the 8-hour AFVR Event: _____

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
<u>MW3</u>	<u>---</u>	<u>18.15</u>	<u>---</u>	<u>19.34</u>		
					<u>426 gal</u>	

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 27 C Pumps

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
1/10/13	9:00						
1/10/13	9:30	936	0.022	92	38	0.012239006	19.46
1/10/13	10:00	915	0.022	105	38	0.018320169	18.47
1/10/13	10:30	921	0.022	112	39	0.023225162	18.27
1/10/13	11:00	908	0.022	126	39	0.034948490	17.37
1/10/13	11:30	912	0.022	134	39	0.043866306	17.05
1/10/13	12:00	879	0.022	145	39	0.059616992	15.87
1/10/13	12:30	856	0.022	159	38	0.084994727	14.70
1/10/13	1:00	835	0.022	163	38	0.094761554	14.09
1/10/13	1:30	862	0.022	165	38	0.100055714	14.42
1/10/13	2:00	865	0.022	165	38	0.100055714	14.47
1/10/13	2:30	863	0.022	165	38	0.100055714	14.43
1/10/13	3:00	866	0.022	165	38	0.100055714	14.48
1/10/13	3:30	869	0.022	165	38	0.100055714	14.53
1/10/13	4:00	871	0.022	165	38	0.100055714	14.57
1/10/13	4:30	875	0.022	165	38	0.100055714	14.64
1/10/13	5:00	873	0.022	165	38	0.100055714	14.60
Averages		881.63	0.022	147.25	38.25	0.073276133	15.714

Tisdale's Quick Stop

UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	19.46	905	1	905	4812.63	0.000300452	0.351	0.175
30	60	18.47	1012	1	1012	5381.64	0.000335976	0.372	0.186
30	90	18.27	1086	1	1086	5775.16	0.000360543	0.395	0.198
30	120	17.37	1136	1	1136	6041.05	0.000377143	0.393	0.197
30	150	17.05	1171	1	1171	6227.17	0.000388762	0.398	0.199
30	180	15.87	1208	1	1208	6423.93	0.000401046	0.382	0.191
30	210	14.70	1235	1	1235	6567.51	0.000410010	0.362	0.181
30	240	14.09	1270	1	1270	6753.64	0.000421629	0.357	0.178
30	270	14.42	1275	1	1275	6780.22	0.000423289	0.366	0.183
30	300	14.47	1225	1	1225	6514.33	0.000406690	0.353	0.177
30	330	14.43	1176	1	1176	6253.76	0.000390422	0.338	0.169
30	360	14.48	952	1	952	5062.57	0.000316056	0.275	0.137
30	390	14.53	878	1	878	4669.05	0.000291489	0.254	0.127
30	420	14.57	804	1	804	4275.53	0.000266921	0.233	0.117
30	450	14.64	751	1	751	3993.69	0.000249326	0.219	0.109
30	480	14.60	708	1	708	3765.02	0.000235050	0.206	0.103
Averages		15.71	1049.50	1.00	1049.50	5581.06	0.000348425	0.328	0.164
Total Emission in pounds:									2.627

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = $24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC					
4. Generator's Phone ()							
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID			
HERR, Inc.		INCR-000139816		B. Transporter 1 Phone 910-652-6799			
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			
CWS 303 S. MAULSBY ST. WHITEVILLE, NC		1		F. Facility's Phone 910-625-5012			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit Wt/Vol.	
a. Non-Reg. Petroleum Contact Water				H2 VT		426 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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Date			
Printed/Typed Name				Signature		Date	
Steve R. ...				[Signature]		1/10/13	
18. Transporter 2 Acknowledgement of Receipt of Materials				Date			
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				Signature		Date	
IZYAN Cox				[Signature]		1/10/13	

NON-HAZARDOUS WASTE





HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Thursday, February 7, 2013

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingtree, SC
UST Permit #: 18686

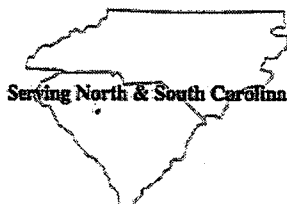
Scott,

· Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 8 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on January 30, 2013. Included is the documentation for the event. The 8 hour event was conducted on monitoring wells MW-1A, MW-2A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
January 30, 2013

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 1/30/13. The ambient temperature was 68 deg F and weather conditions were overcast. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 8 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 3.055 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 8 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 478 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - Russell

Date: 1/30/13 Ambient Air Temperature and General Weather Condition: 68 Cloudy Overcast

Start Time 1: 9:15 Stop Time 1: 5:15 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 478 gal

Total volume of product removed during the 8-hour AFVR Event: Shore

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 1A	17.46	18.49		18.76	478 gal	
MW 3A	17.36	17.49		17.82		
MW 4A	--	18.18	--	18.73		
MW 2A	17.71	17.80		18.30		

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

27 Опр

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

1

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
1/30/13	9:15						
1/30/13	9:45	1189	0.022	89	48	0.014115758	24.80
1/30/13	10:15	1176	0.022	96	48	0.017639427	24.14
1/30/13	10:45	1141	0.022	105	48	0.023322035	22.91
1/30/13	11:15	1155	0.022	111	48	0.027979622	22.84
1/30/13	11:45	1149	0.022	119	48	0.035507632	22.23
1/30/13	12:15	1143	0.022	126	48	0.043578579	21.67
1/30/13	12:45	1132	0.022	134	48	0.054882508	20.92
1/30/13	1:15	1126	0.022	148	48	0.081669427	19.76
1/30/13	1:45	1136	0.022	156	48	0.102330526	19.23
1/30/13	2:15	1128	0.022	164	48	0.128281835	18.30
1/30/13	2:45	1143	0.022	165	48	0.131972828	18.44
1/30/13	3:15	1134	0.022	165	48	0.131972828	18.29
1/30/13	3:45	1127	0.022	164	48	0.128281835	18.29
1/30/13	4:15	1136	0.022	164	48	0.128281835	18.43
1/30/13	4:45	1130	0.022	164	48	0.128281835	18.34
1/30/13	5:15	1134	0.022	164	48	0.128281835	18.40
Averages		1142.44	0.022	139.63	48.00	0.081648772	20.437

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	24.80	858	1	858	4562.69	0.000284849	0.424	0.212
30	60	24.14	865	1	865	4599.92	0.000287173	0.416	0.208
30	90	22.91	893	1	893	4748.82	0.000296469	0.408	0.204
30	120	22.84	946	1	946	5030.66	0.000314064	0.430	0.215
30	150	22.23	969	1	969	5152.97	0.000321700	0.429	0.215
30	180	21.67	992	1	992	5275.28	0.000329336	0.428	0.214
30	210	20.92	986	1	986	5243.37	0.000327344	0.411	0.205
30	240	19.76	984	1	984	5232.74	0.000326680	0.387	0.194
30	270	19.23	975	1	975	5184.88	0.000323692	0.373	0.187
30	300	18.30	979	1	979	5206.15	0.000325020	0.357	0.178
30	330	18.44	947	1	947	5035.98	0.000314396	0.348	0.174
30	360	18.29	937	1	937	4982.80	0.000311076	0.341	0.171
30	390	18.29	951	1	951	5057.25	0.000315724	0.346	0.173
30	420	18.43	924	1	924	4913.67	0.000306760	0.339	0.170
30	450	18.34	915	1	915	4865.81	0.000303772	0.334	0.167
30	480	18.40	921	1	921	4897.71	0.000305764	0.338	0.169
Averages		20.44	940.13	1.00	940.13	4999.42	0.000312114	0.382	0.191
Total Emission in pounds:									3.055

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (PI * (\text{diameter}/24)^2) * (528 \text{degrees R}/(\text{Temp} + 460))$$

$$PPM_g = \text{PPM measured} * K$$

$$C_{g:m} = PPM_g * (Mg/K3)$$

$$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$$

$$PMR = PMR_g * ((T2 - T1)/60)$$

$$Q_{std} = \text{Flow at DSCFM}$$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

C_{g:m} = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

C_g = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of 1	
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTALE, SC					
4. Generator's Phone ()							
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID			
HERR, Inc.		INCR-000139816		B. Transporter 1 Phone		910-653-6399	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID			
				D. Transporter 2 Phone			
8. Designated Facility Name and Site Address		10. US EPA ID Number		E. State Facility's ID			
CWS 303 S. MAULSBY ST. WHITEVILLE, NC				F. Facility's Phone		910-625-5612	
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No.	Type	Unit	
a.				478		GAL	
Non-Reg. Petroleum Contam Water				478		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	
17. Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name				Signature		Date	
Steve Bivens				Steve Bivens		1/30/13	
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				Signature		Date	
Ryan Cox				Ryan Cox		1/30/13	

NON-HAZARDOUS WASTE





Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

APR 04 2013



Re: Three 12hr. AFVR Event and Gauging Directive
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686, CA#45593
Release reported March 30, 2001
AFVR Report received March 13, 2013
Williamsburg County

Dear Mr. Easler

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Geological Resources, Inc. as your contractor. The next appropriate scope of work is to continue aggressive fluid and vapor recovery (AFVR) events to remove residual free-phase product and reduce concentrations of chemicals of concern (CoC). Please have your contractor conduct three twelve-hour events on MW-1A, MW-3A, and MW-4A simultaneously. The events should be spaced a minimum of twenty days apart to allow equilibrium conditions to reestablish, and must be conducted in accordance with the UST Quality Assurance Program Plan (QAPP). Approximately one month after the final event, please gauge MW-3, MW-1A, MW-2A, MW-3A, and MW-4A for free product. A copy of the QAPP is available at <http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm>.

Cost Agreement #45593 has been approved in the amount shown on the enclosed cost agreement form for the AFVR events. AFVR activities may proceed immediately upon receipt of this letter, and must be performed by a South Carolina-Certified Underground Storage Tank Site Rehabilitation Contractor. All applicable South Carolina certification requirements apply to preparation of an AFVR report.

An AFVR report and invoice must be submitted to the Division within 120 days from the date of this letter. Your contractor may directly bill the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Interim invoices may be submitted for this scope of work. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

The Division grants pre-approval for transportation of up to 5,000 gallons of free-phase product and petroleum-contaminated groundwater from the referenced facility to a permitted treatment facility for disposal. The transport and disposal must be conducted in accordance with the QAPP.

On all correspondence concerning this facility, please reference UST Permit #18686. If there are any questions concerning this project, feel free to contact me by telephone at (803) 896-4085, by fax at (803) 896-6245, or by e-mail at martinjm@dhec.sc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Martin", with a stylized flourish at the end.

Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved cost agreement form

cc: Scott Ball, Geological Resources, Inc., 2301 Crown Point Executive Dr. Suite F Charlotte,
NC 28227 (w/ enc)
Technical File (w/ enc)

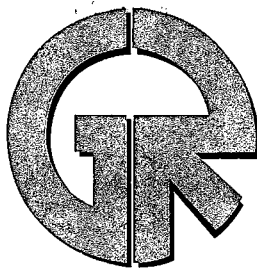
Approved Cost Agreement 45593

Facility: 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
04 MOB/DEMOB					
		A EQUIPMENT	3.0000	575.00	1,725.00
		B PERSONNEL	4.0000	290.00	1,160.00
10 SAMPLE COLLECTION					
		E GAUGE WELL ONLY	5.0000	20.00	100.00
17 DISPOSAL					
		A WASTEWATER	5,000.0000	0.80	4,000.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	19,693.00	2,953.95
23 EFR					
		A 8 HOUR EVENT	3.0000	3,000.00	9,000.00
		B ADDITIONAL HOUR	12.0000	204.00	2,448.00
		C OFF GAS TREATMENT	36.0000	35.00	1,260.00
Total Amount					22,646.95



Geological Resources, Inc.



April 24, 2013

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

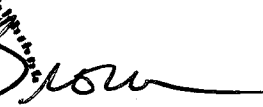
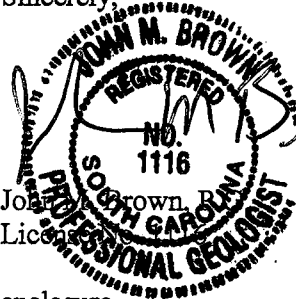


Re: Aggressive Fluid Vapor Recovery Event
Tisdales Quick Stop
1989 Thurgood Marshall Boulevard
Kingstree, Williamsburg County, South Carolina
UST Permit No. 18686
CA No. 45593

Dear Mr. Martin:

Geological Resources, Inc. (GRI) has completed the first of three 12-hour aggressive fluid vapor recovery (AFVR) events at the above referenced site in Kingstree, South Carolina. The AFVR event was conducted on April 18, 2013. A copy of the AFVR Report and an interim invoice are attached. Please contact Scott Ball at (704) 845-4010 with any questions.

Sincerely,



John M. Brown
Lic. No. 1116
Professional Geologist
enclosure

cc: file

2301 Crown Point Executive Drive Suite F Charlotte, NC 28227
Phone: (704) 845-4010 / (888) 870-4133 Fax: (704) 845-4012

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100





HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399

Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, April 22, 2013

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 12 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on April 18, 2013. Included is the documentation for the event. The 12 hour event was conducted on monitoring wells MW-1A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
April 18, 2013

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 4/18/13. The ambient temperature was 77 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 12 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 6.373 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 12 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1,041 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.**AFVR – Field Notes**

Site Name: TISDALES QUICK STOP Location: KINGSTREE, SC
AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - MICHAEL
Date: 4/18/12 Ambient Air Temperature and General Weather Condition: 77° Fair Sunny
Start Time 1: 9:32 Stop Time 1: 9:30 Start Time 2: _____ Stop Time 2: _____
Total volume of water removed during the 8-hour AFVR Event: 1041 gal
Total volume of product removed during the 8-hour AFVR Event: Sherr
Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW/1A	15.56	16.55	---	17.67	1041 gal	
3A	15.80	16.03	---	17.28		
4A	15.56	16.12	---	18.15		
2A	T	15.87				
8	-	15.85				

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 24" @ Pump

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
4/18/13	9:30						
4/18/13	10:00	959	0.022	102	46	0.020352094	19.42
4/18/13	10:30	973	0.022	109	46	0.025198935	19.36
4/18/13	11:00	984	0.022	117	46	0.032002939	19.18
4/18/13	11:30	992	0.022	126	46	0.041641244	18.85
4/18/13	12:00	1005	0.022	130	46	0.046733350	18.86
4/18/13	12:30	1012	0.022	135	46	0.053918351	18.69
4/18/13	1:30	1034	0.022	148	46	0.077840677	18.22
4/18/13	2:30	1096	0.022	156	46	0.097399089	18.65
4/18/13	3:30	1215	0.022	157	46	0.100164820	20.58
4/18/13	4:30	1314	0.022	157	46	0.100164820	22.26
4/18/13	5:30	1466	0.022	156	46	0.097399089	24.95
4/18/13	6:30	1479	0.022	156	46	0.097399089	25.17
4/18/13	7:30	1492	0.022	156	46	0.097399089	25.39
4/18/13	8:30	1544	0.022	157	46	0.100164820	26.16
4/18/13	9:30	1556	0.022	156	46	0.097399089	26.48
Averages		1208.07	0.022	141.20	46.00	0.072345166	21.482

Tisdale's Quick Stop

UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	19.42	1159	1	1159	6163.36	0.000384778	0.448	0.224
30	60	19.36	1175	1	1175	6248.44	0.000390090	0.453	0.227
30	90	19.18	1267	1	1267	6737.68	0.000420633	0.484	0.242
30	120	18.85	1384	1	1384	7359.87	0.000459477	0.520	0.260
30	150	18.86	1411	1	1411	7503.45	0.000468440	0.530	0.265
30	180	18.69	1472	1	1472	7827.84	0.000488692	0.548	0.274
60	240	18.22	1436	1	1436	7636.39	0.000476740	0.521	0.521
60	300	18.65	1379	1	1379	7333.28	0.000457817	0.512	0.512
60	360	20.58	1336	1	1336	7104.61	0.000443541	0.548	0.548
60	420	22.26	1247	1	1247	6631.33	0.000413994	0.553	0.553
60	480	24.95	1128	1	1128	5998.50	0.000374487	0.561	0.561
60	540	25.17	1102	1	1102	5860.24	0.000365855	0.553	0.553
60	600	25.39	1077	1	1077	5727.30	0.000357555	0.545	0.545
60	660	26.16	1036	1	1036	5509.26	0.000343943	0.540	0.540
60	720	26.48	1042	1	1042	5541.17	0.000345935	0.550	0.550
Averages		21.48	1243.40	1.00	1243.40	6612.18	0.000412798	0.524	0.425
Total Emission in pounds:									6.373

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$\text{PPM}_g = \text{PPM measured} * K$$

$$\text{Cg:m} = \text{PPM}_g * (\text{Mg}/K3)$$

$$\text{Cg} = \text{Cg:m} * 62.43 \text{E-}09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$\text{PMR}_g = \text{Cg} * Q_{std} * 60 \text{ min/hr}$$

$$\text{PMR} = \text{PMR}_g * ((T2 - T1)/60)$$

Q_{std} = Flow at DSCFM

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

Cg:m = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

Cg = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

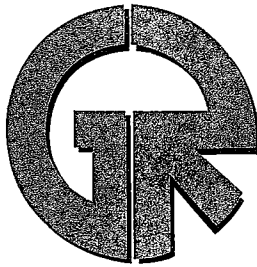
LIQUID DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.	2. Page 1 of
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE SC			
4. Generator's Phone ()					
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID	
HERR, Inc.		NCR-000139816		B. Transporter 1 Phone 910-653-6799	
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	
CWS 303 S. MAULSBY ST. WHITEVILLE, NC				F. Facility's Phone 910-625-5812	
11. WASTE DESCRIPTION			12. Containers	13. Total Quantity	14. Unit WL/Vol.
			No.	Type	
a. Non-Res. Petroleum Contact Water			H2	TT	1041 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	
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature		Date	
Steve R. ...		[Signature]		Month Day Year	
18. Transporter 2 Acknowledgement of Receipt of Materials		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		Signature		Date	
RYAN COL		[Signature]		Month Day Year	

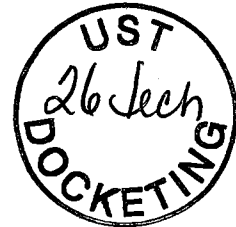


Geological Resources, Inc.



May 13, 2013

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

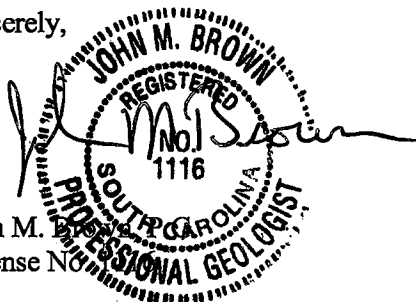


Re: Aggressive Fluid Vapor Recovery Event
Tisdales Quick Stop
1989 Thurgood Marshall Boulevard
Kingstree, Williamsburg County, South Carolina
UST Permit No. 18686
CA No. 45593

Dear Mr. Martin:

Geological Resources, Inc. (GRI) has completed the second of three 12-hour aggressive fluid vapor recovery (AFVR) events at the above referenced site in Kingstree, South Carolina. The AFVR event was conducted on May 9, 2013. A copy of the AFVR Report and an interim invoice are attached. Please contact Scott Ball at (704) 845-4010 with any questions.

Sincerely,


John M. Brown
License No. 1116
PROFESSIONAL GEOLOGIST
SOUTH CAROLINA

enclosure

cc: file

2301 Crown Point Executive Drive Suite F Charlotte, NC 28227
Phone: (704) 845-4010 / (888) 870-4133 Fax: (704) 845-4012



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399

Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, May 13, 2013

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 12 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on May 9, 2013. Included is the documentation for the event. The 12 hour event was conducted on monitoring wells MW-1A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
May 9, 2013

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 5/9/13. The ambient temperature was 72 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 12 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 2.666 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 12 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 962 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.**AFVR – Field Notes**

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC
AFVR Contractor: HERR, Inc. - Stone Personnel: GRI - Terry
Date: 5/9/13 Ambient Air Temperature and General Weather Condition: Sunny - Fair 72°
Start Time 1: 9:00 Stop Time 1: 9:00 Start Time 2: _____ Stop Time 2: _____
Total volume of water removed during the 8-hour AFVR Event: 962 gal
Total volume of product removed during the 8-hour AFVR Event: Shore
Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 1A	15.20	15.25	17.48 -0-	17.48	962 gal	
MW 3A	15.21	15.37	16.71 -0-	16.71		
MW 4A	15.20	15.25	16.62 -0-	16.62		

$$\therefore \frac{1}{\sqrt{2}} \frac{1}{\sqrt{2}} = \frac{1}{2}$$
[illegible]

28' @ Pump

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

0	00		
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[illegible]

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199.

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
5/9/13	9:00						
5/9/13	9:30	971	0.022	96	38	0.013882526	20.00
5/9/13	10:00	1026	0.022	108	38	0.020059140	20.56
5/9/13	10:30	1073	0.022	115	38	0.024707158	21.14
5/9/13	11:00	1134	0.022	126	38	0.034003387	21.71
5/9/13	11:30	1198	0.022	148	38	0.062933454	21.45
5/9/13	12:00	1258	0.022	156	38	0.078327031	21.86
5/9/13	12:30	1302	0.022	160	38	0.087338800	22.26
5/9/13	1:00	1355	0.022	162	38	0.092220250	22.97
5/9/13	2:00	1371	0.022	163	38	0.094761554	23.14
5/9/13	3:00	1377	0.022	163	38	0.094761554	23.24
5/9/13	4:00	1384	0.022	163	38	0.094761554	23.36
5/9/13	5:00	1392	0.022	162	38	0.092220250	23.60
5/9/13	6:00	1398	0.022	162	38	0.092220250	23.70
5/9/13	7:00	1407	0.022	162	38	0.092220250	23.85
5/9/13	8:00	1411	0.022	161	38	0.089746665	24.02
5/9/13	9:00	1415	0.022	161	38	0.089746665	24.09
Averages		1279.50	0.022	148.00	38.00	0.072119405	22.561

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	20.00	866	1	866	4605.23	0.000287505	0.345	0.173
30	60	20.56	752	1	752	3999.00	0.000249658	0.308	0.154
30	90	21.14	684	1	684	3637.39	0.000227082	0.288	0.144
30	120	21.71	642	1	642	3414.04	0.000213139	0.278	0.139
30	150	21.45	592	1	592	3148.15	0.000196539	0.253	0.126
30	180	21.86	562	1	562	2988.62	0.000186579	0.245	0.122
30	210	22.26	506	1	506	2690.82	0.000167988	0.224	0.112
30	240	22.97	471	1	471	2504.69	0.000156368	0.216	0.108
60	300	23.14	458	1	458	2435.56	0.000152052	0.211	0.211
60	360	23.24	452	1	452	2403.66	0.000150060	0.209	0.209
60	420	23.36	438	1	438	2329.21	0.000145412	0.204	0.204
60	480	23.60	421	1	421	2238.80	0.000139769	0.198	0.198
60	540	23.70	412	1	412	2190.94	0.000136781	0.195	0.195
60	600	23.85	404	1	404	2148.40	0.000134125	0.192	0.192
60	660	24.02	396	1	396	2105.86	0.000131469	0.190	0.190
60	720	24.09	395	1	395	2100.54	0.000131137	0.190	0.190
Averages		22.56	528.19	1.00	528.19	2808.81	0.000175354	0.234	0.167
Total Emission in pounds:									2.666

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$PPM_g = \text{PPM measured} * K$$

$$C_{g:m} = PPM_g * (Mg/K3)$$

$$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$$

$$PMR = PMR_g * ((T2 - T1)/60)$$

Q_{std} = Flow at DSCFM

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

C_{g:m} = mg/dsm³, mass concentration of gasoline emission

M_g = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

C_g = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

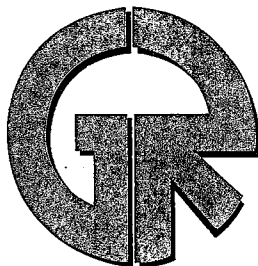
LIQUID DISPOSAL MANIFEST

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.		2. Page 1 of	
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC					
4. Generator's Phone ()							
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID			
HERB, Inc.		NCR-000139816		B. Transporter 1 Phone		910-653-6399	
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			
CWS 303 S. MAULSBY ST. WHITEVILLE, NC				F. Facility's Phone		910-625-5012	
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No.	Type	14. Unit Wt/Vol	
a. Non-Reg. Petroleum Contect Wdr				HL	TT	962	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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name				Signature		Month Day Year	
Steve D. Venbawle				[Signature]		5/9/13	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name				Signature		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				Signature		Date	
RYAN Cox				[Signature]		5/9/13	

NON-HAZARDOUS WASTE

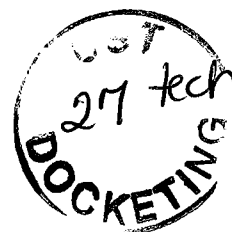


Geological Resources, Inc.



June 10, 2013

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management


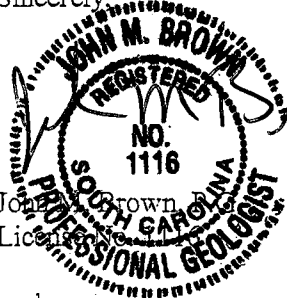


Re: Aggressive Fluid Vapor Recovery Event
Tisdales Quick Stop
1989 Thurgood Marshall Boulevard
Kingstree, Williamsburg County, South Carolina
UST Permit No. 18686
CA No. 45593

Dear Mr. Martin:

Geological Resources, Inc. (GRI) has completed the third of three 12-hour aggressive fluid vapor recovery (AFVR) events at the above referenced site in Kingstree, South Carolina. The AFVR event was conducted on June 4, 2013. A copy of the AFVR Report and an interim invoice are attached. Please contact Scott Ball at (704) 845-4010 with any questions.

Sincerely,



John M. Brown
Licensed Professional Geologist

enclosure

cc: file

2301 Crown Point Executive Drive Suite F Charlotte, NC 28227
Phone: (704) 845-4010 / (888) 870-4133 Fax: (704) 845-4012



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, June 10, 2013

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

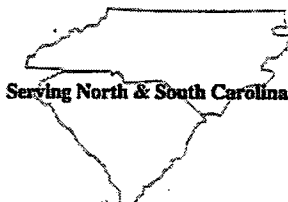
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 12 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on June 4, 2013. Included is the documentation for the event. The 12 hour event was conducted on monitoring wells MW-1A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
June 4, 2013

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 6/4/13. The ambient temperature was 77 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 12 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 5.405 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 12 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1,520 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A
AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC
AFVR Contractor: HERR, Inc. - Steve Personnel: GRI Tony
Date: 6/4/13 Ambient Air Temperature and General Weather Condition: 77° Sunny - 7 mi
Start Time 1: 8:15 Stop Time 1: 8:15 Start Time 2: _____ Stop Time 2: _____
Total volume of water removed during the 8-hour AFVR Event: 1520 gal
Total volume of product removed during the 8-hour AFVR Event: _____
Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 1A	14.88	14.90	-	17.62	1520 gal	
MW 3A	14.87	14.95	-	17.76		
MW 4A	15.29	15.31	-	18.72		

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

Vacuum at Pump: 22" @ Pump

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

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APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
6/4/13	8:15						
6/4/13	8:45	965	0.022	92	42	0.013555399	20.032
6/4/13	9:15	978	0.022	109	42	0.022926955	19.508
6/4/13	9:45	991	0.022	117	43	0.029815743	19.356
6/4/13	10:15	1036	0.022	125	43	0.037653607	19.797
6/4/13	10:45	1056	0.022	136	43	0.051557130	19.520
6/4/13	11:15	1079	0.022	145	42	0.064679790	19.377
6/4/13	12:15	1096	0.022	167	42	0.118893162	17.891
6/4/13	1:15	1108	0.022	166	42	0.115647588	18.182
6/4/13	2:15	1117	0.022	167	42	0.118893162	18.234
6/4/13	3:15	1129	0.022	168	42	0.122232476	18.330
6/4/13	4:15	1142	0.022	168	42	0.122232476	18.541
6/4/13	5:15	1166	0.022	168	42	0.122232476	18.931
6/4/13	6:15	1135	0.022	168	42	0.122232476	18.428
6/4/13	7:15	1194	0.022	167	42	0.118893162	19.490
6/4/13	8:15	1218	0.022	168	42	0.122232476	19.775
Averages		1094.00	0.022	148.73	42.20	0.086911872	19.026

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	20.03	1052	1	1052	5594.35	0.000349255	0.420	0.210
30	60	19.51	1055	1	1055	5610.30	0.000350251	0.410	0.205
30	90	19.36	1073	1	1073	5706.02	0.000356227	0.414	0.207
30	120	19.80	1098	1	1098	5838.97	0.000364527	0.433	0.216
30	150	19.52	1132	1	1132	6019.78	0.000375815	0.440	0.220
30	180	19.38	1146	1	1146	6094.23	0.000380462	0.442	0.221
60	240	17.89	1153	1	1153	6131.45	0.000382786	0.411	0.411
60	300	18.18	1178	1	1178	6264.40	0.000391086	0.427	0.427
60	360	18.23	1287	1	1287	6844.04	0.000427273	0.467	0.467
60	420	18.33	1292	1	1292	6870.63	0.000428933	0.472	0.472
60	480	18.54	1284	1	1284	6828.08	0.000426277	0.474	0.474
60	540	18.93	1256	1	1256	6679.19	0.000416982	0.474	0.474
60	600	18.43	1232	1	1232	6551.56	0.000409014	0.452	0.452
60	660	19.49	1221	1	1221	6493.06	0.000405362	0.474	0.474
60	720	19.78	1205	1	1205	6407.98	0.000400050	0.475	0.475
Averages		19.03	1177.60	1.00	1177.60	6262.27	0.000390953	0.446	0.360

Total Emission in pounds:

5.405

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

C_{g:m} = mg/dsm^3 , mass concentration of gasoline emission

Mg = 128 mg/mg-mole , molecular weight of gasoline

K3 = $24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

C_g = lb/dscf , mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr , pollutant mass removal rate of gasoline emission

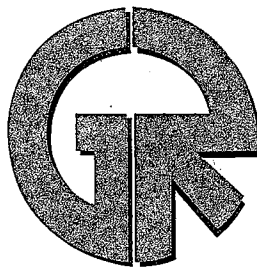
PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE



Geological Resources, Inc.



July 16, 2013



Mr. Jim Martin, Hydrogeologist
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: AFVR Report
Tisdales Quick Stop
1989 Thurgood Marshall Blvd.
Kingstree, Williamsburg County
UST Permit #: 18686
CA #: 45593

Dear Mr. Martin:

This report presents the results of three aggressive fluid-vapor recovery (AFVR) events conducted on April 18, May 9 and June 4, 2013 at the above referenced site. The activities were conducted in accordance with the requirements outlined in correspondence from the SCDHEC dated April 4, 2013 and addressed to Mr. Marty Easler. The purpose of the activities was to remove residual free-phase product and reduce dissolved phase contaminant concentrations in monitoring wells MW-1A, MW-3A and MW-4A. Approximately one month after the third AFVR event, monitoring wells MW-1A, MW-2A, MW-3A, MW-4A and MW-3 were gauged on July 10, 2013. The following Figures, Tables and Appendix have been included:

Figure 1: Site Location Map
Figure 2: Site Map

Table 1A: AFVR Event Chronology – April 18, 2013
Table 1B: AFVR Event Chronology – May 9, 2013
Table 1C: AFVR Event Chronology – June 4, 2013
Table 2: Summary of Monitoring Well Gauging Data

Appendix A: AFVR Reports, Calculations, Disposal Manifests

2301 Crown Point Executive Drive Suite F Charlotte, NC 28227
Phone: (704) 845-4010 / (888) 870-4133 Fax: (704) 845-4012

GRI personnel and the AFVR contractor, Hazmat Emergency Response and Remediation, Inc. (HERR) arrived on-site on April 18, 2013 for the first of three AFVR events. The first event was conducted on monitoring wells MW-1A, MW-3A and MW-4A. Monitoring wells MW-2A and MW-8 were utilized as observation wells during the event. General weather conditions were sunny with an ambient air temperature of approximately 77°F at the time of system start-up. Approximately 0.99 feet and 0.23 feet of free product were measured in MW-1A and MW-3A, respectively, prior to system startup. No free product was measured in MW-4A prior to system start-up. AFVR activities were conducted for twelve (12) hours on MW-1A, MW-3A and MW-4A using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the well remained steady at 22 in. Hg throughout the day. Please note that the vacuum truck was equipped with an activated charcoal filter for off-gas treatment of vapor phase hydrocarbons. A total of 1,041 gallons of liquid were removed during the event. However, there was no measureable amount of liquid phase free product noted in the tanker. No measurable free product was present in any of the vacuum wells (MW-1A, MW-3A and MW-4A) at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 6.373 pounds (approximately 1.02 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on May 9, 2013 for the second of three AFVR events. The second event was conducted on monitoring wells MW-1A, MW-3A and MW-4A. Monitoring wells MW-2A and MW-8 were utilized as observation wells during the event. General weather conditions were sunny with an ambient air temperature of approximately 72°F at the time of system start-up. Approximately 0.05, 0.18 and 0.07 feet of free product were measured in MW-1A, MW-3A and MW-4A, respectively, prior to system startup. AFVR activities were conducted for twelve (12) hours on MW-1A, MW-3A and MW-4A using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the wells remained steady at 20 in. Hg throughout the day. Please note that the vacuum truck was equipped with an activated charcoal filter for off-gas treatment of vapor phase hydrocarbons. A total of 962 gallons of liquid were removed during the event. However, there was no measureable amount of liquid phase free product noted in the tanker. No measurable free product was present in MW-1A, MW-3A or MW-4A at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 2.666 pounds (approximately 0.43 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

GRI personnel and HERR arrived on-site on June 4, 2013 for the third of three AFVR events. The third event was conducted on monitoring wells MW-1A, MW-3A and MW-4A. Monitoring wells MW-2A and MW-8 were utilized as observation wells during the event. General weather conditions were sunny with an ambient air temperature of approximately 77°F at the time of system start-up. Approximately 0.02, 0.08 and 0.02 feet of free product were measured in MW-1A, MW-3A and MW-4A, respectively, prior to system startup. AFVR activities were conducted for twelve (12) hours on MW-1A, MW-3A and MW-4A using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the wells remained steady at 20 in. Hg throughout the day. Please note that the vacuum truck was equipped with an activated charcoal filter for off-gas treatment of vapor phase hydrocarbons. A total of 1,520 gallons of liquid were removed during the event. However, there was no measureable amount of liquid phase free product noted in the tanker. No measurable free product was present in MW-1A, MW-3A or MW-4A at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 5.405 pounds (approximately 0.86 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

Tisdales Quick Stop
AFVR Report
UST Permit # 18686

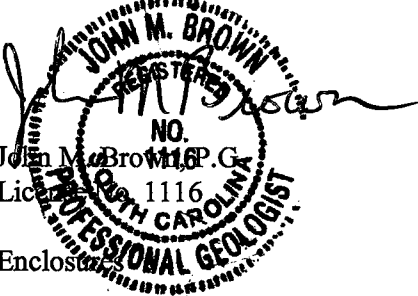
GRI returned to the site on July 10, 2013 to gauge monitoring wells MW-8, MW-1A, MW-2A, MW-3A and MW-4A. No free product was observed in any of the wells gauged. Based on this information, it appears that the AFVR events were successful in reducing free product levels at the subject site. GRI recommends continued ground water monitoring and, if needed, free product removal activities be conducted at the site.

If you have any comments or questions concerning this project, please do not hesitate to contact the undersigned at (704) 845-4010.

Sincerely,

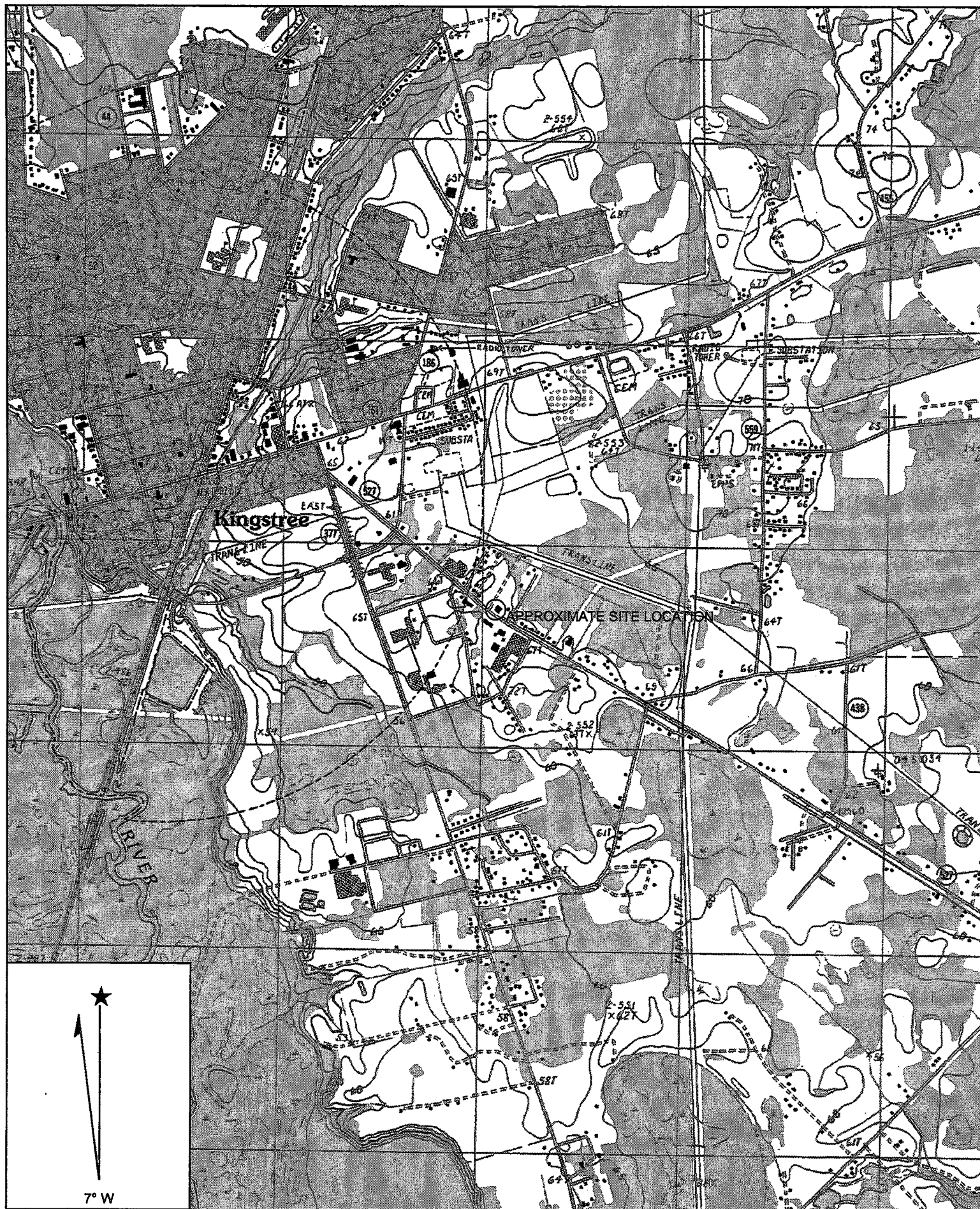


W. Scott Ball
Project Manager



John M. Brown, P.G.
Lic. No. 1116
Enclosure

cc: Mr. Marty Easler
File



Name: KINGSTREE
 Date: 2/11/2009
 Scale: 1 inch equals 2000 feet

Location: 033° 39' 29.0" N 079° 48' 46.8" W
 Caption: Site Location Map
 Tisdale's Quick Stop
 Figure 1 UST Permit # 18686

LEGEND

LIGHT POLE

TELEPHONE PEDESTAL

SEWER MANHOLE

TYPE III MONITORING WELL

TELESCOPING MONITORING WELL

WATER SUPPLY WELL

FIRE HYDRANT

FIBER OPTIC CABLE MARKER

PROPERTY LINE

UNDERGROUND TELEPHONE LINE

UNDERGROUND WATER LINE

PP & OVERHEAD POWER LINE

UNDERGROUND SEWER LINE

UNDERGROUND GAS LINE

UNDERGROUND FIBER OPTIC LINE

DITCH

FENCE

WILLIAMSBURG COUNTY

TAX MAP #

PARCEL #

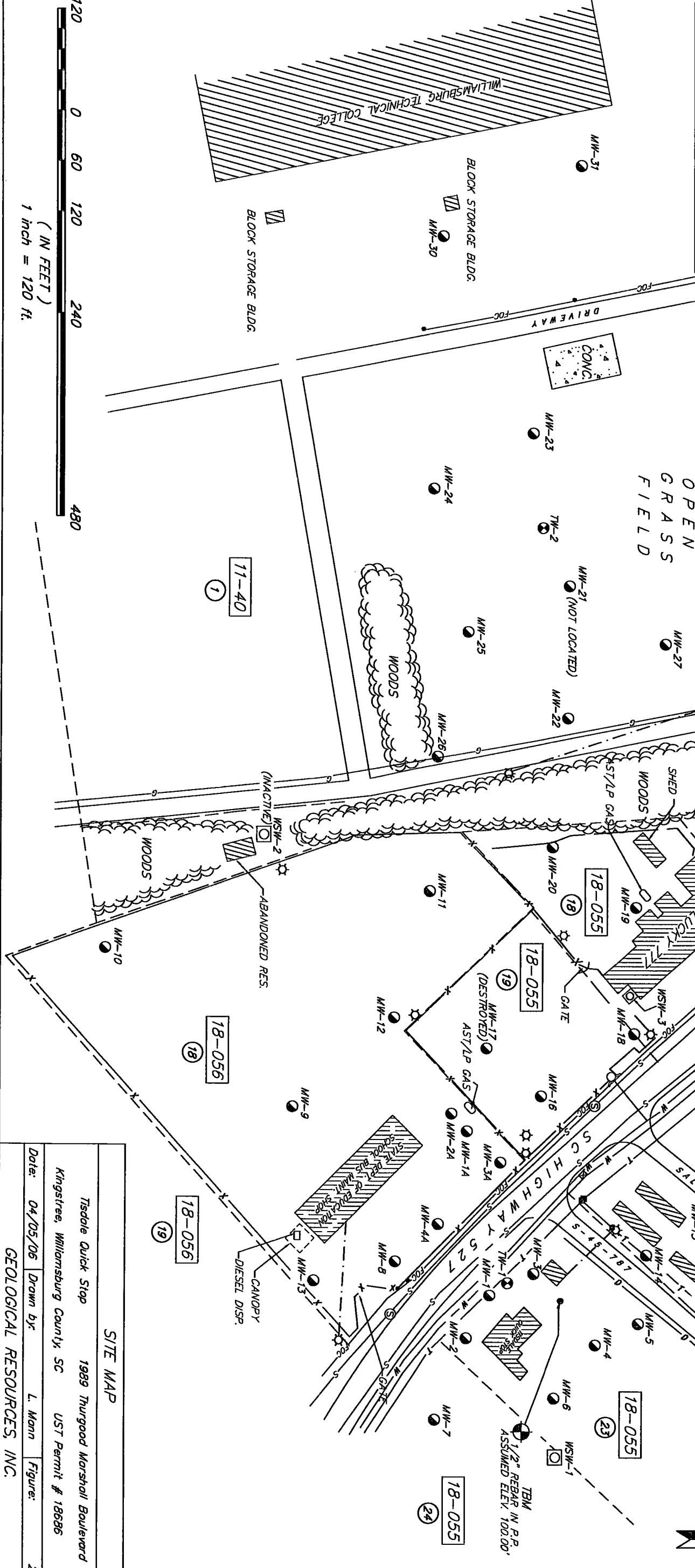


TABLE 1A
AFVR EVENT CHRONOLOGY
APRIL 18, 2013
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A, MW-4A and MW-8	9:00	GRI	Interface Probe	GRI
Vacuum Truck Setup for Fluid Removal in MW-1A, MW-3A and MW-4A	9:00 - 9:30	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	9:00 - 10:15	GRI	NA	GRI
Fluid Recovery in MW-1A, MW-3A and MW-4A	9:30-21:30	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A, MW-4A and MW-8	21:35	Vacuum Truck Operator	Interface Probe	HERR

TABLE 1B
AFVR EVENT CHRONOLOGY
MAY 9, 2013
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A, MW-4A, MW-8	8:30	GRI	Interface Probe	GRI
Vacuum Truck Setup for Fluid Removal in MW-1A, MW-3A, MW-4A	8:45 - 9:00	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	7:50 - 9:15	GRI	NA	GRI
Fluid Recovery in MW-1A, MW-3A, MW-4A	9:00 - 21:00	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A, MW-4A, MW-8	21:05	Vacuum Truck Operator	Interface Probe	HERR

TABLE 1C
AFVR EVENT CHRONOLOGY
JUNE 4, 2013
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A, MW-4A, MW-8	7:40	GRI	Interface Probe	GRI
Vacuum Truck Setup for Fluid Removal in MW-1A, MW-3A, MW-4A	7:45 - 8:15	Vacuum Truck Operator	Vacuum Truck	HERR
Supervise Startup of AFVR	8:00 - 8:45	GRI	NA	GRI
Fluid Recovery in MW-1A, MW-3A, MW-4A	8:15 - 20:15	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A, MW-4A, MW-8	20:20	Vacuum Truck Operator	Interface Probe	HERR

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA
TISDALE'S QUICK STOP
UST PERMIT #18686

Well No.	Date	Time	Depth to Free Product	Depth to Ground Water	Free Product
MW-1A	04/18/13	09:00	15.56	16.55	0.99
		21:35	---	17.67	---
MW-2A		09:00	---	15.87	---
		21:35	---	Not gauged	---
MW-3A		09:00	15.80	16.03	0.23
		21:35	---	17.28	---
MW-4A		09:00	---	16.12	---
		21:35	---	18.15	---
MW-8		09:00	---	15.85	---
		21:35	---	Not gauged	---
MW-1A	05/09/13	08:30	15.20	15.25	0.05
		21:05	---	17.48	---
MW-2A		08:30	---	15.32	---
		21:05	---	Not gauged	---
MW-3A		08:30	15.21	15.39	0.18
		21:05	---	16.71	---
MW-4A		08:30	15.58	15.65	0.07
		21:05	---	16.62	---
MW-8		08:30	---	15.30	---
		21:05	---	Not gauged	---
MW-1A	06/04/13	07:40	14.88	14.90	0.02
		20:20	---	17.62	---
MW-2A		07:40	---	14.99	---
		20:20	---	15.00	---
MW-3A		07:40	14.87	14.95	0.08
		20:20	---	17.36	---
MW-4A		07:40	15.29	15.31	0.02
		20:20	---	18.32	---
MW-8		07:40	---	14.99	---
		20:20	---	15.00	---

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA
TISDALE'S QUICK STOP
UST PERMIT #18686

Well No.	Date	Time	Depth to Free Product	Depth to Ground Water	Free Product
MW-3	07/10/13	13:25	---	13.39	---
MW-1A		13:25	---	13.62	---
MW-2A		13:25	---	13.71	---
MW-3A		13:25	---	13.81	---
MW-4A		13:25	---	13.75	---

Note:

- Data reported in feet.

APPENDIX A
AFVR Reports, Calculations, Disposal Manifests



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399

Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, April 22, 2013

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 12 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on April 18, 2013. Included is the documentation for the event. The 12 hour event was conducted on monitoring wells MW-1A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
April 18, 2013

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 4/18/13. The ambient temperature was 77 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 12 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 6.373 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 12 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1,041 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALES QUICK STOP Location: KINGSTREE, SC
AFVR Contractor: HERR, Inc. - Steve Personnel: GRI - MICHAEL
Date: 4/18/13 Ambient Air Temperature and General Weather Condition: 77° Fair Sunny
Start Time 1: 9:32 Stop Time 1: 9:30 Start Time 2: _____ Stop Time 2: _____
Total volume of water removed during the 8-hour AFVR Event: 1041 gal
Total volume of product removed during the 8-hour AFVR Event: Sherr
Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 1A	15.56	16.55	---	17.67	1041 gal	
3A	15.80	16.03	---	17.28		
4A	15.56 15.56	16.12	---	18.15		
5A	T	15.87				
6	-	15.85				

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Vacuum at Pump: 24" @ Pump

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
4/18/13	9:30						
4/18/13	10:00	959	0.022	102	46	0.020352094	19.42
4/18/13	10:30	973	0.022	109	46	0.025198935	19.36
4/18/13	11:00	984	0.022	117	46	0.032002939	19.18
4/18/13	11:30	992	0.022	126	46	0.041641244	18.85
4/18/13	12:00	1005	0.022	130	46	0.046733350	18.86
4/18/13	12:30	1012	0.022	135	46	0.053918351	18.69
4/18/13	1:30	1034	0.022	148	46	0.077840677	18.22
4/18/13	2:30	1096	0.022	156	46	0.097399089	18.65
4/18/13	3:30	1215	0.022	157	46	0.100164820	20.58
4/18/13	4:30	1314	0.022	157	46	0.100164820	22.26
4/18/13	5:30	1466	0.022	156	46	0.097399089	24.95
4/18/13	6:30	1479	0.022	156	46	0.097399089	25.17
4/18/13	7:30	1492	0.022	156	46	0.097399089	25.39
4/18/13	8:30	1544	0.022	157	46	0.100164820	26.16
4/18/13	9:30	1556	0.022	156	46	0.097399089	26.48
Averages		1208.07	0.022	141.20	46.00	0.072345166	21.482

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	19.42	1159	1	1159	6163.36	0.000384778	0.448	0.224
30	60	19.36	1175	1	1175	6248.44	0.000390090	0.453	0.227
30	90	19.18	1267	1	1267	6737.68	0.000420633	0.484	0.242
30	120	18.85	1384	1	1384	7359.87	0.000459477	0.520	0.260
30	150	18.86	1411	1	1411	7503.45	0.000468440	0.530	0.265
30	180	18.69	1472	1	1472	7827.84	0.000488692	0.548	0.274
60	240	18.22	1436	1	1436	7636.39	0.000476740	0.521	0.521
60	300	18.65	1379	1	1379	7333.28	0.000457817	0.512	0.512
60	360	20.58	1336	1	1336	7104.61	0.000443541	0.548	0.548
60	420	22.26	1247	1	1247	6631.33	0.000413994	0.553	0.553
60	480	24.95	1128	1	1128	5998.50	0.000374487	0.561	0.561
60	540	25.17	1102	1	1102	5860.24	0.000365855	0.553	0.553
60	600	25.39	1077	1	1077	5727.30	0.000357555	0.545	0.545
60	660	26.16	1036	1	1036	5509.26	0.000343943	0.540	0.540
60	720	26.48	1042	1	1042	5541.17	0.000345935	0.550	0.550
Averages		21.48	1243.40	1.00	1243.40	6612.18	0.000412798	0.524	0.425
Total Emission in pounds:									6.373

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = \text{PPM measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43 \text{E-}09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

$Mg = 128 \text{ mg/mg-mole}$, molecular weight of gasoline

$K3 = 24.07 \text{ dsm}^3/1 \text{E}6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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.	2. Page 1 of
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE SC			
4. Generator's Phone ()					
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID	
HERR, Inc.		NCR-000139816		B. Transporter 1 Phone 910-653-6799	
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	
CWS 303 S. MAULDSBY ST. WHITEVILLE, NC				F. Facility's Phone 910-625-5012	
11. WASTE DESCRIPTION			12. Containers	13. Total Quantity	14. Unit WL/VOL
			No.	Type	
a. Non-Res. Petroleum Contact Water			H2	TT	1041 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
17. Transporter 1 Acknowledgement of Receipt of Materials			Date		
Printed/Typed Name			Signature		Month Day Year
Steve Riverbank			[Signature]		4/18/13
18. Transporter 2 Acknowledgement of Receipt of Materials			Date		
Printed/Typed Name			Signature		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			Signature		Date
RYAN COL			[Signature]		4/18/13

NON-HAZARDOUS WASTE





HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail:herrteam@hotmail.com • www.herrteam.com

Monday, May 13, 2013

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

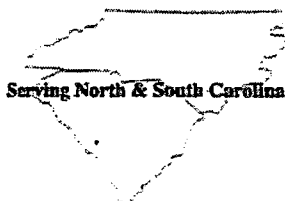
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 12 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on May 9, 2013. Included is the documentation for the event. The 12 hour event was conducted on monitoring wells MW-1A, MW-3A, and MW-4A.

. If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
May 9, 2013

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 5/9/13. The ambient temperature was 72 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 12 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 2.666 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 12 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 962 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC
 AFVR Contractor: HERR, Inc. - Stone Personnel: GRI - Terry
 Date: 5/9/13 Ambient Air Temperature and General Weather Condition: Sunny - Fair 72°
 Start Time 1: 7:00 Stop Time 1: 7:00 Start Time 2: _____ Stop Time 2: _____
 Total volume of water removed during the 8-hour AFVR Event: 962 gal
 Total volume of product removed during the 8-hour AFVR Event: Shun
 Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 1 A	15.30	15.25	17.48 -0-	17.48	962 gal	
MW 3 A	15.21	15.37	16.71 -0-	16.71		
MW 4 A	15.20	15.25	14.62 -0-	14.62		

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

	MW- 4A	MW- 3A	MW- 1A	Stinger Placement			
Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Stinger Depth	Product Depth	Water Level	Notes
MW 4A				16'	15.58	15.65	17.48
3A				15.75	15.21	15.39	16.71
1A				15.75	15.20	15.25	16.62
9.00	20	20	20				
10.00	20	20	20				
11.00	20	20	20				
12.00	20	20	20				
1.00	20	20	20				
2.00							
3.00							
4.00							
5.00							
6.00							
7.00							
8.00							
9.00	20	20	20				

Vacuum at Pump: 28" @ Pump

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

5

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft ²)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
5/9/13	9:00						
5/9/13	9:30	971	0.022	96	38	0.013882526	20.00
5/9/13	10:00	1026	0.022	108	38	0.020059140	20.56
5/9/13	10:30	1073	0.022	115	38	0.024707158	21.14
5/9/13	11:00	1134	0.022	126	38	0.034003387	21.71
5/9/13	11:30	1198	0.022	148	38	0.062933454	21.45
5/9/13	12:00	1258	0.022	156	38	0.078327031	21.86
5/9/13	12:30	1302	0.022	160	38	0.087338800	22.26
5/9/13	1:00	1355	0.022	162	38	0.092220250	22.97
5/9/13	2:00	1371	0.022	163	38	0.094761554	23.14
5/9/13	3:00	1377	0.022	163	38	0.094761554	23.24
5/9/13	4:00	1384	0.022	163	38	0.094761554	23.36
5/9/13	5:00	1392	0.022	162	38	0.092220250	23.60
5/9/13	6:00	1398	0.022	162	38	0.092220250	23.70
5/9/13	7:00	1407	0.022	162	38	0.092220250	23.85
5/9/13	8:00	1411	0.022	161	38	0.089746665	24.02
5/9/13	9:00	1415	0.022	161	38	0.089746665	24.09
Averages		1279.50	0.022	148.00	38.00	0.072119405	22.561

UST Permit #: 18686

Total Emission in pounds:	2.666
----------------------------------	--------------

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

C_{g:m} = mg/dsm^3 , mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = $24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

C_g = lb/dcsf , mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr , pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.		2. Page 1 of	
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC					
4. Generator's Phone ()							
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID			
HERR, Inc.		NCR-000139816		B. Transporter 1 Phone		910-653-6399	
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			
CWS 303 S. MAULSBY ST. WHITEVILLE, NC				F. Facility's Phone		910-625-5012	
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		Unit	
a. Non-Reg. Petroleum Contact Wdr				H2 TT		962 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	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature		Date	
Steve D. Venbaule				[Signature]		Month Day Year	
18. Transporter 2 Acknowledgement of Receipt of Materials				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				Signature		Date	
RYAN Cox				[Signature]		Month Day Year	
						5 9 13	



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, June 10, 2013

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

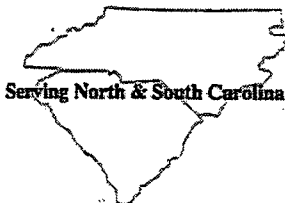
Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 12 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on June 4, 2013. Included is the documentation for the event. The 12 hour event was conducted on monitoring wells MW-1A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager



Tisdale's Quick Stop
Kingstree, SC
June 4, 2013

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 6/4/13. The ambient temperature was 77 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 12 Hour AFVR event was conducted using a Keith Huber Dominator vacuum truck with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 5.405 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 12 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 1,520 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A
AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC
AFVR Contractor: HERR, Inc. - Steve Personnel: GRI Terry
Date: 6/4/13 Ambient Air Temperature and General Weather Condition: 77° Sunny - Fair
Start Time 1: 8:15 Stop Time 1: 8:45 Start Time 2: _____ Stop Time 2: _____
Total volume of water removed during the 8-hour AFVR Event: 1520 gal
Total volume of product removed during the 8-hour AFVR Event: _____
Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
MW 1A	14.88	14.90	-	17.62	1520 gal	
MW 3A	14.87	14.95	-	17.36		
MW 4A	15.29	15.31	-	18.32		

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

	MW- 1A	MW- 3A	MW- 4A	Stinger Placement			
Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Stinger Depth	Product Depth	Water Level	Notes
MW 1				15.5'	14.88	14.90	117.42
MW 3				15.5'	14.87	14.95	117.36
MW 4				15.5'	15.29	15.31	118.32
8.15	20	20	20				
9.15	20	20	20				
10.15	20	20	20				
11.15	20	20	20				
12.15	20	20	20				
1.15	20	20	20				
2.15	20	20	20				
3.15	20	20	20				
4.15	20	20	20				
5.15	20	20	20				
6.15	20	20	20				
7.15	20	20	20				
8.15	20	20	20				

Vacuum at Pump: 22" @ Pump

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

[illegible]

Aggressive Fluid/Vapor Recovery Notes

Time	PID at stack (ppm)	PID after off-gas treatment (carbon) (ppm)	Velocity (ft. / min.)	Temperature (Fahrenheit)	Relative Humidity (%)	Other
8.15						
8.45	1052	785	965	92	42	
9.15	1055	788	978	109	42	
9.45	1073	808	991	117	43	
10.15	1098	827	1034	125	43	
10.45	1132	868	1056	136	43	
11.15	1146	892	1079	145	42	
12.15	1153	904	1094	147	42	
1.15	1178	932	1108	144	42	
2.15	1287	1011	1117	167	42	
3.15	1292	1055	1129	148	42	
4.15	1284	1042	1142	168	42	
5.15	1256	1017	1164	148	42	
6.15	1232	994	1135	148	42	
7.15	1221	983	1194	167	42	
8.15	1205	967	1218	168	42	

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
6/4/13	8:15						
6/4/13	8:45	965	0.022	92	42	0.013555399	20.032
6/4/13	9:15	978	0.022	109	42	0.022926955	19.508
6/4/13	9:45	991	0.022	117	43	0.029815743	19.356
6/4/13	10:15	1036	0.022	125	43	0.037653607	19.797
6/4/13	10:45	1056	0.022	136	43	0.051557130	19.520
6/4/13	11:15	1079	0.022	145	42	0.064679790	19.377
6/4/13	12:15	1096	0.022	167	42	0.118893162	17.891
6/4/13	1:15	1108	0.022	166	42	0.115647588	18.182
6/4/13	2:15	1117	0.022	167	42	0.118893162	18.234
6/4/13	3:15	1129	0.022	168	42	0.122232476	18.330
6/4/13	4:15	1142	0.022	168	42	0.122232476	18.541
6/4/13	5:15	1166	0.022	168	42	0.122232476	18.931
6/4/13	6:15	1135	0.022	168	42	0.122232476	18.428
6/4/13	7:15	1194	0.022	167	42	0.118893162	19.490
6/4/13	8:15	1218	0.022	168	42	0.122232476	19.775
Averages		1094.00	0.022	148.73	42.20	0.086911872	19.026

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	20.03	1052	1	1052	5594.35	0.000349255	0.420	0.210
30	60	19.51	1055	1	1055	5610.30	0.000350251	0.410	0.205
30	90	19.36	1073	1	1073	5706.02	0.000356227	0.414	0.207
30	120	19.80	1098	1	1098	5838.97	0.000364527	0.433	0.216
30	150	19.52	1132	1	1132	6019.78	0.000375815	0.440	0.220
30	180	19.38	1146	1	1146	6094.23	0.000380462	0.442	0.221
60	240	17.89	1153	1	1153	6131.45	0.000382786	0.411	0.411
60	300	18.18	1178	1	1178	6264.40	0.000391086	0.427	0.427
60	360	18.23	1287	1	1287	6844.04	0.000427273	0.467	0.467
60	420	18.33	1292	1	1292	6870.63	0.000428933	0.472	0.472
60	480	18.54	1284	1	1284	6828.08	0.000426277	0.474	0.474
60	540	18.93	1256	1	1256	6679.19	0.000416982	0.474	0.474
60	600	18.43	1232	1	1232	6551.56	0.000409014	0.452	0.452
60	660	19.49	1221	1	1221	6493.06	0.000405362	0.474	0.474
60	720	19.78	1205	1	1205	6407.98	0.000400050	0.475	0.475
Averages		19.03	1177.60	1.00	1177.60	6262.27	0.000390953	0.446	0.360
Total Emission in pounds:									5.405

Pollutant Mass Removal Calculations

$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$

$PPM_g = PPM \text{ measured} * K$

$C_{g:m} = PPM_g * (Mg/K3)$

$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$

$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$

$PMR = PMR_g * ((T2 - T1)/60)$

$Q_{std} = \text{Flow at DSCFM}$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft^2 of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: $K=1$

$PPM_g = PPM_v$, Volumetric concentration as gasoline emission, dry basis at STP

$C_{g:m} = \text{mg/dsm}^3$, mass concentration of gasoline emission

$M_g = 128 \text{ mg/mg-mole}$, molecular weight of gasoline

$K3 = 24.07 \text{ dsm}^3/1E6 \text{ mg-mole}$, mass to volume conversion factor at STP

$C_g = \text{lb/dcsf}$, mass concentration of gasoline emission, dry basis at STP

$PMR_g = \text{lb/hr}$, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on ellipse (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No.	2. Page 1 of
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC			
4. Generator's Phone ()					
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID	
HERB, Inc.		NCR-000139816		B. Transporter 1 Phone 910-653-6399	
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	
CWS 303 S. MAULTSBY ST. WHITEVILLE, NC				F. Facility's Phone 910-625-5012	
11. WASTE DESCRIPTION			12. Containers	13. Total Quantity	14. Unit
			No.	Type	WL/Vol.
a. Non-Reg. Petroleum Contam Water			12	TT	1520 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
17. Transporter 1 Acknowledgement of Receipt of Materials			Date		
Printed/Typed Name			Signature		Month Day Year
Steve R. Venable			Steve R. Venable		6 4 13
18. Transporter 2 Acknowledgement of Receipt of Materials			Date		
Printed/Typed Name			Signature		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			Signature		Date
KRYAN COX			KRYAN COX		6 4 13



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment



MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

SEP 20 2013

Re: **QAPP Contractor Addendum Directive**
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686
Release reported March 30, 2001
AFVR Report received June 14, 2013
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced report. The report indicates the presence of chemicals of concern in the groundwater.

To determine what risk the referenced 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 a Groundwater-sampling event in which samples should be collected for BTEX, Naphthalene, MtBE, 1,2-DCA, ethanol, and Oxygenates from all wells associated with this site as outlined in the UST Quality Assurance Program Plan (QAPP), revision 2.0, is necessary. The groundwater-sampling event should be conducted in accordance with the UST QAPP 2.0 and in compliance with all applicable regulations. A copy of the Agency QAPP 2.0 for the UST Division is available at:

<http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm>

Please have your contractor complete and submit the QAPP 2.0 Contractor Addendum and Cost Agreement to the UST Division within thirty (30) days of the date of this letter. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that technical and financial pre-approval from the Agency must be issued before work begins.**

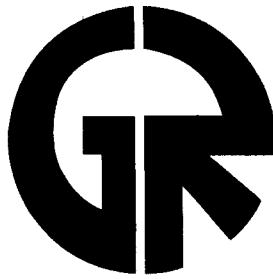
On all correspondence regarding this site, please reference **UST Permit #18686**. If you have questions or need additional information, feel free to contact me by telephone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail to martinjm@dhec.sc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Martin", with a stylized flourish at the end.

Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Geological Resources, Inc., 2301 Crown Point Executive Drive, Suite F, Charlotte, NC 28227
Technical File



Geological Resources, Inc.

October 2, 2013

Mr. Jim Martin
South Carolina Department of Health
and Environmental Control
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management



Re: GRI Proposal No. 13-498
Cost Agreement and QAPP Contractor Addendum: Revision 0
Tisdale's Quick Stop
1989 Thurgood Marshall Blvd
Kingstree, Williamsburg County
UST Permit No. 18686



Dear Mr. Martin:

In response to your September 20, 2013 QAPP Contractor Addendum Directive, Geological Resources, Inc. submits the attached Cost Agreement to conduct a comprehensive ground water sampling event at the above referenced site. The associated QAPP Contractor Addendum - Revision 0 is also attached. Please contact me at (704) 845-4010 with any questions.

Sincerely,
Geological Resources, Inc.
S.C. Site Rehabilitation Contractor #74

W. Scott Ball
Senior Project Manager

enclosure

cc: file

Geological Resources, Inc.
S.C. Rehabilitation Contractor #74
Tisdales Quick Stop
GRI Proposal No. 13-498
QAPP Revision 0
October 2, 2013

Appendix B: Contractor Addendum

Geological Resources, Inc.
S.C. Rehabilitation Contractor #74
Tisdales Quick Stop
GRI Proposal No. 13-498
QAPP Revision 0
October 2, 2013

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Tisdales Quick Stop – UST Permit No. 18686

1989 Thurgood Marshall Blvd., Kingstree, Williamsburg County, South Carolina

Prepared by: W. Scott Ball

Geological Resources, Inc.
S.C. Site Rehabilitation Contractor #74

Date: 10/2/2013

Geological Resources, Inc.

Approvals

Jim Martin
SC DHEC Project Manager

Signature Date

John M. Brown, PG - GRI
Contractor QA Manager

John M. Brown
Signature Date 10/03/13

Scott Ball - GRI
Site Rehabilitation Contractor

Scott Ball
Signature Date 10/3/13

Harry Behzadi
Laboratory Director

Behzadi
Signature Date 10/3/13

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Geological Resources, Inc.
S.C. Rehabilitation Contractor #74
Tisdales Quick Stop
GRI Proposal No. 13-498
QAPP Revision 0
October 2, 2013

A3 Distribution List

Name	Title/Role from UST Master QAPP	License/Num ber/Exp. date	Organization/Address	Telephone Number	Fax Number	Email Address
Jim Martin	SC DHEC Technical Project Manager	NA	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-898- 0605	803-8986- 0673	martinjm@dhec. sc.gov
John M. Brown, P.G.	Contractor Project Verifier	P.G./S.C 1116/ 6-30-2015	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845- 4010	704-845- 4012	johnbrown@geo logicalresources inc.com
Terry D. Kennedy, P.G.	Contractor Project Verifier	P.G./S.C 2011/6-30- 2015	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845- 4010	704-845- 4012	tdk@geologicalr esourcesinc.co m
Johanna Teschner , P.G.	Contractor Project Verifier	P.G./S.C 2576/6-30- 2015	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845- 4010	704-845- 4012	jmt@geologicalr esourcesinc.co m
Rohit Shetty, P.G.	Contractor Project Verifier	P.E./S.C 20536/6-30- 2014	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845- 4012	rshetty@geologic alresourcesinc.co m
Rae Troiano Brown, P.G.	Contractor Project Verifier	P.G./S.C 2366/6-30- 2015	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-815-0653	252-321- 6094	rtb@geologicalres ourcesinc.com
John M. Brown, P.G.	Contractor QA Officer	P.G./S.C 1116/ 6-30-2015	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845- 4010	704-845- 4012	johnbrown@geo logicalresources inc.com
Scott Ball	Contractor Site Rehabilitation Contractor	NA	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845- 4010	704-845- 4012	wsb@geological resourcesinc.co m
Scott Ball	Contractor Field Manager	NA	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845- 4010	704-845- 4012	wsb@geological resourcesinc.co m
Michael Senglaub	Contractor Field Geologist	NA	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845- 4012	mds@geologicalr esourcesinc.com
Hanna Kahrman n-Zadak	Contractor Field Geologist	NA	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845- 4012	hkz@geologicalre sourcesinc.com

Geological Resources, Inc.
S.C. Rehabilitation Contractor #74
Tisdales Quick Stop
GRI Proposal No. 13-498
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Joanna Alley	Contractor Field Engineer	NA	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	jra@geologicalresourcesinc.com
Holden McClenney	Contractor Field Geologist	NA	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	hwm@geologicalresourcesinc.com
Nicole Long	Contractor Field Scientist	NA	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-845-4010	704-845-4012	nml@geologicalresourcesinc.com
William Regenthal	Contractor Field Geologist	NA	GRI - 2301 Crown Point Executive Drive, Charlotte, NC 28227	704-815-0653	252-321-6094	wlr@geologicalresourcesinc.com
Harry Behzadi	Laboratory Director	Certification/ SC96038001	Accutest, 4405 Vineland Road, Suite C-15, Orlando, FL 32811	407-425-6700	427-425-0707	harryb@accutest.com

Table 1A Addendum Distribution and Project Organization List

It is understood that certification records must be produced if requested by SCDHEC.

A4 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.

Release reported in March 2001. IGWA completed in December 2001. Tier II completed March 2003. Tier II Addendum completed in October 2004. 35 shallow monitoring wells (MW-1 through MW-31 and MW-1A through MW-4A) and 2 telescoping wells (TW-1 and TW-2) have been installed at the site. Numerous ground water sampling events and AFVR events were conducted at the site from February 2004 through June 2011. The last comprehensive ground water sampling event was conducted in November 2011. **MW-1A through MW-4A have historically contained free product and will only be gauged for free product during the proposed sampling event. In the event that any of the wells do not contain free product, samples will be collected from them.** Two water supply wells remain in the area of the site and will be sampled if it is determined they are in service. The subject site is currently an active convenience store. Surrounding properties consist of a mix of residential and commercial properties as well as county government properties (school bus garage).

The release is currently being assessed to monitor contaminant concentrations in the ground water.

Please answer the following: Does this project fall under UST or Brownfields area?

UST

A5 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).**

Comprehensive ground water sampling event. Sampling of monitoring wells MW-1 through MW-31, MW-1A through MW-4A, TW-1 and TW-2. Sampling of water supply wells WSW-1 and WSW-3.

2. **The work will begin within** 10 business days **after cost approval and sampling should be complete by** 30 days after approval of cost agreement.
3. **Are there are time or resource constraints? Yes Include those factors that may interfere with the tentative schedule.** Inclement weather, personnel availability, equipment failures, could possibly bring changes such as delay of final report submittal, to the tentative schedule.

A6 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

Detail the geographical area that is to be part of the project. Maps should be included to show not only the topography and the geographical area of the State, but also to show more detail of the site itself including property lines.

Tisdales Quick Stop, 1989 Thurgood Marshal Blvd, Kingstree, Williamsburg County, SC (see attached Figures 1 & 2)

A7 Certification

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory Accutest

Name of Lab Director Harry Behzadi
SC DHEC Certification Number 96038001
Parameters this Lab will analyze for this project: BTEX, MTBE, naphthalene, 1,2-DCA and 8
Oxygenates by Method 8260

Full Name of the Laboratory _____
Name of Lab Director _____
SC DHEC Certification Number _____
Parameters this Lab will analyze for this project:
Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs
as part of this QAPP.

A8 Documents and Records

Personnel will receive the most current version of the QAPP Addendum via:
(Check all that apply)

☒ US Mail ☐ Courier ☒ Hand delivered

Other (please specify): e-mail

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Field Notes	GRI	Hardcopy and electric	20 Years	Yes – Computer and GRI library
Chain of Custody	Accutest	Hardcopy and electric - EDD	10 Years	Yes - Electronic
Chain of Custody	GRI	Hardcopy and electric	20 Years	Yes – Computer and GRI library
Report	GRI	Hardcopy and electric	20 Years	Yes - Computer and GRI library
Lab Data	Accutest- Orlando	Hardcopy and electric - EDD	10 Years	Yes - Electronic

Table 2A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
QAPP Preparation	10/1/13	10/2/13	In Progress
QAPP Approval	1 business day after submittal to DHEC	30 calender days from date received by DHEC	Assume 30 day turnaround
Ground Water Sampling	11 days from receipt of approved ACCA	12 days from receipt of approved ACCA	
Report Preparation	15 days from receipt of lab report	3 – 4 weeks from receipt of lab report	

Table 3A 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	<u>37 (MW-1 through MW-31, MW-1A through MW-4A, TW-1 and TW-2) as shown on attached Figure 2</u>
From Drinking/Irrigation water wells	<u>WSW-1 and WSW-3 as shown on attached Figure 2</u>
From surface water features	_____
Duplicate samples	<u>2</u>
Field Blanks	<u>1</u>
Trip Blanks	<u>1</u>
Total number of Water samples	<u>43</u>

Geological Resources, Inc.
S.C. Rehabilitation Contractor #74
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October 2, 2013

The samples will be (check as many as apply): ☐ Homogenized ☒ Grab ☐ Split

All samples will be "Grab"

If homogenized or split are checked please indicate how will it be done and the equipment needed.

If decontamination procedures differ from Appendix H, please provide details.

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), or electricity to run sampling equipment.

Fed-Ex for shipping of samples

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
YSI 556 Meter	Repair @ Enviro Equipment	Field Book/Notes	Michael Senglaub, Hanna Kahrmann-Zadak
Hanna turbidity meter	Repair @ Enviro Equipment	Field Book/Notes	Michael Senglaub, Hanna Kahrmann-Zadak
Water level meter	Repair @ Enviro Equipment	Field Book/Notes	Michael Senglaub, Hanna Kahrmann-Zadak
Interface probe	Repair @ Enviro Equipment	Field Book/Notes	Michael Senglaub, Hanna Kahrmann-Zadak

Table 4A 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?**
After each sample is collected, it is placed in an ice filled cooler that is secured with the sampling personnel's company vehicle. Upon completion of sampling activities, sampling personnel sends the secured cooler and chain of custody via Fed-Ex to the laboratory. Samples are generally sent out via Fed-Ex at the end of each day's sampling event. Or, if possible, the samples/cooler are taken directly to the laboratory's service center where possession of the samples is taken by the lab. Samples requiring analyses that have short hold times are always sent out the same day the samples were collected. Even if short hold times are not a concern, collected samples are never kept in the sampler's/contractors possession for more than 24 hours.
- 2. If sample preservation procedures differ from the UST Programmatic QAPP, please provide details.**
- 3. If chain of custody procedures differ from the UST Programmatic QAPP, please provide details.**

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	Method Referenced	Comments
BTEX, MTBE, 1,2-DCA,Naphthalene	8260B	
8 Oxygenates	8260B-oxy	
pH	YSI 556 Meter	
Dissolved Oxygen	YSI 556 Meter	
Conductivity	YSI 556 Meter	
temperature	YSI 556 Meter	

Table 5A 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.
2. 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. If procedures for QC differ from the UST.

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. Not the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Person responsible
YSI 556	GRI1	Calibration	Prior to each sampling event	Michael Senglaub, Hanna Kahrmann-Zadak
Hanna Turbidity Meter	GRI1	Calibration	Prior to each sampling event	Michael Senglaub, Hanna Kahrmann-Zadak
Water Level Indicator	GRI1	Replace batteries	As needed	Michael Senglaub, Hanna Kahrmann-Zadak
Interface Probe	GRI1	Replace Batteries	As needed	Michael Senglaub, Hanna Kahrmann-Zadak
Agilent 5973 of 5975, OI analytical purge and trap system	Multiple units	Leak check, gas pressure check, detector check, septa replacement	As warranted by passing instrument QC and batch QC	Bench Analyst

Table 6A Instrument and Equipment Maintenance

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	Serial Number	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA
YSI 556	GRI1	Manufacturer's Directions	Prior to the sampling event	Within limits established by manufacturer	Send to manufacturer or Enviro-Equipment	Michael Senglaub, Hanna Kahrmann-Zadak
Hanna Turbidity Meter	GRI1	Manufacturer's Directions	Prior to the sampling event	Within limits established by manufacturer	Send to manufacturer or Enviro-Equipment	Michael Senglaub, Hanna Kahrmann-Zadak
Agilent 5973 or 5975 equipped with OI analytical purge and trap system	NA	Calibrate with series of standards as described in SW-846 8260B, internal standard calibration procedure	Initial calibration performed as necessary and verified daily (CCV)	As described in SW-846 8260B method	In case of daily calibration (CCV) failure, investigate cause of failure, perform maintenance if necessary and recalibrate	Bench Analyst

Table 7A 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. If procedures for storage, handling or transport of supplies/consumables differ from the UST Programmatic QAPP, please provide details.

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.,
3. Provide its relevance to the project.
4. Indicate the justification criteria for use of these data sources and/or models.

Data Source	Used for	Relevance	Justification for use in this project	Comments
Computer database and GRI library	Historical ground water elevation and quality data		For showing contaminant concentration and ground water flow trends	
SCDHEC FOI	Historical ground water elevation and quality data		For showing contaminant concentration and ground water flow trends	

Table 8A Non-Direct Measurements

5. Identify key resources/support facilities needed.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.
GRI orders lab kit from Accutest
Accutest ships kit to GRI office (if done directly from Orlando facility) or courier delivers kit to GRI office from service center
Field personnel collects lab samples and returns lab samples and field notes to office.
Accutest courier picks up samples and signs COC. (Alternately - GRI ships coolers to Accutest Southeast)
Samples are analyzed as per the COC and SOPs.
Lab report is emailed to Project manager. Data is checked if usable is populated into tables for report deliverable.

Data is stored at lab and in GRI office (electronic and hard copies).

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?

Laboratory - CoC are scanned into PDF upon log-in, subsequent changes in tests ordered (if any) are made via formal request. Computer records are incrementally backed up through LAN every 20 minutes and fully backed up once a week.

Field Staff – Field notes are recorded in bound, All-Weather Field Books (Model No. 540F) with black or blue ink. Original field notes are reviewed by a senior geologist and project manager upon return of field staff to the GRI office then scanned into a PDF file and saved to working files stored at GRI.

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.

Every piece of analytical data is reviewed once by bench analyst upon initial data processing and undergoes secondary review by section supervisor or senior analyst prior to release to the clients. Third level review performed by QA staff at 10-15% of data.

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).

Raw analytical data is incrementally backed up; full automatic backup occurs once a week and tapes are produced in duplicates. One copy stored off-site. Bench run logs, CoC and other hand-written records are scanned into PDF files; sample reports are converted into PDF files and stored on local servers. Logbooks, Certificates of Analysis, etc. are secured on-site in lockable storage.

As with field notes, GRI reports are converted into PDF files and stored on the GRI server. Hard copies of reports are stored in the GRI library.

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. **The samples will be***

collected by the on-site supervisor. The on-site supervisor will periodically be audited/observed by a senior GRI personnel such as Terry D. Kennedy or John M. Brown. Auditors will check to see if the on-site supervisor is properly calibrating instrumentation in the field, determine if correct readings are being collected when purging wells, ensure the sample kits are properly labeled and preserved, ensure CoCs are completed in accordance with the QAPP and ensure that all waste materials (purge and decon water) are properly containerized for disposal. *Will this person have the authority to stop work if severe problems are seen?* Yes

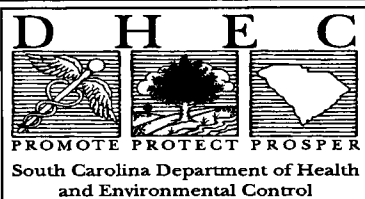
2. *The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit?* 1. GRI's Contract QA Manager (John M. Brown, P.G.) will review the QC Data Summary associated with each Accutest Report to determine that all QA/QC requirements of the laboratory's SOP are met. 2. Accutest Laboratories Southeast participates in the semiannual analyses of PT samples in order to maintain primary state certification and for the benefit of other states' certification program. Accutest Laboratories Inc. maintains corporate purchasing contract with ERA, Waters Company, and results are on file with DHEC, lab certification group *When or how often are these done?* 1. Upon receipt of each laboratory report. 2. Semi-annually *Who will the results be given to and who has the ability to stop work if problems are severe?* 1. GRI's Contract QA Manager, Mr. John M. Brown. 2. Accutest Lab Director.

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).



July 1, 2011

**ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA**

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

Facility Name: Tisdales Quick Stop

GRI Prop. No. 13-498

UST Permit #: 18686

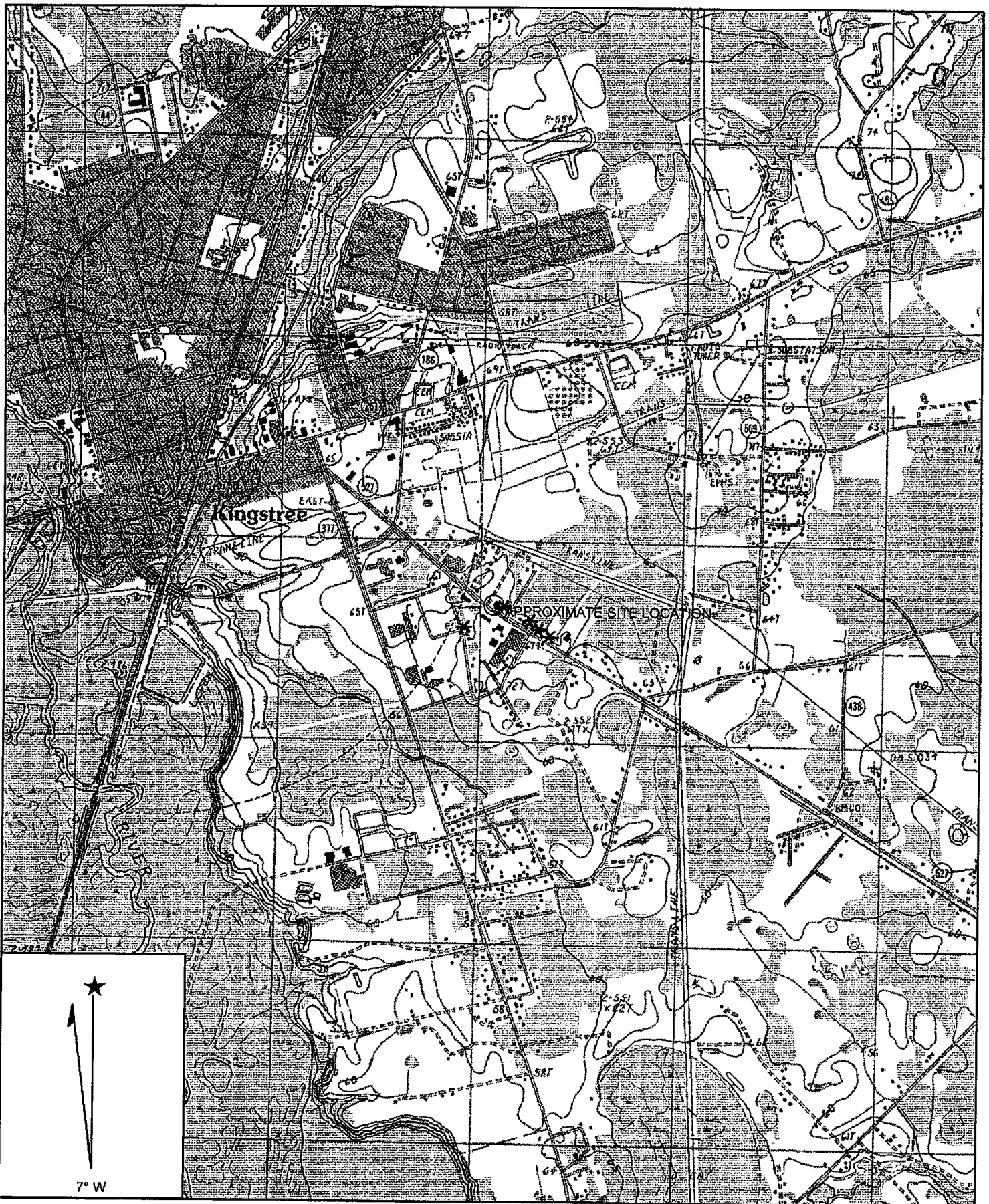
Cost Agreement #: _____

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan*				
B. Tax Map		x	\$50.00	\$0.00
C. Tier II or Comp. Plan /QAPP Appendix B	1	x	\$525.00	\$525.00
2. Receptor Survey *		x	\$500.00	\$0.00
3. Survey (500 x 500 feet)				
A. Comprehensive Survey		x	\$1,000.00	\$0.00
B. Subsurface Geophysical Survey				
1. < 10 meters below grade		x	\$2,750.00	\$0.00
2. > 10 meters below grade		x	\$3,250.00	\$0.00
C. Geophysical UST or Drum Survey		x	\$1,125.00	\$0.00
4. Mob/Demob (Each)				
A. Equipment		x	\$575.00	\$0.00
B. Personnel	2	x	\$290.00	\$580.00
C. Adverse Terrain Vehicle to install wells		x	\$575.00	\$0.00
5. Soil Borings (hand auger)* (Feet)		feet x	\$14.00	\$0.00
6. Soil Borings (drilled) & Field Screening *				
Rate includes collection of water sample or soil sample, and lab or other analyses				
A. Standard		feet x	\$17.00	\$0.00
C. Fractured Rock		feet x	\$27.50	\$0.00
7. Soil Leachability Model (Each)		each x	\$200.00	\$0.00
8. Abandonment* (per foot)				
A. 2" diameter or less		feet x	\$5.00	\$0.00
B. Greater than 2" to 6" diameter		feet x	\$5.50	\$0.00
C. Dug/Bored well (up to 6 foot diameter)		feet x	\$18.00	\$0.00
9. Well Installation* (per foot)				
A. Water Table (hand augered)		feet x	\$20.00	\$0.00
B. Water Table (drill rig)		feet x	\$38.00	\$0.00
C. Telescoping/ Pit Cased		feet x	\$58.00	\$0.00
D. Rock Drilling		feet x	\$58.00	\$0.00
E. 2" Rock Coring		feet x	\$45.00	\$0.00
G. Rock Multi-sampling ports/screens		feet x	\$47.20	\$0.00
H. Recovery Well (4 inch diameter)		each x	\$45.00	\$0.00
I. Pushed Pre-packed screen (1.25 diameter)		each x	\$18.50	\$0.00
J. Rotasonic (2 inch diameter)		each x	\$45.00	\$0.00
10. Groundwater Sample Collection / Gauge Depth to Water or Product (Each)				
A. Groundwater Purge	37	wells x	\$55.00	\$2,035.00
B. Air or Vapors		samples x	\$90.00	\$0.00
C. Water Supply	2	samples x	\$30.00	\$60.00
D. Groundwater No Purge or Duplicate	2	samples x	\$35.00	\$70.00
E. Gauge Well only (If product is present)	4	per well x	\$20.00	\$80.00
F. Sample Below Product		wells x	\$50.00	\$0.00
G. Pasive Diffusion Bag		each x	\$40.00	\$0.00
H. Field Blank	1	each x	\$5.00	\$5.00

11. Laboratory Analyses-Groundwater (Each Sample)					
A1. BTEX+Naphth.+ Oxyg's+ 1,2 DCA + Ethanol	43	samples x	\$100.00		\$4,300.00
AA. Lead, Filtered		samples x	\$46.00		\$0.00
B1. Rush EPA Method 8260B (All of item A.)		samples x	\$143.00		\$0.00
C1. Trimethal, Butyl, and Isopropyl Benzenes		samples x	\$40.00		\$0.00
D. PAH's		samples x	\$120.00		\$0.00
E. Lead, Unfiltered		samples x	\$20.00		\$0.00
F. EDB by EPA 8011		samples x	\$55.00		\$0.00
FF. EDB by EPA Method 8011 Rush		samples x	\$75.00		\$0.00
G. 8 RCRA Metals		samples x	\$140.00		\$0.00
H. TPH (9070)		samples x	\$55.00		\$0.00
I. pH		samples x	\$10.00		\$0.00
J. BOD		samples x	\$40.00		\$0.00
P1. Ethanol		samples x	\$21.50		\$0.00
11. Analyses-Soil (Each Sample)					
Q. BTEX + Naphth.		samples x	\$100.00		\$0.00
R. PAH's		samples x	\$120.00		\$0.00
S. 8 RCRA Metals		samples x	\$150.00		\$0.00
T. Oil & Grease (9071)		samples x	\$60.00		\$0.00
U. TPH-DRO (3550B/8015B)		samples x	\$65.00		\$0.00
V. TPH- GRO (5030B/8015B)		samples x	\$65.00		\$0.00
W. Grain size/hydrometer		samples x	\$99.00		\$0.00
X. Total Organic Carbon		samples x	\$35.00		\$0.00
11. Analyses-Air (Each Sample)					
Y. BTEX + Naphthalene		samples x	\$247.50		\$0.00
11. Analyses-Free Phase Product (Each Sample)					
Z. Hydrocarbon Fuel Identification		samples x	\$620.00		\$0.00
12. Aquifer Characterization*					
A. Pumping Test		hours x	\$120.00		\$0.00
B. Slug Test*		tests x	\$150.00		\$0.00
C. Fractured Rock		tests x	\$500.00		\$0.00
13. Free Product Recovery Rate Test* (Each)					
		tests x	\$120.00		\$0.00
14. Fate/Transport Modeling					
A. Mathematical Model		each x	\$300.00		\$0.00
B. Computer Model		each x	\$500.00		\$0.00
15. Risk Evaluation					
A. Tier I Risk Evaluation		x	\$300.00		\$0.00
B. Tier II Risk Evaluation		x	\$500.00		\$0.00
16. Subsequent Survey*					
		x	\$300.00		\$0.00
17. Disposal* (gallons or tons)					
A. Wastewater	180	gallons x	\$0.80		\$144.00
B1. Free Product		gallons x	\$0.85		\$0.00
C. Soil Treatment/Disposal		tons x	\$72.50		\$0.00
D. Drilling fluids		gallons x	\$0.80		\$0.00
18. Miscellaneous (attach receipts)					
		x			\$0.00
		x			\$0.00
		x			\$0.00
20. Tier I Assessment (Use DHEC 3665 form)					\$0.00
21. IGWA (Use DHEC 3666 form)					\$0.00
22. Corrective Action (Use DHEC 3667 form)					\$0.00

23. Aggressive Fluid & Vapor Recovery (AFVR)					
A. 8-hour Event*		each x	\$3,000.00		\$0.00
B. AFVR per-hour Continuance		per hour x	\$204.00		\$0.00
C. Off-gas treatment per-hour Continuance		per hour x	\$35.00		\$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:					
A. New GAC System Installation*		each x	\$2,500.00		\$0.00
B1. Refurbished GAC Sys. Install*		each x	\$1,180.00		\$0.00
C. Filter replacement/removal*		each x	\$450.00		\$0.00
D1. GAC System removal, cleaning, & refurbishment*		each x	\$720.00		\$0.00
E. GAC System housing		each x	\$450.00		\$0.00
F. In-line particulate filter		each x	\$150.00		\$0.00
G. Additional piping & fittings		feet x	\$4.00		\$0.00
25. Well Repair					
A. Additional Copies of the Report Delivered		each x	\$32.50		\$0.00
B. Repair 2x2 MW pad		each x	\$100.00		\$0.00
C. Repair 4x4 MW pad		each x	\$150.00		\$0.00
D. Repair well vault		each x	\$225.00		\$0.00
F. Replace well cover bolts		each x	\$10.00		\$0.00
G. Replace locking well cap & lock		each x	\$15.00		\$0.00
H. Replace/Repair stick-up		each x	\$137.50		\$0.00
I. Convert Flush-mount to Stick-up		each x	\$175.00		\$0.00
J. Convert Stick-up to Flush-mount		each x	\$125.00		\$0.00
K. Replace missing/illegible well ID plate		each x	\$22.50		\$0.00
Report Prep & Project Management	15%	x	\$7,799.00		\$1,169.85
TOTAL					\$8,968.85

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

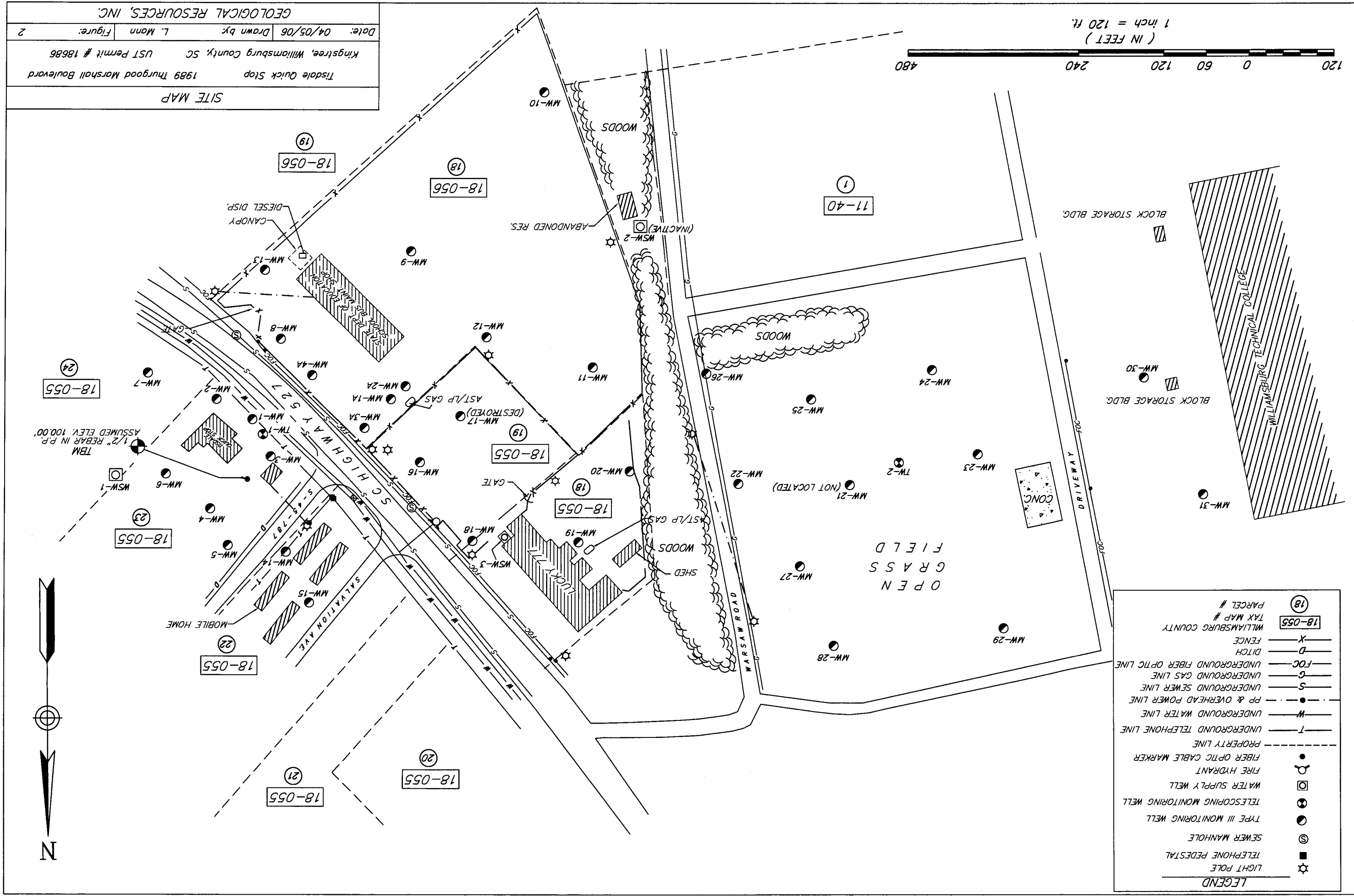


Name: KINGSTREE
 Date: 2/11/2009
 Scale: 1 inch equals 2000 feet

*Water Supply Well



Location: 033° 39' 29.0" N 079° 48' 46.8" W
 Caption: Site Location Map
 Tisdale's Quick Stop
 Figure 1 UST Permit # 18686



Accutest Quote #	Customer Name	Product	Price	Quantity	Total	Notes

TSKIFF#

[illegible]



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

OCT 18 2013



Re: **Groundwater Sampling Directive**
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686; CA#46171
Release reported March 30, 2001
QAPP received October 7, 2013
Williamsburg County

Dear Mr. Easler:

Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced addendum submitted on your behalf by Geological Resources, Inc. The previous assessment work for this release indicates that petroleum Chemicals of Concern (CoC) are present in the groundwater at concentrations that exceed risk-based screening levels (RBSLs). In order to obtain current groundwater quality data, a comprehensive groundwater sampling event is necessary. All work should be conducted in accordance with the UST Quality Assurance Program Plan (QAPP), revision 2.0, and must be conducted in compliance with all applicable regulations. A copy of Agency QAPP 2.0 for the UST Management Division is available at:
<http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm>.

Groundwater sampling activities at the site should begin immediately upon receipt of this letter. Cost Agreement #46171 has been approved for the amount shown on the enclosed cost agreement form for the sampling of all monitoring wells associated with the release. Groundwater samples should be collected and analyzed for BTEX, Naphthalene, MtBE, 1,2-DCA, Oxygenates, and Ethanol. Analyses should be in accordance with Appendix E of the QAPP 2.0 and shall include a duplicate sample, field blank, and trip blank.

The monitoring report, contractor checklist from Appendix K of the QAPP 2.0, and invoice are due within 60 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in the QAPP 2.0. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Geological Resources, Inc., can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification requirements regarding laboratory services and report preparation must be satisfied. If the invoice

is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

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

The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the QAPP 2.0. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference **UST Permit #18686 and Cost Agreement #46171**. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0605, by fax at (803) 868-0673, or by e-mail to martinjm@dhec.sc.gov.

Sincerely,



Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement
Signed Site Specific QAPP Contractor Addendum

cc: Geological Resources, Inc., 2301 Crown Point Executive Drive, Suite F, Charlotte, NC 28227
(w/ enc.)
Technical File (w/ enc.)

Geological Resources, Inc.
S.C. Rehabilitation Contractor #74
Tisdales Quick Stop
GRI Proposal No. 13-498
QAPP Revision 0
October 2, 2013

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Tisdales Quick Stop – UST Permit No. 18686

1989 Thurgood Marshall Blvd., Kingstree, Williamsburg County, South Carolina

Prepared by: W. Scott Ball

Geological Resources, Inc.
S.C. Site Rehabilitation Contractor #74

Date: 10/2/2013

Geological Resources, Inc.

Approvals

Jim Martin
SC DHEC Project Manager

Jim Martin Date 10-14-13
Signature

John M. Brown, PG - GRI
Contractor QA Manager

John M. Brown Date 10/03/13
Signature

Scott Ball - GRI
Site Rehabilitation Contractor

Scott Ball Date 10/3/13
Signature

Harry Behzadi
Laboratory Director

Harry Behzadi Date 10/3/13
Signature

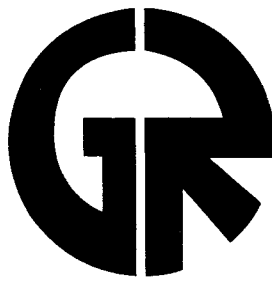
Approved Cost Agreement 46171

Facility: 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
01 PLAN		C TIER II/COMP. PLAN/QAPP APP B	1.0000	525.00	525.00
04 MOB/DEMOB		B PERSONNEL	2.0000	290.00	580.00
10 SAMPLE COLLECTION		A GROUND WATER	37.0000	55.00	2,035.00
		C WATER SUPPLY	2.0000	30.00	60.00
		D GROUNDWATER NO-PURGE	2.0000	35.00	70.00
		E GAUGE WELL ONLY	4.0000	20.00	80.00
		H FIELD BLANK	1.0000	5.00	5.00
11 ANALYSES	GW GROUNDWATER	A1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	43.0000	100.00	4,300.00
17 DISPOSAL		A WASTEWATER	180.0000	0.80	144.00
19 RPT/PROJECT MNGT & COORDINATIO		PCT PERCENT	0.1500	7,799.00	1,169.85
Total Amount					8,968.85



Geological Resources, Inc.

December 12, 2013

Mr. Jim Martin
SCDHEC-Underground Storage Tank Management Division
Bureau of Land & Waste Management
2600 Bull Street
Columbia, SC 29201

Re: Ground Water Monitoring Report
November 2013
Tisdale's Quick Stop
1989 Thurgood Marshall Blvd
Kingstree, Williamsburg County, SC
UST Permit No. 18686

Dear Mr. Martin,

Please find enclosed the referenced report for the above mentioned site. If you have any questions, please do not hesitate to contact Scott Ball at (704) 845-4010.

Sincerely,
Geological Resources, Inc.


Jackie Donnelly
Project Coordinator

Enclosure

cc: Mr. Marty Easler

file



**GROUND WATER MONITORING REPORT
NOVEMBER 2013
TISDALE'S QUICK STOP
1989 THURGOOD MARSHALL BOULEVARD
KINGSTREE, WILLIAMSBURG COUNTY
SOUTH CAROLINA
UST PERMIT NO. 18686**

Prepared for:

Mr. Marty Easler
196 Richburg Road
Greeleyville, SC 29056

Prepared by:

Geological Resources, Inc.
2301-F Crown Point Executive Drive
Charlotte, North Carolina 28227
Class I UST Site Rehabilitation Contractor # 74

December 12, 2013



W. Scott Ball
Senior Project Manager

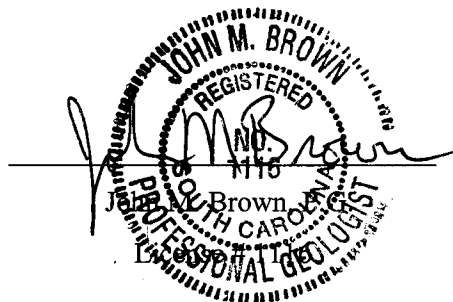


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2.0	FACILITY INFORMATION	1
3.0	GROUND WATER QUALITY	2
4.0	QA/QC	3
5.0	CONCLUSIONS AND RECOMMENDATIONS	3
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Figure 1:	Site Location Map
Figure 2:	Site Map
Figure 3:	Water Table Surface Map
Figure 4:	Ground Water Quality Map

TABLES

Table 1:	Summary of Ground Water Elevation Data
Table 2:	Summary of Laboratory Analytical Results – Ground Water Samples
Table 3:	Summary of Laboratory Analytical Results – Ground Water Samples – Oxygenates

APPENDICES

Appendix A:	Laboratory Analytical Report - Ground Water Samples
Appendix B:	Ground Water Sampling Data Sheets
Appendix C:	Disposal Manifest
Appendix D:	Contractor Checklist

Release Information:

- **Date Discovered:** March 30, 2001
- **Estimated Amount of Release:** Unknown
- **Source of Release:** Leaking UST System
- **UST Size/Contents:** Two 550 gallon gasoline tanks and one 1,000 gallon diesel tank (Removed March 1, 2001)
- **Latitude:** 33.658056° North **Longitude:** 79.813° West

3.0 GROUND WATER QUALITY

Twenty-nine Type III monitoring wells (MW-1 through MW-10, MW-13 through MW-15, MW-19, MW-20, MW-22 through MW-31 and MW-1A through MW-4A) and two telescoping monitoring wells (TW-1 and TW-2) were gauged, purged and/or sampled on November 6, 2013. Two water supply wells (WSW-1 and WSW-3) were also sampled on November 6, 2013. Monitoring wells MW-2, MW-3, MW-1A, MW-2A and MW-3A contained free product and therefore were not sampled. Free product thicknesses ranged from 0.01 feet to 0.21 feet. Monitoring well MW-17 was previously destroyed and therefore, could not be sampled. Monitoring wells MW-11, MW-12, MW-16, MW-18 and MW-21 could not be found and were not sampled. Monitoring wells MW-4 and MW-5 were obstructed and could be gauged but not sampled. All sampled monitoring wells were purged prior to sampling. The depths to ground water in the Type III monitoring wells which did not contain free product during the November 2013 sampling event ranged from 12.31 to 18.50 feet below the top of casings. Ground water elevations in the Type III monitoring wells relative to a temporary benchmark with an assumed datum of 100.00 feet ranged from 80.24 to 85.31 feet. Based on this data, ground water flow was generally toward the west. The horizontal hydraulic gradient across the site was less than 0.01 feet per foot. The vertical hydraulic gradient calculated for MW-1 and TW-1 was 0.03 feet per foot downward. A Site Map showing the locations of the monitoring wells and the structures on-site has been included as **Figure 2**. A Water Table Surface Map for the November 2013 sampling event has been included as **Figure 3**. A summary of well construction and gauging information is presented in **Table 1**.

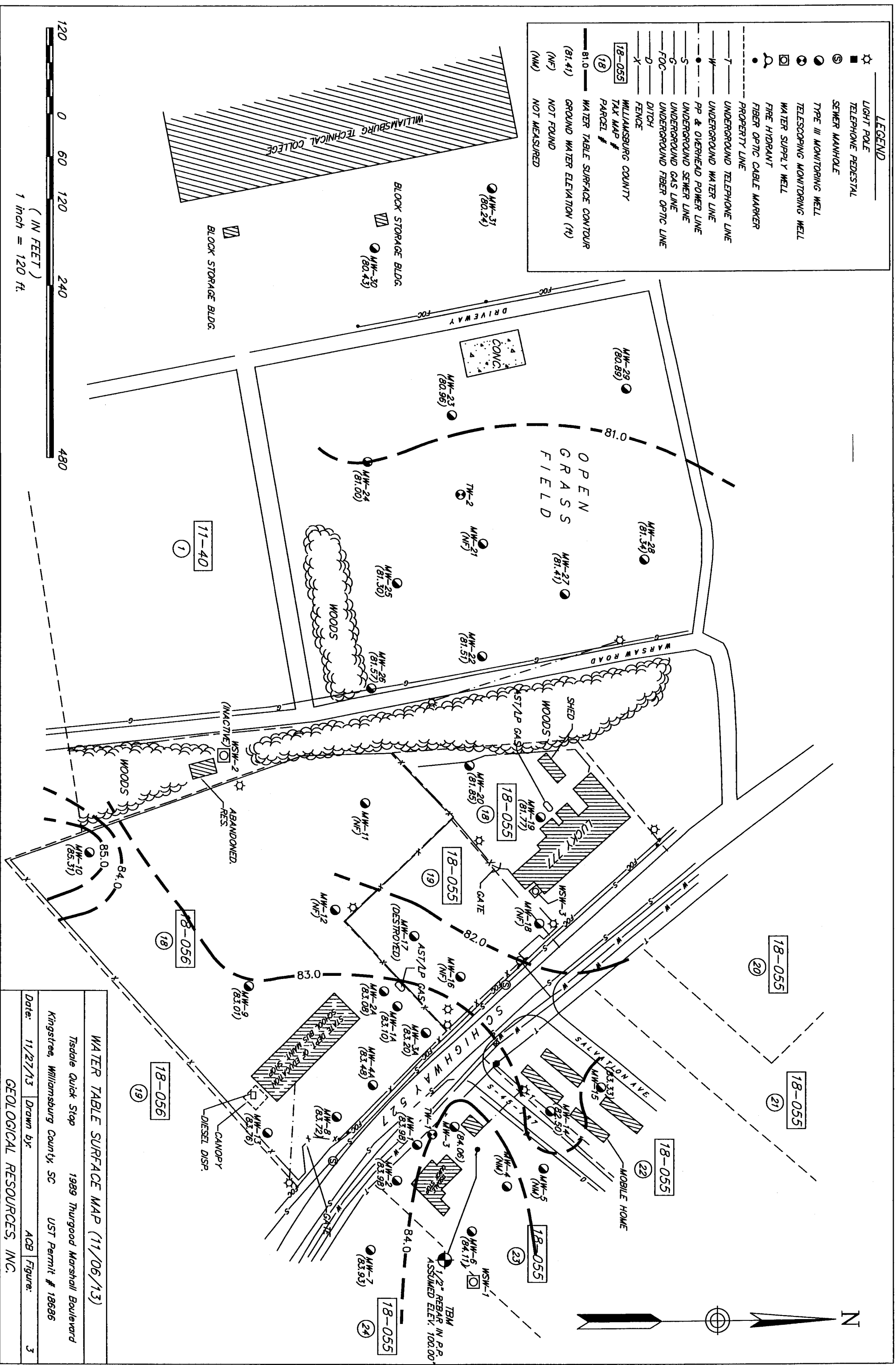
Laboratory analyses were performed on the ground water samples collected from the monitoring wells during the November 2013 sampling event for BTEX, MTBE, naphthalene, 1,2-DCA and eight oxygenates using EPA Method 8260. Concentrations of one or more BTEX constituents, MTBE, and/or naphthalene that exceeded the RBSLs were reported in the ground water samples collected from MW-1, MW-1 DUP, MW-20, MW-22, MW-23 and MW-4A. Detectable concentrations of oxygenates were reported in the samples collected from MW-1, MW-1 DUP, MW-20, MW-22, MW-23 and MW-4A. No detectable concentrations of requested method constituents were reported in the water supply well samples. A Ground Water Quality Map based on data from the November 2013 sampling event has been included as **Figure 4**. Summaries of ground

6.0 LIMITATIONS

This report has been prepared for the exclusive use of Mr. Marty Easler and the SCDHEC for specific application to the referenced site in Williamsburg County, South Carolina. The assessment was conducted based on the scope of work and level of effort specified by the SCDHEC and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of South Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

The data that are presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. In addition, the data obtained from samples would be interpreted as being meaningful with respect to parameters indicated in the laboratory report. No additional information can logically be inferred from these data.

FIGURES



LEGEND

☆ LIGHT POLE

■ TELEPHONE PEDESTAL

⊙ SEWER MANHOLE

● TYPE III MONITORING WELL

⊙ TELESCOPING MONITORING WELL

⊙ WATER SUPPLY WELL

⊙ FIRE HYDRANT

⊙ FIBER OPTIC CABLE MARKER

— PROPERTY LINE

— UNDERGROUND TELEPHONE LINE

— UNDERGROUND WATER LINE

— PP & OVERHEAD POWER LINE

— UNDERGROUND SEWER LINE

— G— UNDERGROUND GAS LINE

— FOC— UNDERGROUND FIBER OPTIC LINE

— D— DITCH

— X— FENCE

6,630 BENZENE

9,340 TOLUENE

864 ETHYLENE

4,300 XYLENES

399 MTBE

210 J NAPHTHALENE

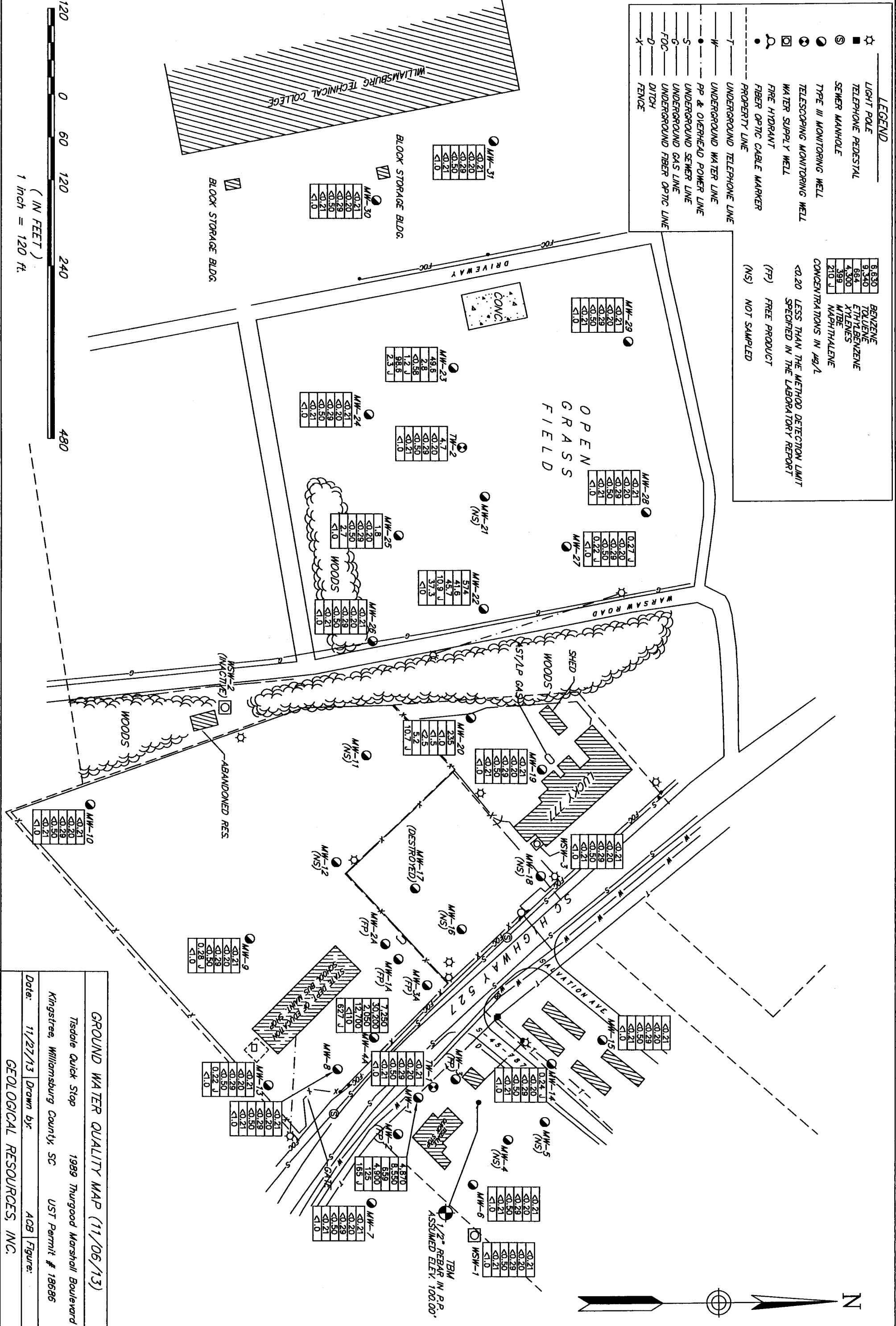
CONCENTRATIONS IN µg/l

<0.20 LESS THAN THE METHOD DETECTION LIMIT

(FP) SPECIFIED IN THE LABORATORY REPORT

(FP) FREE PRODUCT

(NS) NOT SAMPLED



GROUND WATER QUALITY MAP (11/06/13)

Tisdale Quick Stop 1989 Thurgood Marshall Boulevard

Kingstree, Williamsburg County, SC UST Permit # 18686

Date: 11/27/13 Drawn by: ACB Figure: 4

GEOLOGICAL RESOURCES, INC.

TABLES

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-1	01/16/03	98.81	15.72		83.09	20	10-20
	02/09/04		14.25		84.56		
	09/23/04		11.94		86.87		
	01/21/05		13.09		85.72		
	03/23/06		12.43		86.38		
	01/07/09		15.12		83.69		
	11/04/09		15.58		83.23		
	11/22/11		17.46		81.35		
	11/06/13		14.83		83.98		
MW-2	01/16/03	98.82	17.35	1.90	83.10	25	10-25
	02/09/04		15.17	1.07	84.57		
	09/23/04		12.95	1.18	86.88		
	01/21/05		13.61	0.61	85.73		
	03/23/06		12.43		86.39		
	01/07/09		15.03	0.02	83.81		
	11/03/09		15.97	0.11	82.94		
	11/22/11		17.87		80.95		
	11/06/13		15.02	0.21	83.98		
MW-3	01/16/03	98.74	15.36	0.33	83.66	25	10-25
	02/09/04		14.34	0.19	84.56		
	09/23/04		12.12	0.06	86.67		
	01/21/05		13.38	0.02	85.38		
	03/23/06		12.37		86.37		
	01/07/09		15.27	0.12	83.57		
	11/03/09		15.82	0.12	83.02		
	11/22/11		17.47	0.04	81.30		
	11/06/13		14.69	0.01	84.06		
MW-4	01/16/03	98.58	15.06		83.52	25	10-25
	02/09/04		14.01		84.57		
	09/23/04		11.96		86.62		
	01/21/05		13.13		85.45		
	03/23/06		12.24		86.34		
	01/07/09		14.84		83.74		
	11/04/09		15.68		82.90		
	11/22/11		OBS		OBS		
	11/06/13		OBS		OBS		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-5	01/16/03	98.13	14.77		83.36	22	12-22
	02/09/04		13.77		84.36		
	09/23/04		11.71		86.42		
	01/21/05		13.14		84.99		
	03/23/06		12.80		85.33		
	01/07/09		14.96		83.17		
	11/04/09		15.26		82.87		
	11/22/11		OBS		OBS		
	11/06/13		OBS		OBS		
MW-6	01/16/03	98.50	14.64		83.86	21.5	11.5-21.5
	02/09/04		13.86		84.64		
	09/23/04		11.86		86.64		
	01/21/05		13.38		85.12		
	03/23/06		12.81		85.69		
	01/07/09		15.00		83.50		
	11/03/09		15.23		83.27		
	11/22/11		17.47		81.03		
	11/06/13		14.39		84.11		
MW-7	01/16/03	98.19	14.69		83.50	22	12-22
	02/09/04		13.56		84.63		
	09/23/04		11.56		86.63		
	01/21/05		12.78		85.41		
	03/23/06		11.73		86.46		
	01/07/09		14.60		83.59		
	11/03/09		15.27		82.92		
	11/22/11		17.32		80.87		
	11/06/13		14.26		83.93		
MW-8	01/16/03	98.17	14.85		83.32	22	12-22
	02/09/04		13.98		84.19		
	09/23/04		12.07		86.10		
	01/21/05		13.33		84.84		
	03/23/06		12.14		86.03		
	01/08/09		15.00		83.17		
	11/03/09		15.45		82.72		
	11/22/11		17.55		80.62		
	11/06/13		14.45		83.72		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-9	01/16/03	98.52	15.79		82.73	22	12-22
	02/09/04		15.00		83.52		
	09/23/04		13.12		85.40		
	01/21/05		14.64		83.88		
	03/23/06		13.29		85.23		
	01/08/09		16.01		82.51		
	11/03/09		16.56		81.96		
	11/22/11		18.73		79.79		
	11/06/13		15.51		83.01		
MW-10	01/16/03	98.68	16.52		82.16	25	10-25
	02/09/04		15.79		82.89		
	09/23/04		13.97		84.71		
	01/21/05		15.35		83.33		
	03/23/06		14.18		84.50		
	01/08/09		15.75		82.93		
	11/03/09		17.41		81.27		
	11/22/11		19.43		79.25		
	11/06/13		13.37		85.31		
MW-11	01/16/03	94.65	12.89		81.76	22	7-22
	02/09/04		12.10		82.55		
	09/23/04		10.51		84.14		
	01/21/05		11.68		82.97		
	03/23/06		10.55		84.10		
	01/08/09		NM		NM		
	11/03/09		NM		NM		
	11/22/11		NM		NM		
	11/06/13		NM		NM		
MW-12	01/16/03	95.70	13.13		82.57	22	7-22
	02/09/04		12.35		83.35		
	09/23/04		12.67		83.03		
	01/21/05		12.06		83.64		
	03/23/06		10.80		84.90		
	01/08/09		NM		NM		
	11/03/09		NM		NM		
	11/22/11		NM		NM		
	11/06/13		NM		NM		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-13	01/16/03	99.01	15.65		83.36	25	10-25
	02/09/04		14.70		84.31		
	09/23/04		12.90		86.11		
	01/21/05		14.05		84.96		
	03/23/06		12.82		86.19		
	01/08/09		15.68		83.33		
	11/03/09		16.30		82.71		
	11/22/11		18.57		80.44		
	11/06/13		15.25		83.76		
MW-14	01/16/03	98.36	15.12		83.24	25	10-25
	02/09/04		14.24		84.12		
	09/23/04		12.03		86.33		
	01/21/05		13.78		84.58		
	03/23/06		12.75		85.61		
	01/08/09		15.32		83.04		
	11/04/09		15.77		82.59		
	11/22/11		17.72		80.64		
	11/06/13		15.86		82.50		
MW-15	01/16/03	99.59	16.40		83.19	25	10-25
	02/09/04		15.55		84.04		
	09/23/04		13.50		86.09		
	01/21/05		14.89		84.70		
	03/23/06		13.92		85.67		
	01/08/09		16.63		82.96		
	11/04/09		17.16		82.43		
	11/22/11		19.15		80.44		
	11/06/13		16.26		83.33		
MW-16	01/16/03	98.93	16.21	0.04	82.75	23	8-23
	02/09/04		15.24	0.04	83.72		
	09/23/04		13.55		85.38		
	01/21/05		14.81	0.02	84.14		
	03/23/06		13.60		85.33		
	01/08/09		16.21		82.72		
	11/04/09		16.57		82.36		
	11/22/11		NM		NM		
	11/06/13		NM		NM		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-17	01/16/03	98.25	16.00	0.07	82.31	23	8-23
	02/09/04		14.55		83.70		
	09/23/04		12.82		85.43		
	01/21/05		13.78		84.47		
	03/23/06		NM		NM		
MW-18	01/16/03	99.83	17.70		82.13	25	10-25
	02/09/04		16.91		82.92		
	09/23/04		15.06		84.77		
	01/21/05		16.45		83.38		
	03/23/06		15.31		84.52		
	01/08/09		17.89		81.94		
	11/04/09		18.40		81.43		
	11/22/11		20.20		79.63		
	11/06/13		NM		NM		
MW-19	01/16/03	100.27	18.54		81.73	25	10-25
	02/09/04		17.63		82.64		
	09/23/04		16.00		84.27		
	01/21/05		17.21		83.06		
	03/23/06		16.15		84.12		
	01/08/09		NM		NM		
	11/04/09		19.22		81.05		
	11/22/11		20.93		79.34		
	11/06/13		18.50		81.77		
MW-20	01/16/03	97.21	15.59		81.62	25	10-25
	02/09/04		14.74		82.47		
	09/23/04		13.15		84.06		
	01/21/05		14.33		82.88		
	03/23/06		13.21		84.00		
	01/08/09		NM		NM		
	11/04/09		16.30		80.91		
	11/22/11		18.02		79.19		
	11/06/13		15.36		81.85		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-21	01/16/03	95.72	14.70		81.02	23	8-23
	02/09/04		13.85		81.87		
	09/23/04		12.27		83.45		
	01/21/05		13.42		82.30		
	03/23/06		NM		NM		
	01/08/09		NM		NM		
	11/04/09		15.35		80.37		
	11/22/11		17.01		78.71		
	11/06/13		NM		NM		
MW-22	01/16/03	96.68	15.40		80.32	25	10-25
	02/09/04		14.61		82.07		
	09/23/04		12.92		83.76		
	01/21/05		14.15		82.53		
	03/23/06		13.21		83.47		
	01/08/09		15.54		81.14		
	11/04/09		16.08		80.60		
	11/22/11		17.75		78.93		
	11/06/13		15.17		81.51		
MW-23	01/16/03	95.78	15.08		80.70	24	9-24
	02/09/04		14.30		81.48		
	09/23/04		12.72		83.06		
	01/20/05		13.82		81.96		
	03/23/06		13.09		82.69		
	01/08/09		15.21		80.57		
	11/04/09		15.64		80.14		
	11/22/11		17.28		78.50		
	11/06/13		14.82		80.96		
MW-24	01/16/03	93.86	13.00		80.86	23	8-23
	02/09/04		12.19		81.67		
	09/23/04		10.58		83.28		
	01/20/05		11.71		82.15		
	03/23/06		10.87		82.99		
	01/08/09		13.17		80.69		
	11/04/09		13.79		80.07		
	11/22/11		15.28		78.58		
	11/06/13		12.86		81.00		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-25	01/16/03	94.30	13.20		81.10	23	8-23
	02/09/04		12.37		81.93		
	09/23/04		10.74		83.56		
	01/20/05		11.99		82.31		
	03/23/06		11.00		83.30		
	01/08/09		13.34		80.96		
	11/04/09		13.83		80.47		
	11/22/11		15.56		78.74		
	11/06/13		13.00		81.30		
MW-26	01/16/03	93.88	12.38		81.50	21	6-21
	02/09/04		11.62		82.26		
	09/23/04		10.03		83.85		
	01/20/05		11.18		82.70		
	03/23/06		10.58		83.30		
	01/08/09		12.44		81.44		
	11/04/09		13.26		80.62		
	11/22/11		14.92		78.96		
	11/06/13		12.31		81.57		
MW-27	01/16/03	98.15	16.99		81.16	25	10-25
	02/09/04		16.20		81.95		
	09/23/04		14.61		83.54		
	01/21/05		15.81		82.34		
	03/23/06		14.84		83.31		
	01/08/09		17.20		80.95		
	11/04/09		17.64		80.51		
	11/22/11		19.30		78.85		
	11/06/13		16.74		81.41		
MW-28	01/16/03	98.45	17.46		80.99	25	10-25
	02/09/04		16.55		81.90		
	09/23/04		15.00		83.45		
	01/21/05		16.17		82.28		
	03/23/06		15.21		83.24		
	01/08/09		NM		NM		
	11/04/09		18.00		80.45		
	11/22/11		19.60		78.85		
	11/06/13		17.11		81.34		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-29	01/16/03	96.78	16.17		80.61	25	10-25
	02/09/04		15.30		81.48		
	09/23/04		13.74		83.04		
	01/20/05		14.69		82.09		
	03/23/06		14.12		82.66		
	01/08/09		16.31		80.47		
	11/04/09		16.71		80.07		
	11/22/11		18.26		78.52		
	11/06/13		15.89		80.89		
MW-30	01/16/03	95.38	15.18		80.20	22	7-22
	02/09/04		14.36		81.02		
	09/23/04		12.85		82.53		
	01/20/05		13.72		81.66		
	03/23/06		13.04		82.34		
	01/08/09		15.41		79.97		
	11/04/09		15.74		79.64		
	11/22/11		17.36		78.02		
	11/06/13		14.95		80.43		
MW-31	09/23/04	96.05	13.88		82.17	20	10-20
	01/20/05		14.73		81.32		
	03/23/06		14.22		81.83		
	01/08/09		16.49		79.56		
	11/04/09		16.37		79.68		
	11/22/11		18.20		77.85		
	11/06/13		15.81		80.24		
MW-1A	01/21/05	97.20	13.46	0.09	83.82	Unknown	Unknown
	03/23/06		12.11		85.09		
	01/08/09		14.99		82.21		
	11/03/09		15.25	0.06	82.00		
	11/22/11		17.76	0.85	80.17		
	11/06/13		14.11	0.01	83.10		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-2A	01/21/05	97.30	13.63	0.28	83.91	Unknown	Unknown
	03/23/06		12.54	0.31	85.03		
	01/08/09		15.86	0.54	81.90		
	11/03/09		15.61	0.02	81.71		
	11/22/11		17.26		80.04		
	11/06/13		14.25	0.03	83.08		
MW-3A	01/21/05	97.27	13.46	0.22	84.00	Unknown	Unknown
	03/23/06		12.22	0.03	85.08		
	01/08/09		15.68	1.00	82.45		
	11/03/09		15.63	0.47	82.04		
	11/22/11		18.02	0.82	79.95		
	11/06/13		14.12	0.06	83.20		
MW-4A	01/21/05	98.09	13.06	0.02	85.05	Unknown	Unknown
	03/23/06		12.43		85.66		
	01/08/09		16.02	0.85	82.80		
	11/03/09		15.62	0.02	82.49		
	11/22/11		17.84	0.02	80.27		
	11/06/13		14.61		83.48		
TW-1	01/16/03	99.01	15.14		83.87	46	41-46
	02/09/04		14.81		84.20		
	09/23/04		13.16		85.85		
	01/21/05		14.39		84.62		
	03/23/06		13.35		85.66		
	01/08/09		15.97		83.04		
	11/04/09		16.84		82.17		
	11/22/11		18.76		80.25		
	11/06/13		15.76		83.25		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
TW-2	01/16/03	95.26	14.33		80.93	51	46-51
	02/09/04		13.58		81.68		
	09/23/04		11.98		83.28		
	01/21/05		13.07		82.19		
	03/23/06		12.10		83.16		
	01/08/09		14.52		80.74		
	11/04/09		15.01		80.25		
	11/22/11		16.63		78.63		
	11/06/13		14.19		81.07		

Notes:

- Elevations relative to a temporary benchmark with an assumed datum of 100.00 feet; data reported in feet.
- ** : If free product is present in a well, groundwater elevation calculated by: [Top of Casing Elevation - Depth to Water] + [free product thickness x 0.8581].
- NM: Not measured; monitoring well is destroyed, covered or could not be located.
- OBS: Monitoring well obstructed.
- Monitoring wells MW-1A through MW-4A were installed by S&ME Consultants in January 2000.
- Monitoring wells MW-16 and MW-17 were completed above grade with stand up covers; depths to ground water were measured from the tops of casing; well depths and screened intervals were measured from the ground surface.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-1	01/17/03	17,300	31,000	2,220	12,800	495	515	-	0.13
	02/09/04	11,400	19,600	1,010	12,000	395	525	-	NR
	10/07/04	4,160	7,500	504	4,400	348	290	-	0.03
	01/21/05	8,150	13,500	790	7,170	560	<500	-	NR
	03/24/06	7,800	11,800	552	6,640	833	<100	-	NR
	01/07/09	15,700	15,100	1,600	12,310	1,120	878	<500	0.092
	11/04/09	7,120	12,600	988	6,940	<500	<500	<500	0.056
	11/23/11	6,630	9,340	664	4,300	399	210 J	<20	NR
	11/06/13	4,870	8,550	659	4,900	125	165 J	<22	NR
MW-1 DUP (DUP A)	11/06/13	5,090	10,600	687	4,830	105 J	<200	<44	NR
MW-2	01/17/03	FP	FP	FP	FP	FP	FP	FP	FP
	02/09/04	FP	FP	FP	FP	FP	FP	FP	FP
	10/07/04	FP	FP	FP	FP	FP	FP	FP	FP
	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	14,600	17,900	2,240	12,000	164	495	FP	NR
	01/07/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/23/11	20,100	23,800	1,810	9,030	89.8 J	413 J	<50	NR
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
MW-2 DUP (DUP 2)	11/23/11	20,600	24,500	2,030	10,000	92.5 J	620 J	<50	NR
MW-3	01/17/03	FP	FP	FP	FP	FP	FP	FP	FP
	02/09/04	FP	FP	FP	FP	FP	FP	FP	FP
	10/07/04	FP	FP	FP	FP	FP	FP	FP	FP
	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	54.6	44.4	17.1	660	2.04	8	FP	NR
	01/07/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-4	01/17/03	3.7	<1.0	1.8	7.2	<1.0	7.4	FP	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	NR
	03/24/06	0.200J	<1.00	<1.00	1.44	0.340J	<1.00	FP	NR
	01/07/09	5.9	<5.0	<5.0	6.0	<5.0	8.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	01/17/03	<1.0	<1.0	1.7	3.4	<1.0	7.1	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	0.350J	<1.00	<1.00	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.066
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	01/17/03	<1.0	<1.0	1.9	3.8	<1.0	7	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
MW-7	01/17/03	70.3	145	24.3	308	1.8	25.7	-	<0.02
	02/09/04	<1.0	11.4	60.2	441	<1.0	40.7	-	NR
	10/07/04	<1.0	1.1	2.4	25	<1.0	5.8	-	<0.02
	01/21/05	<1.0	<1.0	4.5	26.9	<1.0	17.5	-	NR
	03/24/06	<1.00	<1.00	<1.00	23.3	0.260J	9.62	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	12.2	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	0.62 J	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-8	01/17/03	1,480	11,800	1,930	9,930	6.3	<500	-	<0.02
	02/09/04	59	1,700	424	2,380	<5.0	96	-	NR
	10/07/04	<1.0	3.2	7.4	71.1	<1.0	9	-	<0.02
	01/21/05	12	161	55.6	1,100	<1.0	52.2	-	NR
	03/24/06	4.19	24.1	118	1,070	<1.00	102	-	NR
	01/08/09	16.8	<5.0	<5.0	200.6	<5.0	18.5	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	12.8	<5.0	34.7	<5.0	<0.020
	11/22/11	11.6	1.3	8.1	7.0	<0.34	19.3	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
MW-8 DUP (DUP B)	11/06/13	0.33 J	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
MW-9	01/17/03	<1.0	<1.0	<1.0	<1.0	34	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	11.1	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	1.2	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	12.5	<5.00	-	NR
	03/24/06	<1.00	<1.00	0.270J	2.49	1.5	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/30/11	<0.20	<0.20	<0.20	<0.52	1.9	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	0.28 J	<1.0	<0.22	NR
MW-10	01/17/03	<1.0	<1.0	<1.0	<1.0	1.5	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	0.490J	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/30/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
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Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-11	01/17/03	<1.0	<1.0	<1.0	<1.0	1.6	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	23.7	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	5.1	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	0.250J	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/17/03	<1.0	<1.0	<1.0	<1.0	2	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
MW-13	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/17/03	<1.0	<1.0	<1.0	<1.0	42.5	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	145	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	6.3	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	40.8	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	11	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/30/11	<0.20	<0.20	<0.20	<0.52	2.4	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	0.22 J	<1.0	<0.22	NR

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SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
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Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-14	01/17/03	3.4	<1.0	<1.0	4.5	<1.0	10.9	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	79.5	16.7	4.8	26.8	5.8	8.7 J	<0.40	NR
MW-15	11/06/13	0.24 J	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
MW-16	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	01/17/03	FP	FP	FP	FP	FP	FP	-	FP
	02/09/04	FP	FP	FP	FP	FP	FP	-	FP
	10/07/04	FP	FP	FP	FP	FP	FP	-	FP
	01/21/05	FP	FP	FP	FP	FP	FP	-	FP
	03/24/06	14,600	20,300	2,080	11,800	536	1,080	-	NR
	01/08/09	2,660	6,520	930	5,100	<25.0	633	<25.0	<0.020
MW-16	11/04/09	18,500	33,300	2,880	16,300	454	928	<250	0.30
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS

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SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-17	01/17/03	FP	FP	FP	FP	FP	FP	-	FP
	02/09/04	<1.0	13.2	12.5	74.2	19	10.1	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	NS	NS	NS	NS	NS	NS	NS	NS
MW-18	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	15.4	5.5	<1.0	5.6	<1.0	<5.00	-	NR
	10/07/04	1.5	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	19.2	1.1	<1.0	7.1	<1.0	<5.00	-	NR
	03/24/06	36.2	1.27	<1.00	6.16	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-19	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	3.1	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-19 DUP (DUP 1)	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	11/22/11	1.3	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR

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SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-20	01/17/03	1,520	314	108	298	80.4	26.3	-	<0.02
	02/09/04	3,220	530	15.2	830	78	61.2	-	NR
	10/07/04	90.2	6.6	<1.0	19.8	94.4	<5.00	-	<0.02
	01/21/05	1,120	43.1	5.8	95.1	73	36.9	-	NR
	03/24/06	44.9	0.300J	0.310J	3.54	9.14	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	9.5	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	2.4	<0.20	<0.20	<0.52	6.2	<1.0	<0.20	NR
	11/06/13	235	<1.0	<1.5	<2.5	5.2	10.7 J	<1.1	NR
MW-21	01/17/03	269	27.5	12	118	42.6	12.6	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	NS	NS	NS	NS	NS	NS	-	NS
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	108	4.5	<0.40	<1.0	8.7	<2.0	<0.40	NR
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-22	01/17/03	2,080	281	279	576	257	67.9	-	<0.02
	02/09/04	782	49.2	41.4	77.5	93.4	15.8	-	NR
	10/07/04	109	11.3	3.2	19.5	71.4	<5.00	-	<0.02
	01/21/05	3,980	300	197	454	67	112	-	NR
	03/23/06	0.340J	<1.00	<1.00	<1.00	8.11	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	60.0	8.3	3.4	3.1	13.8	<1.0	<0.20	NR
	11/06/13	574	41.6	45.7	10.9 J	37.3	<10	<2.2	NR

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GROUND WATER SAMPLES - CHEMICALS OF CONCERN
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Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-23	01/17/03	27.6	<1.0	<1.0	3.7	27.2	10.5	-	<0.02
	02/09/04	1,760	72	<1.0	592	372	17.2	-	NR
	10/07/04	1,620	103	<1.0	598	286	46	-	<0.02
	01/20/05	1,670	111	<1.0	578	172	19.9	-	NR
	03/23/06	1,290	44.1	<1.00	266	168	38.4	-	NR
	01/08/09	574	<5.0	<5.0	30.8	65.2	<5.0	<5.0	<0.019
	11/04/09	1,250	<25.0	<25.0	98.9	152	31.0	<25.0	<0.019
	11/22/11	435	<1.0	<1.0	<2.6	140	15.9 J	<1.0	NR
	11/06/13	49.6	2.8	<0.58	1.2 J	98.6	2.3 J	<0.44	NR
MW-24	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
MW-25	01/17/03	<1.0	<1.0	<1.0	<1.0	4.9	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	0.330J	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	1.8	<0.20	<0.29	<0.50	2.7	<1.0	<0.22	NR

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SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
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Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-26	01/17/03	1.3	<1.0	<1.0	<1.0	4.7	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	0.86 J	<1.0	<0.20	NR
MW-27	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	1.7	<5.00	-	NR
	03/23/06	0.320J	<1.00	<1.00	<1.00	3.95	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
MW-28	11/22/11	6.2	<0.20	<0.20	0.61 J	2.4	<1.0	<0.20	NR
	11/06/13	0.27 J	<0.20	<0.29	<0.50	0.22 J	<1.0	<0.22	NR
	01/17/03	<1.0	<1.0	<1.0	<1.0	1.4	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	0.340 J	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	0.38 J	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR

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UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-29	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
MW-30	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	11.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
MW-31	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
MW-1A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	20,700	30,600	3,310	17,600	1,880	891	-	NR
	01/08/09	14,300	29,300	8,930	48,800	1,250	6,060	<500	0.066
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-2A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/23/06	FP	FP	FP	FP	FP	FP	FP	FP
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/30/11	260	517	37.3	491	<3.4	70.4	<2.0	NR
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
MW-3A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/23/06	FP	FP	FP	FP	FP	FP	FP	FP
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
MW-4A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	19,600	34,800	3,900	21,500	247	952	NR	NR
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	7,250	30,200	2,050	12,700	<110	627 J	<110	NR
TW-1	01/17/03	25.5	46.6	6.9	19.8	<1.0	9.3	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/23/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
TW-2	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	11.7	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	7.22	<1.00	<1.00	<1.00	1.7	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	7.0	<0.20	<0.20	<0.52	1.0	<1.0	<0.20	NR
	11/06/13	4.7	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
WSW-1	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
WSW-2	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
WSW-3	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
FIELD BLANK	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
TRIP BLANK	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR

Notes:

- Analyses for selected volatile organic compounds by EPA Method 8260B; lead by EPA Method 6010B or 200.7; and EDB by EPA Method 8011; results reported in µg/l.
- RBSL: May 2001 Risk Based Screening Level.
- Concentrations in bold face type exceeded the RBSL.
- <: Less than the report limit specified in the laboratory report.
- NS: Not sampled.
- NR: Analysis not requested.
- I or J: Estimated value.
- FP: Free product.

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-1	03/24/06	<5,000	5,030	<50.0	<50.0	<50.0	<1,000	1,280	35,000
	11/04/09	<20,000	<10,000	<1,000	<1,000	<500	<5,000	<10,000	10,200
	11/23/11	<2,500	<2,500	<31	<39	<35	<500	<300	24,100
	11/06/13	<2,100	<2,000	<55	<49	<25	<500	<470	7,700
MW-1 DUP (DUP A)	11/06/13	<4,200	<4,000	<110	<97	<51	<1,000	<950	7,020
MW-2	03/24/06	<5,000	4,620	<50.0	54	<50.0	<1,000	1,020	25,700
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/23/11	<6,300	<6,300	<78	<98	<88	<1,300	<750	37,800
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
MW-2 DUP (DUP 2)	11/23/11	<6,300	<6,300	<78	<98	<88	<1,300	<750	37,000
MW-3	03/24/06	<100	99.1	<1.00	<1.00	<1.00	<20.0	26.7	223
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
MW-4	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	11/03/09	<200	115	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-7	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-8	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	11.2 J
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-8 DUP (DUP B)	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-9	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/30/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-10	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/30/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-11	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-13	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/30/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-14	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<50	<50	<0.62	<0.78	<0.70	<10	<6.0	450
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-15	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-16	03/24/06	<5,000	5,140	<50.0	72.5	<50.0	<1,000	1,560	34,600
	11/04/09	<10,000	<5,000	<500	<500	<250	<2,500	<5,000	45,400
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-18	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	19.2 J
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-19	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	5.6 J
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-19 DUP (DUP 1)	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	12.5 J
MW-20	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	9.3 J	151
	11/06/13	<110	<100	<2.8	<2.4	<1.3	<25	<24	567
MW-21	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<50	<50	<0.62	1.1 J	<0.70	<10	25.0 J	343
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-22	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	0.60 J	3.6	<0.35	<5.0	45.3	1,370
	11/06/13	<210	<200	<5.5	8.9 J	<2.5	<50	50.3 J	2,000
MW-23	11/04/09	<1,000	<500	<50.0	<50.0	<25.0	<250	<500	1,490
	11/22/11	<130	<130	<1.6	9.7 J	<1.8	<25	<15	3,200
	11/06/13	<42	<40	2.0 J	8.8	1.5 J	<10	214	2,700
MW-24	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-25	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-26	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-27	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	43.2
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-28	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
MW-29	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-30	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-31	11/03/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
MW-1A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
MW-2A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/30/11	<250	<250	<3.1	<3.9	<3.5	<50	<30	83.3 J
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
MW-3A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
MW-4A	11/04/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	<11,000	<10,000	<280	<240	<130	<2,500	<2,400	6,280

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	Ethanol	ETBA	ETBE	TAME	DIPE	TBF	TBA	TAA
TW-1	03/24/06	<100	<10.0	<1.00	<1.00	<1.00	<20.0	<20.0	<20.0
	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/23/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
TW-2	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	15.9 J
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
WSW-1	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
WSW-3	11/04/09	<200	<100	<10.0	<10.0	<5.0	<50.0	<100	<100
	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
FIELD BLANK	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0
TRIP BLANK	11/22/11	<25	<25	<0.31	<0.39	<0.35	<5.0	<3.0	<5.0
	11/06/13	<21	<20	<0.55	<0.49	<0.25	<5.0	<4.7	<5.0

Notes:

- Analyses for oxygenates by Method 8260B; results reported in µg/l.
- <: Less than the report limit specified in the laboratory report.

APPENDICES

APPENDIX A

Laboratory Analytical Report – Ground Water Samples



Southeast

ACCUTEST

LABORATORIES

11/14/13

Technical Report for

GRI (Geological Resources Inc.)

Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

18686

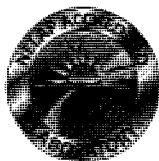
Accutest Job Number: FA9821

Sampling Date: 11/06/13

Report to:

GRI
2301 F Crown Point EX Dr
Charlotte, NC 28207
wsb@geologicalresourcesinc.com; carriekennedy@geologicalresourcesinc.com;
jjr@geologicalresourcesinc.com; nml@geologicalresourcesinc.com;
ATTN: Scott Ball

Total number of pages in report: 56



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

Harry Behzadi
Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Muna Mohammed 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001)
DoD ELAP (L-A-B L2229), CA (04226CA), TX (T104704404), PA (68-03573), VA (460177),
AK, AR, GA, KY, MA, NV, OK, UT, WA

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Test results relate only to samples analyzed.



Sample Summary

GRI (Geological Resources Inc.)

Job No: FA9821

Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC
Project No: 18686

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA9821-1	11/06/13	15:36 HZ	11/08/13	AQ	Ground Water	18686 MW 1
FA9821-2	11/06/13	14:37 HZ	11/08/13	AQ	Ground Water	18686 MW 6
FA9821-3	11/06/13	14:50 HZ	11/08/13	AQ	Ground Water	18686 MW 7
FA9821-4	11/06/13	13:30 HZ	11/08/13	AQ	Ground Water	18686 MW 8
FA9821-5	11/06/13	13:01 HZ	11/08/13	AQ	Ground Water	18686 MW 9
FA9821-6	11/06/13	12:45 HZ	11/08/13	AQ	Ground Water	18686 MW 10
FA9821-7	11/06/13	13:46 HZ	11/08/13	AQ	Ground Water	18686 MW 13
FA9821-8	11/06/13	15:51 HZ	11/08/13	AQ	Ground Water	18686 MW 14
FA9821-9	11/06/13	16:07 HZ	11/08/13	AQ	Ground Water	18686 MW 15
FA9821-10	11/06/13	11:32 HZ	11/08/13	AQ	Ground Water	18686 MW 19
FA9821-11	11/06/13	11:49 HZ	11/08/13	AQ	Ground Water	18686 MW 20
FA9821-12	11/06/13	10:52 HZ	11/08/13	AQ	Ground Water	18686 MW 27
FA9821-13	11/06/13	08:36 HZ	11/08/13	AQ	Ground Water	18686 MW 23



Sample Summary

(continued)

GRI (Geological Resources Inc.)

Job No: FA9821

Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC
Project No: 18686

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
FA9821-27	11/06/13	15:36 HZ	11/08/13	AQ Ground Water	18686 DUP A
FA9821-28	11/06/13	13:30 HZ	11/08/13	AQ Ground Water	18686 DUP B
FA9821-29	11/06/13	07:51 HZ	11/08/13	AQ Field Blank Water	18686 FIELD BLANK
FA9821-30	11/06/13	00:00 HZ	11/08/13	AQ Trip Blank Water	18686 TRIP BLANK

Summary of Hits

Page 2 of 4

Job Number: FA9821

Account: GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Collected: 11/06/13

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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FA9821-11 18686 MW 20

Benzene	235	5.0	1.1	ug/l	SW846 8260B
Methyl Tert Butyl Ether	5.2	5.0	1.1	ug/l	SW846 8260B
Naphthalene	10.7 J	25	5.0	ug/l	SW846 8260B
Tert-Amyl Alcohol	567	100	25	ug/l	SW846 8260B

FA9821-12 18686 MW 27

Benzene	0.27 J	1.0	0.21	ug/l	SW846 8260B
Methyl Tert Butyl Ether	0.22 J	1.0	0.21	ug/l	SW846 8260B

FA9821-13 18686 MW 23

Benzene	49.6	2.0	0.42	ug/l	SW846 8260B
Toluene	2.8	2.0	0.40	ug/l	SW846 8260B
Xylene (total)	1.2 J	6.0	0.99	ug/l	SW846 8260B
Methyl Tert Butyl Ether	98.6	2.0	0.42	ug/l	SW846 8260B
Naphthalene	2.3 J	10	2.0	ug/l	SW846 8260B
Di-Isopropyl ether	1.5 J	2.0	0.51	ug/l	SW846 8260B
Ethyl Tert Butyl Ether	2.0 J	4.0	1.1	ug/l	SW846 8260B
Tert-Amyl Alcohol	2700	100	25	ug/l	SW846 8260B
Tert-Amyl Methyl Ether	8.8	4.0	0.97	ug/l	SW846 8260B
Tert-Butyl Alcohol	214	40	9.5	ug/l	SW846 8260B

FA9821-14 18686 MW 24

No hits reported in this sample.

FA9821-15 18686 MW 25

Benzene	1.8	1.0	0.21	ug/l	SW846 8260B
Methyl Tert Butyl Ether	2.7	1.0	0.21	ug/l	SW846 8260B

FA9821-16 18686 MW 26

No hits reported in this sample.

FA9821-17 18686 MW 22

Benzene	574	10	2.1	ug/l	SW846 8260B
Toluene	41.6	10	2.0	ug/l	SW846 8260B
Ethylbenzene	45.7	10	2.9	ug/l	SW846 8260B
Xylene (total)	10.9 J	30	5.0	ug/l	SW846 8260B

Summary of Hits

Page 4 of 4

Job Number: FA9821

Account: GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Collected: 11/06/13

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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FA9821-27 18686 DUP A

Benzene	5090	200	42	ug/l	SW846 8260B
Toluene	10600	200	40	ug/l	SW846 8260B
Ethylbenzene	687	200	58	ug/l	SW846 8260B
Xylene (total)	4830	600	99	ug/l	SW846 8260B
Methyl Tert Butyl Ether	105 J	200	42	ug/l	SW846 8260B
Tert-Amyl Alcohol	7020	4000	1000	ug/l	SW846 8260B

FA9821-28 18686 DUP B

Benzene	0.33 J	1.0	0.21	ug/l	SW846 8260B
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FA9821-29 18686 FIELD BLANK

Toluene	0.21 J	1.0	0.20	ug/l	SW846 8260B
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FA9821-30 18686 TRIP BLANK

No hits reported in this sample.

Report of Analysis

Client Sample ID: 18686 MW 1
Lab Sample ID: FA9821-1
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Date Sampled: 11/06/13
Date Received: 11/08/13
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J090168.D	100	11/13/13	DP	n/a	n/a	VJ4522
Run #2	O20154.D	200	11/12/13	MM	n/a	n/a	VO800

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4870	100	21	ug/l	
108-88-3	Toluene	8550 ^a	200	40	ug/l	
100-41-4	Ethylbenzene	659	100	29	ug/l	
1330-20-7	Xylene (total)	4900	300	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	125	100	21	ug/l	
91-20-3	Naphthalene	165	500	100	ug/l	J
107-06-2	1,2-Dichloroethane	ND	100	22	ug/l	
108-20-3	Di-Isopropyl ether	ND	100	25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	5000	2000	ug/l	
64-17-5	Ethyl Alcohol	ND	10000	2100	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	200	55	ug/l	
75-85-4	Tert-Amyl Alcohol	7700	2000	500	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	200	49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	2000	470	ug/l	
762-75-4	Tert-Butyl Formate	ND	2000	500	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	93%	98%	79-125%
2037-26-5	Toluene-D8	98%	99%	85-112%
460-00-4	4-Bromofluorobenzene	95%	99%	83-118%

(a) Result is from Run# 2

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

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

Report of Analysis

Client Sample ID: 18686 MW 7
 Lab Sample ID: FA9821-3
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Date Sampled: 11/06/13
 Date Received: 11/08/13
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O20156.D	1	11/12/13	MM	n/a	n/a	VO800
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	98%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

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

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

Report of Analysis

Page 1 of 1

Client Sample ID: 18686 MW 9
 Lab Sample ID: FA9821-5
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Date Sampled: 11/06/13
 Date Received: 11/08/13
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O20158.D	1	11/12/13	MM	n/a	n/a	VO800
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.28	1.0	0.21	ug/l	J
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	98%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

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

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

Report of Analysis

Client Sample ID: 18686 MW 13

Lab Sample ID: FA9821-7

Date Sampled: 11/06/13

Matrix: AQ - Ground Water

Date Received: 11/08/13

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O20160.D	1	11/12/13	MM	n/a	n/a	VO800
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.22	1.0	0.21	ug/l	J
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

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

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

Report of Analysis

Client Sample ID: 18686 MW 15	Date Sampled: 11/06/13
Lab Sample ID: FA9821-9	Date Received: 11/08/13
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O20162.D	1	11/12/13	MM	n/a	n/a	VO800
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	100%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

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

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

Report of Analysis

Client Sample ID: 18686 MW 20	Date Sampled: 11/06/13
Lab Sample ID: FA9821-11	Date Received: 11/08/13
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O20164.D	5	11/12/13	MM	n/a	n/a	VO800
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	235	5.0	1.1	ug/l	
108-88-3	Toluene	ND	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/l	
1330-20-7	Xylene (total)	ND	15	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5.2	5.0	1.1	ug/l	
91-20-3	Naphthalene	10.7	25	5.0	ug/l	J
107-06-2	1,2-Dichloroethane	ND	5.0	1.1	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	1.3	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	250	100	ug/l	
64-17-5	Ethyl Alcohol	ND	500	110	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	10	2.8	ug/l	
75-85-4	Tert-Amyl Alcohol	567	100	25	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	10	2.4	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	100	24	ug/l	
762-75-4	Tert-Butyl Formate	ND	100	25	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

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

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

Report of Analysis

Client Sample ID: 18686 MW 23	Date Sampled: 11/06/13
Lab Sample ID: FA9821-13	Date Received: 11/08/13
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O20166.D	2	11/12/13	MM	n/a	n/a	VO800
Run #2	J090169.D	5	11/13/13	DP	n/a	n/a	VJ4522

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	49.6	2.0	0.42	ug/l	
108-88-3	Toluene	2.8	2.0	0.40	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.58	ug/l	
1330-20-7	Xylene (total)	1.2	6.0	0.99	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	98.6	2.0	0.42	ug/l	
91-20-3	Naphthalene	2.3	10	2.0	ug/l	J
107-06-2	1,2-Dichloroethane	ND	2.0	0.44	ug/l	
108-20-3	Di-Isopropyl ether	1.5	2.0	0.51	ug/l	J
624-95-3	3,3-Dimethyl-1-Butanol	ND	100	40	ug/l	
64-17-5	Ethyl Alcohol	ND	200	42	ug/l	
637-92-3	Ethyl Tert Butyl Ether	2.0	4.0	1.1	ug/l	J
75-85-4	Tert-Amyl Alcohol	2700 ^a	100	25	ug/l	
994-05-8	Tert-Amyl Methyl Ether	8.8	4.0	0.97	ug/l	
75-65-0	Tert-Butyl Alcohol	214	40	9.5	ug/l	
762-75-4	Tert-Butyl Formate	ND	40	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	95%	79-125%
2037-26-5	Toluene-D8	101%	98%	85-112%
460-00-4	4-Bromofluorobenzene	101%	96%	83-118%

(a) Result is from Run# 2

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

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

Report of Analysis

Client Sample ID: 18686 MW 25	
Lab Sample ID: FA9821-15	Date Sampled: 11/06/13
Matrix: AQ - Ground Water	Date Received: 11/08/13
Method: SW846 8260B	Percent Solids: n/a
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	O20168.D	1	11/12/13	MM	n/a	n/a	VO800
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.8	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.7	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

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

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

Report of Analysis

Client Sample ID:	18686 MW 22	Date Sampled:	11/06/13
Lab Sample ID:	FA9821-17	Date Received:	11/08/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J090146.D	10	11/12/13	MM	n/a	n/a	VJ4521
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	574	10	2.1	ug/l	
108-88-3	Toluene	41.6	10	2.0	ug/l	
100-41-4	Ethylbenzene	45.7	10	2.9	ug/l	
1330-20-7	Xylene (total)	10.9	30	5.0	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	37.3	10	2.1	ug/l	
91-20-3	Naphthalene	ND	50	10	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	2.2	ug/l	
108-20-3	Di-Isopropyl ether	ND	10	2.5	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	500	200	ug/l	
64-17-5	Ethyl Alcohol	ND	1000	210	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	20	5.5	ug/l	
75-85-4	Tert-Amyl Alcohol	2000	200	50	ug/l	
994-05-8	Tert-Amyl Methyl Ether	8.9	20	4.9	ug/l	J
75-65-0	Tert-Butyl Alcohol	50.3	200	47	ug/l	J
762-75-4	Tert-Butyl Formate	ND	200	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		83-118%
17060-07-0	1,2-Dichloroethane-D4	96%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

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

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

Report of Analysis

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Client Sample ID:	18686 MW 29	Date Sampled:	11/06/13
Lab Sample ID:	FA9821-19	Date Received:	11/08/13
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J090148.D	1	11/12/13	MM	n/a	n/a	VJ4521
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		83-118%
17060-07-0	1,2-Dichloroethane-D4	97%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

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

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

Report of Analysis

Client Sample ID: 18686 MW 31	Date Sampled: 11/06/13
Lab Sample ID: FA9821-21	Date Received: 11/08/13
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J090150.D	1	11/12/13	MM	n/a	n/a	VJ4521
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		83-118%
17060-07-0	1,2-Dichloroethane-D4	98%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

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

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

Report of Analysis

Client Sample ID: 18686 TW 2	
Lab Sample ID: FA9821-23	Date Sampled: 11/06/13
Matrix: AQ - Ground Water	Date Received: 11/08/13
Method: SW846 8260B	Percent Solids: n/a
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J090152.D	1	11/12/13	MM	n/a	n/a	VJ4521
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4.7	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		83-118%
17060-07-0	1,2-Dichloroethane-D4	97%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

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

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

Report of Analysis

Client Sample ID: 18686 WSW1	Date Sampled: 11/06/13
Lab Sample ID: FA9821-25	Date Received: 11/08/13
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J090154.D	1	11/12/13	MM	n/a	n/a	VJ4521
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		83-118%
17060-07-0	1,2-Dichloroethane-D4	98%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

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

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

Report of Analysis

Client Sample ID: 18686 DUP A	Date Sampled: 11/06/13
Lab Sample ID: FA9821-27	Date Received: 11/08/13
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J090156.D	200	11/12/13	MM	n/a	n/a	VJ4521
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5090	200	42	ug/l	
108-88-3	Toluene	10600	200	40	ug/l	
100-41-4	Ethylbenzene	687	200	58	ug/l	
1330-20-7	Xylene (total)	4830	600	99	ug/l	
1634-04-4	Methyl Tert Butyl Ether	105	200	42	ug/l	J
91-20-3	Naphthalene	ND	1000	200	ug/l	
107-06-2	1,2-Dichloroethane	ND	200	44	ug/l	
108-20-3	Di-Isopropyl ether	ND	200	51	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	10000	4000	ug/l	
64-17-5	Ethyl Alcohol	ND	20000	4200	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	400	110	ug/l	
75-85-4	Tert-Amyl Alcohol	7020	4000	1000	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	400	97	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	4000	950	ug/l	
762-75-4	Tert-Butyl Formate	ND	4000	1000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	95%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

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

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

Report of Analysis

Client Sample ID: 18686 FIELD BLANK	Date Sampled: 11/06/13
Lab Sample ID: FA9821-29	Date Received: 11/08/13
Matrix: AQ - Field Blank Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J090158.D	1	11/12/13	MM	n/a	n/a	VJ4521
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

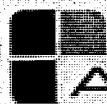
Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
108-88-3	Toluene	0.21	1.0	0.20	ug/l	J
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		83-118%
17060-07-0	1,2-Dichloroethane-D4	99%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

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

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



Southeast

ACCUTEST

LABORATORIES

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

ACCUTEST.
LABORATORIES

Accutest Laboratories Southeast Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811
TEL. 407-425-6700 • FAX: 407-425-0707

Accutest JOB #

FA982

TSK/FF#

PAGE 1 OF 3

Client / Reporting Information			Project Information			Analytical Information										Matrix Codes	
Company Name: GRI			Project Name: Tishale's Express Quick Stop														
Address: 2301-F Crown Point Exec Dr			Street: 1989 Thurgood Marshall Blvd.														
City: Charlotte	State: NC	Zip: 28227	City: Kings tree														
Facet Contact: Scott Ball	E-mail: USB @		Project #: 18686														
Phone#: 704 845 4010			Fax #:														
Samples Name(s) (Printed): Hanna Kuhnmann-Zabek			Client Purchase Order #:														
			COLLECTION			CONTAINER INFORMATION											
Accumulated Sample #	Field ID / Point of Collection		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	XI	NOX	INCOB	NOCH/ZINC	CY INTER	MOCK		
1	18686 MW1		11/6	1530	HKZ	GW	3			X						X	DW - Drinking Water GW - Ground Water WW - Waster SW - Surface Water SD - Sol SL - Sludge OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Waste
2	18686 MW6 MW2-MW4		11/6	1437	HKZ	GW	3			X						X	
3	18686 MW7		11/6	1450	HKZ	GW	3			X						X	
4	18686 MW8		11/6	1330	HKZ	GW	3			X						X	
5	18686 MW9		11/6	1351	HKZ	GW	3			X						X	
6	18686 MW10		11/6	1245	HKZ	GW	3			X						X	
7	18686 MW11 MW13		11/6	1346	HKZ	GW	3			X						X	
8	18686 MW14		11/6	1551	HKZ	GW	3			X						X	
9	18686 MW15		11/6	1607	HKZ	GW	3			X						X	
10	18686 MW19		11/6	1132	HKZ	GW	3			X						X	
11	18686 MW20		11/6	1149	HKZ	GW	3			X						X	
12	18686 MW27		11/6	1052	HKZ	GW	3			X						X	
TURNAROUND TIME (Business Days)			Date Deliverable Information													Comments / Remarks	
<input type="checkbox"/> 10 Days Standard <input type="checkbox"/> 7 Day RUSH _____ <input type="checkbox"/> 5 Day RUSH _____ <input type="checkbox"/> 3 Day EMERGENCY _____ <input type="checkbox"/> 2 Day EMERGENCY _____ <input type="checkbox"/> 1 Day EMERGENCY _____ <input type="checkbox"/> OTHER _____			Approved By: / Rush Code _____ <input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS + ANALYSIS) <input checked="" type="checkbox"/> REDT1 2028-CL QUEEN CITY DR <input type="checkbox"/> FULT1 (EPA LEVEL) CLT NC 2022J <input type="checkbox"/> EDD'S _____													ACQUEST <i>SCDHCC UST Management Section</i>	
Emergency or Rush T/A Date Available VIA Email or Linklink																	
Sample Custody must be documented below each time samples change possession, including courier delivery.																	
Relinquished by Sampler:			Date Time:	Received By:			Relinquished by:			Date Time:	Received By:						
1 HKZ			11/8/22	2 [Signature]			3 [Signature]			11/15/22	FX						
Relinquished by:			Date Time:	Received By:			Relinquished by:			Date Time:	Received By:						
FX			11/8/22	5 [Signature]			7 [Signature]				8						

Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius: 27

4.2

FA9821: Chain of Custody
Page 1 of 4

[illegible]

4.2.4

FA9821: Chain of Custody

Page 3 of 4



GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: FA9821

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4521-MB	J090139.D	1	11/12/13	MM	n/a	n/a	VJ4521

The QC reported here applies to the following samples:

Method: SW846 8260B

FA9821-16, FA9821-17, FA9821-18, FA9821-19, FA9821-20, FA9821-21, FA9821-22, FA9821-23, FA9821-24, FA9821-25, FA9821-26, FA9821-27, FA9821-28, FA9821-29, FA9821-30

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.22	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.25	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.29	ug/l	
64-17-5	Ethyl Alcohol	ND	100	21	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.55	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.21	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	5.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.49	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	4.7	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	5.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.50	ug/l	

CAS No.	Surr ogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103% 83-118%
17060-07-0	1,2-Dichloroethane-D4	96% 79-125%
2037-26-5	Toluene-D8	98% 85-112%
460-00-4	4-Bromofluorobenzene	98% 83-118%

Blank Spike Summary

Page 1 of 1

Job Number: FA9821

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VO800-BS	O20148.D	1	11/12/13	MM	n/a	n/a	VO800

The QC reported here applies to the following samples:

Method: SW846 8260B

FA9821-1, FA9821-2, FA9821-3, FA9821-4, FA9821-5, FA9821-6, FA9821-7, FA9821-8, FA9821-9, FA9821-10, FA9821-11, FA9821-12, FA9821-13, FA9821-14, FA9821-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	27.0	108	81-122
107-06-2	1,2-Dichloroethane	25	24.8	99	75-125
108-20-3	Di-Isopropyl ether	25	24.0	96	68-123
624-95-3	3,3-Dimethyl-1-Butanol	1250	1260	101	55-126
100-41-4	Ethylbenzene	25	26.5	106	81-121
64-17-5	Ethyl Alcohol	500	586	117	46-145
637-92-3	Ethyl Tert Butyl Ether	25	21.3	85	71-120
1634-04-4	Methyl Tert Butyl Ether	25	19.4	78	72-117
91-20-3	Naphthalene	25	20.6	82	63-132
75-85-4	Tert-Amyl Alcohol	250	218	87	65-124
994-05-8	Tert-Amyl Methyl Ether	25	19.2	77	73-122
75-65-0	Tert-Butyl Alcohol	250	231	92	63-129
762-75-4	Tert-Butyl Formate	250	242	97	46-130
108-88-3	Toluene	25	25.4	102	80-120
1330-20-7	Xylene (total)	75	80.4	107	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	96%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	97%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: FA9821

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4522-BS	J090166.D	1	11/13/13	DP	n/a	n/a	VJ4522

The QC reported here applies to the following samples:

Method: SW846 8260B

FA9821-1, FA9821-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	28.3	113	81-122
107-06-2	1,2-Dichloroethane	25	27.3	109	75-125
108-20-3	Di-Isopropyl ether	25	25.6	102	68-123
624-95-3	3,3-Dimethyl-1-Butanol	1250	997	80	55-126
100-41-4	Ethylbenzene	25	27.0	108	81-121
64-17-5	Ethyl Alcohol	500	444	89	46-145
637-92-3	Ethyl Tert Butyl Ether	25	23.7	95	71-120
1634-04-4	Methyl Tert Butyl Ether	25	24.0	96	72-117
91-20-3	Naphthalene	25	23.7	95	63-132
75-85-4	Tert-Amyl Alcohol	250	228	91	65-124
994-05-8	Tert-Amyl Methyl Ether	25	24.1	96	73-122
75-65-0	Tert-Butyl Alcohol	250	223	89	63-129
762-75-4	Tert-Butyl Formate	250	305	122	46-130
1330-20-7	Xylene (total)	75	77.4	103	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	94%	79-125%
2037-26-5	Toluene-D8	93%	85-112%
460-00-4	4-Bromofluorobenzene	92%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: FA9821

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA9821-16MS	J090160.D	1	11/12/13	MM	n/a	n/a	VJ4521
FA9821-16MSD	J090161.D	1	11/12/13	MM	n/a	n/a	VJ4521
FA9821-16	J090145.D	1	11/12/13	MM	n/a	n/a	VJ4521

The QC reported here applies to the following samples:

Method: SW846 8260B

FA9821-16, FA9821-17, FA9821-18, FA9821-19, FA9821-20, FA9821-21, FA9821-22, FA9821-23, FA9821-24, FA9821-25, FA9821-26, FA9821-27, FA9821-28, FA9821-29, FA9821-30

CAS No.	Compound	FA9821-16 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	25	28.8	115	27.4	110	5	81-122/14
107-06-2	1,2-Dichloroethane	ND	25	27.7	111	26.4	106	5	75-125/14
108-20-3	Di-Isopropyl ether	ND	25	23.8	95	24.2	97	2	68-123/16
624-95-3	3,3-Dimethyl-1-Butanol	ND	1250	922	74	959	77	4	55-126/17
100-41-4	Ethylbenzene	ND	25	26.2	105	25.9	104	1	81-121/14
64-17-5	Ethyl Alcohol	ND	500	395	79	452	90	13	46-145/30
637-92-3	Ethyl Tert Butyl Ether	ND	25	23.3	93	23.2	93	0	71-120/14
1634-04-4	Methyl Tert Butyl Ether	ND	25	23.1	92	24.1	96	4	72-117/14
91-20-3	Naphthalene	ND	25	22.2	89	23.5	94	6	63-132/25
75-85-4	Tert-Amyl Alcohol	ND	250	214	86	226	90	5	65-124/23
994-05-8	Tert-Amyl Methyl Ether	ND	25	23.2	93	23.3	93	0	73-122/13
75-65-0	Tert-Butyl Alcohol	ND	250	323	129	315	126	3	63-129/27
762-75-4	Tert-Butyl Formate	ND	250	59.3	24*	52.1	21*	13	46-130/33
108-88-3	Toluene	ND	25	25.8	103	25.5	102	1	80-120/14
1330-20-7	Xylene (total)	ND	75	74.0	99	72.5	97	2	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA9821-16	Limits
1868-53-7	Dibromofluoromethane	100%	100%	106%	83-118%
17060-07-0	1,2-Dichloroethane-D4	95%	94%	97%	79-125%
2037-26-5	Toluene-D8	91%	92%	94%	85-112%
460-00-4	4-Bromofluorobenzene	90%	90%	97%	83-118%

* = Outside of Control Limits.

APPENDIX B
Ground Water Sampling Data Sheets

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): <u>11/6/13</u>	
Field Personnel: <u>HKZ</u>	
General Weather Conditions: <u>Sunny</u>	
Ambient Air Temperature: <u>76</u> F	
Quality Assurance	
pH Meter serial no. _____ pH=4.0 _____ pH=7.0 _____ pH=10.0 _____	Conductivity Meter serial no. _____ Standard _____ Standard _____ Standard _____
Chain of Custody <u>YES! 06E1766 AS</u> <u>Hanna Tuned-Up Meter</u>	
Relinquished by _____	Date/Time _____
Received by _____	Date/Time _____

Facility Name: <u>Tisdale's Quick Stop</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW1</u>
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 = 0.052	
* Free Product Thickness: <u>0</u> feet	
Depth to Ground Water (DGW) <u>14.83</u> feet	
Total Well Depth (TWD) <u>20.14</u> feet	
Length of the water column (LWC = TWD-DGW) <u>5.31</u> feet	
1 casing volume (CV = LWC X C) = <u>0.86</u>	
3 casing volume 3 X CV = _____	gals (standard purge volume)
Total volume of Water Purged Before Sampling <u>0.8</u>	gals
Total volume of Water Purged for Post Sampling <u>0</u>	gals
<u>0.8</u>	Total Purged
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	0.86	1.72	2.58				
Time (military)	1535	1536						1536
pH (s.u.)	5.53							
Specific Cond. (umhos/cm)	114							
Water Temperature (degrees C)	22.73							
Turbidity (subjective: clear, slightly cloudy, cloudy)	102							
Dissolved Oxygen (mg/l)	0.76							
PID readings, if required								

Remarks:

Dry at 1 vol. ~ 0.8 gal. Just enough for readings, sample and duplicate

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): <u>11/6/13</u>	
Field Personnel: <u>HKZ</u>	
General Weather Conditions: <u>Sunny</u>	
Ambient Air Temperature: <u>75</u> F	
<u>Quality Assurance</u>	
pH Meter serial no. _____ pH=4.0 _____ pH=7.0 _____ pH=10.0 _____	Conductivity Meter serial no. _____ Standard _____ Standard _____ Standard _____
Chain of Custody <u>YSI 06E1766 AS</u> <u>Hanna Turbidity Meter</u>	
Relinquished by _____	Date/Time _____
Received by _____	Date/Time _____

Facility Name: <u>Tisdale's Quick Stop</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW2</u>
Well Diameter (D): _____ 0.107 feet	
Conversion factor (C): 3.14 X (D/2) ² for a 2 inch well C = 0.163 for a 4 inch well C = 0.052	
* Free Product Thickness: _____	<u>0.21</u> feet
Depth to Ground Water (DGW) _____	<u>15.02</u> feet
Total Well Depth (TWD) _____	<u>25.50</u> feet
Length of the water column (LWC = TWD-DGW) _____	_____ feet
1 casing volume (CV = LWC X C) = _____	<u>NS</u>
3 casing volume 3 X CV = _____	<u>NS</u> gals (standard purge volume)
Total volume of Water Purged Before Sampling _____	<u>0</u> gals
Total volume of Water Purged for Post Sampling _____	<u>0</u> gals
	<u>0</u> Total Purged
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							NS
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks:

Bailer confirmed free product. Dark in color

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): <u>11/6/13</u>	
Field Personnel: <u>HVZ</u>	
General Weather Conditions: <u>Sunny</u>	
Ambient Air Temperature: <u>75</u> F	
Quality Assurance	
pH Meter serial no. _____ pH=4.0 _____ pH=7.0 _____ pH=10.0 _____	Conductivity Meter serial no. _____ Standard _____ Standard _____ Standard _____
Chain of Custody <u>YSI 06E1766 AS</u> <u>Hanna Turbidity Meter</u>	
Relinquished by	Date/Time
Received by	Date/Time

Facility Name: <u>Tisdale's Quick Stop</u>	
Site ID #: <u>18686</u>	Monitoring Well #: <u>MW3</u>
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:	<u>0.01</u> feet
Depth to Ground Water (DGW)	<u>14.69</u> feet
Total Well Depth (TWD)	<u>25.21</u> feet
Length of the water column (LWC = TWD-DGW)	_____ feet
1 casing volume (CV = LWC X C) =	<u>NS</u>
3 casing volume 3 X CV =	_____ gals (standard purge volume)
Total volume of Water Purged Before Sampling	<u>NS</u> gals
Total volume of Water Purged for Post Sampling	<u>8</u> gals
	<u>NS</u> Total Purged
*if free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							NS
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								
Remarks:								

Bailer confirmed free product. Dark in color.

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): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 75 F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody YSI 06B1766 AS
Anna Turndorf Meyer

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale's Quick Stop

Site ID # 18606 Monitoring Well # MW 4

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: _____ feet

Depth to Ground Water (DGW) _____ feet

Total Well Depth (TWD) 13.46 feet

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

1 casing volume (CV = LWC X C) = _____

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

Total volume of Water Purged Before Sampling _____ gals

Total volume of Water Purged for Post Sampling 0 gals

Total Purged _____

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								
Remarks:								

Likely obstructed. Not sampled. Dry well.

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): <u>11/0/13</u>	
Field Personnel: <u>HKZ</u>	
General Weather Conditions: <u>Sunny</u>	
Ambient Air Temperature: <u>75</u> F	
Quality Assurance	
pH Meter serial no. _____ pH=4.0 _____ pH=7.0 _____ pH=10.0 _____	Conductivity Meter serial no. _____ Standard _____ Standard _____ Standard _____
Chain of Custody <u>451 06E1766 AS</u> <u>Anna Turckley Meyer</u>	
Relinquished by	Date/Time
Received by	Date/Time

Facility Name: <u>Tisdale's Quick Stop</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW 5</u>
Well Diameter (D): _____ 0.167 feet	
Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163 for a 4 inch well C = 0.052	
* Free Product Thickness: _____	feet
Depth to Ground Water (DGW) _____	feet
Total Well Depth (TWD) _____	12.82 feet
Length of the water column (LWC = TWD-DGW) _____	feet
1 casing volume (CV = LWC X C) = _____	
3 casing volume 3 X CV = _____ gals (standard purge volume)	
Total volume of Water Purged Before Sampling _____ gals	
Total volume of Water Purged for Post Sampling _____ gals	
Total Purged _____	
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								
Remarks:								

Likely obstructed. Dry well.

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): <u>11/6/13</u>	
Field Personnel: <u>HKZ</u>	
General Weather Conditions: <u>Sunny</u>	
Ambient Air Temperature: <u>75</u> F	
<u>Quality Assurance</u>	
pH Meter serial no. _____ pH=4.0 _____ pH=7.0 _____ pH=10.0 _____	Conductivity Meter serial no. _____ Standard _____ Standard _____ Standard _____
Chain of Custody <u>451 06E1766 AS</u> <u>Hanna Turbidity Meter</u>	
Relinquished by _____	Date/Time _____
Received by _____	Date/Time _____

Facility Name: <u>Tisdale's Quick Stop</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW 6</u>
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: _____	_____ feet
Depth to Ground Water (DGW) _____	_____ feet
Total Well Depth (TWD) _____	_____ feet
Length of the water column (LWC = TWD-DGW) _____	_____ feet
1 casing volume (CV = LWC X C) = _____	_____
3 casing volume 3 X CV = <u>3.24</u>	<u>1.08</u> gals (standard purge volume)
Total volume of Water Purged Before Sampling _____	_____ gals
Total volume of Water Purged for Post Sampling _____	_____ gals
	<u>2.16</u> 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)	<u>0.25</u>	<u>1.08</u>	<u>2.16</u>	<u>3.24</u>				
Time (military)	<u>1433</u>	<u>1435</u>	<u>1437</u>					<u>1437</u>
pH (s.u.)	<u>4.59</u>	<u>4.38</u>						
Specific Cond. (umhos/cm)	<u>245</u>	<u>242</u>						
Water Temperature (degrees C)	<u>22.77</u>	<u>22.40</u>						
Turbidity (subjective: clear, slightly cloudy, cloudy)	<u>232</u>	<u>71000</u>	<u>7000</u>					
Dissolved Oxygen (mg/l)	<u>1.94</u>	<u>2.03</u>						
PID readings, if required								
Remarks:								

Dry at 2 vol. not enough for readings.

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 75 F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody YSI 06B1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale's Quick Stop

Site ID # 18606 Monitoring Well # MW7

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: _____ 0 feet

Depth to Ground Water (DGW) _____ 14.26 feet

Total Well Depth (TWD) _____ 21.72 feet

Length of the water column (LWC = TWD-DGW) _____ 7.46 feet

1 casing volume (CV = LWC X C) = _____ 1.21

3 casing volume 3 X CV = _____ 3.63 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ 2.25 gals

Total volume of Water Purged for Post Sampling _____ 0 gals

_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.21	2.42	3.63				
Time (military)	1446	1448						1450
pH (s.u.)	4.49	4.29						
Specific Cond. (umhos/cm)	54	40						
Water Temperature (degrees C)	21.63	20.99						
Turbidity (subjective: clear, slightly cloudy, cloudy)	148	71000						
Dissolved Oxygen (mg/l)	3.82	3.87						
PID readings, if required								

Remarks:

Dry after ~2.25 gal. 1/4 bailer. just enough for sample

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): <u>11/6/13</u>			
Field Personnel: <u>HKE</u>			
General Weather Conditions: <u>Sunny</u>			
Ambient Air Temperature: <u>75</u> F			
Quality Assurance			
pH Meter	Conductivity Meter		
serial no.	serial no.		
pH=4.0	Standard		
pH=7.0	Standard		
pH=10.0	Standard		
Chain of Custody <u>451 068176 AS</u>			
<u>Hanna Turbidity Meter</u>			
Relinquished by	Date/Time	Received by	Date/Time

Facility Name: <u>Tisdale's Quick Stop</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW8</u>
Well Diameter (D): <u>0.167</u> feet	
Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163 for a 4 inch well C = 0.652	
* Free Product Thickness:	<u>0</u> feet
Depth to Ground Water (DGW)	<u>14.45</u> feet
Total Well Depth (TWD)	<u>21.34</u> feet
Length of the water column (LWC = TWD-DGW)	<u>6.89</u> feet
1 casing volume (CV = LWC X C) =	<u>1.12</u>
3 casing volume 3 X CV =	<u>3.36</u> gals (standard purge volume)
Total volume of Water Purged Before Sampling	<u>1.75</u> gals
Total volume of Water Purged for Post Sampling	<u>0</u> gals
	<u>1.75</u> Total Purged
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.12	2.24	3.36				
Time (military)	1327	1329						1330
pH (s.u.)	4.89	4.84						
Specific Cond. (umhos/cm)	58	55						
Water Temperature (degrees C)	21.87	21.76						
Turbidity (subjective: clear, slightly cloudy, cloudy)	99.2	555						
Dissolved Oxygen (mg/l)	4.45	3.47						
PID readings, if required								

Remarks:

Dry @ 1.75 gal ~7 bailers. barely enough for sample and duplicate.

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): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 73 °F

Quality Assurance

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

Chain of Custody: YSI 06E1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW 9

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 = 0.052

* Free Product Thickness: _____ feet

Depth to Ground Water (DGW) 15.51 feet

Total Well Depth (TWD) 21.64 feet

Length of the water column (LWC = TWD-DGW) 6.13 feet

1 casing volume (CV = LWC X C) = 0.99

3 casing volume 3 X CV = 2.97 gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.5 gals

Total volume of Water Purged for Post Sampling 0 gals

1.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	0.99	1.98	2.97				
Time (military)	1258	1300						1301
pH (s.u.)	4.71	4.61						
Specific Cond. (umhos/cm)	52	66						
Water Temperature (degrees C)	23.24	23.00						
Turbidity (subjective: clear, slightly cloudy, cloudy)	188	71000						
Dissolved Oxygen (mg/l)	5.63	5.65						
PID readings, if required								

Remarks:

Dry after ~1.5 gal. Not enough for readings.

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy):	11/6/13		
Field Personnel:	HKZ		
General Weather Conditions:	Sunny		
Ambient Air Temperature:	73	F	
Quality Assurance			
pH Meter	Conductivity Meter		
serial no.	serial no.		
pH=4.0	Standard		
pH=7.0	Standard		
pH=10.0	Standard		
Chain of Custody		YS1 06E1766 AS	
		Hanna Turbidity Meter	
Relinquished by	Date/Time	Received by	Date/Time

Facility Name:	Tisdale's Quick Stop		
Site ID #	18686	Monitoring Well #	MW10
Well Diameter (D):	0.167 feet		
Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163 for a 4 inch well C = 0.652			
* Free Product Thickness:	0	feet	
Depth to Ground Water (DGW)	13.37	feet	
Total Well Depth (TWD)	24.76	feet	
Length of the water column (LWC = TWD-DGW)	11.39	feet	
1 casing volume (CV = LWC X C) =	1.86		
3 casing volume 3 X CV =	5.58	gals (standard purge volume)	
Total volume of Water Purged Before Sampling		gals	
Total volume of Water Purged for Post Sampling		gals	
		Total Purged	
*If free product is present over 1/8 inch, sampling will not be required.			

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.86	3.72	5.58				
Time (military)	1239	1242						1245
pH (s.u.)	4.19	4.04						
Specific Cond. (umhos/cm)	36	40						
Water Temperature (degrees C)	20.60	19.85						
Turbidity (subjective: clear, slightly cloudy, cloudy)	51.7	71000						
Dissolved Oxygen (mg/l)	6.68	7.25						
PID readings, if required								
Remarks:								

Dry after ~2.75 gal. Not enough to take readings.

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 75 F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody YSI 06E1766 AS
Hanna Turbidity Meter

Relinquished by _____	Date/Time _____	Received by _____	Date/Time _____
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Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW13

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: _____ 0 feet

Depth to Ground Water (DGW) _____ 15.25 feet

Total Well Depth (TWD) _____ 23.29 feet

Length of the water column (LWC = TWD-DGW) _____ 8.04 feet

1 casing volume (CV = LWC X C) = _____ 1.31

3 casing volume 3 X CV = _____ 3.93 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ 2.5 gals

Total volume of Water Purged for Post Sampling _____ 0 gals

_____ 2.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.31	2.62	3.93				
Time (military)	1343	1345						1346
pH (s.u.)	5.12	5.09	4.96					
Specific Cond. (umhos/cm)	160	162	170					
Water Temperature (degrees C)	21.90	21.99	21.47					
Turbidity (subjective: clear, slightly cloudy, cloudy)	87.3	21000						
Dissolved Oxygen (mg/l)	2.65	2.81	2.58					
PID readings, if required								

Remarks:

Dry at ~2.5 gals (half a bucket). 1/4 bucket barely enough to fill vials.

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): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 76 F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody YSI 06E1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale's Quick Stop

Site ID # 18606 Monitoring Well # MW 14

Well Diameter (D): _____ 0.167 feet

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

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 15.86 feet

Total Well Depth (TWD) 23.99 feet

Length of the water column (LWC = TWD-DGW) 8.13 feet

1 casing volume (CV = LWC X C) = 1.32

3 casing volume 3 X CV = 3.96 gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.5 gals

Total volume of Water Purged for Post Sampling 0 gals

2.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.32	2.64	3.96				
Time (military)	1547	1549						1551
pH (s.u.)	5.46	5.42						
Specific Cond. (umhos/cm)	160	182						
Water Temperature (degrees C)	23.15	22.86						
Turbidity (subjective: clear, slightly cloudy, cloudy)	47.8	71000						
Dissolved Oxygen (mg/l)	4.39	4.50						
PID readings, if required								

Remarks:



Dry @ 2.5 gal. Not enough for readings

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 11/6/13

Field Personnel: JKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 76 F

Quality Assurance

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

Chain of Custody 451 06E1766 AS
Hanna Turndorf Meyer

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW15

Well Diameter (D): 0.167 feet

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

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 16.26 feet

Total Well Depth (TWD) 24.27 feet

Length of the water column (LWC = TWD-DGW) 8.01 feet

1 casing volume (CV = LWC X C) = 1.30

3 casing volume 3 X CV = 3.90 gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.00 gals

Total volume of Water Purged for Post Sampling 0 gals

2.00 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.30	2.60	3.90				
Time (military)	1603	1605						1607
pH (s.u.)	4.39	4.23						
Specific Cond. (umhos/cm)	98	105						
Water Temperature (degrees C)	21.45	20.57						
Turbidity (subjective: clear, slightly cloudy, cloudy)	163	>1000						
Dissolved Oxygen (mg/l)	4.69	4.49						
PID readings, if required								

Remarks:

Dry at ~2 gal (8 bailers). Not enough for readings.



Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy):	11/6/13		
Field Personnel:	HKZ		
General Weather Conditions:	Partly Cloudy		
Ambient Air Temperature:	71 F		
Quality Assurance			
pH Meter	Conductivity Meter		
serial no.	serial no.		
pH=4.0	Standard		
pH=7.0	Standard		
pH=10.0	Standard		
Chain of Custody			
451 06E1766 AS Anna Turndorf Meyer			
Relinquished by	Date/Time	Received by	Date/Time

Facility Name:	Tisdale's Quick Stop		
Site ID #	18686	Monitoring Well #	MW19
Well Diameter (D):	0.167 feet		
Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well $C = 0.163$ for a 4 inch well $C = 0.652$			
* Free Product Thickness:	Ø feet		
Depth to Ground Water (DGW)	18.50	18.45	feet
Total Well Depth (TWD)	24.45 feet		
Length of the water column (LWC = TWD-DGW)	5.95 feet		
1 casing volume (CV = LWC X C) =	2.88	6.96	
3 casing volume 3 X CV =	gals (standard purge volume)		
Total volume of Water Purged Before Sampling	2.0	gals	
Total volume of Water Purged for Post Sampling	8	gals	
	2.0	Total Purged	
*If free product is present over 1/8 inch, sampling will not be required.			

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	0.96	1.92	2.88				
Time (military)	1127	1129						1132
pH (s.u.)	4.45	4.41						
Specific Cond. (umhos/cm)	94	95						
Water Temperature (degrees C)	22.36	21.88						
Turbidity (subjective: clear, slightly cloudy, cloudy)	136	899						
Dissolved Oxygen (mg/l)	5.71	5.86						
PID readings, if required								

Remarks:

Dry at 2 vol. (~2.0 gal). Not enough for readings.

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): <u>11/6/13</u>	
Field Personnel: <u>HKZ</u>	
General Weather Conditions: <u>Partly cloudy</u>	
Ambient Air Temperature: <u>71</u> F	
<u>Quality Assurance</u>	
pH Meter serial no. _____ pH=4.0 _____ pH=7.0 _____ pH=10.0 _____	Conductivity Meter serial no. _____ Standard _____ Standard _____ Standard _____
Chain of Custody <u>YSI 06E1766 AS</u> <u>Hanna Turbidity Meter</u>	
Relinquished by	Date/Time
Received by	Date/Time

Facility Name: <u>Tisdale's Quick Stop</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW20</u>
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: _____	feet
Depth to Ground Water (DGW) _____	feet
Total Well Depth (TWD) _____	feet
Length of the water column (LWC = TWD-DGW) _____	feet
1 casing volume (CV = LWC X C) = <u>1.38</u>	
3 casing volume 3 X CV = <u>4.14</u>	gals (standard purge volume)
Total volume of Water Purged Before Sampling _____	gals
Total volume of Water Purged for Post Sampling _____	gals
<u>2.5</u>	Total Purged
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.38	2.76	4.14				
Time (military)	1144	1147						1149
pH (s.u.)	4.49	4.42						
Specific Cond. (umhos/cm)	59	59						
Water Temperature (degrees C)	21.15	20.81						
Turbidity (subjective: clear, slightly cloudy, cloudy)	185	773						
Dissolved Oxygen (mg/l)	2.68	2.76						
PID readings, if required								
Remarks:								

Dry after ~2.5 gal. Not enough for readings (1/4 barrel)

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): 11/0/13

Field Personnel: HKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 69 F

Quality Assurance

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

Chain of Custody 451 06E1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW 22

Well Diameter (D): 0.167 feet

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

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW): 15.17 feet

Total Well Depth (TWD): 23.59 feet

Length of the water column (LWC = TWD-DGW): 8.42 feet

1 casing volume (CV = LWC X C) = 1.37

3 casing volume 3 X CV = 4.11 gals (standard purge volume)

Total volume of Water Purged Before Sampling: 2.50 gals

Total volume of Water Purged for Post Sampling: 0 gals

2.50 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.37	2.74	4.11				
Time (military)	1033	1035						1037
pH (s.u.)	4.80	4.70						
Specific Cond. (umhos/cm)	32	37						
Water Temperature (degrees C)	23.36	22.09						
Turbidity (subjective: clear, slightly cloudy, cloudy)	130	679						
Dissolved Oxygen (mg/l)	5.25	4.30	679					
PID readings, if required	0	4.78						
Remarks:								

Dry @ 2.5 gal, not enough for readings

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 11/6/13

Field Personnel: HKZ

General Weather Conditions: partly cloudy

Ambient Air Temperature: 60 °F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody 451 06E1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW23

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: 0 feet

Depth to Ground Water (DGW) 14.82 feet

Total Well Depth (TWD) 22.28 feet

Length of the water column (LWC = TWD-DGW) 7.46 feet

1 casing volume (CV = LWC X C) = 1.22

3 casing volume 3 X CV = 3.66 gals (standard purge volume)

Total volume of Water Purged Before Sampling 3.66 gals

Total volume of Water Purged for Post Sampling 0 gals

3.66 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.22	2.44	3.66				
Time (military)	830	832	834	836				836
pH (s.u.)	4.65	4.77	4.78					
Specific Cond. (umhos/cm)	46	50	47					
Water Temperature (degrees C)	19.49	19.72	19.97					
Turbidity (subjective: clear, slightly cloudy, cloudy)	170	694	839					
Dissolved Oxygen (mg/l)	5.35	3.00	3.01					
PID readings, if required								

Remarks:

Dry @ 3 vol. Not enough for readings. (1/4 bailer)

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): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Partly cloudy

Ambient Air Temperature: 60 F

Quality Assurance

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

Chain of Custody 451 06E1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW24

Well Diameter (D): 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 12.86 feet

Total Well Depth (TWD) 21.04 feet

Length of the water column (LWC = TWD-DGW) 8.18 feet

1 casing volume (CV = LWC X C) = 1.33

3 casing volume 3 X CV = 3.99 gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.0 gals

Total volume of Water Purged for Post Sampling 0 gals

2.0 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.33	2.66	3.99				
Time (military)	852	854						855
pH (s.u.)	5.06	5.14						
Specific Cond. (umhos/cm)	38	39						
Water Temperature (degrees C)	20.51	20.29						
Turbidity (subjective: clear, slightly cloudy, cloudy)	141	71000						71000
Dissolved Oxygen (mg/l)	6.77	6.61						
PID readings, if required								

Remarks:

Dry @ 2.0 gal

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): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 65 F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody YSI 06B1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale's Quick Stop

Site ID # 18606 Monitoring Well # MW 25

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 = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 13.00 feet

Total Well Depth (TWD) 20.51 feet

Length of the water column (LWC = TWD-DGW) 7.51 feet

1 casing volume (CV = LWC X C) = 1.22

3 casing volume 3 X CV = 3.66 gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.0 gals

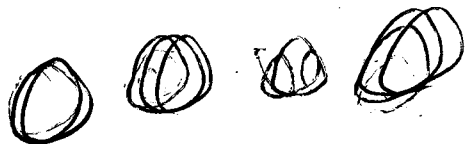
Total volume of Water Purged for Post Sampling 0 gals

2.0 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.22	2.44	3.66				
Time (military)	953	955						956
pH (s.u.)	5.75	5.52						
Specific Cond. (umhos/cm)	62	53						
Water Temperature (degrees C)	20.84	20.87						
Turbidity (subjective: clear, slightly cloudy, cloudy)	418	71000						
Dissolved Oxygen (mg/l)	5.57	5.91						
PID readings, if required								

Remarks: Dry after ~2.0 gal. Not enough for readings



Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 11/6/13
Field Personnel: HKZ
General Weather Conditions: Sunny
Ambient Air Temperature: 65 F
Quality Assurance
pH Meter serial no. _____ Conductivity Meter serial no. _____
pH=4.0 _____ Standard _____
pH=7.0 _____ Standard _____
pH=10.0 _____ Standard _____
Chain of Custody 451 06 E1766 AS
Anna Turndorph Meyer
Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Tisdale's Quick Stop
Site ID # 18686 Monitoring Well # NW26
Well Diameter (D): _____ 0.167 feet
Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.652
* Free Product Thickness: 0 feet
Depth to Ground Water (DGW) 12.31 feet
Total Well Depth (TWD) 19.66 feet
Length of the water column (LWC = TWD-DGW) 7.35 feet
1 casing volume (CV = LWC X C) = 1.19
3 casing volume 3 X CV = 3.57 gals (standard purge volume)
Total volume of Water Purged Before Sampling 2.38 gals
Total volume of Water Purged for Post Sampling 0 gals
2.38 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.19	2.38	3.57				
Time (military)	1015	1017	1019					1019
pH (s.u.)	4.99	4.98						
Specific Cond. (umhos/cm)	38	39						
Water Temperature (degrees C)	19.87	20.15						
Turbidity (subjective: clear, slightly cloudy, cloudy)	283	71000						
Dissolved Oxygen (mg/l)	1.41	2.01						
PID readings, if required								
Remarks:								

Dry at 2 vol. Not enough for readings.

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 69 F

Quality Assurance

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

Chain of Custody YSI 06B1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW 27

Well Diameter (D): 0.167 feet

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

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 16.74 feet

Total Well Depth (TWD) 24.92 feet

Length of the water column (LWC = TWD-DGW) 8.18 feet

1 casing volume (CV = LWC X C) = 1.33

3 casing volume 3 X CV = 3.99 gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.5 gals

Total volume of Water Purged for Post Sampling 0 gals

2.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.33	2.66	3.99				
Time (military)	1048	1050						1052
pH (s.u.)	7.54	4.46						
Specific Cond. (umhos/cm)	55	63						
Water Temperature (degrees C)	22.22	21.72						
Turbidity (subjective: clear, slightly cloudy, cloudy)	179	541						
Dissolved Oxygen (mg/l)	174	544						
PID readings, if required	5.67	5.55						

Remarks:



Dry @ ~2.5 gal (half a bucket). Not enough for readings

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 70 F

Quality Assurance

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

Chain of Custody YSI 66E1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale's Quick Stop

Site ID # 18606 Monitoring Well # MW28

Well Diameter (D): 0.167 feet

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

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 17.11 feet

Total Well Depth (TWD) 24.68 feet

Length of the water column (LWC = TWD-DGW) 7.57 feet

1 casing volume (CV = LWC X C) = 1.23

3 casing volume 3 X CV = 3.69 gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.0 gals

Total volume of Water Purged for Post Sampling 0 gals

2.0 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.23	2.46	3.69				
Time (military)	1107	1109						12111
pH (s.u.)	4.14	4.14						
Specific Cond. (umhos/cm)	302	304						
Water Temperature (degrees C)	21.43	21.56						
Turbidity (subjective: clear, slightly cloudy, cloudy)	152	342						
Dissolved Oxygen (mg/l)	6.81	6.33						
PID readings, if required								

Remarks:

Dry after 2.0 gal. ~~0~~ Not enough for readings



Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW29

Well Diameter (D): _____ 0.167 feet

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

* Free Product Thickness: _____ feet

Depth to Ground Water (DGW) _____ 15.89 feet

Total Well Depth (TWD) _____ 24.08 feet

Length of the water column ($LWC = TWD - DGW$) _____ 8.19 feet

1 casing volume ($CV = LWC \times C$) = _____ 1.33

3 casing volume $3 \times CV =$ _____ 3.99 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ 3.00 gals

Total volume of Water Purged for Post Sampling _____ 8 gals

_____ 3.0 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.33	2.66	3.99				
Time (military)	801	804	807					808
pH (s.u.)	4.21	4.05	4.03					
Specific Cond. (umhos/cm)	61	69	73					
Water Temperature (degrees C)	18.50	17.75	18.58					
Turbidity (subjective: clear, slightly cloudy, cloudy)	136	71000	71000					71000
Dissolved Oxygen (mg/l)	7.39	8.21	7.76					
PID readings, if required								
Remarks:								

Dry @ 3.0 gal. Not ~~enough~~ enough for readings

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Sunny / Partly Cloudy

Ambient Air Temperature: 56 F

Quality Assurance

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

Chain of Custody 451 06E1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW30

Well Diameter (D): 0.167 feet

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

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 14.95 feet

Total Well Depth (TWD) 18.78 feet

Length of the water column (LWC = TWD-DGW) 3.83 feet

1 casing volume (CV = LWC X C) = 6.62

3 casing volume 3 X CV = 1.86 gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.0 gals

Total volume of Water Purged for Post Sampling 0 gals

1.0 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	0.62	1.24	1.86				
Time (military)	730	731						732
pH (s.u.)	5.23	4.93						
Specific Cond. (umhos/cm)	33	32						
Water Temperature (degrees C)	19.73	20.40						
Turbidity (subjective: clear, slightly cloudy, cloudy)	12.5	585						
Dissolved Oxygen (mg/l)	6.39	6.62						
PID readings, if required								

Remarks:

Dry @ 1 gal. Not enough for readings

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 11 / 6 / 13

Field Personnel: HKZ

General Weather Conditions: Sunny / Partly cloudy

Ambient Air Temperature: 56 F

Quality Assurance

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

Chain of Custody 451 06E1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW 31

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: 0 feet

Depth to Ground Water (DGW) 15.81 feet

Total Well Depth (TWD) 20.19 feet

Length of the water column (LWC = TWD-DGW) 4.38 feet

1 casing volume (CV = LWC X C) = 0.71

3 casing volume 3 X CV = 2.14 gals (standard purge volume)

Total volume of Water Purged Before Sampling 0.71 gals

Total volume of Water Purged for Post Sampling 0 gals

0.71 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	0.71	1.42	2.14				
Time (military)	87744 744	745						745
pH (s.u.)	4.60	4.61						
Specific Cond. (umhos/cm)	54	54						
Water Temperature (degrees C)	21.74	21.52						
Turbidity (subjective: clear, slightly cloudy, cloudy)	62.5	71000						
Dissolved Oxygen (mg/l)	7.64							
PID readings, if required								

Remarks:

Dry @ 1 vol, not enough to fill entire cup for readings.

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): <u>11/6/13</u>	
Field Personnel: <u>HKZ</u>	
General Weather Conditions: <u>Sunny</u>	
Ambient Air Temperature: <u>76</u> F	
<u>Quality Assurance</u>	
pH Meter serial no. _____ pH=4.0 _____ pH=7.0 _____ pH=10.0 _____	Conductivity Meter serial no. _____ Standard _____ Standard _____ Standard _____
Chain of Custody <u>YSI 06E1766 AS</u> <u>Hanna Turbidity Meter</u>	
Relinquished by _____	Date/Time _____
Received by _____	Date/Time _____

Facility Name: <u>Tisdale's Quick Stop</u>	
Site ID # <u>18606</u>	Monitoring Well # <u>TW1</u>
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: <u>0</u> feet	
Depth to Ground Water (DGW) <u>15.76</u> feet	
Total Well Depth (TWD) <u>45.59</u> feet	
Length of the water column (LWC = TWD-DGW) <u>29.73</u> feet	
1 casing volume (CV = LWC X C) = <u>4.84</u>	
3 casing volume 3 X CV = <u>14.52</u> gals (standard purge volume)	
Total volume of Water Purged Before Sampling <u>14.52</u> gals	
Total volume of Water Purged for Post Sampling <u>0</u> gals	
<u>14.52</u> Total Purged	
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	4.84	9.68	14.52				
Time (military)	1509	1514	1520	1526				1526
pH (s.u.)	5.28	4.97	4.89	4.87				
Specific Cond. (umhos/cm)	76	74	79	79				
Water Temperature (degrees C)	23.14	20.71	20.50	20.38				
Turbidity (subjective: clear, slightly cloudy, cloudy)	20.7	15.3	51.7 51.7	32.8				
Dissolved Oxygen (mg/l)	4.93	1.90	1.72	1.67				
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): <u>11/6/13</u>	
Field Personnel: <u>HKZ</u>	
General Weather Conditions: <u>Sunny</u>	
Ambient Air Temperature: <u>64</u> F	
Quality Assurance	
pH Meter serial no. _____ pH=4.0 _____ pH=7.0 _____ pH=10.0 _____	Conductivity Meter serial no. _____ Standard _____ Standard _____ Standard _____
Chain of Custody <u>YSI 06E1766 AS</u> <u>Hanna Turbidity Meter</u>	
Relinquished by	Date/Time
Received by	Date/Time

Facility Name: <u>Tisdale's Quick Stop</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>TW2</u>
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: _____	feet
Depth to Ground Water (DGW) _____	feet
Total Well Depth (TWD) _____	feet
Length of the water column (LWC = TWD-DGW) _____	feet
1 casing volume (CV = LWC X C) = _____	5.75
3 casing volume 3 X CV = _____	17.25 gals (standard purge volume)
Total volume of Water Purged Before Sampling _____	17.25 gals
Total volume of Water Purged for Post Sampling _____	8 gals
	17.25 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	5.75	11.50	17.25				
Time (military)	911	917	927	935				935
pH (s.u.)	6.32	5.91	6.14	6.10				
Specific Cond. (umhos/cm)	137	133	141	141				
Water Temperature (degrees C)	20.47	20.12	19.92	19.86				
Turbidity (subjective: clear, slightly cloudy, cloudy)	13.4	12.6	12.5	12.3				
Dissolved Oxygen (mg/l)	5.85	2.35	3.08	2.40				
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): 11/6/13

Field Personnel: ITKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 73 F

Quality Assurance

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

Chain of Custody YSI 06E1766 AS
Hanna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # MW1A

Well Diameter (D): 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0.01 feet

Depth to Ground Water (DGW) 14.11 feet

Total Well Depth (TWD) 21.22 feet

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

1 casing volume (CV = LWC X C) = _____

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

Total volume of Water Purged Before Sampling NS gals

Total volume of Water Purged for Post Sampling 8 gals

NS Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							NS
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks: Boiler confirmed free product. Dark in color.

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): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 73 F

Quality Assurance

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

Chain of Custody YSI 06E1766 AS
Anna Turdick-Meyer

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Tisdale's Quick Stop

Site ID # 18606 Monitoring Well # MW 2A

Well Diameter (D): 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0.03 feet

Depth to Ground Water (DGW) 14.25 ~~20.0~~ feet

Total Well Depth (TWD) 20.89 feet

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

1 casing volume (CV = LWC X C) = _____

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

Total volume of Water Purged Before Sampling NS gals

Total volume of Water Purged for Post Sampling 8 gals

NS Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							NS
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks:

Bailer confirmed free product. Dark in color.

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): <u>11/6/13</u>			
Field Personnel: <u>HKZ</u>			
General Weather Conditions: <u>Sunny</u>			
Ambient Air Temperature: <u>73</u> F			
Quality Assurance			
pH Meter	Conductivity Meter		
serial no.	serial no.		
pH=4.0	Standard		
pH=7.0	Standard		
pH=10.0	Standard		
Chain of Custody <u>YSI 06E1766 AS</u> <u>Hanna Turbidity Meter</u>			
Relinquished by	Date/Time	Received by	Date/Time

Facility Name: <u>Tisdale's Quick Stop</u>	
Site ID #: <u>18606</u>	Monitoring Well #: <u>MW 3A</u>
Well Diameter (D): <u>0.167</u> feet	
Conversion factor (C): 3.14 X (D/2) ² for a 2 inch well C = 0.163 for a 4 inch well C = 0.052	
* Free Product Thickness:	<u>0.06</u> feet
Depth to Ground Water (DGW)	<u>14.12</u> feet
Total Well Depth (TWD)	<u>20.02</u> feet
Length of the water column (LWC = TWD-DGW)	_____ feet
1 casing volume (CV = LWC X C) = _____	
3 casing volume 3 X CV = _____ gals (standard purge volume)	
Total volume of Water Purged Before Sampling	<u>NS</u> gals
Total volume of Water Purged for Post Sampling	<u>8</u> gals
	<u>NS</u> 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)	<u>0.25</u>							<u>NS</u>
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks: Bailer confirmed free product. Dark in color.

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): 11/6/13

Field Personnel: HKZ

General Weather Conditions: Sunny

Ambient Air Temperature: 75 F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody Y51 06E1766 AS
Anna Turbidity Meter

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Tisdale's Quick Stop

Site ID # 18686 Monitoring Well # NW 4A

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C = 0.163
for a 4 inch well C = 0.052

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 14.61 feet

Total Well Depth (TWD) 20.71 feet

Length of the water column (LWC = TWD-DGW) 6.10 feet

1 casing volume (CV = LWC X C) = 0.99

3 casing volume 3 X CV = 2.97 gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.5 gals

Total volume of Water Purged for Post Sampling 0 gals

1.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	0.99	1.98	2.97				
Time (military)	1313	1315						1316
pH (s.u.)	4.96	4.90						
Specific Cond. (umhos/cm)	111	122						
Water Temperature (degrees C)	22.01	21.48						
Turbidity (subjective: clear, slightly cloudy, cloudy)	101	217						
Dissolved Oxygen (mg/l)	1.34	1.19						
PID readings, if required								

Remarks:

very heavy sheen. Dry after 6 bailers ~ 1.5 gal. Not enough for readings.

APPENDIX C
Disposal Manifest

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.	2. Page 1 of 1
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE JC			
4. Generator's Phone ()					
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID	
GRE		—		B. Transporter 1 Phone 704-845-4010	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID	
HERR, Inc.		NCP-000139816		D. Transporter 2 Phone 910-653-6355	
9. Designated Facility Name and Site Address		10. US EPA ID Number		E. State Facility's ID	
CWS 303 S. MAULDSBY ST. WHITEVILLE, NC				F. Facility's Phone 910-625-5012	
11. WASTE DESCRIPTION				12. Containers	14. Unit WT/Vol.
				No. Type	
a. Non-Reg. Petroleum Contact Water					77.73 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.					
TRANSPORTER	Printed/Typed Name		Signature	Date	
	W. Scott Ball		[Signature]	11/17/13	
	17. Transporter 1 Acknowledgement of Receipt of Materials		Date		
	Printed/Typed Name		Signature	Date	
FACILITY	W. Scott Ball		[Signature]	12/4/13	
	18. Transporter 2 Acknowledgement of Receipt of Materials		Date		
	Printed/Typed Name		Signature	Date	
	Steve Riverbank		[Signature]	P.C.C. 12/4/13	
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		Signature	Date		
Ryan Cox		[Signature]	12/4/13		

Appendix D
Contractor Checklist

Contractor Checklist

For each report submitted to the UST Management Division, the contractor will be required to verify that all data elements for the required scope of work have been provided. For items not required for the scope of work, the N/A box should be checked. For items required and not completed or provided, the No box should be checked and a thorough description of the reason must be provided.

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?	X		
21	Have the groundwater sampling dates and groundwater measurements been provided?	X		
22	Has the purging methodology been detailed?	X		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete?	X		
24	If free-product is present, has the thickness been provided?	X		
25	Does the report include a brief discussion of the assessment done and the results?	X		
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item #	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?	X		
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)	X		
34	Has the current and historical laboratory data been provided in tabular format?	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? (Appendix G)	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	X		

South Carolina
Underground Storage Tank Program
Tisdales Quick Stop

Title: Programmatic QAPP
Revision Number: 0
Revision Date: NA

Explanation for missing or incomplete information.



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment



FEB 28 2014

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

Re: **AFVR Directive**
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686; CA#47381
Release reported March 30, 2001
Monitoring Report received December 16, 2013
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site utilizing Geological Resources, Inc. In accordance with Section 280.64 of the South Carolina Underground Storage Tank Control Regulations, a 96-hour Aggressive Fluid and Vapor Recovery (AFVR) events may commence as outlined in the UST Quality Assurance Program Plan (QAPP) Revision 2.0. **Please be aware that the AFVR Procedures have been updated.** Please connect to MW-1a, MW-2a, MW-3a & MW-4a for the duration of the event. The stingers shall be lowered at six inch intervals starting at the water table interface to a maximum depth of 26 feet in the wells. A copy of Agency QAPP Version 2.0 for the Underground Storage Tank Division is available at <http://www.dhec.sc.gov/environment/lwm/usthome/QAPP.htm>.

As soon as the beginning date of the event has been scheduled, please contact Jim Martin at martinjm@dhec.sc.gov.

The AFVR Report should be submitted within 60 days from the date of this correspondence. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

Cost Agreement #47381 has been approved in the amount shown on the enclosed cost agreement. Geological Resources, Inc., can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. If the invoice and completed report are not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

The Agency grants preapproval for transportation of virgin petroleum-contaminated groundwater from the referenced site to a permitted treatment facility.

On all correspondence concerning this site, please reference UST Permit #18686 and CA #47381. If you have any questions, please contact me at (803) 898-0605 or by e-mail at martinjm@dhec.sc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Martin', with a stylized flourish at the end.

Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Technical File (with enclosure)
Geological Resources, Inc., 2301 Crown Point Executive Drive, Suite F, Charlotte, NC
28227 (with enclosure)

Approved Cost Agreement 47381

Facility: 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
19 RPT/PROJECT MNGT & COORDINATIO		PERC REPORT PREPARATION	0.1000	19,968.00	1,996.80
23 EFR		A4 96 HOUR EVENT	1.0000	12,567.50	12,567.50
		C4 OFF GAS TREATMENT 96 HOUR	1.0000	780.00	780.00
		D SITE RECONNAISSANCE	1.0000	203.25	203.25
		E1 ADDITIONAL WELL HOOK-UPS	1.0000	25.75	25.75
		F EFFLUENT DISPOSAL	20,000.0000	0.30	6,000.00
		G AFVR EQUIPMENT MOB	1.0000	391.50	391.50
Total Amount					21,964.80



Geological Resources, Inc.

June 9, 2014

Mr. Jim Martin, Hydrogeologist
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: AFVR Report
Tisdales Quick Stop
1989 Thurgood Marshall Blvd.
Kingstree, Williamsburg County
UST Permit #: 18686
CA #: 47381

Dear Mr. Martin:

This report presents the results of the aggressive fluid-vapor recovery (AFVR) event conducted in May 2014 at the above referenced site. The activities were conducted in accordance with the requirements outlined in correspondence from the SCDHEC dated February 28, 2014 and addressed to Mr. Marty Easler. The purpose of the activities was to remove residual free-phase product and reduce dissolved phase contaminant concentrations in monitoring wells MW-1A, MW-2A, MW-3A and MW-4A. The following Figures, Tables and Appendix have been included:

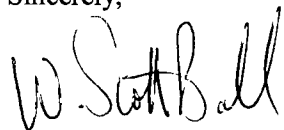
- Figure 1: Site Location Map
- Figure 2: Site Map
- Table 1: AFVR Event Chronology – May 19-23, 2014
- Table 2: Summary of Monitoring Well Gauging Data
- Appendix A: AFVR Report, Calculations, Disposal Manifests

Tisdales Quick Stop
AFVR Report
UST Permit # 18686

Geological Resources, Inc. visited the site on May 15, 2014 to gauge monitoring wells MW-1A, MW-2A, MW-3A and MW-4A. Approximately 0.01 feet of free product was measured in MW-1A. There was no measurable amount of free product in MW-2A, MW3A or MW-4A. The AFVR contractor, Hazmat Emergency Response and Remediation, Inc. (HERR), arrived on-site on May 19, 2014 for the AFVR event. The event was conducted on monitoring wells MW-1A, MW-2A, MW-3A and MW-4A. General weather conditions were sunny/fair with an ambient air temperature of approximately 75°F at the time of system start-up. No free product was measured in any of the wells prior to system startup. AFVR activities were conducted for ninety-six (96) hours on MW-1A, MW-2A, MW-3A and MW-4A using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the wells remained steady at 25 in. Hg. Please note that the vacuum truck was equipped with an activated charcoal filter for off-gas treatment of vapor phase hydrocarbons. A total of 28,712 gallons of liquid were removed during the event. However, there was no measureable amount of liquid phase free product noted in the tanker. No measurable free product was present in any of the vacuum wells (MW-1A, MW-2A, MW-3A and MW-4A) at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 47.91 pounds (approximately 7.67 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

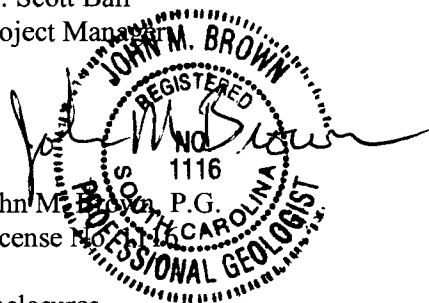
If you have any comments or questions concerning this project, please do not hesitate to contact the undersigned at (704) 845-4010.

Sincerely,



W. Scott Ball
Project Manager

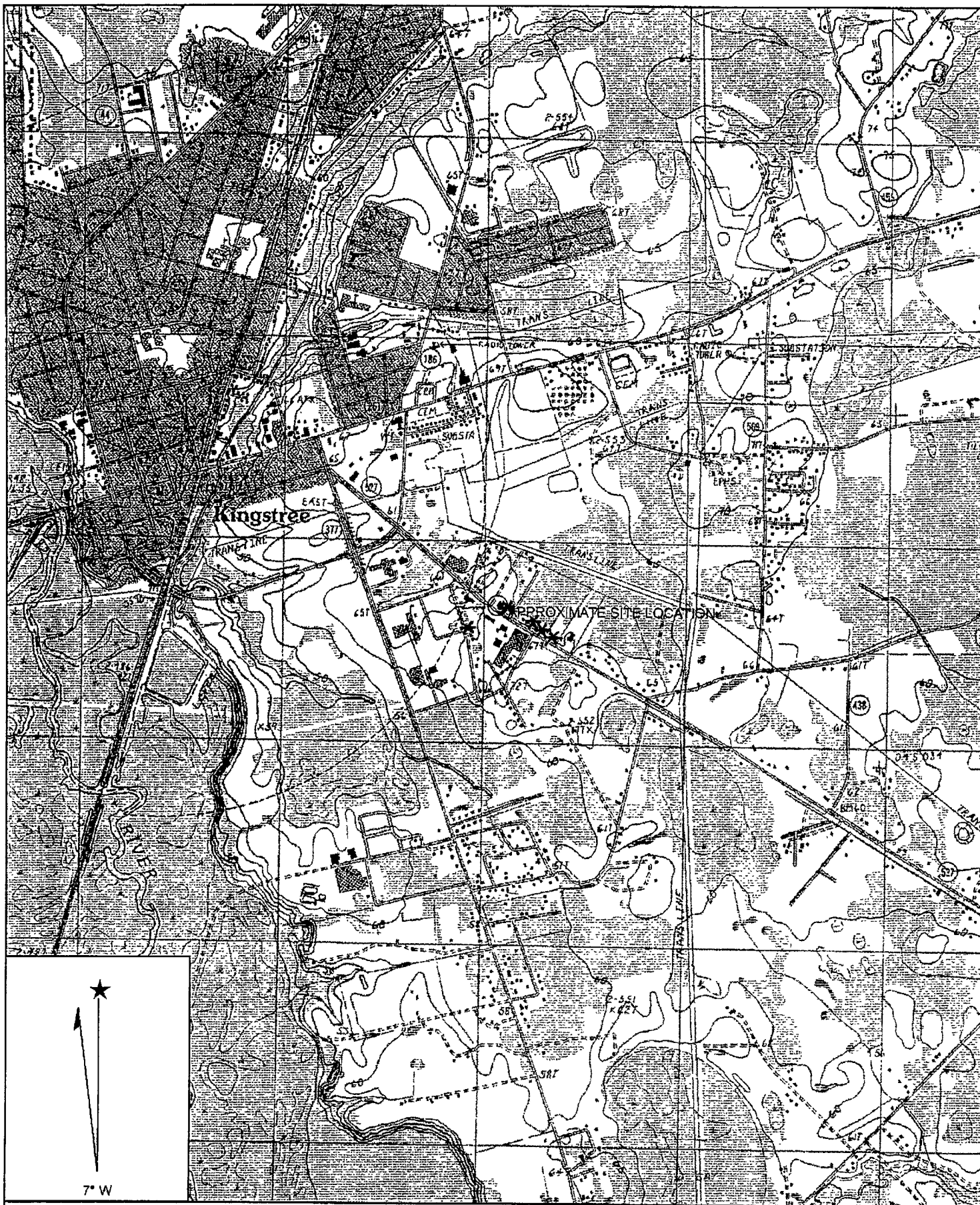
John M. Brown, P.G.
License No. 1116



Enclosures

cc: Mr. Marty Easler
File

FIGURES



7° W

Name: KINGSTREE
Date: 2/11/2009
Scale: 1 inch equals 2000 feet

*Water Supply Well

0 2,000



Location: 033° 39' 29.0" N 079° 48' 46.8" W
Caption: Site Location Map
Tisdale's Quick Stop
Figure 1 UST Permit # 18686

LEGEND

☆

LIGHT POLE

■

TELEPHONE PEDESTAL

⊙

SEWER MANHOLE

●

TYPE III MONITORING WELL

⊕

TELESCOPING MONITORING WELL

⊗

WATER SUPPLY WELL

⊞

FIRE HYDRANT

⊠

FIBER OPTIC CABLE MARKER

—

PROPERTY LINE

—

UNDERGROUND TELEPHONE LINE

—

UNDERGROUND WATER LINE

—

PP & OVERHEAD POWER LINE

—

UNDERGROUND SEWER LINE

—

UNDERGROUND GAS LINE

—

UNDERGROUND FIBER OPTIC LINE

—

DITCH

—

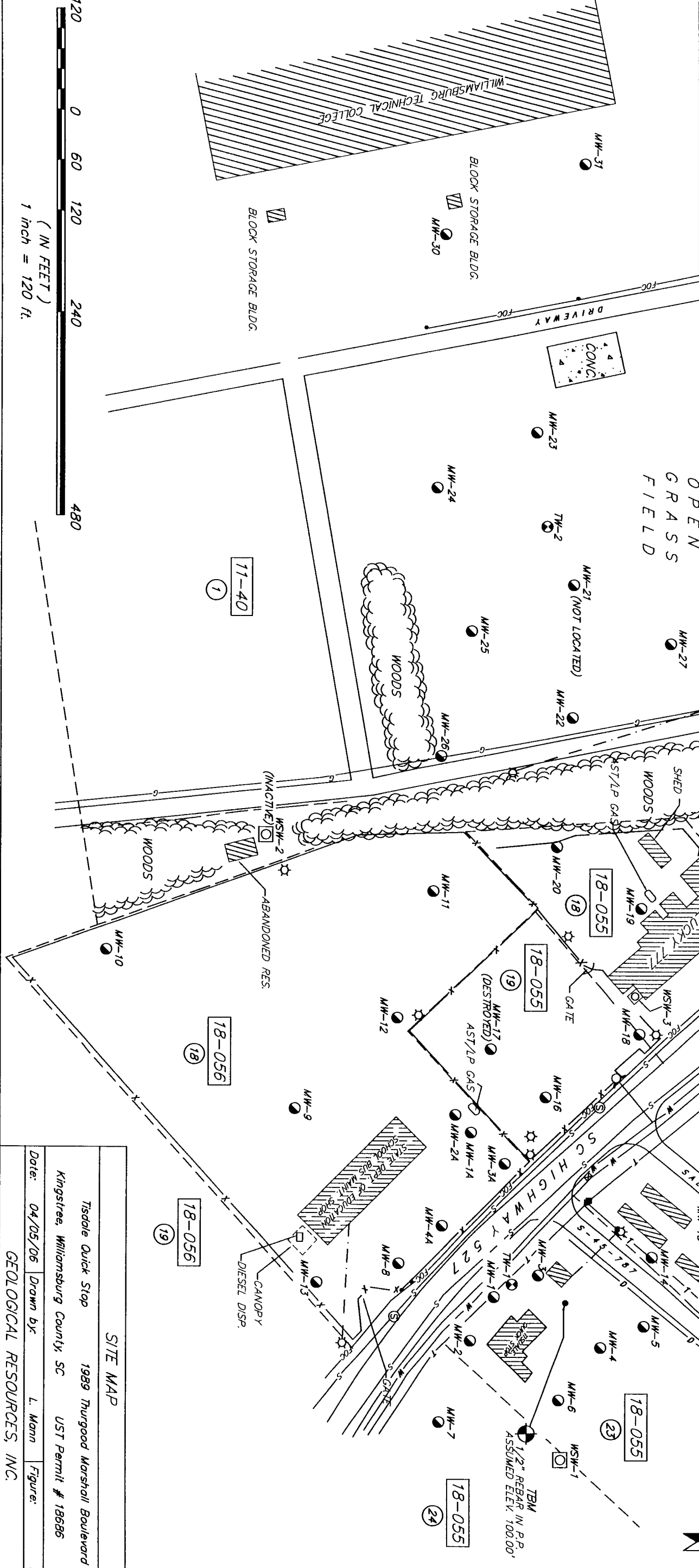
FENCE

18-055

WILLIAMSBURG COUNTY TAX MAP #

18

PARCEL #



SITE MAP			
Tisdale Quick Stop	1989	Thurgood Marshall Boulevard	
Kingsree, Williamsburg County, SC	UST Permit # 18686		
Date: 04/05/06	Drawn by L. Mann	Figure: 2	
GEOLOGICAL RESOURCES, INC.			

TABLES

TABLE 1
AFVR EVENT CHRONOLOGY
MAY 19-23, 2014
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A and MW-4A	8:30 05/19/14	Vacuum Truck Operator	Interface Probe	HERR
Vacuum Truck Setup for Fluid Removal in MW-1A, MW-2A, MW-3A and MW-4A	8:30 - 9:00 05/19/14	Vacuum Truck Operator	Vacuum Truck	HERR
Fluid Recovery in MW-1A, MW-2A, MW-3A and MW-4A	9:00 05/19/14 - 9:00 05/23/14	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A and MW-4A	9:30 05/23/14	Vacuum Truck Operator	Interface Probe	HERR

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA
TISDALE'S QUICK STOP
UST PERMIT #18686

Well No.	Date	Time	Depth to Free Product	Depth to Ground Water	Free Product
MW-1A	05/15/14	11:15	11.46	11.47	0.01
MW-2A		11:15	---	11.71	---
MW-3A		11:15	---	11.48	---
MW-4A		11:15	---	11.87	---
MW-1A	05/19/14	8:30	---	11.90	---
MW-2A		8:30	---	12.24	---
MW-3A		8:30	---	11.85	---
MW-4A		8:30	---	12.50	---
MW-1A	05/23/14	9:30	---	10.36	---
MW-2A		9:30	---	11.03	---
MW-3A		9:30	---	10.31	---
MW-4A		9:30	---	11.17	---

Note:

- Data reported in feet.

APPENDIX

APPENDIX A
AFVR Report, Calculations, Disposal Manifests



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Monday, June 2, 2014

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 96 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on May 19 – May 23, 2014. Included is the documentation for the event. The 96 hour event was conducted on monitoring wells MW-1A, MW-2A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,

Marc Cox
HERR Project Manager

Tisdale's Quick Stop
Kingstree, SC
May 19 – May 23, 2014

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 05/19/14. The ambient temperature was 75 deg F and weather conditions were sunny/fair. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 96 Hour AFVR event was conducted using a Global Vacuum Liquid Ring Pump with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 47.9135 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 96 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 28,712 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A

AFVR FIELD NOTES

HERR, Inc.

AFVR - Field Notes

Site Name: TIDDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. Personnel: St. Rowell

Date: 5/19/14 Ambient Air Temperature and General Weather Condition: 75° Sunny - Fair

Start Time 1: 9:00 Stop Time 1: 9:00 Start Time 2: 28, 7/12 Stop Time 2:

Total volume of water removed during the 8-hour AFVR Event: 28, 7/12

Total volume of product removed during the 8-hour AFVR Event: NO - Product

Product Recovery Rate:

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
1A	--	11.90	--	10.36		
2A	--	12.24	--	11.63		
3A	--	11.85	--	10.31		
4A	--	12.50	--	11.17		

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

MW 4A

	MW- 1A	MW- 2A	MW- 3A	Stinger Placement			
Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Stinger Depth	Product Depth	Water Level	Notes
1A						11.90 / 10.36	
2A						12.24 / 11.03	
3A						11.85 / 10.31	
4A						12.50 / 11.17	
10:00	25	25	25				
12:00	25	25	25				
2:00	25	25	25				
4:00	25	25	25				
6:00	25	25	25				
8:00	25	25	25				
10:00	25	25	25				
12:00	25	25	25				
8:00	25	25	25				
12:00	25	25	25				
4:00	25	25	25				
8:00	25	25	25				
12:00	25	25	25				
8:00	25	25	25				
12:00	25	25	25				
4:00	25	25	25				
8:00	25	25	25				
12:00	25	25	25				

Vacuum at Pump: 27.2 Pmp

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

Vacuum at Pump: 27 @ pump

Vacuum at Pump: 27 @ pump

Aggressive Fluid/Vapor Recovery Notes

Time	PID at stack (ppm)	PID after off-gas treatment (carbon) (ppm)	Velocity (ft. / min.)	Temperature (Fahrenheit)	Relative Humidity (%)	Other
7:00 AM						
7:30	730	271	1472	76	52	
8:00	920	385	1485	84	52	
8:30	1042	424	1491	92	52	
9:00	1056	430	1517	104	52	
9:30	1064	435	1524	118	52	
10:00	1071	441	1532	124	52	
10:30	1074	445	1566	129	52	
11:00	1098	445	1571	135	52	
11:30	1134	470	1579	148	52	
12:00	1142	441	1588	151	52	
12:30	1157	442	1565	162	52	
1:00	1178	442	1592	163	52	
1:30	1191	445	1596	168	52	
2:00	1205	448	1608	175	52	
2:30	1226	451	1617	185	52	
3:00	1241	458	1615	172	52	
3:30	1265	472	1618	171	52	
4:00	1277	475	1621	169	52	
4:30	1292	481	1624	169	52	
5:00	1236	455	1625	167	52	
5:30	1233	455	1627	163	52	
6:00	1235	454	1626	162	52	
6:30	1241	456	1628	150	52	
7:00	1238	444	1631	155	52	
7:30	1232	443	1631	155	52	

Max
5-18

PM

Aggressive Fluid/Vapor Recovery Notes

Time	PID at stack (ppm)	PID after off-gas treatment (carbon) (ppm)	Velocity (ft. / min.)	Temperature (Fahrenheit)	Relative Humidity (%)	Other
5:17 10:00	1235	443	1825	153	52	
10:30	1232	442	1825	150	52	
11:00	1229	442	1827	150	52	
11:30	1230	442	1829	150	52	
AM 12:00	1229	441	1831	148	52	
THU 5:30 PM 8:00	1064	324	1864	145	50	
10:00	1054	322	1865	150	50	
PM 12:00	1043	318	1863	150	50	
2:00	1035	314	1869	152	50	
4:00	1032	315	1875	152	50	
6:00	1033	315	1883	152	50	
8:00	1029	314	1881	150	50	
10:00	1025	311	1885	148	50	
AM 12:00	1008	302	1892	148	50	
WED 5:31 8:00	765	243	1890	145	48	
10:00	763	243	1892	155	48	
12:00	744	243	1891	157	48	
2:00	742	243	1893	155	48	
4:00	754	239	1890	156	48	
6:00	755	239	1892	154	48	
8:00	751	239	1894	150	48	
10:00	752	239	1895	151	48	
PM 12:00	748	237	1894	145	48	

~~THU 5:30 PM 8:00~~
~~THU 5:30 PM 8:00~~

Aggressive Fluid/Vapor Recovery Notes

[illegible]

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
5/19/14	9:00						
5/19/14	9:30	1472	0.022	76	52	0.009974511	31.58
5/19/14	10:00	1486	0.022	84	52	0.013019908	31.32
5/19/14	10:30	1491	0.022	92	52	0.016870413	30.85
5/19/14	11:00	1517	0.022	106	52	0.026133831	30.32
5/19/14	11:30	1524	0.022	118	52	0.037520782	29.48
5/19/14	12:00	1532	0.022	124	52	0.044787453	29.11
5/19/14	12:30	1566	0.022	129	52	0.051824935	29.28
5/19/14	1:00	1571	0.022	136	52	0.063448928	28.68
5/19/14	1:30	1579	0.022	148	52	0.089453999	27.47
5/19/14	2:00	1588	0.022	151	52	0.097447063	27.25
5/19/14	2:30	1585	0.022	162	52	0.133487711	25.65
5/19/14	3:00	1592	0.022	163	52	0.137384967	25.61
5/19/14	3:30	1596	0.022	168	52	0.158763906	24.83
5/19/14	4:00	1608	0.022	175	52	0.194963540	23.68
5/19/14	4:30	1617	0.022	185	52	0.263910125	21.44
5/19/14	5:00	1615	0.022	172	52	0.178445224	24.39
5/19/14	6:00	1621	0.022	169	52	0.163452672	25.04
5/19/14	7:00	1625	0.022	167	52	0.154219767	25.46
5/19/14	8:00	1626	0.022	162	52	0.133487711	26.31
5/19/14	9:00	1631	0.022	155	52	0.109232833	27.44
5/19/14	10:00	1826	0.022	153	52	0.103169901	31.03
5/19/14	11:00	1827	0.022	150	52	0.094706404	31.50
5/20/14	12:00	1831	0.022	148	52	0.089453999	31.85
5/20/14	8:00	1864	0.022	145	50	0.078555704	32.98
5/20/14	10:00	1865	0.022	150	50	0.090533667	32.30

5/20/14	12:00	1863	0.022	150	50	0.090533667	32.26
5/20/14	2:00	1869	0.022	152	50	0.095816846	32.08
5/20/14	4:00	1875	0.022	152	50	0.095816846	32.18
5/20/14	6:00	1883	0.022	152	50	0.095816846	32.32
5/20/14	8:00	1881	0.022	150	50	0.090533667	32.58
5/20/14	10:00	1885	0.022	148	50	0.085540302	32.93
5/21/14	12:00	1892	0.022	148	50	0.085540302	33.06
5/21/14	8:00	1890	0.022	145	48	0.075034416	33.57
5/21/14	10:00	1892	0.022	155	48	0.099486357	32.18
5/21/14	12:00	1891	0.022	157	48	0.105256777	31.85
5/21/14	2:00	1893	0.022	158	48	0.108267821	31.73
5/21/14	4:00	1890	0.022	156	48	0.102330526	31.99
5/21/14	6:00	1892	0.022	154	48	0.096721671	32.33
5/21/14	8:00	1894	0.022	150	48	0.086409237	32.95
5/21/14	10:00	1895	0.022	151	48	0.088880013	32.82
5/22/14	12:00	1894	0.022	148	48	0.081669427	33.23
5/22/14	8:00	1812	0.022	146	48	0.077185306	32.05
5/22/14	10:00	1810	0.022	151	48	0.088880013	31.35
5/22/14	12:00	1817	0.022	155	48	0.099486357	30.90
5/22/14	2:00	1815	0.022	157	48	0.105256777	30.57
5/22/14	4:00	1816	0.022	158	48	0.108267821	30.44
5/22/14	6:00	1815	0.022	158	48	0.108267821	30.42
5/22/14	8:00	1818	0.022	156	48	0.102330526	30.77
5/22/14	10:00	1823	0.022	154	48	0.096721671	31.15
5/23/14	12:00	1825	0.022	153	48	0.094033968	31.33
5/23/14	8:00	1871	0.022	148	48	0.081669427	32.83
5/23/14	9:00	SHUT DOWN					
Averages		1746.20	0.022	148.04	50.16	0.097647144	30.132

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C- gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	31.58	730	1	730	3882.01	0.000242354	0.459	0.230
30	60	31.32	920	1	920	4892.40	0.000305432	0.574	0.287
30	90	30.85	1042	1	1042	5541.17	0.000345935	0.640	0.320
30	120	30.32	1056	1	1056	5615.62	0.000350583	0.638	0.319
30	150	29.48	1064	1	1064	5658.16	0.000353239	0.625	0.312
30	180	29.11	1071	1	1071	5695.39	0.000355563	0.621	0.310
30	210	29.28	1074	1	1074	5711.34	0.000356559	0.626	0.313
30	240	28.68	1098	1	1098	5838.97	0.000364527	0.627	0.314
30	270	27.47	1136	1	1136	6041.05	0.000377143	0.622	0.311
30	300	27.25	1142	1	1142	6072.95	0.000379135	0.620	0.310
30	330	25.65	1157	1	1157	6152.72	0.000384114	0.591	0.296
30	360	25.61	1178	1	1178	6264.40	0.000391086	0.601	0.300
30	390	24.83	1191	1	1191	6333.53	0.000395402	0.589	0.295
30	420	23.68	1205	1	1205	6407.98	0.000400050	0.568	0.284
30	450	21.44	1226	1	1226	6519.65	0.000407022	0.523	0.262
30	480	24.39	1241	1	1241	6599.42	0.000412002	0.603	0.301
60	540	25.04	1277	1	1277	6790.86	0.000423953	0.637	0.637
60	600	25.46	1236	1	1236	6572.83	0.000410342	0.627	0.627
60	660	26.31	1235	1	1235	6567.51	0.000410010	0.647	0.647
60	720	27.44	1238	1	1238	6583.46	0.000411006	0.677	0.677
60	780	31.03	1235	1	1235	6567.51	0.000410010	0.763	0.763
60	840	31.50	1229	1	1229	6535.60	0.000408018	0.771	0.771
60	900	31.85	1229	1	1229	6535.60	0.000408018	0.780	0.780
480	1380	32.98	1066	1	1066	5668.80	0.000353903	0.700	5.602

120	1500	32.30	1054	1	1054	5604.99	0.000349919	0.678	1.356
120	1620	32.26	1043	1	1043	5546.49	0.000346267	0.670	1.341
120	1740	32.08	1035	1	1035	5503.95	0.000343611	0.661	1.323
120	1860	32.18	1032	1	1032	5487.99	0.000342615	0.661	1.323
120	1980	32.32	1033	1	1033	5493.31	0.000342947	0.665	1.330
120	2100	32.58	1029	1	1029	5472.04	0.000341619	0.668	1.335
120	2220	32.93	1025	1	1025	5450.77	0.000340291	0.672	1.345
120	2340	33.06	1008	1	1008	5360.37	0.000334648	0.664	1.327
480	2820	33.57	765	1	765	4068.13	0.000253974	0.511	4.092
120	2940	32.18	763	1	763	4057.50	0.000253310	0.489	0.978
120	3060	31.85	764	1	764	4062.82	0.000253642	0.485	0.970
120	3180	31.73	762	1	762	4052.18	0.000252978	0.482	0.963
120	3300	31.99	756	1	756	4020.27	0.000250986	0.482	0.964
120	3420	32.33	755	1	755	4014.96	0.000250654	0.486	0.972
120	3540	32.95	751	1	751	3993.69	0.000249326	0.493	0.986
120	3660	32.82	752	1	752	3999.00	0.000249658	0.492	0.983
120	3780	33.23	748	1	748	3977.73	0.000248330	0.495	0.990
480	4260	32.05	562	1	562	2988.62	0.000186579	0.359	2.871
120	4380	31.35	557	1	557	2962.03	0.000184919	0.348	0.696
120	4500	30.90	555	1	555	2951.39	0.000184255	0.342	0.683
120	4620	30.57	538	1	538	2860.99	0.000178612	0.328	0.655
120	4740	30.44	535	1	535	2845.04	0.000177616	0.324	0.649
120	4860	30.42	531	1	531	2823.76	0.000176288	0.322	0.644
120	4980	30.77	532	1	532	2829.08	0.000176620	0.326	0.652
120	5100	31.15	526	1	526	2797.17	0.000174628	0.326	0.653
120	5220	31.33	521	1	521	2770.59	0.000172968	0.325	0.650
480	5700	32.83	366	1	366	1946.32	0.000121509	0.239	1.915
60	5760	SHUT DOWN							
Averages		30.13	932.82	1.00	932.82	4960.59	0.000309690	0.551	0.939

Total Emission in pounds: 47.9135

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$\text{PPM}_g = \text{PPM measured} * K$$

$$\text{Cg:m} = \text{PPM}_g * (\text{Mg}/K3)$$

$$\text{Cg} = \text{Cg:m} * 62.43 \text{E-}09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$\text{PMR}_g = \text{Cg} * Q_{std} * 60 \text{ min/hr}$$

$$\text{PMR} = \text{PMR}_g * ((T2 - T1)/60)$$

$$Q_{std} = \text{Flow at DSCFM}$$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

Cg:m = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

Cg = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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		2. Page 1 of	
3. Generator's Name and Mailing Address <i>Tasdale Quick Stop Kingstree SC</i>							
4. Generator's Phone ()							
5. Transporter 1 Company Name <i>HERR INC</i>		6. US EPA ID Number		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone			
9. Designated Facility Name and Site Address <i>CWS 303 Mountz St Whitville</i>		10. US EPA ID Number		C. State Transporter's ID			
				D. Transporter 2 Phone			
				E. State Facility's ID			
				F. Facility's Phone <i>910-640</i>			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No. Type		14. Unit Wt/Vol	
a. <i>NON-Haz Petroleum Contect water mix</i>						<i>7000</i>	
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 <i>Steve R. Venkat</i>				Signature <i>Steve R. Venkat</i>		Date Month Day Year <i>5 20 14</i>	
17. Transporter 1 Acknowledgement of Receipt of Materials				Date			
Printed/Typed Name <i>Mark Gore</i>				Signature <i>Mark Gore</i>		Date Month Day Year <i>5 20 14</i>	
18. Transporter 2 Acknowledgement of Receipt of Materials				Date			
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 <i>TYAN C. H.</i>				Signature <i>Tyan C. H.</i>		Date Month Day Year <i>5 20 14</i>	

NON-HAZARDOUS WASTE



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	2 Page 1 of
3 Generator's Name and Mailing Address <i>Tisdale Quick Stop Kingsville SC.</i>					
4 Generator's Phone ()					
5 Transporter 1 Company Name <i>HEAR INC</i>		6 US EPA ID Number		A State Transporter's ID	
7 Transporter 2 Company Name		8 US EPA ID Number		B Transporter 1 Phone	
				C State Transporter's ID	
				D Transporter 2 Phone	
9 Designated Facility Name and Site Address <i>CWS 303 Monthly St Wilmington NC</i>		10 US EPA ID Number		E State Facility's ID	
				F Facility's Phone	
11. WASTE DESCRIPTION		12 Containers		13 Total Quantity	14 Unit Wt Vol
		No.	Type		
a. <i>NON-Haz Petroleum Contact Wtch Mx</i>			<i>TT</i>	<i>7000</i>	<i>guc</i>
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 al. respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations					
Printed/Typed Name <i>Steve B. Verbrink</i>				Signature <i>Steve B. Verbrink</i>	
				Date <i>5/21/14</i>	
17 Transporter 1 Acknowledgement or Receipt of Materials					
Printed/Typed Name <i>Mark Goo</i>				Signature <i>Mark Goo</i>	
				Date <i>5/21/14</i>	
18 Transporter 2 Acknowledgement or Receipt of Materials					
Printed/Typed Name				Signature	
				Date	
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 <i>THAN Co</i>				Signature <i>THAN Co</i>	
				Date <i>5/21/14</i>	

NON-HAZARDOUS WASTE



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.		2. Page 1 of	
3. Generator's Name and Mailing Address <i>Tusculum Ranch Shop</i> <i>Kingslee SC</i>							
4. Generator's Phone ()							
5. Transporter 1 Company Name <i>ITE RR INC</i>		6. US EPA ID Number		A. State Transporter's ID			
7. Transporter 2 Company Name		8. US EPA ID Number		B. Transporter 1 Phone			
				C. State Transporter's ID			
				D. Transporter 2 Phone			
9. Designated Facility Name and Site Address <i>CWS 303 Maultsby St</i> <i>Whiteville NC</i>		10. US EPA ID Number		E. State Facility's ID			
				F. Facility's Phone			
11. WASTE DESCRIPTION				12. Containers		13. Total Quantity	
				No.	Type	14. Unit Vol./Vol	
a. <i>NON-HAZ Petroleum Water Mixture</i>				<i>1</i>	<i>TT</i>	<i>7500</i>	<i>gal</i>
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 <i>Steve Riverbark</i>				Signature <i>Steve Riverbark</i>		Date Month <i>5</i> Day <i>22</i> Year <i>14</i>	
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature <i>Mark Gore</i>		Date Month <i>5</i> Day <i>22</i> Year <i>14</i>	
Printed/Typed Name <i>Mark Gore</i>				Signature <i>Mark Gore</i>		Date Month <i>5</i> Day <i>22</i> Year <i>14</i>	
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Date	
Printed/Typed Name				Signature		Date	
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				Signature <i>T. Ryan Cox</i>		Date Month <i>5</i> Day <i>22</i> Year <i>14</i>	
Printed/Typed Name <i>T. Ryan Cox</i>				Signature <i>T. Ryan Cox</i>		Date Month <i>5</i> Day <i>22</i> Year <i>14</i>	

NON-HAZARDOUS WASTE



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	2 Page 1 of
3 Generator's Name and Mailing Address <i>Tisdale General Store</i>					
4 Generator's Phone ()					
5 Transporter 1 Company Name <i>FENI</i>		6 US EPA ID Number	A. State Transporter's ID		
7 Transporter 2 Company Name		8 US EPA ID Number	B. Transporter 1 Phone		
9 Designated Facility Name and Site Address <i>CWS 303 Mantley St Whitman N.C</i>		10 US EPA ID Number	C. State Transporter's ID		
			D. Transporter 2 Phone		
			E. State Facility's ID		
			F. Facility's Phone		
11 WASTE DESCRIPTION		12 Containers	13. Total Quantity	14. Unit Wt./Vol.	
		No	Type		
a. <i>NON-HAZ Petroleum Contact waste mat</i>			<i>TT</i>	<i>7000</i>	<i>gal</i>
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 <i>Steve B. Greenbank</i>				Signature <i>Steve B. Greenbank</i>	
				Date Month Day Year <i>5/20/14</i>	
17 Transporter 1 Acknowledgement of Receipt of Materials				Date	
Printed/Typed Name <i>Mark Gore</i>				Signature <i>Mark Gore</i>	
				Date Month Day Year <i>5/23/14</i>	
18 Transporter 2 Acknowledgement of Receipt of Materials				Date	
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 <i>TZUAN Co</i>				Signature <i>TZUAN Co</i>	
				Date Month Day Year <i>5/23/14</i>	

NON-HAZARDOUS WASTE



NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No		Manifest Document No	2. Page 1 of 3
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD KINGSTREE, SC			
4. Generator's Phone ()					
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID	
HERR, Inc.		NCR-000139816		B. Transporter 1 Phone 910-640-2607	
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	
CWS 303 S. MAURSBY ST WHITEVILLE, NC				F. Facility's Phone 910-640-2608	
11. WASTE DESCRIPTION			12. Containers	13. Total Quantity	14. Unit Wt./Vol
			No	Type	
a. Non-Reg. Petroleum Contd Water					212 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
17. Transporter 1 Acknowledgment of Receipt of Materials			Date		
Printed/Typed Name			Signature		Month Day Year
Steve Rivenbark			Steve Rivenbark		5/23/14
18. Transporter 2 Acknowledgment of Receipt of Materials			Date		
Printed/Typed Name			Signature		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			Signature		Date
TYAN Cox			TYAN Cox		5/23/14





Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

JUN 18 2014



Re: **Site Specific Work Plan Request**
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686
Release reported March 30, 2001
AFVR Report received June 12, 2014
Williamsburg County

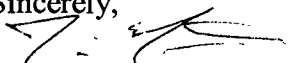
Dear Mr. Easler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Geological Resources, Inc., as your contractor. The next scope of work is a groundwater sampling event as outlined in Revision 2.0 of the UST Quality Assurance Program Plan (QAPP). Please have your contractor plan to conduct a comprehensive groundwater sampling of all monitoring wells located at the site. Samples should be analyzed for BTEX, Naphthalene, Oxygenates, 1,2-DCA, MTBE, and EDB, in accordance with QAPP Rev. 2.0, and in compliance with all applicable regulations. A copy of the QAPP is available at http://www.scdhec.gov/environment/qapp_rev-2_april2013.pdf.

Please have your contractor complete and submit the Site Specific Work Plan and Cost Agreement within thirty (30) days of the date of this letter. The Site Specific Work Plan form can be found at <http://www.dhec.sc.gov/library/D-0653.pdf>. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that technical and financial preapproval from the Agency must be issued before work begins.**

On all correspondence concerning this site, please reference UST Permit # 18686. If there are any questions, feel free to contact me by telephone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail at martinjm@dhec.sc.gov.

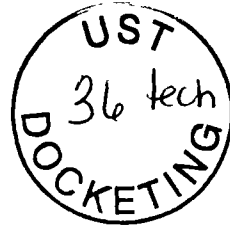
Sincerely,


Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Geological Resources, Inc., 2301 Crown Point Executive Drive, Suite F, Charlotte, NC 28227
Technical File



Geological Resources, Inc.



June 25, 2014

Mr. Jim Martin
South Carolina Department of Health
And Environmental Control
Underground Storage Tank Management Division
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

Re: GRI Proposal No. 14-382
Site Specific Work Plan
Tisdale's Quick Stop
1989 Thurgood Marshall Blvd
Kingstree, Williamsburg County
UST Permit No. 18686

Dear Mr. Martin:

Attached is a Site Specific Work Plan for approved ACQAP and the associated Assessment Component Cost Agreement for the above referenced site in Kingstree, Williamsburg County, South Carolina.

Please contact me at (704) 845-4010 or by e-mail at wsb@geologicalresourcesinc.com if you have questions or comments concerning this matter.

Sincerely,

W. Scott Ball
Senior Project Manager

Enclosures

cc: file



**Site-Specific Work Plan for Approved ACQAP
Underground Storage Tank Management Division**

To: Jim Martin (SCDHEC Project Manager)
From: Scott Ball (Contractor Project Manager)
Contractor: Geological Resources, Inc. UST Contractor Certification Number: 74

Facility Name: Tisdale's Quick Stop UST Permit #: 18686
Facility Address: 1989 Thurgood Marshall Blvd, Kingstree, Williamsburg County, SC
Responsible Party: Mr. Marty Easler Phone: (843) 426-2557
RP Address: 196 Richburg Road, Greeleyville, SC 29056
Property Owner (if different): Andy McKnight
Property Owner Address: 316 McCullough Loop, Kingstree, SC
Current Use of Property: Commercial - Restaurant

Scope of Work (Please check all that apply)

☐ IGWA ☐ Tier II ☒ Groundwater Sampling ☐ GAC
☐ Tier I ☐ Monitoring Well Installation ☐ Other _____

Analyses (Please check all that apply)

Groundwater/Surface Water:

☒ BTEXNMDCA (8260B) ☐ Lead ☐ BOD ☐ Methane
☒ Oxygenates (8260B) ☐ 8 RCRA Metals ☐ Nitrate ☐ Ethanol
☒ EDB (8011) ☐ TPH ☐ Sulfate ☐ Dissolved Iron
☐ PAH (8270D) ☐ pH ☐ Other _____

Soil:

☐ BTEXN ☐ 8 RCRA Metals ☐ TPH-DRO (3550B/8015B) ☐ Grain Size
☐ PAH ☐ Oil & Grease (9071) ☐ TPH-GRO (5030B/8015B) ☐ TOC

Air:

☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

____ Soil 2 Water Supply Wells _____ Air 1 Field Blank
36 Monitoring Wells _____ Surface Water 2 Duplicate 1 Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

of shallow points proposed: NA 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: NA 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 #: 18686 Facility Name: Tisdale's Quick Stop

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 5 days from approval Field Work Completion: 8 days from approval

Report Submittal: 45 days from approval # of Copies Provided to Property Owners: 1

Aquifer Characterization

Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

NA

Investigation Derived Waste Disposal

Soil: _____ Tons Purge Water: 100 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/repared, well pads/bolts/caps to replace, details of AFVR event, etc.

Sample monitoring wells MW-1 through MW16, MW-18 through MW-31, MW-1A through MW-4A, TW-1 and TW-2.

Sample water supply wells WSW-1 and WSW-3. If any of the monitoring wells contain free product they will only be gauged and no samples will be collected. All ground water samples collected will be submitted for analyses of BTEX, MTBE, naphthalene, 1, 2-DCA and 8 oxygenates by Method 8260 and EDB by Method 8011.

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: _____

NA Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.

Name of Well Driller: _____

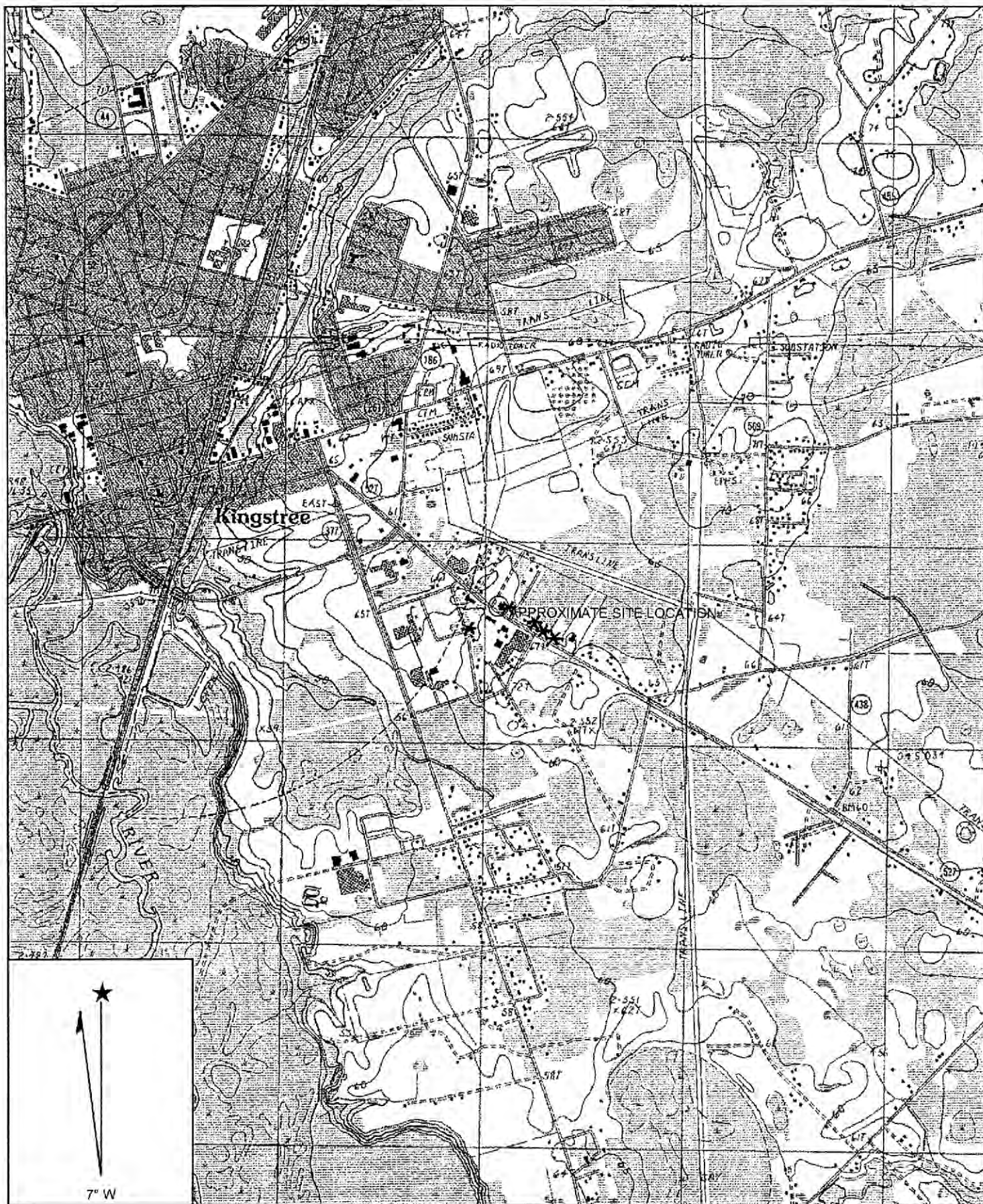
SCLLR Certification Number: _____

NA 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



Name: KINGSTREE
 Date: 2/11/2009
 Scale: 1 inch equals 2000 feet

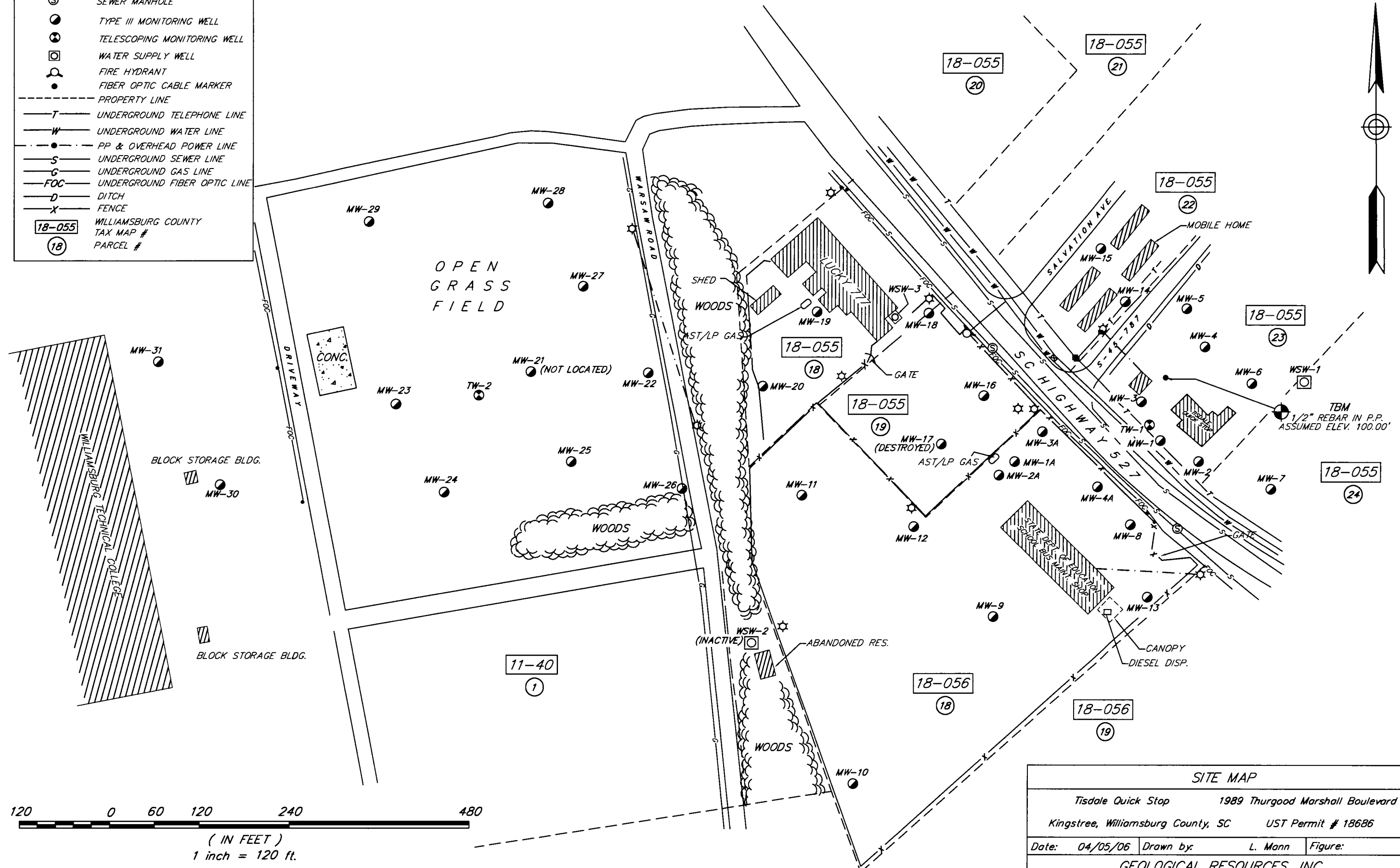
*Water Supply Well



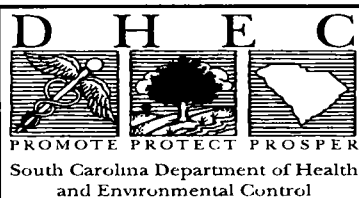
Location: 033° 39' 29.0" N 079° 48' 46.8" W
 Caption: Site Location Map
 Tisdales Quick Stop
 Figure 1 UST Permit # 18688

LEGEND

- ☆ LIGHT POLE
- TELEPHONE PEDESTAL
- ⊙ SEWER MANHOLE
- TYPE III MONITORING WELL
- ⊗ TELESCOPING MONITORING WELL
- WATER SUPPLY WELL
- ⊕ FIRE HYDRANT
- FIBER OPTIC CABLE MARKER
- - - PROPERTY LINE
- T- UNDERGROUND TELEPHONE LINE
- W- UNDERGROUND WATER LINE
- PP & OVERHEAD POWER LINE
- S- UNDERGROUND SEWER LINE
- G- UNDERGROUND GAS LINE
- FOC- UNDERGROUND FIBER OPTIC LINE
- D- DITCH
- X- FENCE
- 18-055 WILLIAMSBURG COUNTY TAX MAP #
- 18 PARCEL #



SITE MAP			
Tisdale Quick Stop		1989 Thurgood Marshall Boulevard	
Kingstree, Williamsburg County, SC		UST Permit # 18686	
Date: 04/05/06	Drawn by: L. Mann	Figure: 2	
GEOLOGICAL RESOURCES, INC.			



ASSESSMENT COMPONENT INVOICE

SOUTH CAROLINA

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

May 15, 2014

Facility Name: Tisdale's Quick Stop

GRI Proposal #14-382

UST Permit #: 18686

Cost Agreement #: _____

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan Preparation				
A1. Site-specific Work Plan	1	each	\$150.00	\$150.00
B1. Tax Map		each	\$70.00	\$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		each	\$250.00	\$0.00
2. A1. Receptor Survey *		each	\$551.00	\$0.00
3. Survey (500 ft x 500 ft)				
A1. Comprehensive Survey		each	\$1,040.00	\$0.00
B. Subsurface Geophysical Survey				
1B. < 10 meters below grade		each	\$1,300.00	\$0.00
2B. > 10 meters below grade		each	\$2,310.00	\$0.00
C1. Geophysical UST or Drum Survey		each	\$910.00	\$0.00
4. Mob/Demob				
A1. Equipment		each	\$1,020.00	\$0.00
B1. Personnel	2	each	\$423.00	\$846.00
C1. Adverse Terrain Vehicle		each	\$500.00	\$0.00
5. A1. Soil Borings (hand auger)*		foot	\$5.00	\$0.00
6. Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water sample, soil sample, soil gas sample, etc.)*				
AA. Standard		per foot	\$15.00	\$0.00
C1. Fractured Rock		per foot	\$20.20	\$0.00
7. A1. Soil Leachability Model		each	\$60.00	\$0.00
8. Abandonment (per foot)*				
A1. 2" diameter or less		per foot	\$3.10	\$0.00
B1. Greater than 2" to 6" diameter		per foot	\$4.50	\$0.00
C1. Dug/Bored well (up to 6 feet diameter)		per foot	\$15.00	\$0.00
9. Well Installation (per foot)*				
A1. Water Table (hand augered)		per foot	\$10.60	\$0.00
B1. Water Table (drill rig)		per foot	\$38.00	\$0.00
CC. Telescoping		per foot	\$50.00	\$0.00
DD. Rock Drilling		per foot	\$58.00	\$0.00
E1. 2" Rock Coring		per foot	\$30.90	\$0.00
G1. Rock Multi-sampling ports/screens		per foot	\$33.40	\$0.00
HH. Recovery Well (4" diameter)		per foot	\$45.00	\$0.00
II. Pushed Pre-packed screen (1.25" dia)		per foot	\$15.00	\$0.00
J1. Rotasonic (2" diameter)		per foot	\$44.00	\$0.00
K. Re-develop Existing Well		per foot	\$11.00	\$0.00
10. Groundwater Sample Collection / Gauge Depth to Water or Product *				
A1. Groundwater Purge	2	per well/receptor	\$60.00	\$120.00
B1. Air or Vapors		per receptor	\$12.00	\$0.00
C1. Water Supply	2	per well/receptor	\$22.00	\$44.00
D1. Groundwater (No Purge or Duplicate)	36	per well/receptor	\$28.00	\$1,008.00
E1. Gauge Well only		per well	\$7.00	\$0.00
F1. Sample Below Product		per well	\$12.00	\$0.00
G1. Passive Diffusion Bag		each	\$26.00	\$0.00
H1. Field Blank	1	each	\$24.60	\$24.60

11. Laboratory Analyses-Groundwater					
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(82)	42	per sample	\$122.00		\$5,124.00
AA1. Lead, Filtered		per sample	\$13.80		\$0.00
B2. Rush EPA Method 8260B (All of item A.)		per sample	\$153.60		\$0.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		per sample	\$36.40		\$0.00
D1. PAH's		per sample	\$60.60		\$0.00
E1. Lead		per sample	\$16.00		\$0.00
F1. EDB by EPA 8011	41	per sample	\$45.20		\$1,853.20
FF1. EDB by EPA Method 8011 Rush		per sample	\$68.20		\$0.00
G1. 8 RCRA Metals		per sample	\$63.40		\$0.00
H1. TPH (9070)		per sample	\$41.00		\$0.00
II. pH		per sample	\$5.20		\$0.00
J1. BOD		per sample	\$20.00		\$0.00
PP. Ethanol		per sample	\$14.80		\$0.00
11. Analyses-Soil					
Q1. BTEX + Naphth.		per sample	\$64.00		\$0.00
R1. PAH's		per sample	\$64.04		\$0.00
S1. 8 RCRA Metals		per sample	\$56.40		\$0.00
U1. TPH-DRO (3550C/8015C)		per sample	\$40.00		\$0.00
V1. TPH- GRO (5030B/8015C)		per sample	\$35.96		\$0.00
W1. Grain size/hydrometer		per sample	\$104.00		\$0.00
X1. Total Organic Carbon		per sample	\$30.60		\$0.00
11. Analyses-Air					
Y1. BTEX + Naphthalene		per sample	\$216.00		\$0.00
11. Analyses-Free Phase Product					
Z1. Hydrocarbon Fuel Identification		per sample	\$357.00		\$0.00
12. Aquifer Characterization					
A1. Pumping Test*		per hour	\$23.00		\$0.00
B1. Slug Test*		per test	\$191.00		\$0.00
C1. Fractured Rock		per test	\$100.00		\$0.00
13. A1. Free Product Recovery Rate Test*		each	\$38.00		\$0.00
14. Fate/Transport Modeling					
A1. Mathematical Model		each	\$100.00		\$0.00
B1. Computer Model		each	\$100.00		\$0.00
15. Risk Evaluation					
A. Tier I Risk Evaluation		each	\$300.00		\$0.00
B1. Tier II Risk Evaluation		each	\$100.00		\$0.00
16. A1. Subsequent Survey*		each	\$260.00		\$0.00
17. Disposal (gallons or tons)*					
AA. Wastewater	100	gallon	\$0.56		\$56.00
BB. Free Product		gallon	\$0.50		\$0.00
C1. Soil Treatment/Disposal		ton	\$60.00		\$0.00
D1. Drilling fluids		gallon	\$0.42		\$0.00
18. Miscellaneous (attach receipts)					
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
20. Tier I Assessment (Use DHEC 3665 form)		standard			\$0.00
21. IGWA (Use DHEC 3666 form)		standard			\$0.00
22. Corrective Action (Use DHEC 3667 form)		PFP Bid			\$0.00

23. Aggressive Fluid & Vapor Recovery (AFVR)					
A1. 8-hour Event*		each	\$1,375.00		\$0.00
AA. 24-hour Event*		each	\$3,825.00		\$0.00
A3. 48-hour Event*		each	\$6,265.00		\$0.00
A4. 96-hour Event*		each	\$12,567.50		\$0.00
C1. Off-gas Treatment 8 hour		per event	\$122.50		\$0.00
C2. Off-gas Treatment 24 hour		per event	\$241.50		\$0.00
C3. Off-gas Treatment 48 hour		per event	\$327.00		\$0.00
C4. Off-gas Treatment 96 hour		per event	\$780.00		\$0.00
D. Site Reconnaissance		each	\$203.25		\$0.00
E1. Additional Hook-ups		each	\$25.75		\$0.00
F1. Effluent Disposal		gallon	\$0.44		\$0.00
G. AFVR Mobilization/Demobilization		each	\$391.50		\$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:					
A1. New GAC System Installation*		each	\$1,900.00		\$0.00
BB. Refurbished GAC Sys. Install*		each	\$900.00		\$0.00
C1. Filter replacement/removal*		each	\$350.00		\$0.00
DD. GAC System removal, cleaning, & refurbishment*		each	\$275.00		\$0.00
E1. GAC System housing*		each	\$250.00		\$0.00
F. In-line particulate filter		each	\$150.00		\$0.00
G1. Additional piping & fittings		foot	\$1.50		\$0.00
25. Well Repair					
A1. Additional Copies of the Report Delivered		each	\$50.00		\$0.00
B1. Repair 2x2 MW pad*		each	\$50.00		\$0.00
C1. Repair 4x4 MW pad*		each	\$88.00		\$0.00
D1. Repair well vault*		each	\$118.00		\$0.00
F1. Replace well cover bolts		each	\$2.60		\$0.00
G. Replace locking well cap & lock		each	\$15.00		\$0.00
H1. Replace/Repair stick-up*		each	\$134.00		\$0.00
II. Convert Flush-mount to Stick-up*		each	\$150.00		\$0.00
J1. Convert Stick-up to Flush-mount*		each	\$130.00		\$0.00
K1. Replace missing/illegible well ID plate		each	\$12.00		\$0.00
Report Prep & Project Coordination	12%	percent	\$9,225.80		\$1,107.10
TOTAL					\$10,332.90

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



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment



MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

JUL 30 2014

Re: Groundwater Sampling Directive
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686; CA# 48442
Release reported March 30, 2001
SSWP received June 27, 2014
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced Site Specific Work Plan submitted on your behalf by Geological Resources, Inc. The previous assessment work for this release indicates that petroleum Chemicals of Concern (CoC) are present in the groundwater at concentrations that exceed risk-based screening levels (RBSLs). In order to obtain current groundwater quality data, a comprehensive groundwater sampling event is necessary. All work should be conducted in accordance with the UST Quality Assurance Program Plan, revision 2.0, (QAPP) and must be conducted in compliance with all applicable regulations. A copy of the Agency QAPP for the UST Management Division is available at http://www.scdhec.gov/environment/QAPP_Rev-2_April2013.pdf

Groundwater sampling activities at the site should begin immediately upon receipt of this letter. Cost Agreement #48442 has been approved for the amount shown on the enclosed cost agreement form for the sampling of all monitoring wells associated with the release. Groundwater samples should be collected and analyzed for BTEX, Naphthalene, MtBE, 1,2-DCA, Oxygenates, Ethanol and EDB. Analyses should be in accordance with Appendix E of the QAPP and shall include a duplicate sample, field blank, and trip blank.

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

Geological Resources, Inc., can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification requirements regarding laboratory services and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be

uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

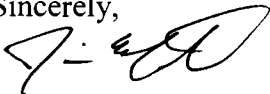
Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the UST Division is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be pre-approved by the UST Division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

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

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

On all correspondence regarding this site, please reference **UST Permit #18686 and Cost Agreement #48442**. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail to martinjm@dhec.sc.gov.

Sincerely,



Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Geological Resources, Inc., 3502 Hayes Rd., Monroe, NC 28110 (w/ enc.)
Technical File (w/ enc.)

Approved Cost Agreement 48442

Facility 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
01 PLAN		A1 SITE SPECIFIC WORK PLAN	1.0000	150.00	150.00
04 MOB/DEMOB		B1 PERSONNEL	2.0000	423.00	846.00
10 SAMPLE COLLECTION		A1 GROUNDWATER (PURGE)	2.0000	60.00	120.00
		C1 WATER SUPPLY	2.0000	22.00	44.00
		D1 GROUNDWATER NO PURGE/DUPLICATE	36.0000	28.00	1,008.00
		H1 FIELD BLANK	1.0000	24.60	24.60
11 ANALYSES	GW GROUNDWATER	A2 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	42.0000	122.00	5,124.00
		F1 EDB BY 8011	41.0000	45.20	1,853.20
17 DISPOSAL		AA WASTEWATER	100.0000	0.56	56.00
19 RPT/PROJECT MNGT & COORDINATIO		PRT REPORT PREPARATION	0.1200	9,225.80	1,107.10
Total Amount					10,332.90



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

**MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056**

OCT 01 2014



Re: **AFVR Directive**

Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686; CA#48925
Release reported March 30, 2001
Monitoring Report received September 26, 2014
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site utilizing Geological Resources, Inc. In accordance with Section 280.64 of the South Carolina Underground Storage Tank Control Regulations, a 96-hour Aggressive Fluid and Vapor Recovery (AFVR) event may commence as outlined in the UST Quality Assurance Program Plan (QAPP) Revision 2.0. **Please be aware that the AFVR Procedures have been updated.** Please connect to MW-1a, MW-2a, MW-3a & MW-4a for the duration of the event. The stingers shall be lowered at six inch intervals starting at the water table interface to a maximum depth of 26 feet in the wells. A copy of Agency QAPP Version 2.0 for the Underground Storage Tank Division is available at http://www.dhec.sc.gov/environment/docs/qapp_rev-2_april2013.pdf.

As soon as the beginning date of the event has been scheduled, please contact Jim Martin at martinjm@dhec.sc.gov.

The AFVR Report should be submitted within 90 days from the date of this correspondence. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

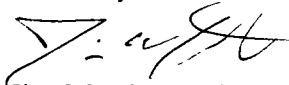
Cost Agreement #48925 has been approved in the amount shown on the enclosed cost agreement. Geological Resources, Inc., can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. If the invoice and completed report are not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.

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

The Agency grants preapproval for transportation of virgin petroleum-contaminated groundwater from the referenced site to a permitted treatment facility.

On all correspondence concerning this site, please reference UST Permit #18686 and CA #48925. If you have any questions, please contact me at (803) 898-0605 or by e-mail at martinjm@dhec.sc.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Martin", is written over a horizontal line.

Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Technical File (with enclosure)
Geological Resources, Inc., 3502 Hayes Rd., Monroe, NC 28110 (with enclosure)

Approved Cost Agreement 48925

Facility 18686 TISDALES QUICK STOP

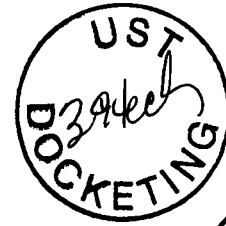
MARTINJM

PO Number

<u>Task / Description</u>	<u>Categories</u>	<u>Item</u>	<u>Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
19 RPT/PROJECT MNGT & COORDINATIO						
		PRT	REPORT PREPARATION	0 1200	22,742 25	2,729 07
23 EFR						
		A4	96 HOUR EVENT	1 0000	12,567 50	12,567 50
		C4	OFF GAS TREATMENT 96 HOUR	1 0000	780 00	780 00
		D	SITE RECONNAISSANCE	1 0000	203 25	203 25
		F1	EFFLUENT DISPOSAL	20,000 0000	0 44	8,800 00
		G	AFVR EQUIPMENT MOB	1 0000	391 50	391 50
				Total Amount		25,471 32



Geological Resources, Inc.



November 21, 2014

Mr. Jim Martin, Hydrogeologist
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: AFVR Report
Tisdales Quick Stop
1989 Thurgood Marshall Blvd.
Kingstree, Williamsburg County
UST Permit #: 18686
CA #: 48925
GRI Project No. 1543

Dear Mr. Martin:

This report presents the results of the aggressive fluid-vapor recovery (AFVR) event conducted in October 2014 at the above referenced site. The activities were conducted in accordance with the requirements outlined in correspondence from the SCDHEC dated October 1, 2014 and addressed to Mr. Marty Easler. The purpose of the activities was to remove residual free-phase product and reduce dissolved phase contaminant concentrations in monitoring wells MW-1A, MW-2A, MW-3A and MW-4A. The following Figures, Tables and Appendix have been included:

- Figure 1: Site Location Map
Figure 2: Site Map
- Table 1: AFVR Event Chronology – October 13-17, 2014
Table 2: Summary of Monitoring Well Gauging Data
- Appendix A: AFVR Report, Calculations, Disposal Manifests

Tisdales Quick Stop
AFVR Report
UST Permit # 18686

The AFVR contractor, Hazmat Emergency Response and Remediation, Inc. (HERR), arrived on-site on October 13, 2014 for the AFVR event. The event was conducted on monitoring wells MW-1A, MW-2A, MW-3A and MW-4A. General weather conditions were overcast with an ambient air temperature of approximately 74°F at the time of system start-up. No free product was measured in any of the wells prior to system startup. AFVR activities were conducted for ninety-six (96) hours on MW-1A, MW-2A, MW-3A and MW-4A using a vacuum truck with a maximum vacuum rating of 25 in. Hg and a capacity of 325 cubic feet per minute. During the course of the event, the vacuum at the wells remained steady at 20 in. Hg. Please note that the vacuum truck was equipped with an activated charcoal filter for off-gas treatment of vapor phase hydrocarbons. A total of 20,630 gallons of liquid were removed during the event. However, there was no measureable amount of liquid phase free product noted in the tanker. No measurable free product was present in any of the vacuum wells (MW-1A, MW-2A, MW-3A and MW-4A) at the conclusion of the event. Based on data collected during the AFVR event, an estimated total of 19.388 pounds (approximately 3.10 gallons) of vapor phase hydrocarbons were calculated to have been removed during the event.

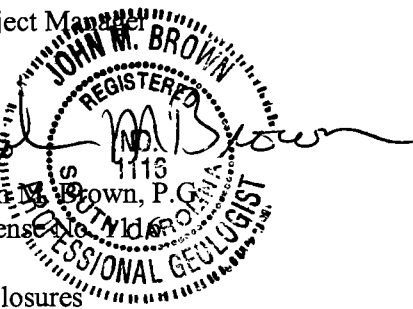
If you have any comments or questions concerning this project, please do not hesitate to contact the undersigned at (704) 845-4010.

Sincerely,



W. Scott Ball

Project Manager

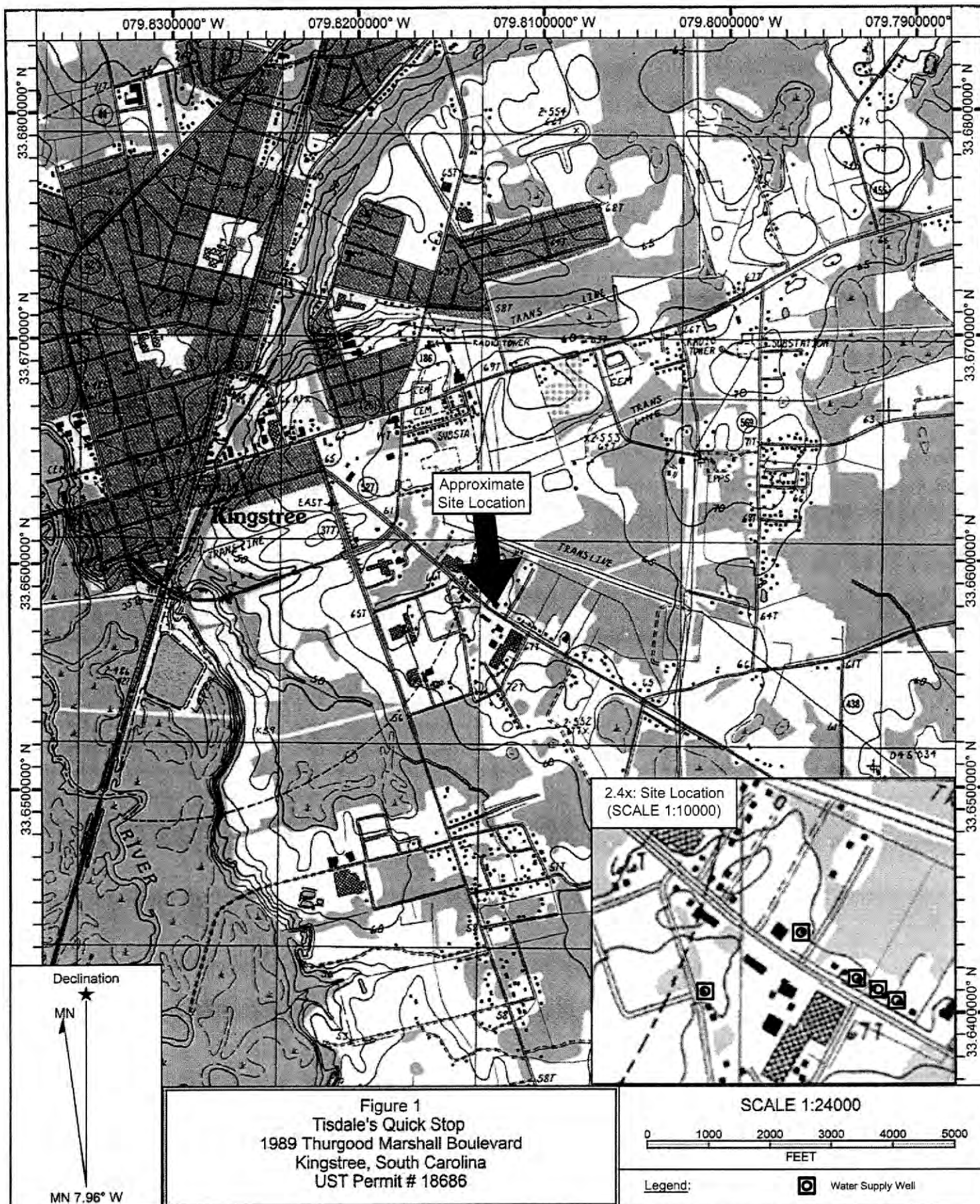


John M. Brown, P.G.
License No. 1113
Professional Geologist

Enclosures

cc: Mr. Marty Easler
File

FIGURES



Name: Topographic Map
Date: 09/16/14
Scale: 1 inch = 2,000 ft.

Location: 033.6579897° N 079.8127613° W

☆

LIGHT POLE

■

TELEPHONE PEDESTAL

⊙

SEWER MANHOLE

●

TYPE III MONITORING WELL

⊙

TELESCOPING MONITORING WELL

⊙

WATER SUPPLY WELL

⊙

FIRE HYDRANT

⊙

FIBER OPTIC CABLE MARKER

PROPERTY LINE

UNDERGROUND TELEPHONE LINE

UNDERGROUND WATER LINE

PP & OVERHEAD POWER LINE

UNDERGROUND SEWER LINE

UNDERGROUND GAS LINE

UNDERGROUND FIBER OPTIC LINE

DITCH

FENCE

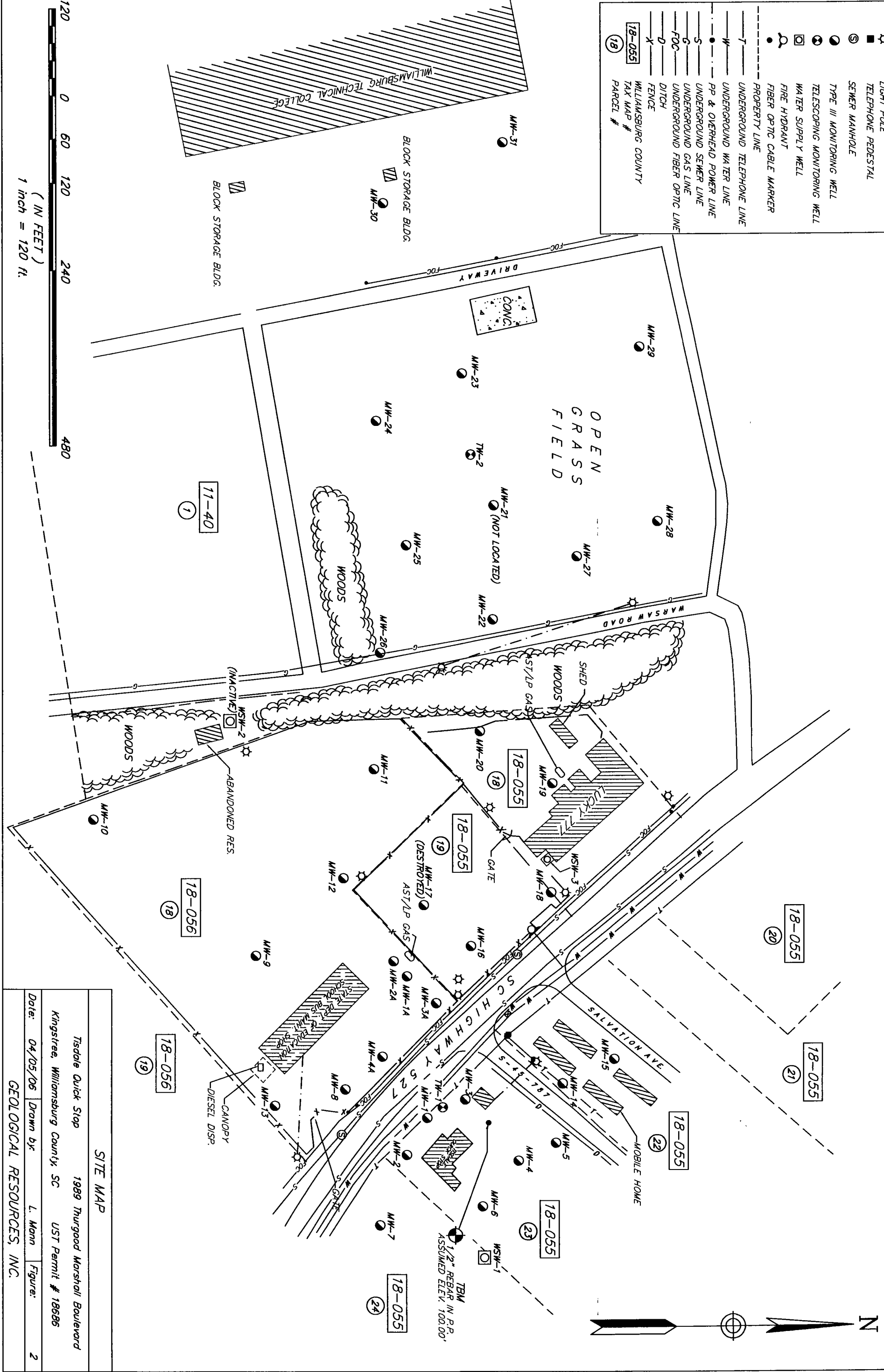
18-055

WILLIAMSBURG COUNTY TAX MAP #

18

PARCEL #

LEGEND



SITE MAP			
Tisdale Quick Stop		1989 Thurgood Marshall Boulevard	
Kingstree, Williamsburg County, SC		UST Permit # 18686	
Date: 04/05/06	Drawn by: L. Mann	Figure: 2	
GEOLOGICAL RESOURCES, INC.			

TABLES

TABLE 1
AFVR EVENT CHRONOLOGY
OCTOBER 13-17, 2014
TISDALE'S QUICK STOP
UST PERMIT #18686

Task	Hours	Personnel	Equipment	Company
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A and MW-4A	9:15 10/13/14	Vacuum Truck Operator	Interface Probe	HERR
Vacuum Truck Setup for Fluid Removal in MW-1A, MW-2A, MW-3A and MW-4A	9:15 - 9:30 10/13/14	Vacuum Truck Operator	Vacuum Truck	HERR
Fluid Recovery in MW-1A, MW-2A, MW-3A and MW-4A	9:30 10/13/14 - 9:30 10/17/14	Vacuum Truck Operator	Vacuum Truck	HERR
Gauge Liquid Levels in MW-1A, MW-2A, MW-3A and MW-4A	9:45 10/17/14	Vacuum Truck Operator	Interface Probe	HERR

TABLE 2
SUMMARY OF MONITORING WELL GAUGING DATA
TISDALE'S QUICK STOP
UST PERMIT #18686

Well No.	Date	Time	Depth to Free Product	Depth to Ground Water	Free Product
MW-1A	10/13/14	09:15	---	14.16	---
MW-2A		09:15	---	14.27	---
MW-3A		09:15	---	14.15	---
MW-4A		09:15	---	14.56	---
MW-1A	10/17/14	09:45	---	14.63	---
MW-2A		09:45	---	14.65	---
MW-3A		09:45	---	14.75	---
MW-4A		09:45	---	14.82	---

Note:

- Data reported in feet.

APPENDIX

APPENDIX A
AFVR Report, Calculations, Disposal Manifests



HAZMAT EMERGENCY RESPONSE AND REMEDIATION, INC.

Post Office Box 381 • 217 North 701 By Pass • Tabor City, NC 28463 • 910-653-6399
Fax: 910-653-6398 • E-mail: herrteam@hotmail.com • www.herrteam.com

Thursday, October 30, 2014

Scott Ball
Geological Resources, Inc.
2301-F Crown Point Executive Dr.
Charlotte, NC 28227

Re: Site Name: Tisdale's Quick Stop
Kingstree, SC
UST Permit #: 18686

Scott,

Hazmat Emergency Response and Remediation, Inc. (HERR) completed one 96 hour Aggressive Fluid Vapor Recovery (AFVR) event at the above site on October 13-17, 2014. Included is the documentation for the event. The 96 hour event was conducted on monitoring wells MW-1A, MW-2A, MW-3A, and MW-4A.

If you have any questions, please do not hesitate to contact our office.

Sincerely,


Marc Cox
HERR Project Manager

Tisdale's Quick Stop
Kingstree, SC
October 13-17, 2014

AFVR

HERR mobilized personnel and equipment to Tisdale's Quick Stop on 10/13/14. The ambient temperature was 74 deg F and weather conditions were overcast. The depths to product and water were measured prior to and subsequent to the AFVR event (See attached data). Personnel from Geological Resources, Inc. (GRI) were on site to supervise the event.

The 96 Hour AFVR event was conducted using a Global Vacuum Liquid Ring Pump with off gas treatment through a vapor phase granular activated carbon scrubber. The vacuum unit is capable of providing 325 CFM at 25 inches of mercury.

Pollutant Mass Removal

Total weight of 19.388 pounds of petroleum in the vapor phase (total non-methane organic emissions) was removed during the 96 hour AFVR event. This amount is based on data collected during the AFVR event (see attached data sheets)

Liquid Disposal

Approximately 20,630 gallons of petroleum contact water was collected during the AFVR event (See attached disposal manifest)

APPENDICES

- A. AFVR FIELD NOTES**
- B. POLLUTANT MASS REMOVAL DATA SHEET**
- C. LIQUID DISPOSAL MANIFEST**

APPENDIX A
AFVR FIELD NOTES

HERR, Inc.

AFVR – Field Notes

Site Name: TISDALE'S QUICK STOP Location: KINGSTREE, SC

AFVR Contractor: HERR, Inc. Personnel: Steve

Date: 10/13-17/14 Ambient Air Temperature and General Weather Condition: 74- Overcast

Start Time 1: 10-13 9:30 Stop Time 1: 10-17 9:30 Start Time 2: _____ Stop Time 2: _____

Total volume of water removed during the 8-hour AFVR Event: 20,630 gal

Total volume of product removed during the 8-hour AFVR Event: Film

Product Recovery Rate: _____

Monitoring Well	Depth to product prior to stinger placement (ft. below TOC)	Depth to water prior to stinger placement (ft. below TOC)	Depth to product at cessation of vacuuming (ft. below TOC)	Depth to water at cessation of vacuuming (ft. below TOC)	Estimated volume of water removed during this event	Relevant Observations
mw 4a	-	14.56	-	14.82	20,630 gal	
mw 3a	-	14.15	-	14.75		
mw 1a	-	14.16	-	14.63		
mw 2a	-	14.27	-	14.65		

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

MW#	MW- 1a	MW- 2a	MW- 3a	Stinger Placement			
Time	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Stinger Depth	Product Depth	Water Level	Notes
9:30				16'	---	14.52	14.82
10:00				16'	---	14.15	14.75
10:30				16'	---	14.14	14.63
11:00				16'	---	14.27	14.65
12:00	20	20	20				
12:30	20	20	20				
1:00	20	20	20	16.5'			
1:30	20	20	20				
2:00	20	20	20				
2:30	20	20	20				
3:00	20	20	20				
3:30	20	20	20				
4:00	20	20	20				
4:30	20	20	20	17.5'			
5:00	20	20	20				
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5:00	20</						

Aggressive Fluid/Vapor Recovery Notes

vacuum conversion: (inches of water X 0.07355 = inches of mercury)

Time	MW- 1A	MW- 2A	MW- 3A	Stinger Placement			
	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Vacuum at Targeted Well (in. Hg)	Stinger Depth	Product Depth	Water Level	Notes
10-15							
8:00	20	20	20				
12:00	20	20	20	18.0'			
4:00	20	20	20				
8:00	20	20	20				
12:00	20	20	20				
10-16							
8:00	20	20	20				
12:00	20	20	20				
4:00	20	20	20				
8:00	20	20	20				
12:00	20	20	20				
10-17							
2:00	20						
8:00	20	20	20				
9:30	Shut Down						

Vacuum at Pump: 26 CFMP

Aggressive Fluid/Vapor Recovery Notes

Time	PID at stack (ppm)	PID after off-gas treatment (carbon) (ppm)	Velocity (ft. / min.)	Temperature (Fahrenheit)	Relative Humidity (%)	Other
9:30	715	472	1018	84	68	
10:00	724	484	1021	92	68	
10:30	731	492	1026	94	68	
11:00	728	488	1029	105	68	
11:30	721	484	1033	115	68	
12:00	717	475	1037	119	68	
12:30	704	465	1041	124	68	
1:00	694	461	1044	134	68	
1:30	687	456	1049	134	68	
2:00	674	443	1053	137	68	
2:30	655	425	1057	137	68	
3:00	634	404	1062	137	68	
3:30	617	387	1068	135	68	
4:00	594	374	1074	135	68	
4:30	572	372	1079	135	68	
5:00	590	371	1085	135	68	
5:30	586	364	1087	132	68	
6:00	582	360	1084	132	68	
6:30	577	356	1099	130	68	
7:00	573	352	1103	128	68	
7:30	568	349	1110	124	68	
8:00	561	343	1121	125	68	
8:30	554	337	1125	125	68	
9:00	549	325	1130	125	68	
9:30	542	321	1138	124	68	

Aggressive Fluid/Vapor Recovery Notes

	Time	PID at stack (ppm)	PID after off-gas treatment (carbon) (ppm)	Velocity (ft. / min.)	Temperature (Farenheit)	Relative Humidity (%)	Other
10-13 Thurs	10:00	532	307	1152	120	68	
	10:30	532	307	1152	120	68	
	11:00	528	300	1164	120	68	
	11:30	521	298	1170	120	68	
Am	12:00	512	292	1176	120	68	
10-11 Thurs	8:00	428	187	1342	116	70	
	9:00	426	187	1358	118	70	
	10:00	425	186	1364	122	70	
	11:00	423	186	1371	123	70	
PM	12:00	421	186	1377	124	70	
	1:00	419	185	1385	125	70	
	2:00	420	185	1392	125	70	
	3:00	418	185	1398	125	70	
	4:00	416	184	1404	125	70	
	5:00	411	184	1412	124	70	
	6:00	407	182	1419	124	70	
	7:00	405	181	1426	122	70	
	8:00	402	180	1435	121	70	
	9:00	402	181	1442	120	70	
	10:00	400	180	1453	120	70	
	11:00	397	180	1466	120	70	
Am	12:00	395	179	1478	120	70	

Aggressive Fluid/Vapor Recovery Notes

	Time	PID at stack (ppm)	PID after off-gas treatment (carbon) (ppm)	Velocity (ft. / min.)	Temperature (Farenheit)	Relative Humidity (%)	Other
10-15 wed PM	8:00	358	137	1535	115	86	
	10:00	354	134	1542	118	86	
	12:00	351	135	1554	121	86	
	2:00	348	134	1563	122	86	
	4:00	345	134	1574	122	86	
	6:00	334	128	1585	121	86	
	8:00	326	125	1589	118	86	
	10:00	318	121	1593	117	86	
AM	12:00	307	115	1599	116	86	
10-16 Th PM	8:00	278	82	1663	112	79	
	10:00	275	82	1668	115	79	
	12:00	277	82	1675	118	79	
	2:00	273	81	1686	118	79	
	4:00	270	81	1674	117	79	
	6:00	271	81	1708	115	79	
	8:00	268	80	1715	115	79	
	10:00	266	80	1719	114	79	
	12:00	262	79	1723	114	79	
10-17 Fr	8:00	274	58	1784	111	76	
	9:00	275	58	1786	112	76	
	9:30	Shut Down					

APPENDIX B

POLLUTANT MASS REMOVAL DATA SHEETS

Site: Tisdale's Quick Stop
 UST Permit #: 18686

Calculations - Flow at DSCFM							
Date	Time	Velocity (ft/min)	Cross Sec. Stack Area (ft^2)	Temperature (F)	Rel. Humidity	Water Vapor (%)	Qstd (flow)
10/13/14	9:30						
10/13/14	10:00	1018	0.022	84	68	0.017136404	21.36
10/13/14	10:30	1021	0.022	92	68	0.022246971	21.01
10/13/14	11:00	1026	0.022	96	68	0.025288000	20.89
10/13/14	11:30	1029	0.022	105	68	0.033563919	20.45
10/13/14	12:00	1033	0.022	115	68	0.045644192	19.92
10/13/14	12:30	1037	0.022	119	68	0.051528122	19.73
10/13/14	1:00	1041	0.022	124	68	0.059895220	19.47
10/13/14	1:30	1046	0.022	136	68	0.085660299	18.64
10/13/14	2:00	1049	0.022	136	68	0.085660299	18.69
10/13/14	2:30	1053	0.022	137	68	0.088242814	18.68
10/13/14	3:00	1057	0.022	137	68	0.088242814	18.75
10/13/14	3:30	1062	0.022	137	68	0.088242814	18.84
10/13/14	4:00	1068	0.022	135	68	0.083152757	19.12
10/13/14	4:30	1074	0.022	135	68	0.083152757	19.22
10/13/14	5:00	1079	0.022	135	68	0.083152757	19.31
10/13/14	5:30	1085	0.022	135	68	0.083152757	19.42
10/13/14	6:00	1087	0.022	132	68	0.076056493	19.71
10/13/14	7:00	1099	0.022	130	68	0.071659055	20.09
10/13/14	8:00	1110	0.022	126	68	0.063592753	20.60
10/13/14	9:00	1125	0.022	125	68	0.061717417	20.96
10/13/14	10:00	1138	0.022	124	68	0.059895220	21.28
10/13/14	11:00	1164	0.022	120	68	0.053107162	22.07
10/14/14	12:00	1176	0.022	120	68	0.053107162	22.30
10/14/14	8:00	1342	0.022	116	70	0.048544724	25.75
10/14/14	10:00	1364	0.022	122	70	0.058218219	25.64
10/14/14	12:00	1377	0.022	124	70	0.061831964	25.70

10/14/14	2:00	1392	0.022	125	70	0.063718589	25.88
10/14/14	4:00	1404	0.022	125	70	0.063718589	26.10
10/14/14	6:00	1419	0.022	124	70	0.061831964	26.48
10/14/14	8:00	1435	0.022	121	70	0.056487958	27.07
10/14/14	10:00	1453	0.022	120	70	0.054806769	27.51
10/15/14	12:00	1478	0.022	120	70	0.054806769	27.98
10/15/14	8:00	1535	0.022	115	86	0.058870022	29.18
10/15/14	10:00	1542	0.022	118	86	0.064601606	28.99
10/15/14	12:00	1556	0.022	121	86	0.070870630	28.90
10/15/14	2:00	1563	0.022	122	86	0.073088899	28.92
10/15/14	4:00	1574	0.022	122	86	0.073088899	29.12
10/15/14	6:00	1585	0.022	121	86	0.070870630	29.44
10/15/14	8:00	1589	0.022	118	86	0.064601606	29.87
10/15/14	10:00	1593	0.022	117	86	0.062633857	30.06
10/16/14	12:00	1599	0.022	116	86	0.060723923	30.29
10/16/14	8:00	1663	0.022	112	79	0.048919299	32.12
10/16/14	10:00	1668	0.022	115	79	0.053664854	31.89
10/16/14	12:00	1675	0.022	118	79	0.058845864	31.68
10/16/14	2:00	1686	0.022	118	79	0.058845864	31.89
10/16/14	4:00	1694	0.022	117	79	0.057068005	32.16
10/16/14	6:00	1708	0.022	115	79	0.053664854	32.65
10/16/14	8:00	1715	0.022	115	79	0.053664854	32.79
10/16/14	10:00	1719	0.022	114	79	0.052036544	32.98
10/17/14	12:00	1723	0.022	114	79	0.052036544	33.05
10/17/14	8:00	1784	0.022	111	76	0.045494865	34.64
10/17/14	9:00	1786	0.022	112	76	0.046921467	34.57
10/17/14	9:30	shut down					
Averages		1351.88	0.022	120.44	73.67	0.060914938	25.458

Site: Tisdale's Quick Stop
UST Permit #: 18686

Calculations - Pollutant Mass Removal in pounds									
Marg. Elap. Time	Elapsed Time (min)	Flow (DSCFM) (Qstd)	PPM measured (ppm)	K (#C-gas)	PPMg	Cg:m (mg/dsm^3)	Cg (lb/dscf)	PMRg (lb/hr)	PMR (lb)
0	0								
30	30	21.36	715	1	715	3802.24	0.000237374	0.304	0.152
30	60	21.01	726	1	726	3860.74	0.000241026	0.304	0.152
30	90	20.89	731	1	731	3887.33	0.000242686	0.304	0.152
30	120	20.45	728	1	728	3871.38	0.000241690	0.296	0.148
30	150	19.92	721	1	721	3834.15	0.000239366	0.286	0.143
30	180	19.73	717	1	717	3812.88	0.000238038	0.282	0.141
30	210	19.47	706	1	706	3754.38	0.000234386	0.274	0.137
30	240	18.64	694	1	694	3690.57	0.000230402	0.258	0.129
30	270	18.69	687	1	687	3653.34	0.000228078	0.256	0.128
30	300	18.68	674	1	674	3584.21	0.000223762	0.251	0.125
30	330	18.75	655	1	655	3483.17	0.000217455	0.245	0.122
30	360	18.84	634	1	634	3371.50	0.000210483	0.238	0.119
30	390	19.12	617	1	617	3281.10	0.000204839	0.235	0.117
30	420	19.22	596	1	596	3169.42	0.000197867	0.228	0.114
30	450	19.31	592	1	592	3148.15	0.000196539	0.228	0.114
30	480	19.42	590	1	590	3137.52	0.000195875	0.228	0.114
30	510	19.71	586	1	586	3116.24	0.000194547	0.230	0.115
60	570	20.09	577	1	577	3068.38	0.000191559	0.231	0.231
60	630	20.60	568	1	568	3020.52	0.000188571	0.233	0.233
60	690	20.96	556	1	556	2956.71	0.000184587	0.232	0.232
60	750	21.28	542	1	542	2882.26	0.000179939	0.230	0.230
60	810	22.07	528	1	528	2807.81	0.000175292	0.232	0.232
60	870	22.30	512	1	512	2722.73	0.000169980	0.227	0.227
480	1350	25.75	428	1	428	2276.03	0.000142092	0.220	1.756
120	1470	25.64	425	1	425	2260.07	0.000141096	0.217	0.434
120	1590	25.70	421	1	421	2238.80	0.000139769	0.215	0.431

[illegible]

Pollutant Mass Removal Calculations

$$Q_{std} = (1 - \text{water vapor}) * \text{velocity} * (\pi * (\text{diameter}/24)^2) * (528 \text{ degrees R} / (\text{Temp} + 460))$$

$$PPM_g = PPM \text{ measured} * K$$

$$C_{g:m} = PPM_g * (Mg/K3)$$

$$C_g = C_{g:m} * 62.43E-09 \text{ lb-m}^3/\text{mg-ft}^3$$

$$PMR_g = C_g * Q_{std} * 60 \text{ min/hr}$$

$$PMR = PMR_g * ((T_2 - T_1)/60)$$

$$Q_{std} = \text{Flow at DSCFM}$$

Vacuum = The level of vacuum being applied should be recorded from the vacuum truck tank (inches of Hg)

Velocity = rate at which air flow is measured at the blower discharging pipe (anemometer)

Cross Sectional Area = area in ft² of discharge stack

Relative Humidity = The % relative humidity of the air stream exiting from the blower discharge piping

Water Vapor in % = Pounds of water/ pound of dry air, derived from the psychrometric chart (temp vs relative humidity)

PPM = PPM measurements taken with an OVA/ PID at the blower discharge piping

K = Number of carbons in calibration gas: K=1

PPM_g = PPM_v, Volumetric concentration as gasoline emission, dry basis at STP

C_{g:m} = mg/dsm³, mass concentration of gasoline emission

Mg = 128 mg/mg-mole, molecular weight of gasoline

K3 = 24.07 dsm³/1E6 mg-mole, mass to volume conversion factor at STP

C_g = lb/dcsf, mass concentration of gasoline emission, dry basis at STP

PMR_g = lb/hr, pollutant mass removal rate of gasoline emission

PMR = pollutant mass removal of gasoline emission over time

APPENDIX C

LIQUID DISPOSAL MANIFEST

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	2. Page 1 of
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC			
4. Generator's Phone ()					
5. Transporter 1 Company Name		6. US EPA ID Number		A. State Transporter's ID	
RA Cox Enterprises				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	
11. WASTE DESCRIPTION		12. Containers		13. Total Quantity	14. Unit Wt/Vol
		No.	Type		
a. Non-Res. Petroleum Contact Water					Gal
b.				6,500	
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	
Steve R.uehbray		[Signature]		10/14/14	
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature		Date	
Mark Gore		Mark Gore		10/14/14	
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		Date	
Steve R.uehbray					
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		Signature		Date	
Ryan Cox		[Signature]		10/14/14	

NON-HAZARDOUS WASTE

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	2 Page 1 of 1	
3. Generator's Name and Mailing Address		TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD KINGSTREE, SC				
4 Generator's Phone ()						
5 Transporter 1 Company Name		6 US EPA ID Number		A. State Transporter's ID		
HERE, INC		NCR-000139816		B. Transporter 1 Phone 910-640-2607		
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		
CWS 303 S. MAULTSBY ST. WHITEVILLE, NC				F. Facility's Phone 910-640-2603		
11. WASTE DESCRIPTION			12. Containers		13. Total Quantity	
			No	Type		
			a.			
			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		
Steve Buenbark		Steve Buenbark		10/15/14		
17. Transporter 1 Acknowledgement of Receipt of Materials				Date		
Printed/Typed Name		Signature		Month Day Year		
Mark Gore		Mark Gore		10/15/14		
18. Transporter 2 Acknowledgement of Receipt of Materials				Date		
Printed/Typed Name		Signature		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		Signature		Date		
TERRY COX		Terry Cox		10/15/14		

NON-HAZARDOUS WASTE

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		2 Page 1 of	
3 Generator's Name and Mailing Address TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC							
4 Generator's Phone ()		5 Transporter 1 Company Name HEPP, Inc.		6 US EPA ID Number NCR 000139814		A. State Transporter's ID	
		7 Transporter 2 Company Name		8 US EPA ID Number		B. Transporter 1 Phone 910-640-2607	
						C. State Transporter's ID	
						D. Transporter 2 Phone	
						E. State Facility's ID	
9. Designated Facility Name and Site Address CWS 303 S. MAULDSBY ST. WHITEVILLE, NC				10 US EPA ID Number		F. Facility's Phone 910-640-2608	
11. WASTE DESCRIPTION				12 Containers		13 Total Quantity	
				No	Type	Unit Wt/Vol	
a. Non-Reg. Petroleum Contact Water						5580	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 Steve R. Overbank						Signature <i>Steve R. Overbank</i>	
						Date Month Day Year 10 16 14	
17 Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name Mark Gore						Signature <i>Mark Gore</i>	
						Date Month Day Year 10 16 14	
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 RYAN CO						Signature <i>Ryan Co</i>	
						Date Month Day Year 10 16 14	

NON-HAZARDOUS WASTE

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on eight (12 pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST		1 Generator's US EPA ID No		Manifest Document No		2 Page 1 of 1	
3 Generator's Name and Mailing Address TISDALE'S QUICK STOP 1989 THURGOOD MARSHALL BLVD. KINGSTREE, SC							
4 Generator's Phone ()							
5 Transporter 1 Company Name KA COX ENTERPRISES				6 US EPA ID Number		A State Transporter's ID	
7 Transporter 2 Company Name				8 US EPA ID Number		B Transporter 1 Phone 910-640-2607	
9 Designated Facility Name and Site Address CWS 303 S. MULTSAY ST. WHITEVILLE, NC				10 US EPA ID Number		C State Transporter's ID	
						D Transporter 2 Phone	
						E State Facility's ID	
						F Facility's Phone 910-640-2608	
11 WASTE DESCRIPTION						12 Containers	
						No. Type	
a. Non-Reg. Petroleum Contd Under KACOG						TT 2500 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 Steve Riverbank						Signature <i>Steve Riverbank</i>	
						Date 10/17/14	
17 Transporter 1 Acknowledgement of Receipt of Materials							
Printed/Typed Name Mark						Signature <i>Mark</i>	
						Date 10/17/14	
18 Transporter 2 Acknowledgement of Receipt of Materials							
Printed/Typed Name						Signature	
						Date	
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 TRUMAN COX						Signature <i>TRUMAN COX</i>	
						Date 10/17/14	

NON-HAZARDOUS WASTE

GENERATOR

TRANSPORTER

FACILITY



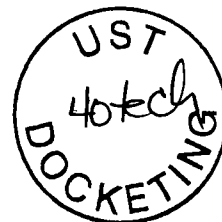


Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

DEC 03 2014



Re: **Site Specific Work Plan Request**
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686
Release reported March 30, 2001
AFVR Report received November 26, 2014
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) recognizes your commitment to continue work at this site using Geological Resources, Inc., as your contractor. The next scope of work is a groundwater sampling event as outlined in Revision 2.0 of the UST Quality Assurance Program Plan (QAPP). Please have your contractor plan to conduct a comprehensive groundwater sampling of all monitoring wells located at the site. Samples should be analyzed for BTEX, Naphthalene, Oxygenates, 1,2-DCA, MTBE, and EDB, in accordance with QAPP Rev. 2.0, and in compliance with all applicable regulations. A copy of the QAPP is available at http://www.scdhec.gov/environment/docs/qapp_rev-2_april2013.pdf.

Please have your contractor complete and submit the Site Specific Work Plan and Cost Agreement within thirty (30) days of the date of this letter. The Site Specific Work Plan form can be found at <http://www.dhec.sc.gov/library/D-0653.pdf>. Every component may not be necessary to complete the above scope of work. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that technical and financial preapproval from the Agency must be issued before work begins.**

On all correspondence concerning this site, please reference UST Permit # 18686. If there are any questions, feel free to contact me by telephone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail at martinjm@dhec.sc.gov.

Sincerely,

Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Geological Resources, Inc., 3502 Hayes Rd., Monroe, NC 28110
Technical File



Geological Resources, Inc.



December 11, 2014

Mr. Jim Martin
South Carolina Department of Health
And Environmental Control
Underground Storage Tank Management Division
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

Re: GRI Proposal No. 14-739
Site Specific Work Plan
Tisdale's Quick Stop
1989 Thurgood Marshall Blvd
Kingstree, Williamsburg County
UST Permit No. 18686

Dear Mr. Martin:

Attached is a Site Specific Work Plan for approved ACQAP and the associated Assessment Component Cost Agreement for the above referenced site in Kingstree, Williamsburg County, South Carolina.

Please contact me at (704) 845-4010 or by e-mail at wsb@geologicalresourcesinc.com if you have questions or comments concerning this matter.

Sincerely,

W. Scott Ball
Senior Project Manager

Enclosures

cc: file



Site-Specific Work Plan for Approved ACQAP Underground Storage Tank Management Division

To: Jim Martin (SCDHEC Project Manager)
From: Scott Ball (Contractor Project Manager)
Contractor: Geological Resources, Inc. UST Contractor Certification Number: 74

Facility Name: Tisdale's Quick Stop UST Permit #: 18686
Facility Address: 1989 Thurgood Marshall Blvd, Kingstree, Williamsburg County, SC
Responsible Party: Mr. Marty Easler Phone: (843) 426-2557
RP Address: 196 Richburg Road, Greeleyville, SC 29056
Property Owner (if different): Andy McKnight
Property Owner Address: 316 McCullough Loop, Kingstree, SC
Current Use of Property: Commercial - Restaurant

Scope of Work (Please check all that apply)

☐ IGWA ☐ Tier II ☒ Groundwater Sampling ☐ GAC
☐ Tier I ☐ Monitoring Well Installation ☐ Other _____

Analyses (Please check all that apply)

Groundwater/Surface Water:

☒ BTEXNMDCA (8260B) ☐ Lead ☐ BOD ☐ Methane
☒ Oxygenates (8260B) ☐ 8 RCRA Metals ☐ Nitrate ☐ Ethanol
☒ EDB (8011) ☐ TPH ☐ Sulfate ☐ Dissolved Iron
☐ PAH (8270D) ☐ pH ☐ Other _____

Soil:

☐ BTEXN ☐ 8 RCRA Metals ☐ TPH-DRO (3550B/8015B) ☐ Grain Size
☐ PAH ☐ Oil & Grease (9071) ☐ TPH-GRO (5030B/8015B) ☐ TOC

Air:

☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

_____ Soil 2 Water Supply Wells _____ Air 1 Field Blank
36 Monitoring Wells _____ Surface Water 2 Duplicate 1 Trip Blank

Field Screening Methodology

Estimate number and total completed depth for each point, and include their proposed locations on the attached map.

of shallow points proposed: NA 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: NA 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 #: 18686 Facility Name: Tisdale's Quick Stop

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 5 days from approval Field Work Completion: 8 days from approval
Report Submittal: 45 days from approval # of Copies Provided to Property Owners: 1

Aquifer Characterization

Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)

NA

Investigation Derived Waste Disposal

Soil: _____ Tons Purge Water: 100 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/repared, well pads/bolts/caps to replace, details of AFVR event, etc.

Sample monitoring wells MW-1 through MW16, MW-18 through MW-31, MW-1A through MW-4A, TW-1 and TW-2.

Sample water supply wells WSW-1 and WSW-3. If any of the monitoring wells contain free product they will only be gauged and no samples will be collected. All ground water samples collected will be submitted for analyses of BTEX, MTBE, naphthalene, 1, 2-DCA and 8 oxygenates by Method 8260 and EDB by Method 8011.

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: _____

NA Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.

Name of Well Driller: _____

SCLLR Certification Number: _____

NA 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

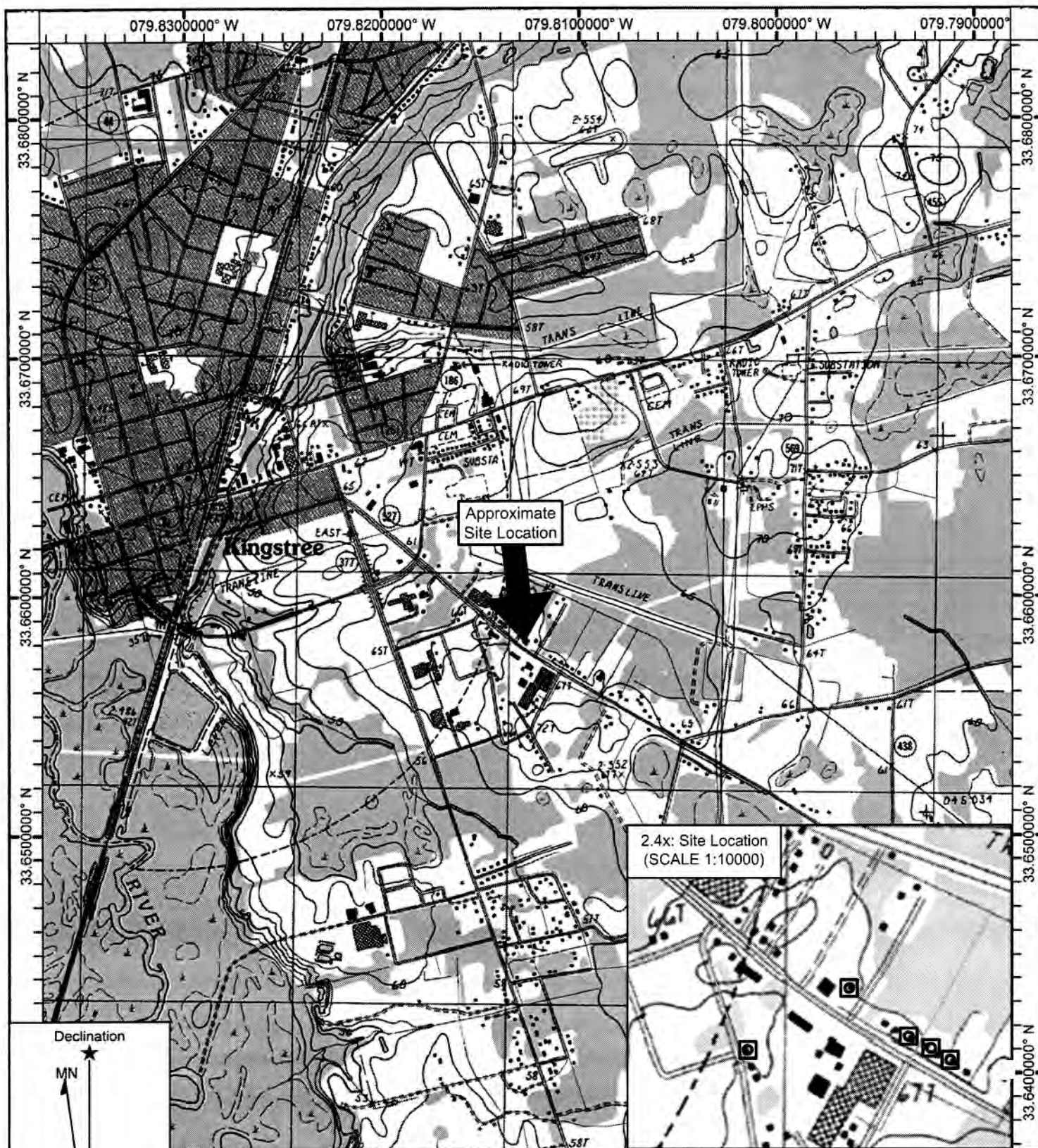


Figure 1
Tisdale's Quick Stop
1989 Thurgood Marshall Boulevard
Kingstree, South Carolina
UST Permit # 18686

SCALE 1:24000

0 1000 2000 3000 4000 5000
FEET

Legend: Water Supply Well

Declination

MN

MN 7.96° W

Name: Topographic Map
Date: 09/16/14
Scale: 1 inch = 2,000 ft.

Location: 033.6579897° N 079.8127613° W

LEGEND

☆

LIGHT POLE

■

TELEPHONE PEDESTAL

⊙

SEWER MANHOLE

●

TYPE III MONITORING WELL

⊕

TELESCOPING MONITORING WELL

⊞

WATER SUPPLY WELL

⊙

FIRE HYDRANT

⊙

FIBER OPTIC CABLE MARKER

PROPERTY LINE

UNDERGROUND TELEPHONE LINE

UNDERGROUND WATER LINE

PP & OVERHEAD POWER LINE

UNDERGROUND SEWER LINE

UNDERGROUND GAS LINE

UNDERGROUND FIBER OPTIC LINE

DITCH

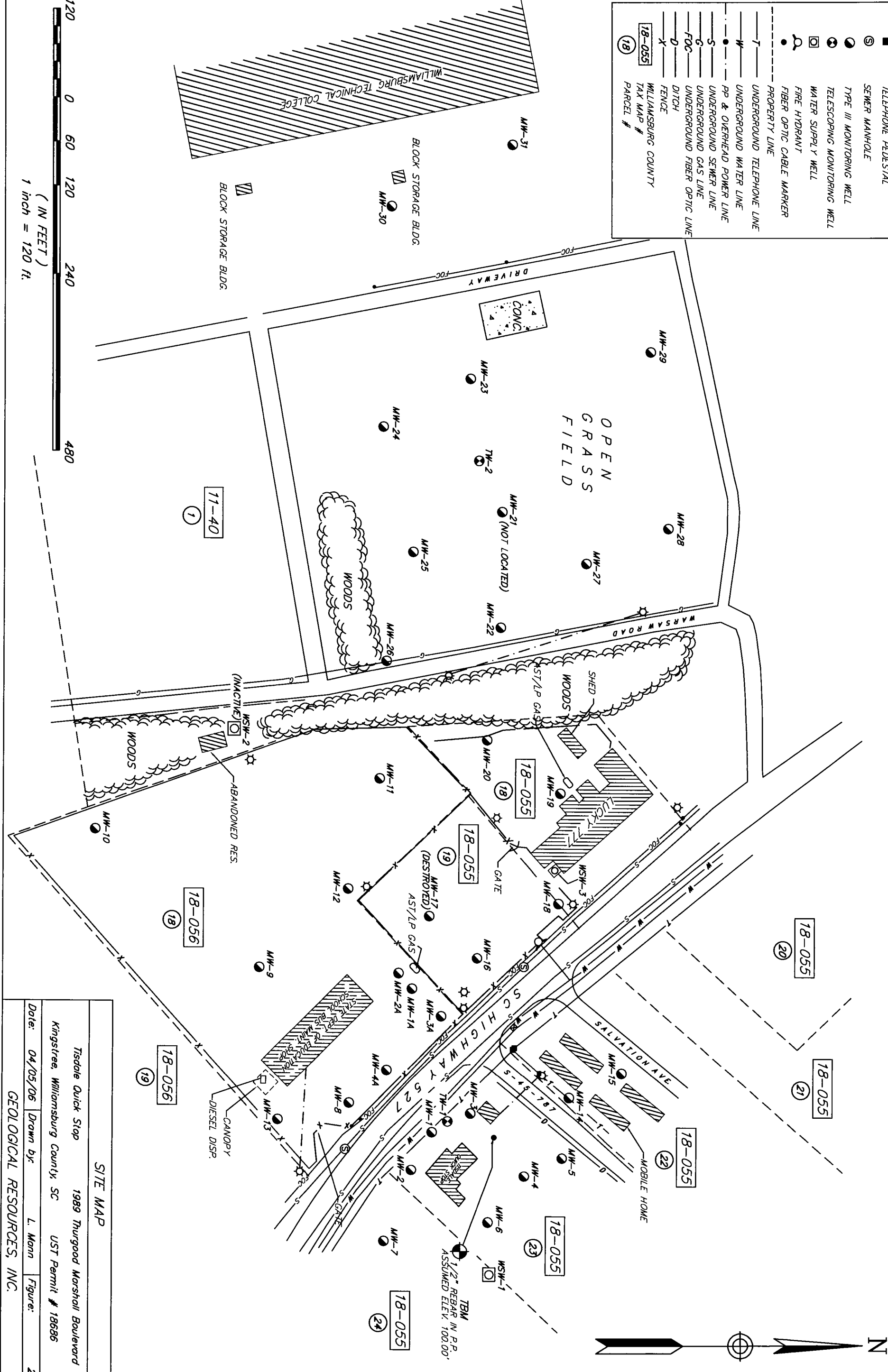
FENCE

18-055

WILLIAMSBURG COUNTY TAX MAP #

18

PARCEL #



SITE MAP			
Tisdale Quick Stop		1989 Thurgood Marshall Boulevard	
Kingstree, Williamsburg County, SC		UST Permit # 18686	
Date: 04/05/06	Drawn by: L. Mann	Figure: 2	
GEOLOGICAL RESOURCES, INC.			



ASSESSMENT COMPONENT INVOICE

SOUTH CAROLINA

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

May 15, 2014

Facility Name: Tisdale's Quick Stop

GRI Proposal #14-739

UST Permit #: 18686

Cost Agreement #: _____

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan Preparation				
A1. Site-specific Work Plan	1	each	\$150.00	\$150.00
B1. Tax Map		each	\$70.00	\$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		each	\$250.00	\$0.00
2. A1. Receptor Survey *		each	\$551.00	\$0.00
3. Survey (500 ft x 500 ft)				
A1. Comprehensive Survey		each	\$1,040.00	\$0.00
B. Subsurface Geophysical Survey				
1B. < 10 meters below grade		each	\$1,300.00	\$0.00
2B. > 10 meters below grade		each	\$2,310.00	\$0.00
C1. Geophysical UST or Drum Survey		each	\$910.00	\$0.00
4. Mob/Demob				
A1. Equipment		each	\$1,020.00	\$0.00
B1. Personnel	2	each	\$423.00	\$846.00
C1. Adverse Terrain Vehicle		each	\$500.00	\$0.00
5. A1. Soil Borings (hand auger)*		foot	\$5.00	\$0.00
6. Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water sample, soil sample, soil gas sample, etc.)*				
AA. Standard		per foot	\$15.00	\$0.00
C1. Fractured Rock		per foot	\$20.20	\$0.00
7. A1. Soil Leachability Model		each	\$60.00	\$0.00
8. Abandonment (per foot)*				
A1. 2" diameter or less		per foot	\$3.10	\$0.00
B1. Greater than 2" to 6" diameter		per foot	\$4.50	\$0.00
C1. Dug/Bored well (up to 6 feet diameter)		per foot	\$15.00	\$0.00
9. Well Installation (per foot)*				
A1. Water Table (hand augered)		per foot	\$10.60	\$0.00
B1. Water Table (drill rig)		per foot	\$38.00	\$0.00
CC. Telescoping		per foot	\$50.00	\$0.00
DD. Rock Drilling		per foot	\$58.00	\$0.00
E1. 2" Rock Coring		per foot	\$30.90	\$0.00
G1. Rock Multi-sampling ports/screens		per foot	\$33.40	\$0.00
HH. Recovery Well (4" diameter)		per foot	\$45.00	\$0.00
II. Pushed Pre-packed screen (1.25" dia)		per foot	\$15.00	\$0.00
J1. Rotosonic (2" diameter)		per foot	\$44.00	\$0.00
K. Re-develop Existing Well		per foot	\$11.00	\$0.00
10. Groundwater Sample Collection / Gauge Depth to Water or Product *				
A1. Groundwater Purge	2	per well/receptor	\$60.00	\$120.00
B1. Air or Vapors		per receptor	\$12.00	\$0.00
C1. Water Supply	2	per well/receptor	\$22.00	\$44.00
D1. Groundwater (No Purge or Duplicate)	36	per well/receptor	\$28.00	\$1,008.00
E1. Gauge Well only		per well	\$7.00	\$0.00
F1. Sample Below Product		per well	\$12.00	\$0.00
G1. Passive Diffusion Bag		each	\$26.00	\$0.00
H1. Field Blank	1	each	\$24.60	\$24.60

11. Laboratory Analyses-Groundwater					
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(82	42	per sample	\$122.00		\$5,124.00
AA1. Lead, Filtered		per sample	\$13.80		\$0.00
B2. Rush EPA Method 8260B (All of item A.)		per sample	\$153.60		\$0.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		per sample	\$36.40		\$0.00
D1. PAH's		per sample	\$60.60		\$0.00
E1. Lead		per sample	\$16.00		\$0.00
F1. EDB by EPA 8011	41	per sample	\$45.20		\$1,853.20
FF1. EDB by EPA Method 8011 Rush		per sample	\$68.20		\$0.00
G1. 8 RCRA Metals		per sample	\$63.40		\$0.00
H1. TPH (9070)		per sample	\$41.00		\$0.00
II. pH		per sample	\$5.20		\$0.00
J1. BOD		per sample	\$20.00		\$0.00
PP. Ethanol		per sample	\$14.80		\$0.00
11. Analyses-Soil					
Q1. BTEX + Naphth.		per sample	\$64.00		\$0.00
R1. PAH's		per sample	\$64.04		\$0.00
S1. 8 RCRA Metals		per sample	\$56.40		\$0.00
U1. TPH-DRO (3550C/8015C)		per sample	\$40.00		\$0.00
V1. TPH- GRO (5030B/8015C)		per sample	\$35.96		\$0.00
W1. Grain size/hydrometer		per sample	\$104.00		\$0.00
X1. Total Organic Carbon		per sample	\$30.60		\$0.00
11. Analyses-Air					
Y1. BTEX + Naphthalene		per sample	\$216.00		\$0.00
11. Analyses-Free Phase Product					
Z1. Hydrocarbon Fuel Identification		per sample	\$357.00		\$0.00
12. Aquifer Characterization					
A1. Pumping Test*		per hour	\$23.00		\$0.00
B1. Slug Test*		per test	\$191.00		\$0.00
C1. Fractured Rock		per test	\$100.00		\$0.00
13. A1. Free Product Recovery Rate Test*		each	\$38.00		\$0.00
14. Fate/Transport Modeling					
A1. Mathematical Model		each	\$100.00		\$0.00
B1. Computer Model		each	\$100.00		\$0.00
15. Risk Evaluation					
A. Tier I Risk Evaluation		each	\$300.00		\$0.00
B1. Tier II Risk Evaluation		each	\$100.00		\$0.00
16. A1. Subsequent Survey*		each	\$260.00		\$0.00
17. Disposal (gallons or tons)*					
AA. Wastewater	100	gallon	\$0.56		\$56.00
BB. Free Product		gallon	\$0.50		\$0.00
C1. Soil Treatment/Disposal		ton	\$60.00		\$0.00
D1. Drilling fluids		gallon	\$0.42		\$0.00
18. Miscellaneous (attach receipts)					
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
		each	\$0.00		\$0.00
20. Tier I Assessment (Use DHEC 3665 form)		standard			\$0.00
21. IGWA (Use DHEC 3666 form)		standard			\$0.00
22. Corrective Action (Use DHEC 3667 form)		PFP Bid			\$0.00

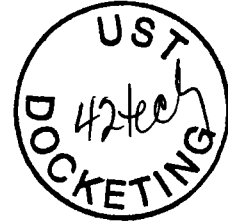
23. Aggressive Fluid & Vapor Recovery (AFVR)				
A1. 8-hour Event*		each	\$1,375.00	\$0.00
AA. 24-hour Event*		each	\$3,825.00	\$0.00
A3. 48-hour Event*		each	\$6,265.00	\$0.00
A4. 96-hour Event*		each	\$12,567.50	\$0.00
C1. Off-gas Treatment 8 hour		per event	\$122.50	\$0.00
C2. Off-gas Treatment 24 hour		per event	\$241.50	\$0.00
C3. Off-gas Treatment 48 hour		per event	\$327.00	\$0.00
C4. Off-gas Treatment 96 hour		per event	\$780.00	\$0.00
D. Site Reconnaissance		each	\$203.25	\$0.00
E1. Additional Hook-ups		each	\$25.75	\$0.00
F1. Effluent Disposal		gallon	\$0.44	\$0.00
G. AFVR Mobilization/Demobilization		each	\$391.50	\$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:				
A1. New GAC System Installation*		each	\$1,900.00	\$0.00
BB. Refurbished GAC Sys. Install*		each	\$900.00	\$0.00
C1. Filter replacement/removal*		each	\$350.00	\$0.00
DD. GAC System removal, cleaning, & refurbishment*		each	\$275.00	\$0.00
E1. GAC System housing*		each	\$250.00	\$0.00
F. In-line particulate filter		each	\$150.00	\$0.00
G1. Additional piping & fittings		foot	\$1.50	\$0.00
25. Well Repair				
A1. Additional Copies of the Report Delivered		each	\$50.00	\$0.00
B1. Repair 2x2 MW pad*		each	\$50.00	\$0.00
C1. Repair 4x4 MW pad*		each	\$88.00	\$0.00
D1. Repair well vault*		each	\$118.00	\$0.00
F1. Replace well cover bolts		each	\$2.60	\$0.00
G. Replace locking well cap & lock		each	\$15.00	\$0.00
H1. Replace/Repair stick-up*		each	\$134.00	\$0.00
II. Convert Flush-mount to Stick-up*		each	\$150.00	\$0.00
J1. Convert Stick-up to Flush-mount*		each	\$130.00	\$0.00
K1. Replace missing/illegible well ID plate		each	\$12.00	\$0.00
Report Prep & Project Coordination	12%	percent	\$9,225.80	\$1,107.10
TOTAL				\$10,332.90

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



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment



MR MARTY EASLER
196 RICHBURG ROAD
GREELEYVILLE SC 29056

DEC 30 2014

Re: Groundwater Sampling Directive
Tisdales Quick Stop, 1989 Thurgood Marshall Blvd, Kingstree, SC
UST Permit # 18686; CA# 49370
Release reported March 30, 2001
SSWP received December 12, 2014
Williamsburg County

Dear Mr. Easler:

The Underground Storage Tank Management Division (UST Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced Site Specific Work Plan submitted on your behalf by Geological Resources, Inc. The previous assessment work for this release indicates that petroleum Chemicals of Concern (CoC) are present in the groundwater at concentrations that exceed risk-based screening levels (RBSLs). In order to obtain current groundwater quality data, a comprehensive groundwater sampling event is necessary. All work should be conducted in accordance with the UST Quality Assurance Program Plan, revision 2.0, (QAPP) and must be conducted in compliance with all applicable regulations. A copy of the Agency QAPP for the UST Management Division is available at http://www.scdhec.gov/environment/docs/QAPP_Rev-2_April2013.pdf

Groundwater sampling activities at the site should begin immediately upon receipt of this letter. Cost Agreement #49370 has been approved for the amount shown on the enclosed cost agreement form for the sampling of all monitoring wells associated with the release. Groundwater samples should be collected and analyzed for BTEX, Naphthalene, MtBE, 1,2-DCA, Oxygenates, Ethanol and EDB. Analyses should be in accordance with Appendix E of the QAPP and shall include a duplicate sample, field blank, and trip blank.

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

Geological Resources, Inc., can submit an invoice for direct payment from the State Underground Petroleum Environmental Response Bank (SUPERB) Account for pre-approved costs. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Please note that applicable South Carolina certification requirements regarding laboratory services and report preparation must be satisfied. If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be

uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.


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

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

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

On all correspondence regarding this site, please reference **UST Permit #18686 and Cost Agreement #49370**. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0605, by fax at (803) 898-0673, or by e-mail to martinjm@dhec.sc.gov.

Sincerely,



Jim Martin, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Geological Resources, Inc., 3502 Hayes Rd., Monroe, NC 28110 (w/ enc.)
Technical File (w/ enc.)

Approved Cost Agreement 49370

Facility: 18686 TISDALES QUICK STOP

MARTINJM

PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
01 PLAN		A1 SITE SPECIFIC WORK PLAN	1.0000	150.00	150.00
04 MOB/DEMOB		B1 PERSONNEL	2.0000	423.00	846.00
10 SAMPLE COLLECTION		A1 GROUNDWATER (PURGE)	2.0000	60.00	120.00
		C1 WATER SUPPLY	2.0000	22.00	44.00
		D1 GROUNDWATER NO PURGE/DUPLICATE	36.0000	28.00	1,008.00
		H1 FIELD BLANK	1.0000	24.60	24.60
11 ANALYSES	GW GROUNDWATER	A2 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	42.0000	122.00	5,124.00
		F1 EDB BY 8011	41.0000	45.20	1,853.20
17 DISPOSAL		AA WASTEWATER	100.0000	0.56	56.00
19 RPT/PROJECT MNGT & COORDINATIO		PRT REPORT PREPARATION	0.1200	9,225.80	1,107.10
Total Amount					10,332.90



Geological Resources, Inc.

January 30, 2015

Mr. Jim Martin
SCDHEC-Underground Storage Tank Management Division
Bureau of Land & Waste Management
2600 Bull Street
Columbia, SC 29201

Re: Ground Water Monitoring Report
January 2015
Tisdale's Quick Stop
1989 Thurgood Marshall Blvd
Kingstree, Williamsburg County, SC
UST Permit No: 18686
GRI Project No: 1543



Dear Mr. Martin,

Please find enclosed the referenced report for the above mentioned site. If you have any questions, please do not hesitate to contact Scott Ball at (704) 698-1223.

Sincerely,
Geological Resources, Inc.

Jackie Donnelly
Jackie Donnelly
Project Coordinator

Enclosure

cc: Mr. Marty Easler
file

**GROUND WATER MONITORING REPORT
JANUARY 2015
TISDALE'S QUICK STOP
1989 THURGOOD MARSHALL BOULEVARD
KINGSTREE, WILLIAMSBURG COUNTY
SOUTH CAROLINA
UST PERMIT NO. 18686
GRI PROJECT NO. 1543**

Prepared for:

Mr. Marty Easler
196 Richburg Road
Greeleyville, SC 29056

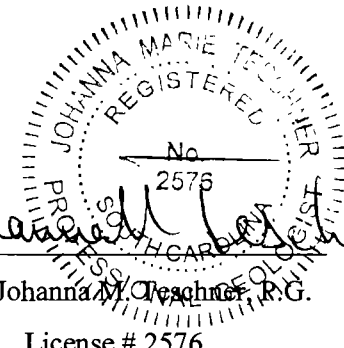
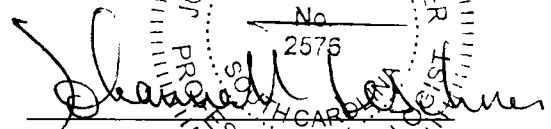
Prepared by:

Geological Resources, Inc.
3502 Hayes Road
Monroe, North Carolina 28110
Class I UST Site Rehabilitation Contractor # 74

January 30, 2015



W. Scott Ball
Senior Project Manager



Johanna M. DeGhener, P.E.
License # 2576

TABLE OF CONTENTS

1.0	INTRODUCTION	1
2.0	FACILITY INFORMATION	1
3.0	GROUND WATER QUALITY	2
4.0	QA/QC	3
5.0	CONCLUSIONS AND RECOMMENDATIONS	3
6.0	LIMITATIONS	4

FIGURES

Figure 1:	Site Location Map
Figure 2:	Site Map
Figure 3:	Water Table Surface Map
Figure 4:	Ground Water Quality Map

TABLES

Table 1:	Summary of Ground Water Elevation Data
Table 2:	Summary of Laboratory Analytical Results – Ground Water Samples – Chemicals of Concern
Table 3:	Summary of Laboratory Analytical Results – Ground Water Samples – Oxygenates

APPENDICES

Appendix A:	Laboratory Analytical Report - Ground Water Samples
Appendix B:	Ground Water Sampling Data Sheets
Appendix C:	Contractor Checklist

1.0 INTRODUCTION

This report presents the results of comprehensive ground water sampling activities conducted in January 2015 at the Tisdales Quick Stop site located at 1989 Thurgood Marshall Highway, in Kingstree, Williamsburg County, South Carolina (**Figures 1 and 2**). The activities were conducted in accordance with the “Groundwater Sampling Directive” dated December 30, 2014 from the SCDHEC. The purpose of the activities was to obtain current ground water quality data for the site.

The site is a former petroleum retail location. There are two buildings on site, the first is used as a convenience store and grill and the second building is used for a liquor store. Surrounding properties are a mix of commercial and residential. According to the South Carolina Underground Storage Tank (UST) registry database, a release at the site occurred on March 30, 2001, and the confirmation date of the release is listed as April 6, 2001. Two 550 gallon gasoline tanks and one 1,000 gallon diesel tank were removed March 1, 2001. A total of 37 monitoring wells (MW-1 through MW-31, MW-1A through MW-4A, TW-1 and TW-2) have been installed previously at the site. Please refer to earlier submittals for additional information regarding previous assessment activities.

2.0 FACILITY INFORMATION

- **Facility Name:** Tisdales Quick Stop
- **Location:** 1989 Thurgood Marshall Blvd (Highway 527)
Kingstree, Williamsburg County
- **UST Permit No.** 18686
- **Property Owner:** Andy McKnight
316 McCullough Loop
Kingstree, South Carolina 29566
(843) 382-2474
- **UST Owner/Operator:** Marty Easler
196 Richburg Road
Greeleyville, South Carolina 29056
(843) 372-2502
- **Site Rehabilitation Contractor:** Geological Resources, Inc.
3502 Hayes Road
Monroe, North Carolina 28110
(704) 845-4010
Class 1, Certification Number 74
- **Laboratory:** Accutest Laboratories - Southeast
4405 Vineland Road, Suite C-15
Orlando, FL 32811

(407) 425-6700
State Certification Number: 96038001

Release Information:

- **Date Discovered:** March 30, 2001
- **Estimated Amount of Release:** Unknown
- **Source of Release:** Leaking UST System
- **UST Size/Contents:** Two 550 gallon gasoline tanks and one 1,000 gallon diesel tank (Removed March 1, 2001)
- **Latitude:** 33.6579897° North **Longitude:** 79.8127613° West

3.0 GROUND WATER QUALITY

Thirty Type III monitoring wells (MW-1 through MW-10, MW-13 through MW-15, MW-19 through MW-31 and MW-1A through MW-4A) and two telescoping monitoring wells (TW-1 and TW-2) were gauged, purged and/or sampled between January 15 and 16, 2015. Two water supply wells (WSW-1 and WSW-3) were also sampled between January 15 and 16, 2015. Monitoring wells MW-11, MW-12 and MW-17 were previously destroyed; and therefore, could not be sampled. Monitoring wells MW-16 and MW-18 could not be found and were not sampled. Monitoring wells MW-4 and MW-5 were obstructed and could be gauged but not sampled.

Telescoping wells TW-1 and TW-2 were the only wells purged prior to sampling. The depths to ground water in the Type III monitoring wells during the January 2015 sampling event ranged from 10.10 to 17.26 feet below the top of casings. Ground water elevations in the Type III monitoring wells relative to a temporary benchmark with an assumed datum of 100.00 feet ranged from 80.99 to 85.43 feet. Based on this data, ground water flow was generally toward the west. The horizontal hydraulic gradient across the site was less than 0.01 feet per foot. The vertical hydraulic gradient calculated for MW-1 and TW-1 was 0.02 feet per foot downward.

A Site Map showing the locations of the monitoring wells and the structures on-site has been included as **Figure 2**. A Water Table Surface Map for the January 2015 sampling event has been included as **Figure 3**. A summary of well construction and gauging information is presented in **Table 1**.

Laboratory analyses were performed on the ground water samples collected from the monitoring wells during the January 2015 sampling event for BTEX, MTBE, naphthalene, 1,2-DCA and eight oxygenates using EPA Method 8260 as well as EDB by EPA Method 8011. Concentrations of benzene, toluene, ethylbenzene, xylenes, MTBE, naphthalene and/or EDB that exceeded the RBSLs were reported in the ground water samples collected from MW-1, MW-2, MW-3, MW-20, MW-22, MW-23, MW-1A, MW-2A, MW-3A and MW-4A. Detectable concentrations of oxygenates were reported in the samples collected from MW-1, MW-2, MW-3, MW-13, MW-20, MW-22, MW-23, MW-27, MW-1A, MW-2A, MW-3A and MW-4A. No detectable concentrations of requested method constituents were reported in the water supply well samples. A Ground

Water Quality Map based on data from the January 2015 sampling event has been included as **Figure 4**. Summaries of ground water sample analytical results are presented in **Tables 2** and **3**. A complete laboratory analytical report has been included as **Appendix A**. Ground water sampling data sheets have been included as **Appendix B**.

4.0 QA/QC

Monitoring well gauging, purging and sampling was conducted in general accordance with the SCDHEC Programmatic QAPP and the approved site specific Contractor Addendum. All wells were purged and/or sampled with dedicated disposable bailers. All field measurement equipment was properly decontaminated between sampling locations. Duplicate samples from monitoring wells MW-1 and MW-8 as well as a field blank were collected during the sampling activities. A trip blank was included in the sample cooler. Laboratory results for MW-1 and MW-1 DUP as well as MW-8 and MW-8 DUP showed similar concentrations. No detectable concentrations of requested method constituents were reported for the trip blank or field blank. All applicable items on the Contractor Checklist were reviewed and verified. A copy of the Contractor Checklist is included as **Appendix C**.

5.0 CONCLUSIONS AND RECOMMENDATIONS

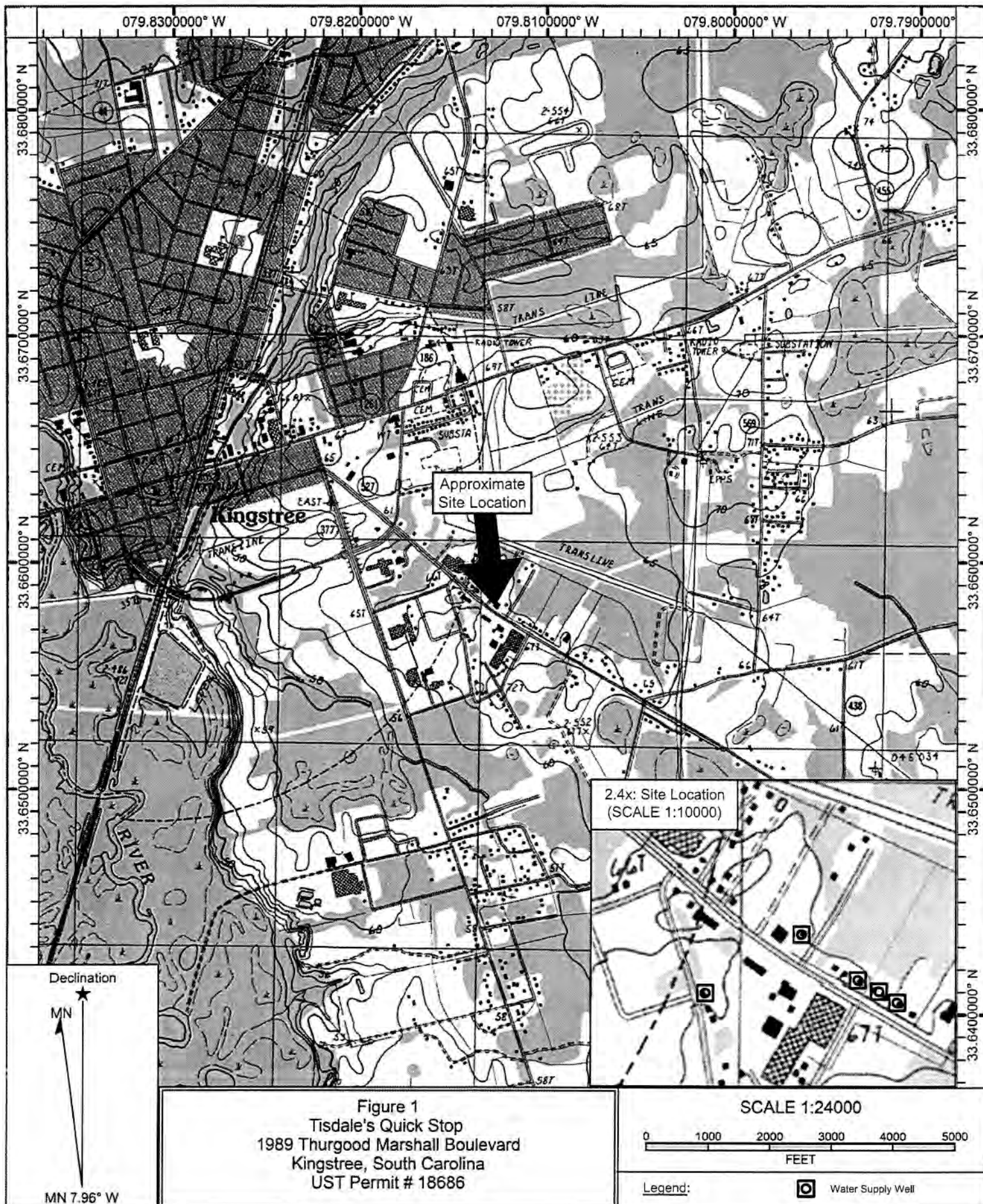
- A total of thirty Type III monitoring wells, two telescoping monitoring wells and two water supply wells were gauged, purged and/or sampled in January 2015. Ground water flow at the site based on the January 2015 event was generally toward the west. The horizontal hydraulic gradient across the site was less than 0.01 feet per foot. The vertical hydraulic gradient was 0.02 feet per foot downward.
- Concentrations of benzene, toluene, ethylbenzene, xylenes, MTBE, naphthalene and/or EDB that exceeded the RBSLs were reported in the ground water samples collected from MW-1, MW-2, MW-3, MW-20, MW-22, MW-23, MW-1A, MW-2A, MW-3A and MW-4A. Detectable concentrations of oxygenates were reported in samples collected from MW-1, MW-2, MW-3, MW-13, MW-20, MW-22, MW-23, MW-27, MW-1A, MW-2A, MW-3A and MW-4A. No detectable concentrations of requested method constituents were reported in the water supply well samples.
- Based on the historical presence of free product, an AFVR or MMPE event is recommended for the affected wells. In addition, monitoring well MW-16 historically contained free product or elevated levels of dissolved-phase contaminants and should be replaced.
- Ground water sampling should continue as directed by the SCDHEC.

6.0 LIMITATIONS

This report has been prepared for the exclusive use of Mr. Marty Easler and the SCDHEC for specific application to the referenced site in Williamsburg County, South Carolina. The assessment was conducted based on the scope of work and level of effort specified by the SCDHEC and with resources adequate only for that scope of work. Our findings have been developed in accordance with generally accepted standards of geology and hydrogeology practices in the State of South Carolina, available information, and our professional judgment. No other warranty is expressed or implied.

The data that are presented in this report are indicative of conditions that existed at the precise locations sampled and at the time the samples were collected. In addition, the data obtained from samples would be interpreted as being meaningful with respect to parameters indicated in the laboratory report. No additional information can logically be inferred from these data.

FIGURES



Name: Topographic Map
Date: 09/16/14
Scale: 1 inch = 2,000 ft.

Location: 033.6579897° N 079.8127613° W

LEGEND

●

TYPE III MONITORING WELL

⊙

TELESCOPING MONITORING WELL

⊞

WATER SUPPLY WELL

⋈

DESTROYED MONITORING WELL

☆

LIGHT POLE

■

TELEPHONE PEDESTAL

⊙

SEWER MANHOLE

⊙

FIRE HYDRANT

●

FIBER OPTIC CABLE MARKER

PROPERTY LINE

UNDERGROUND TELEPHONE LINE

UNDERGROUND WATER LINE

PP & OVERHEAD POWER LINE

UNDERGROUND SEWER LINE

UNDERGROUND GAS LINE

UNDERGROUND FIBER OPTIC LINE

DITCH

FENCE

⊙

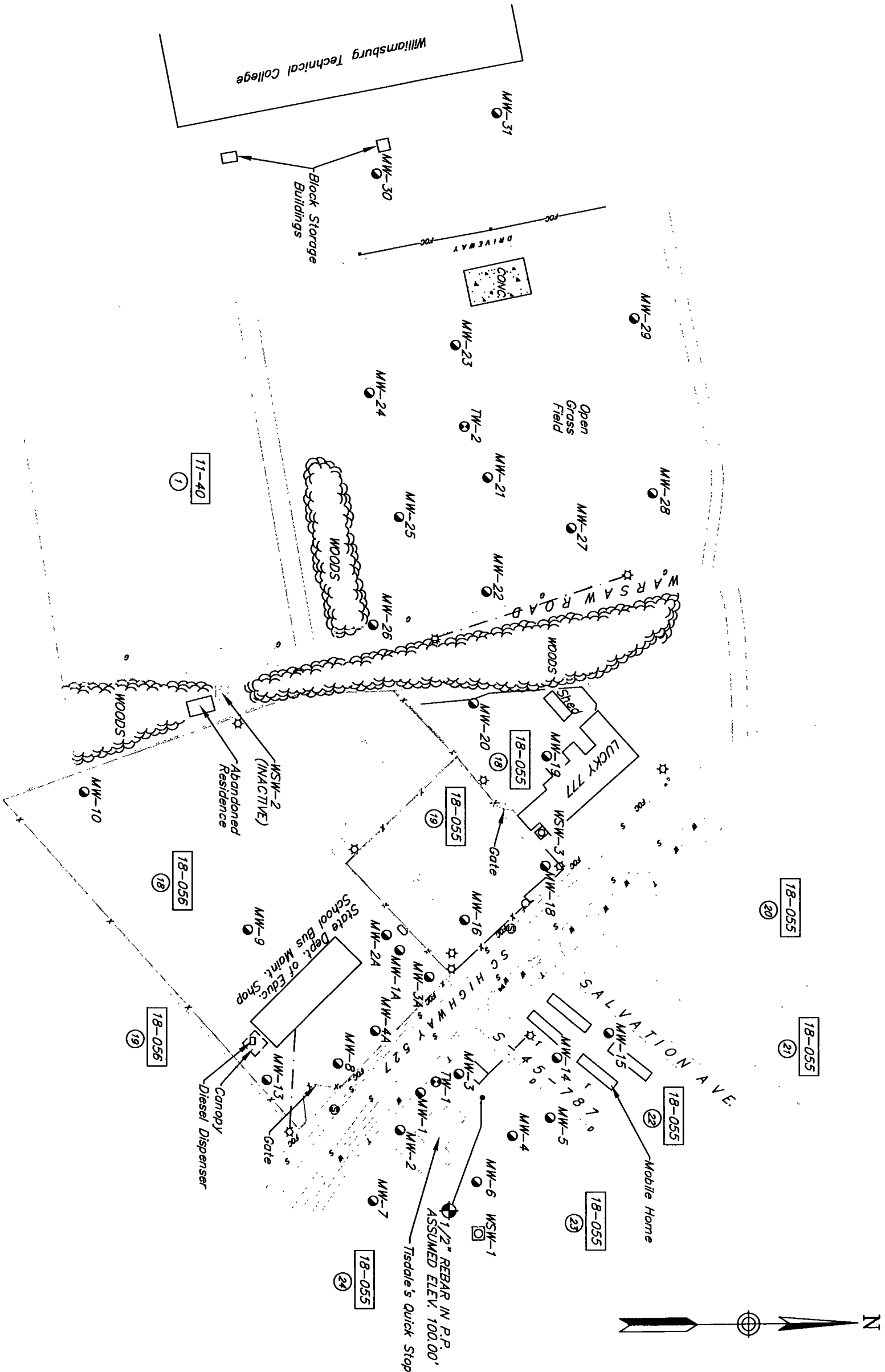
BENCHMARK

18-055

WILLIAMSBURG COUNTY TAX MAP NUMBER

18

PARCEL NUMBER



LEGEND

●

TYPE III MONITORING WELL

⊙

TELESCOPING MONITORING WELL

◻

WATER SUPPLY WELL

⋈

DESTROYED MONITORING WELL

☆

LIGHT POLE

□

TELEPHONE PEDESTAL

⊙

SEWER MANHOLE

⛑

FIRE HYDRANT

—

FIBER OPTIC CABLE MARKER

PROPERTY LINE

—

UNDERGROUND TELEPHONE LINE

—

UNDERGROUND WATER LINE

—

PP & OVERHEAD POWER LINE

—

UNDERGROUND SEWER LINE

—

UNDERGROUND GAS LINE

—

UNDERGROUND FIBER OPTIC LINE

—

DITCH

—

FENCE

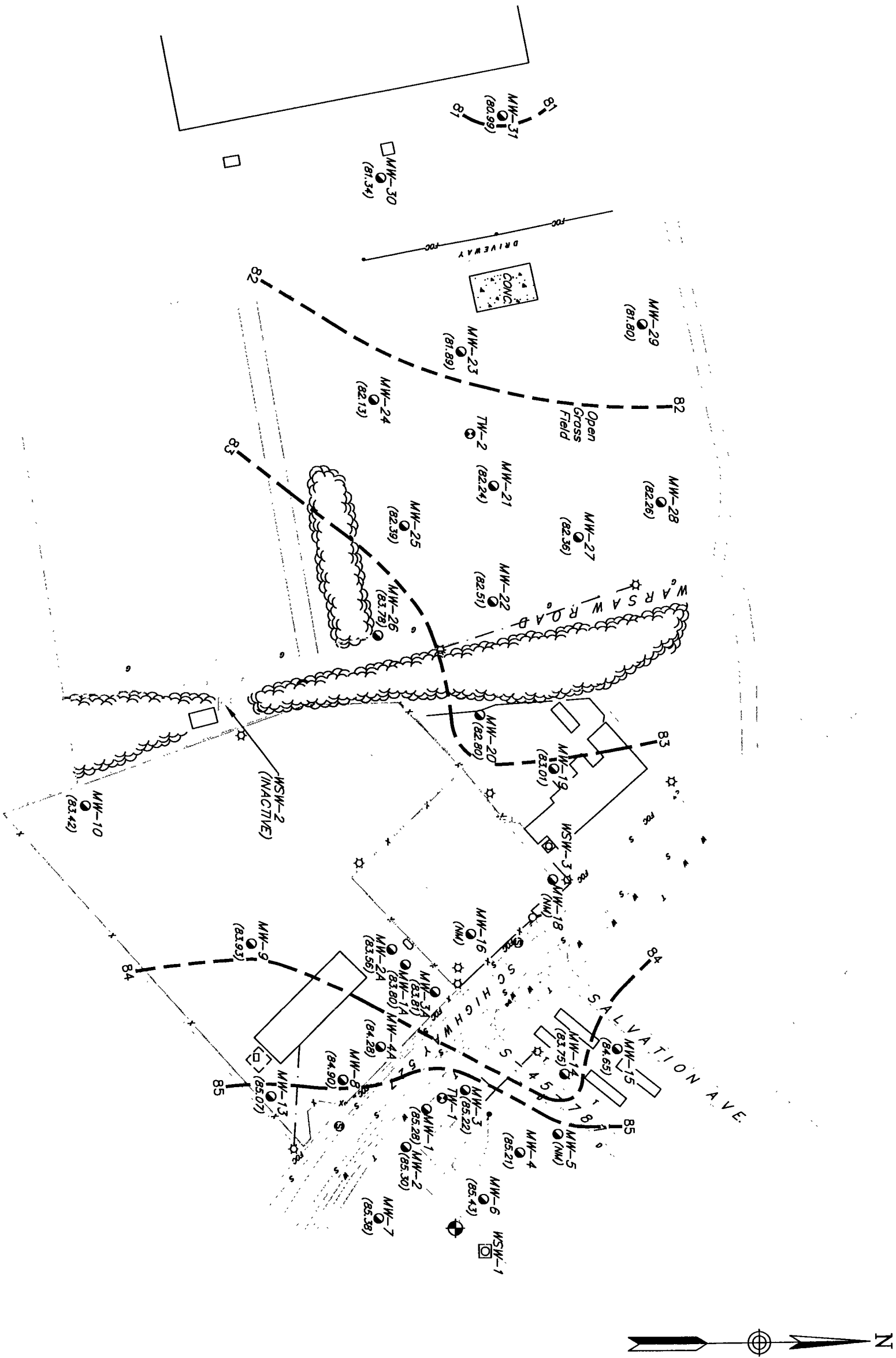
⊙

BENCHMARK

85

WATER TABLE SURFACE CONTOUR (85.28)

GROUND WATER ELEVATION (FT.) NOT MEASURED (NM)



● TYPE III MONITORING WELL

⦿ TELESCOPING MONITORING WELL

⦿ WATER SUPPLY WELL

☆ DESTROYED MONITORING WELL

⦿ LIGHT POLE

⦿ TELEPHONE PEDESTAL

⦿ SEWER MANHOLE

⦿ FIRE HYDRANT

— FIBER OPTIC CABLE MARKER

— PROPERTY LINE

— UNDERGROUND TELEPHONE LINE

— UNDERGROUND WATER LINE

— PP & OVERHEAD POWER LINE

— UNDERGROUND SEWER LINE

— G UNDERGROUND GAS LINE

— FOG UNDERGROUND FIBER OPTIC LINE

— D DITCH

— X FENCE

⦿ BENCHMARK

5,210 BENZENE

11,900 TOLUENE

824 ETHYL BENZENE

6,010 XYLENES

134 J MTBE

239 J NAPHTHALENE

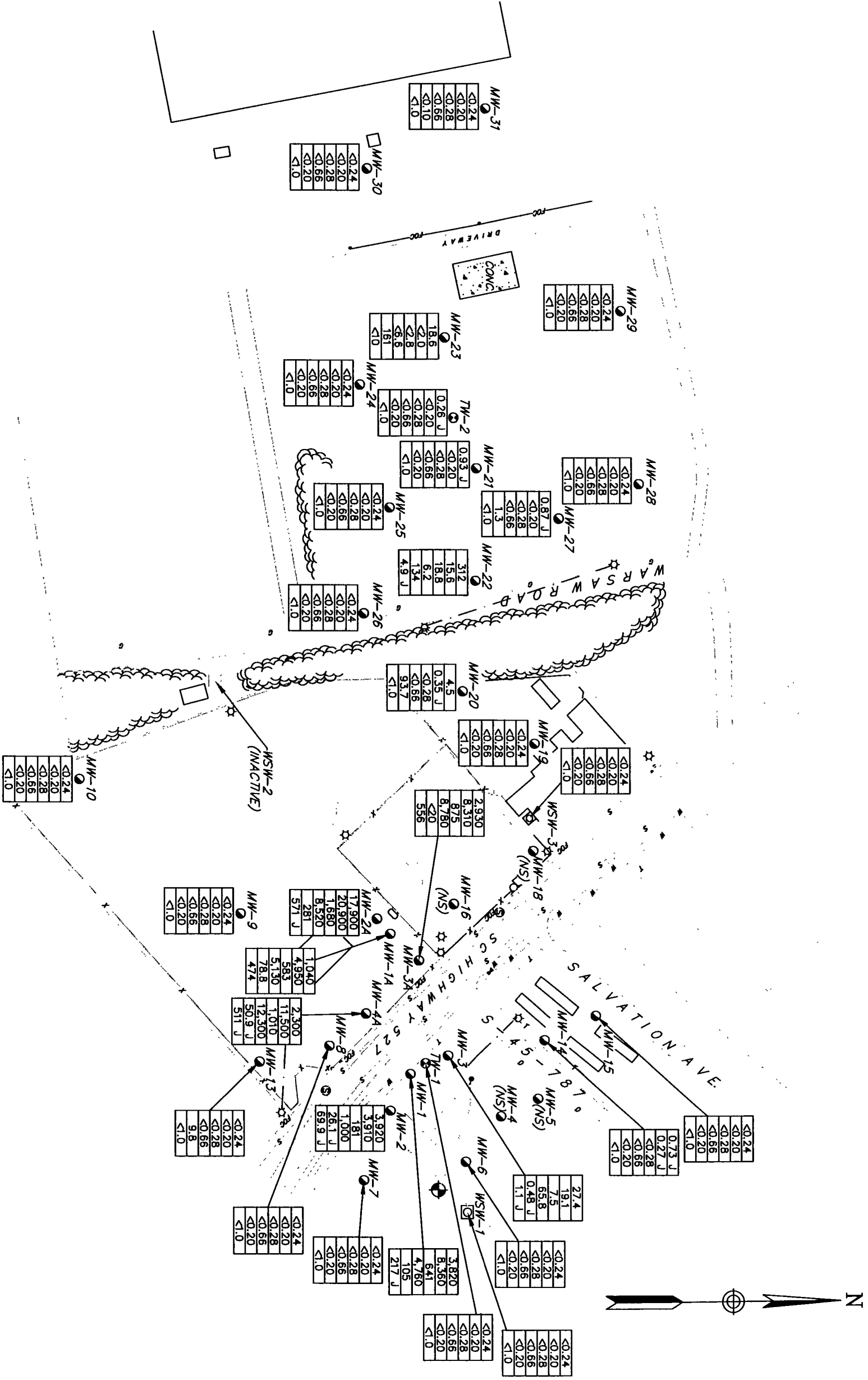
CONCENTRATIONS IN µg/L

<0.24 LESS THAN THE METHOD DETECTION LIMIT SPECIFIED IN THE LABORATORY REPORT

J ESTIMATED VALUE

(FP) FREE PRODUCT

(NS) NOT SAMPLED



TABLES

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-1	01/16/03	98.81	15.72		83.09	20	10-20
	02/09/04		14.25		84.56		
	09/23/04		11.94		86.87		
	01/21/05		13.09		85.72		
	03/23/06		12.43		86.38		
	01/07/09		15.12		83.69		
	11/04/09		15.58		83.23		
	11/22/11		17.46		81.35		
	11/06/13		14.83		83.98		
	08/27/14		14.52		84.29		
	01/15/15		13.53		85.28		
MW-2	01/16/03	98.82	17.35	1.90	83.10	25	10-25
	02/09/04		15.17	1.07	84.57		
	09/23/04		12.95	1.18	86.88		
	01/21/05		13.61	0.61	85.73		
	03/23/06		12.43		86.39		
	01/07/09		15.03	0.02	83.81		
	11/03/09		15.97	0.11	82.94		
	11/22/11		17.87		80.95		
	11/06/13		15.02	0.21	83.98		
	08/27/14		14.62	0.02	84.22		
	01/15/15		13.52		85.30		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-3	01/16/03	98.74	15.36	0.33	83.66	25	10-25
	02/09/04		14.34	0.19	84.56		
	09/23/04		12.12	0.06	86.67		
	01/21/05		13.38	0.02	85.38		
	03/23/06		12.37		86.37		
	01/07/09		15.27	0.12	83.57		
	11/03/09		15.82	0.12	83.02		
	11/22/11		17.47	0.04	81.30		
	11/06/13		14.69	0.01	84.06		
	08/27/14		14.48		84.26		
	01/15/15		13.52		85.22		
MW-4	01/16/03	98.58	15.06		83.52	25	10-25
	02/09/04		14.01		84.57		
	09/23/04		11.96		86.62		
	01/21/05		13.13		85.45		
	03/23/06		12.24		86.34		
	01/07/09		14.84		83.74		
	11/04/09		15.68		82.90		
	11/22/11		OBS		OBS		
	11/06/13		OBS		OBS		
	08/27/14		OBS		OBS		
	01/15/15		13.37		85.21		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-5	01/16/03	98.13	14.77		83.36	22	12-22
	02/09/04		13.77		84.36		
	09/23/04		11.71		86.42		
	01/21/05		13.14		84.99		
	03/23/06		12.80		85.33		
	01/07/09		14.96		83.17		
	11/04/09		15.26		82.87		
	11/22/11		OBS		OBS		
	11/06/13		OBS		OBS		
	08/27/14		OBS		OBS		
	01/15/15		OBS		OBS		
MW-6	01/16/03	98.50	14.64		83.86	21.5	11.5-21.5
	02/09/04		13.86		84.64		
	09/23/04		11.86		86.64		
	01/21/05		13.38		85.12		
	03/23/06		12.81		85.69		
	01/07/09		15.00		83.50		
	11/03/09		15.23		83.27		
	11/22/11		17.47		81.03		
	11/06/13		14.39		84.11		
	08/27/14		14.27		84.23		
	01/15/15		13.07		85.43		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-7	01/16/03	98.19	14.69		83.50	22	12-22
	02/09/04		13.56		84.63		
	09/23/04		11.56		86.63		
	01/21/05		12.78		85.41		
	03/23/06		11.73		86.46		
	01/07/09		14.60		83.59		
	11/03/09		15.27		82.92		
	11/22/11		17.32		80.87		
	11/06/13		14.26		83.93		
	08/27/14		14.05		84.14		
	01/15/15		12.81		85.38		
MW-8	01/16/03	98.17	14.85		83.32	22	12-22
	02/09/04		13.98		84.19		
	09/23/04		12.07		86.10		
	01/21/05		13.33		84.84		
	03/23/06		12.14		86.03		
	01/08/09		15.00		83.17		
	11/03/09		15.45		82.72		
	11/22/11		17.55		80.62		
	11/06/13		14.45		83.72		
	08/27/14		14.31		83.86		
	01/15/15		13.27		84.90		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-9	01/16/03	98.52	15.79		82.73	22	12-22
	02/09/04		15.00		83.52		
	09/23/04		13.12		85.40		
	01/21/05		14.64		83.88		
	03/23/06		13.29		85.23		
	01/08/09		16.01		82.51		
	11/03/09		16.56		81.96		
	11/22/11		18.73		79.79		
	11/06/13		15.51		83.01		
	08/27/14		15.35		83.17		
	01/15/15		14.59		83.93		
MW-10	01/16/03	98.68	16.52		82.16	25	10-25
	02/09/04		15.79		82.89		
	09/23/04		13.97		84.71		
	01/21/05		15.35		83.33		
	03/23/06		14.18		84.50		
	01/08/09		15.75		82.93		
	11/03/09		17.41		81.27		
	11/22/11		19.43		79.25		
	11/06/13		13.37		85.31		
	08/27/14		16.16		82.52		
	01/15/15		15.26		83.42		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-11	01/16/03	94.65	12.89		81.76	22	7-22
	02/09/04		12.10		82.55		
	09/23/04		10.51		84.14		
	01/21/05		11.68		82.97		
	03/23/06		10.55		84.10		
	01/08/09		NM		NM		
	11/03/09		NM		NM		
	11/22/11		NM		NM		
	11/06/13		NM		NM		
	08/27/14		NM		NM		
	01/15/15		NM		NM		
MW-12	01/16/03	95.70	13.13		82.57	22	7-22
	02/09/04		12.35		83.35		
	09/23/04		12.67		83.03		
	01/21/05		12.06		83.64		
	03/23/06		10.80		84.90		
	01/08/09		NM		NM		
	11/03/09		NM		NM		
	11/22/11		NM		NM		
	11/06/13		NM		NM		
	08/27/14		NM		NM		
	01/15/15		NM		NM		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-13	01/16/03	99.01	15.65		83.36	25	10-25
	02/09/04		14.70		84.31		
	09/23/04		12.90		86.11		
	01/21/05		14.05		84.96		
	03/23/06		12.82		86.19		
	01/08/09		15.68		83.33		
	11/03/09		16.30		82.71		
	11/22/11		18.57		80.44		
	11/06/13		15.25		83.76		
	08/27/14		15.08		83.93		
	01/15/15		13.94		85.07		
MW-14	01/16/03	98.36	15.12		83.24	25	10-25
	02/09/04		14.24		84.12		
	09/23/04		12.03		86.33		
	01/21/05		13.78		84.58		
	03/23/06		12.75		85.61		
	01/08/09		15.32		83.04		
	11/04/09		15.77		82.59		
	11/22/11		17.72		80.64		
	11/06/13		15.86		82.50		
	08/27/14		14.58		83.78		
	01/15/15		14.61		83.75		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-15	01/16/03	99.59	16.40		83.19	25	10-25
	02/09/04		15.55		84.04		
	09/23/04		13.50		86.09		
	01/21/05		14.89		84.70		
	03/23/06		13.92		85.67		
	01/08/09		16.63		82.96		
	11/04/09		17.16		82.43		
	11/22/11		19.15		80.44		
	11/06/13		16.26		83.33		
	08/27/14		15.96		83.63		
	01/15/15		14.94		84.65		
MW-16	01/16/03	98.93	16.21	0.04	82.75	23	8-23
	02/09/04		15.24	0.04	83.72		
	09/23/04		13.55		85.38		
	01/21/05		14.81	0.02	84.14		
	03/23/06		13.60		85.33		
	01/08/09		16.21		82.72		
	11/04/09		16.57		82.36		
	11/22/11		NM		NM		
	11/06/13		NM		NM		
	08/27/14		NM		NM		
	01/15/15		NM		NM		
MW-17	01/16/03	98.25	16.00	0.07	82.31	23	8-23
	02/09/04		14.55		83.70		
	09/23/04		12.82		85.43		
	01/21/05		13.78		84.47		
	03/23/06		NM		NM		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-18	01/16/03	99.83	17.70		82.13	25	10-25
	02/09/04		16.91		82.92		
	09/23/04		15.06		84.77		
	01/21/05		16.45		83.38		
	03/23/06		15.31		84.52		
	01/08/09		17.89		81.94		
	11/04/09		18.40		81.43		
	11/22/11		20.20		79.63		
	11/06/13		NM		NM		
	08/27/14		NM		NM		
	01/15/15		NM		NM		
MW-19	01/16/03	100.27	18.54		81.73	25	10-25
	02/09/04		17.63		82.64		
	09/23/04		16.00		84.27		
	01/21/05		17.21		83.06		
	03/23/06		16.15		84.12		
	01/08/09		NM		NM		
	11/04/09		19.22		81.05		
	11/22/11		20.93		79.34		
	11/06/13		18.50		81.77		
	08/27/14		18.08		82.19		
	01/15/15		17.26		83.01		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-20	01/16/03	97.21	15.59		81.62	25	10-25
	02/09/04		14.74		82.47		
	09/23/04		13.15		84.06		
	01/21/05		14.33		82.88		
	03/23/06		13.21		84.00		
	01/08/09		NM		NM		
	11/04/09		16.30		80.91		
	11/22/11		18.02		79.19		
	11/06/13		15.36		81.85		
	08/27/14		15.18		82.03		
	01/15/15		14.41		82.80		
MW-21	01/16/03	95.72	14.70		81.02	23	8-23
	02/09/04		13.85		81.87		
	09/23/04		12.27		83.45		
	01/21/05		13.42		82.30		
	03/23/06		NM		NM		
	01/08/09		NM		NM		
	11/04/09		15.35		80.37		
	11/22/11		17.01		78.71		
	11/06/13		NM		NM		
	08/27/14		14.22		81.50		
	01/15/15		13.48		82.24		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-22	01/16/03	96.68	15.40		80.32	25	10-25
	02/09/04		14.61		82.07		
	09/23/04		12.92		83.76		
	01/21/05		14.15		82.53		
	03/23/06		13.21		83.47		
	01/08/09		15.54		81.14		
	11/04/09		16.08		80.60		
	11/22/11		17.75		78.93		
	11/06/13		15.17		81.51		
	08/27/14		15.00		81.68		
	01/15/15		14.17		82.51		
MW-23	01/16/03	95.78	15.08		80.70	24	9-24
	02/09/04		14.30		81.48		
	09/23/04		12.72		83.06		
	01/20/05		13.82		81.96		
	03/23/06		13.09		82.69		
	01/08/09		15.21		80.57		
	11/04/09		15.64		80.14		
	11/22/11		17.28		78.50		
	11/06/13		14.82		80.96		
	08/27/14		14.71		81.07		
	01/15/15		13.89		81.89		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-24	01/16/03	93.86	13.00		80.86	23	8-23
	02/09/04		12.19		81.67		
	09/23/04		10.58		83.28		
	01/20/05		11.71		82.15		
	03/23/06		10.87		82.99		
	01/08/09		13.17		80.69		
	11/04/09		13.79		80.07		
	11/22/11		15.28		78.58		
	11/06/13		12.86		81.00		
	08/27/14		12.62		81.24		
	01/15/15		11.73		82.13		
MW-25	01/16/03	94.30	13.20		81.10	23	8-23
	02/09/04		12.37		81.93		
	09/23/04		10.74		83.56		
	01/20/05		11.99		82.31		
	03/23/06		11.00		83.30		
	01/08/09		13.34		80.96		
	11/04/09		13.83		80.47		
	11/22/11		15.56		78.74		
	11/06/13		13.00		81.30		
	08/27/14		12.79		81.51		
	01/15/15		11.91		82.39		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-26	01/16/03	93.88	12.38		81.50	21	6-21
	02/09/04		11.62		82.26		
	09/23/04		10.03		83.85		
	01/20/05		11.18		82.70		
	03/23/06		10.58		83.30		
	01/08/09		12.44		81.44		
	11/04/09		13.26		80.62		
	11/22/11		14.92		78.96		
	11/06/13		12.31		81.57		
	08/27/14		12.09		81.79		
	01/15/15		10.10		83.78		
MW-27	01/16/03	98.15	16.99		81.16	25	10-25
	02/09/04		16.20		81.95		
	09/23/04		14.61		83.54		
	01/21/05		15.81		82.34		
	03/23/06		14.84		83.31		
	01/08/09		17.20		80.95		
	11/04/09		17.64		80.51		
	11/22/11		19.30		78.85		
	11/06/13		16.74		81.41		
	08/27/14		16.61		81.54		
	01/15/15		15.79		82.36		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-28	01/16/03	98.45	17.46		80.99	25	10-25
	02/09/04		16.55		81.90		
	09/23/04		15.00		83.45		
	01/21/05		16.17		82.28		
	03/23/06		15.21		83.24		
	01/08/09		NM		NM		
	11/04/09		18.00		80.45		
	11/22/11		19.60		78.85		
	11/06/13		17.11		81.34		
	08/27/14		16.96		81.49		
	01/15/15		16.19		82.26		
MW-29	01/16/03	96.78	16.17		80.61	25	10-25
	02/09/04		15.30		81.48		
	09/23/04		13.74		83.04		
	01/20/05		14.69		82.09		
	03/23/06		14.12		82.66		
	01/08/09		16.31		80.47		
	11/04/09		16.71		80.07		
	11/22/11		18.26		78.52		
	11/06/13		15.89		80.89		
	08/27/14		15.74		81.04		
	01/15/15		14.98		81.80		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-30	01/16/03	95.38	15.18		80.20	22	7-22
	02/09/04		14.36		81.02		
	09/23/04		12.85		82.53		
	01/20/05		13.72		81.66		
	03/23/06		13.04		82.34		
	01/08/09		15.41		79.97		
	11/04/09		15.74		79.64		
	11/22/11		17.36		78.02		
	11/06/13		14.95		80.43		
	08/27/14		14.75		80.63		
	01/15/15		14.04		81.34		
MW-31	09/23/04	96.05	13.88		82.17	20	10-20
	01/20/05		14.73		81.32		
	03/23/06		14.22		81.83		
	01/08/09		16.49		79.56		
	11/04/09		16.37		79.68		
	11/22/11		18.20		77.85		
	11/06/13		15.81		80.24		
	08/27/14		15.71		80.34		
	01/15/15		15.06		80.99		
MW-1A	01/21/05	97.20	13.46	0.09	83.82	Unknown	Unknown
	03/23/06		12.11		85.09		
	01/08/09		14.99		82.21		
	11/03/09		15.25	0.06	82.00		
	11/22/11		17.76	0.85	80.17		
	11/06/13		14.11	0.01	83.10		
	08/27/14		14.08		83.12		
	01/15/15		13.40		83.80		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
MW-2A	01/21/05	97.30	13.63	0.28	83.91	Unknown	Unknown
	03/23/06		12.54	0.31	85.03		
	01/08/09		15.86	0.54	81.90		
	11/03/09		15.61	0.02	81.71		
	11/22/11		17.26		80.04		
	11/06/13		14.25	0.03	83.08		
	08/27/14		14.21		83.09		
	01/15/15		13.74		83.56		
MW-3A	01/21/05	97.27	13.46	0.22	84.00	Unknown	Unknown
	03/23/06		12.22	0.03	85.08		
	01/08/09		15.68	1.00	82.45		
	11/03/09		15.63	0.47	82.04		
	11/22/11		18.02	0.82	79.95		
	11/06/13		14.12	0.06	83.20		
	08/27/14		14.08		83.19		
	01/15/15		13.46		83.81		
MW-4A	01/21/05	98.09	13.06	0.02	85.05	Unknown	Unknown
	03/23/06		12.43		85.66		
	01/08/09		16.02	0.85	82.80		
	11/03/09		15.62	0.02	82.49		
	11/22/11		17.84	0.02	80.27		
	11/06/13		14.61		83.48		
	08/27/14		14.52		83.57		
	01/15/15		13.81		84.28		

TABLE 1
SUMMARY OF GROUND WATER ELEVATION DATA
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Top of Casing Elevation	Depth to Ground Water	Free Product Thickness	Ground Water Elevation	Constructed Well Depth	Screened Interval
TW-1	01/16/03	99.01	15.14		83.87	46	41-46
	02/09/04		14.81		84.20		
	09/23/04		13.16		85.85		
	01/21/05		14.39		84.62		
	03/23/06		13.35		85.66		
	01/08/09		15.97		83.04		
	11/04/09		16.84		82.17		
	11/22/11		18.76		80.25		
	11/06/13		15.76		83.25		
	08/27/14		15.54		83.47		
	01/15/15		14.31		84.70		
TW-2	01/16/03	95.26	14.33		80.93	51	46-51
	02/09/04		13.58		81.68		
	09/23/04		11.98		83.28		
	01/21/05		13.07		82.19		
	03/23/06		12.10		83.16		
	01/08/09		14.52		80.74		
	11/04/09		15.01		80.25		
	11/22/11		16.63		78.63		
	11/06/13		14.19		81.07		
	08/27/14		13.97		81.29		
	01/15/15		13.14		82.12		

Notes:

- Elevations relative to a temporary benchmark with an assumed datum of 100.00 feet; data reported in feet.
- **: If free product is present in a well, groundwater elevation calculated by: [Top of Casing Elevation - Depth to Water] + [free product thickness x 0.8581].
- NM: Not measured; monitoring well is destroyed, covered or could not be located.
- OBS: Monitoring well obstructed.
- Monitoring wells MW-1A through MW-4A were installed by S&ME Consultants in January 2000.
- Monitoring wells MW-16 and MW-17 were completed above grade with stand up covers; depths to ground water were measured from the tops of casing; well depths and screened intervals were measured from the ground surface.

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-1	01/17/03	17,300	31,000	2,220	12,800	495	515	-	0.13
	02/09/04	11,400	19,600	1,010	12,000	395	525	-	NR
	10/07/04	4,160	7,500	504	4,400	348	290	-	0.03
	01/21/05	8,150	13,500	790	7,170	560	<500	-	NR
	03/24/06	7,800	11,800	552	6,640	833	<100	-	NR
	01/07/09	15,700	15,100	1,600	12,310	1,120	878	<500	0.092
	11/04/09	7,120	12,600	988	6,940	<500	<500	<500	0.056
	11/23/11	6,630	9,340	664	4,300	399	210 J	<20	NR
	11/06/13	4,870	8,550	659	4,900	125	165 J	<22	NR
	08/27/14	5,210	11,900	824	6,010	134 J	239 J	<48	<0.0095
	01/16/15	3,820	8,360	641	4,760	105	217 J	<24	<0.0097
MW-1 DUP	11/06/13	5,090	10,600	687	4,830	105 J	<200	<44	NR
	08/27/14	5,210	12,300	845	6,140	130 J	210 J	<48	<0.0095
	01/16/15	3,690	8,250	623	4,860	105	196 J	<20	<0.0097

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-2	01/17/03	FP	FP	FP	FP	FP	FP	FP	FP
	02/09/04	FP	FP	FP	FP	FP	FP	FP	FP
	10/07/04	FP	FP	FP	FP	FP	FP	FP	FP
	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	14,600	17,900	2,240	12,000	164	495	FP	NR
	01/07/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/23/11	20,100	23,800	1,810	9,030	89.8 J	413 J	<50	NR
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
	01/16/15	3,920	3,910	181	1,000	26.1 J	69.9 J	<12	0.17
MW-2 DUP (DUP 2)	11/23/11	20,600	24,500	2,030	10,000	92.5 J	620 J	<50	NR
MW-3	01/17/03	FP	FP	FP	FP	FP	FP	FP	FP
	02/09/04	FP	FP	FP	FP	FP	FP	FP	FP
	10/07/04	FP	FP	FP	FP	FP	FP	FP	FP
	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	54.6	44.4	17.1	660	2.04	8	FP	NR
	01/07/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
	08/27/14	3.7	6.9	6.0	44.2	<0.20	5.0	<0.24	<0.0096
	01/16/15	27.4	19.1	7.5	65.8	0.48 J	1.1 J	<0.24	<0.0094

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-4	01/17/03	3.7	<1.0	1.8	7.2	<1.0	7.4	FP	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	FP	NR
	03/24/06	0.200J	<1.00	<1.00	1.44	0.340J	<1.00	FP	NR
	01/07/09	5.9	<5.0	<5.0	6.0	<5.0	8.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-5	01/17/03	<1.0	<1.0	1.7	3.4	<1.0	7.1	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	0.350J	<1.00	<1.00	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	0.066
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/15/15	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-6	01/17/03	<1.0	<1.0	1.9	3.8	<1.0	7	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094
	01/16/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096
MW-7	01/17/03	70.3	145	24.3	308	1.8	25.7	-	<0.02
	02/09/04	<1.0	11.4	60.2	441	<1.0	40.7	-	NR
	10/07/04	<1.0	1.1	2.4	25	<1.0	5.8	-	<0.02
	01/21/05	<1.0	<1.0	4.5	26.9	<1.0	17.5	-	NR
	03/24/06	<1.00	<1.00	<1.00	23.3	0.260J	9.62	-	NR
	01/07/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	12.2	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	0.62 J	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	0.41 J	<1.0	<0.24	<0.0096
	01/16/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0098

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-8	01/17/03	1,480	11,800	1,930	9,930	6.3	<500	-	<0.02
	02/09/04	59	1,700	424	2,380	<5.0	96	-	NR
	10/07/04	<1.0	3.2	7.4	71.1	<1.0	9	-	<0.02
	01/21/05	12	161	55.6	1,100	<1.0	52.2	-	NR
	03/24/06	4.19	24.1	118	1,070	<1.00	102	-	NR
	01/08/09	16.8	<5.0	<5.0	200.6	<5.0	18.5	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	12.8	<5.0	34.7	<5.0	<0.020
	11/22/11	11.6	1.3	8.1	7.0	<0.34	19.3	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	0.69 J	<0.66	<0.20	<1.0	<0.24	<0.0096
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0097
MW-8 DUP	11/06/13	0.33 J	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	01/15/15	<0.20	<0.40	<0.20	<0.51	<0.30	<1.0	<0.20	<0.0097

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-9	01/17/03	<1.0	<1.0	<1.0	<1.0	34	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	11.1	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	1.2	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	12.5	<5.00	-	NR
	03/24/06	<1.00	<1.00	0.270J	2.49	1.5	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/30/11	<0.20	<0.20	<0.20	<0.52	1.9	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	0.28 J	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
MW-10	01/17/03	<1.0	<1.0	<1.0	<1.0	1.5	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	0.490J	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/30/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-11	01/17/03	<1.0	<1.0	<1.0	<1.0	1.6	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	23.7	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	5.1	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	0.250J	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	01/17/03	<1.0	<1.0	<1.0	<1.0	2	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/15/15	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-13	01/17/03	<1.0	<1.0	<1.0	<1.0	42.5	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	145	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	6.3	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	40.8	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	11	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/30/11	<0.20	<0.20	<0.20	<0.52	2.4	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	0.22 J	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	3.5	<1.0	<0.24	<0.0095
	01/15/15	<0.24	<0.20	<0.28	<0.66	9.8	<1.0	<0.24	<0.0094
MW-14	01/17/03	3.4	<1.0	<1.0	4.5	<1.0	10.9	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	79.5	16.7	4.8	26.8	5.8	8.7 J	<0.40	NR
	11/06/13	0.24 J	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
	01/16/15	0.73 J	0.27 J	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-15	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096
	01/16/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094
MW-16	01/17/03	FP	FP	FP	FP	FP	FP	-	FP
	02/09/04	FP	FP	FP	FP	FP	FP	-	FP
	10/07/04	FP	FP	FP	FP	FP	FP	-	FP
	01/21/05	FP	FP	FP	FP	FP	FP	-	FP
	03/24/06	14,600	20,300	2,080	11,800	536	1,080	-	NR
	01/08/09	2,660	6,520	930	5,100	<25.0	633	<25.0	<0.020
	11/04/09	18,500	33,300	2,880	16,300	454	928	<250	0.30
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-17	01/17/03	FP	FP	FP	FP	FP	FP	-	FP
	02/09/04	<1.0	13.2	12.5	74.2	19	10.1	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	NS	NS	NS	NS	NS	NS	NS	NS
MW-18	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	15.4	5.5	<1.0	5.6	<1.0	<5.00	-	NR
	10/07/04	1.5	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	19.2	1.1	<1.0	7.1	<1.0	<5.00	-	NR
	03/24/06	36.2	1.27	<1.00	6.16	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-19	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	3.1	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096
MW-19 DUP (DUP 1)	11/22/11	1.3	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
MW-20	01/17/03	1,520	314	108	298	80.4	26.3	-	<0.02
	02/09/04	3,220	530	15.2	830	78	61.2	-	NR
	10/07/04	90.2	6.6	<1.0	19.8	94.4	<5.00	-	<0.02
	01/21/05	1,120	43.1	5.8	95.1	73	36.9	-	NR
	03/24/06	44.9	0.300J	0.310J	3.54	9.14	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	9.5	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	2.4	<0.20	<0.20	<0.52	6.2	<1.0	<0.20	NR
	11/06/13	235	<1.0	<1.5	<2.5	5.2	10.7 J	<1.1	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096
	01/15/15	4.5	0.35 J	<0.28	<0.66	93.7	<1.0	<0.24	<0.0095

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SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-21	01/17/03	269	27.5	12	118	42.6	12.6	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	NS	NS	NS	NS	NS	NS	-	NS
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	108	4.5	<0.40	<1.0	8.7	<2.0	<0.40	NR
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
	01/15/15	0.93 J	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0098
MW-22	01/17/03	2,080	281	279	576	257	67.9	-	<0.02
	02/09/04	782	49.2	41.4	77.5	93.4	15.8	-	NR
	10/07/04	109	11.3	3.2	19.5	71.4	<5.00	-	<0.02
	01/21/05	3,980	300	197	454	67	112	-	NR
	03/23/06	0.340J	<1.00	<1.00	<1.00	8.11	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	60.0	8.3	3.4	3.1	13.8	<1.0	<0.20	NR
	11/06/13	574	41.6	45.7	10.9 J	37.3	<10	<2.2	NR
	08/27/14	1.0	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096
	01/15/15	312	15.6	18.8	6.2	134	4.9 J	0.99 J	<0.0095

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SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
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Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-23	01/17/03	27.6	<1.0	<1.0	3.7	27.2	10.5	-	<0.02
	02/09/04	1,760	72	<1.0	592	372	17.2	-	NR
	10/07/04	1,620	103	<1.0	598	286	46	-	<0.02
	01/20/05	1,670	111	<1.0	578	172	19.9	-	NR
	03/23/06	1,290	44.1	<1.00	266	168	38.4	-	NR
	01/08/09	574	<5.0	<5.0	30.8	65.2	<5.0	<5.0	<0.019
	11/04/09	1,250	<25.0	<25.0	98.9	152	31.0	<25.0	<0.019
	11/22/11	435	<1.0	<1.0	<2.6	140	15.9 J	<1.0	NR
	11/06/13	49.6	2.8	<0.58	1.2 J	98.6	2.3 J	<0.44	NR
	08/27/14	239	16.4	<1.4	7.3 J	239	<5.0	<1.2	<0.0096
	01/15/15	18.6	<2.0	<2.8	<6.6	161	<10	<2.4	<0.0094
MW-24	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095

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SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-25	01/17/03	<1.0	<1.0	<1.0	<1.0	4.9	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	0.330J	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	1.8	<0.20	<0.29	<0.50	2.7	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096
MW-26	01/17/03	1.3	<1.0	<1.0	<1.0	4.7	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	0.86 J	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-27	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	1.7	<5.00	-	NR
	03/23/06	0.320J	<1.00	<1.00	<1.00	3.95	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	6.2	<0.20	<0.20	0.61 J	2.4	<1.0	<0.20	NR
	11/06/13	0.27 J	<0.20	<0.29	<0.50	0.22 J	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096
	01/15/15	0.87 J	<0.20	<0.28	<0.66	1.3	<1.0	<0.24	<0.0097
MW-28	01/17/03	<1.0	<1.0	<1.0	<1.0	1.4	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	0.340 J	<1.00	-	NR
	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	0.38 J	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095

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SUMMARY OF LABORATORY ANALYTICAL RESULTS
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TISDALES QUICK STOP
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Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-29	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
MW-30	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	11.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-31	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/20/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/23/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096
MW-1A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	20,700	30,600	3,310	17,600	1,880	891	-	NR
	01/08/09	14,300	29,300	8,930	48,800	1,250	6,060	<500	0.066
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
	08/27/14	140	417	42.7	590	4.4 J	155	<1.2	<0.0097
	01/15/15	1,040	4,950	583	5,130	78.8	474	<1.2	<0.0096

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-2A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/23/06	FP	FP	FP	FP	FP	FP	FP	FP
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/30/11	260	517	37.3	491	<3.4	70.4	<2.0	NR
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
	08/27/14	17,000	30,600	2,420	15,700	232 J	1,270 J	<60	<0.0093
	01/15/15	17,900	20,900	1,680	8,520	281	571 J	<60	0.12
MW-2A DUP (DUP B)	08/27/14	17,500	31,000	2,310	14,500	250 J	695 J	<120	0.19
MW-3A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/23/06	FP	FP	FP	FP	FP	FP	FP	FP
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
	08/27/14	15,700	38,900	2,430	15,300	<100	873 J	<120	0.17
	01/15/15	2,930	8,310	875	8,780	<20	556	<24	0.029

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
MW-4A	01/21/05	FP	FP	FP	FP	FP	FP	FP	FP
	03/24/06	19,600	34,800	3,900	21,500	247	952	NR	NR
	01/08/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	7,250	30,200	2,050	12,700	<110	627 J	<110	NR
	08/27/14	6,890	27,700	1,680	16,300	<50	561 J	<60	0.13
	01/15/15	2,300	11,500	1,010	12,300	50.9 J	511 J	<48	0.052
TW-1	01/17/03	25.5	46.6	6.9	19.8	<1.0	9.3	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.020
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/23/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/28/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
	01/16/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
TW-2	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	02/09/04	<1.0	<1.0	<1.0	<1.0	11.7	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	7.22	<1.00	<1.00	<1.00	1.7	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.020
	11/22/11	7.0	<0.20	<0.20	<0.52	1.0	<1.0	<0.20	NR
	11/06/13	4.7	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0095
	01/15/15	0.26 J	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094
WSW-1	01/17/03	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	02/09/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	01/08/09	<5.0	<5.0	<5.0	<15.0	<5.0	<5.0	<5.0	<0.019
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/28/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094
	01/16/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
WSW-2	01/08/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
WSW-3	10/07/04	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	<0.02
	01/21/05	<1.0	<1.0	<1.0	<1.0	<1.0	<5.00	-	NR
	03/24/06	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	NR
	11/04/09	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<0.019
	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/28/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0097
FIELD BLANK	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	0.21 J	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0094
	01/16/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096

TABLE 2
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - CHEMICALS OF CONCERN
TISDALES QUICK STOP
UST PERMIT # 18686

Well No.	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2-DCA	EDB
RBSL		5	1,000	700	10,000	40	25	5	0.05
TRIP BLANK	11/22/11	<0.20	<0.20	<0.20	<0.52	<0.34	<1.0	<0.20	NR
	11/06/13	<0.21	<0.20	<0.29	<0.50	<0.21	<1.0	<0.22	NR
	08/27/14	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	NR
	01/15/15	<0.24	<0.20	<0.28	<0.66	<0.20	<1.0	<0.24	<0.0096

Notes:

- Analyses for selected volatile organic compounds by EPA Method 8260B; lead by EPA Method 6010B or 200.7; and EDB by EPA Method 8011; results reported in µg/l.
- RBSL: May 2001 Risk Based Screening Level.
- Concentrations in bold face type exceeded the RBSL.
- <: Less than the report limit specified in the laboratory report.
- NS: Not sampled.
- NR: Analysis not requested.
- I or J: Estimated value.
- FP: Free product.

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	DIPE	ETBA	Ethanol	ETBE	TAA	TAME	TBA	TBF
MW-1	03/24/06	<50.0	5,030	<5,000	<50.0	35,000	<50.0	1,280	<1,000
	11/04/09	<500	<10,000	<20,000	<1,000	10,200	<1,000	<10,000	<5,000
	11/23/11	<35	<2,500	<2,500	<31	24,100	<39	<300	<500
	11/06/13	<25	<2,000	<2,100	<55	7,700	<49	<470	<500
	08/27/14	<45	<760	<4,600	<40	10,600	<44	<1,800	<810
	01/16/15	<23	<380	<2300	<20	12,200	<22	<880	<400
MW-1 DUP	11/06/13	<51	<4,000	<4,200	<110	7,020	<97	<950	<1,000
	08/27/14	<45	<760	<4,600	<40	8,960	<44	<1,800	<810
	01/16/15	<20	<1,000	<3,500	<20	12,300	<22	<540	<400
MW-2	03/24/06	<50.0	4,620	<5,000	<50.0	25,700	54	1,020	<1,000
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/23/11	<88	<6,300	<6,300	<78	37,800	<98	<750	<1,300
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
	01/16/15	<11	<190	<1,200	<10	5,830	<11	<440	<200
MW-2 DUP (DUP 2)	11/23/11	<88	<6,300	<6,300	<78	37,000	<98	<750	<1,300
MW-3	03/24/06	<1.00	99.1	<100	<1.00	223	<1.00	26.7	<20.0
	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/16/15	<0.23	<3.8	<23	<0.20	23.9	<0.22	<8.8	<4.0
MW-4	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/15/15	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	DIPE	ETBA	Ethanol	ETBE	TAA	TAME	TBA	TBF
MW-5	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/15/15	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	11/03/09	<5.0	115	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/16/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-7	11/03/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/16/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-8	11/03/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	11.2 J	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-8 DUP	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	01/15/15	<0.20	<10	<35	<0.20	<8.1	<0.22	<5.4	<4.0
MW-9	11/03/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/30/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	DIPE	ETBA	Ethanol	ETBE	TAA	TAME	TBA	TBF
MW-10	11/03/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/30/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-11	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/15/15	NS	NS	NS	NS	NS	NS	NS	NS
MW-12	11/03/09	NS	NS	NS	NS	NS	NS	NS	NS
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/15/15	NS	NS	NS	NS	NS	NS	NS	NS
MW-13	11/03/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/30/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	0.96 J	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	5.1	<8.8	<4.0
MW-14	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.70	<50	<50	<0.62	450	<0.78	<6.0	<10
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/16/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	DIPE	ETBA	Ethanol	ETBE	TAA	TAME	TBA	TBF
MW-15	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/16/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-16	03/24/06	<50.0	5,140	<5,000	<50.0	34,600	72.5	1,560	<1,000
	11/04/09	<250	<5,000	<10,000	<500	45,400	<500	<5,000	<2,500
	11/22/11	NS	NS	NS	NS	NS	NS	NS	NS
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/15/15	NS	NS	NS	NS	NS	NS	NS	NS
MW-18	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	19.2 J	<0.39	<3.0	<5.0
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	01/15/15	NS	NS	NS	NS	NS	NS	NS	NS
MW-19	11/03/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	5.6 J	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-19 DUP (DUP 1)	11/22/11	<0.35	<25	<25	<0.31	12.5 J	<0.39	<3.0	<5.0
MW-20	11/03/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	151	<0.39	9.3 J	<5.0
	11/06/13	<1.3	<100	<110	<2.8	567	<2.4	<24	<25
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	1.6	<3.8	<23	1.9 J	1,880	3.6	105	<4.0

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	DIPE	ETBA	Ethanol	ETBE	TAA	TAME	TBA	TBF
MW-21	11/03/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.70	<50	<50	<0.62	343	1.1 J	25.0 J	<10
	11/06/13	NS	NS	NS	NS	NS	NS	NS	NS
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-22	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	0.60 J	1,370	3.6	45.3	<5.0
	11/06/13	<2.5	<200	<210	<5.5	2,000	8.9 J	50.3 J	<50
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	3.7	<3.8	<23	6.6	8,180	22.6	<8.8	<4.0
MW-23	11/04/09	<25.0	<500	<1,000	<50.0	1,490	<50.0	<500	<250
	11/22/11	<1.8	<130	<130	<1.6	3,200	9.7 J	<15	<25
	11/06/13	1.5 J	<40	<42	2.0 J	2,700	8.8	214	<10
	08/27/14	3.4 J	<19	<120	6.2 J	8,040	28.7	<44	<20
	01/15/15	2.9 J	<38	<230	4.5 J	4,730	19.3 J	339	<40
MW-24	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-25	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	DIPE	ETBA	Ethanol	ETBE	TAA	TAME	TBA	TBF
MW-26	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-27	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	43.2	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	11.5 J	<0.22	<8.8	<4.0
MW-28	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-29	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-30	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	DIPE	ETBA	Ethanol	ETBE	TAA	TAME	TBA	TBF
MW-31	11/03/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
MW-1A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
	08/27/14	<1.1	<19	<120	<1.0	2,150	5.3 J	<44	<20
	01/15/15	2.1 J	<19	<120	3.3 J	11,900	12.2	386	<20
MW-2A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/30/11	<3.5	<250	<250	<3.1	83.3 J	<3.9	<30	<50
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
	08/27/14	<57	<950	<5,800	<50	65,500	110 J	<2,200	<1,000
	01/15/15	<57	<950	<5,800	<50	60,900	103 J	<2,200	<1,000
MW-2A DUP (DUP B)	08/27/14	<110	<1,900	<12,000	<100	63,000	<110	<4,400	<2,000
MW-3A	11/03/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	FP	FP	FP	FP	FP	FP	FP	FP
	08/27/14	<110	<1,900	<12,000	<100	24,900	<110	<4,400	<2,000
	01/15/15	<23	<380	<2,300	<20	1,690 J	<22	<880	<400

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	DIPE	ETBA	Ethanol	ETBE	TAA	TAME	TBA	TBF
MW-4A	11/04/09	FP	FP	FP	FP	FP	FP	FP	FP
	11/22/11	FP	FP	FP	FP	FP	FP	FP	FP
	11/06/13	<130	<10,000	<11,000	<280	6,280	<240	<2,400	<2,500
	08/27/14	<57	<950	<5,800	<50	5,990	<55	<2,200	<1,000
	01/15/15	<45	<760	<4,600	<40	2,110 J	<44	<1,800	<810
TW-1	03/24/06	<1.00	<10.0	<100	<1.00	<20.0	<1.00	<20.0	<20.0
	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/23/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/28/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/16/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
TW-2	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	15.9 J	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
WSW-1	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/28/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/16/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
WSW-3	11/04/09	<5.0	<100	<200	<10.0	<100	<10.0	<100	<50.0
	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/28/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0

TABLE 3
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUND WATER SAMPLES - OXYGENATES
TISDALE'S QUICK SHOP
UST PERMIT # 18686

Well No.	Date	DIPE	ETBA	Ethanol	ETBE	TAA	TAME	TBA	TBF
FIELD BLANK	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/16/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
TRIP BLANK	11/22/11	<0.35	<25	<25	<0.31	<5.0	<0.39	<3.0	<5.0
	11/06/13	<0.25	<20	<21	<0.55	<5.0	<0.49	<4.7	<5.0
	08/27/14	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0
	01/15/15	<0.23	<3.8	<23	<0.20	<7.4	<0.22	<8.8	<4.0

Notes:

- Analyses for oxygenates by Method 8260B; results reported in µg/l.
- <: Less than the report limit specified in the laboratory report.
- Bold indicates analyte reported about the method detection limit.

APPENDICES

APPENDIX A

Laboratory Analytical Report – Ground Water Samples



01/28/15

Technical Report for

GRI (Geological Resources Inc.)

Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC
18686

Accutest Job Number: FA21494

Sampling Dates: 01/15/15 - 01/16/15

Report to:

GRI
3502 Hayes Rd
Monroe, NC 28110
wsb@geologicalresourcesinc.com; carriekennedy@geologicalresourcesinc.com;
jjr@geologicalresourcesinc.com; nml@geologicalresourcesinc.com
ATTN: Scott Ball

Total number of pages in report: 118



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

A handwritten signature in black ink, appearing to read 'Norm Farmer'.

Norm Farmer
Technical Director

Client Service contact: Muna Mohammed 407-425-6700

Certifications: FL (E83510), LA (03051), KS (E-10327), IA (366), IL (200063), NC (573), NJ (FL002), SC (96038001)
DoD ELAP (L-A-B L2229), CA (2937), TX (T104704404), PA (68-03573), VA (460177),
AK, AR, GA, KY, MA, NV, OK, UT, WA

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Test results relate only to samples analyzed.

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Sample Summary

GRI (Geological Resources Inc.)

Job No: FA21494

Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC
Project No: 18686

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA21494-1	01/16/15	09:39 DB	01/17/15	AQ	Ground Water	18686 MW-1
FA21494-2	01/16/15	09:27 DB	01/17/15	AQ	Ground Water	18686 MW-2
FA21494-3	01/16/15	09:52 DB	01/17/15	AQ	Ground Water	18686 MW-3
FA21494-4	01/16/15	10:24 DB	01/17/15	AQ	Ground Water	18686 MW-6
FA21494-5	01/16/15	10:12 DB	01/17/15	AQ	Ground Water	18686 MW-7
FA21494-6	01/15/15	14:48 DB	01/17/15	AQ	Ground Water	18686 MW-8
FA21494-7	01/15/15	15:51 DB	01/17/15	AQ	Ground Water	18686 MW-9
FA21494-8	01/15/15	16:00 DB	01/17/15	AQ	Ground Water	18686 MW-10
FA21494-9	01/15/15	16:13 DB	01/17/15	AQ	Ground Water	18686 MW-13
FA21494-10	01/16/15	10:39 DB	01/17/15	AQ	Ground Water	18686 MW-14
FA21494-11	01/16/15	10:52 DB	01/17/15	AQ	Ground Water	18686 MW-15
FA21494-12	01/15/15	16:47 DB	01/17/15	AQ	Ground Water	18686 MW-19
FA21494-13	01/15/15	16:36 DB	01/17/15	AQ	Ground Water	18686 MW-20

**Sample Summary**

(continued)

GRI (Geological Resources Inc.)

Job No: FA21494

Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC
Project No: 18686

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
FA21494-14	01/15/15	12:53 DB	01/17/15	AQ Ground Water	18686 MW-21
FA21494-15	01/15/15	12:32 DB	01/17/15	AQ Ground Water	18686 MW-22
FA21494-16	01/15/15	10:42 DB	01/17/15	AQ Ground Water	18686 MW-23
FA21494-17	01/15/15	10:29 DB	01/17/15	AQ Ground Water	18686 MW-24
FA21494-18	01/15/15	13:07 DB	01/17/15	AQ Ground Water	18686 MW-25
FA21494-19	01/15/15	13:17 DB	01/17/15	AQ Ground Water	18686 MW-26
FA21494-20	01/15/15	12:16 DB	01/17/15	AQ Ground Water	18686 MW-27
FA21494-21	01/15/15	11:59 DB	01/17/15	AQ Ground Water	18686 MW-28
FA21494-22	01/15/15	11:46 DB	01/17/15	AQ Ground Water	18686 MW-29
FA21494-23	01/15/15	10:10 DB	01/17/15	AQ Ground Water	18686 MW-30
FA21494-24	01/15/15	09:59 DB	01/17/15	AQ Ground Water	18686 MW-31
FA21494-25	01/15/15	15:28 DB	01/17/15	AQ Ground Water	18686 MW-1A
FA21494-26	01/15/15	15:37 DB	01/17/15	AQ Ground Water	18686 MW-2A

**Sample Summary**

(continued)

GRI (Geological Resources Inc.)

Job No: FA21494

Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Project No: 18686

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
FA21494-27	01/15/15	15:21 DB	01/17/15	AQ Ground Water	18686 MW-3A
FA21494-28	01/15/15	15:12 DB	01/17/15	AQ Ground Water	18686 MW-4A
FA21494-29	01/16/15	09:11 DB	01/17/15	AQ Ground Water	18686 TW-1
FA21494-30	01/15/15	11:31 DB	01/17/15	AQ Ground Water	18686 TW-2
FA21494-31	01/16/15	09:59 DB	01/17/15	AQ Ground Water	18686 WSW-1
FA21494-32	01/15/15	13:33 DB	01/17/15	AQ Ground Water	18686 WSW-3
FA21494-33	01/15/15	00:00 DB	01/17/15	AQ Ground Water	18686 DUP A
FA21494-34	01/16/15	00:00 DB	01/17/15	AQ Ground Water	18686 DUP B
FA21494-35	01/16/15	10:58 DB	01/17/15	AQ Field Blank Water	18686 FIELD BLANK
FA21494-36	01/15/15	00:00 DB	01/17/15	AQ Trip Blank Water	18686 TRIP BLANK

Summary of Hits

Page 1 of 6

Job Number: FA21494

Account: GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Collected: 01/15/15 thru 01/16/15

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA21494-1	18686 MW-1					
Benzene		3820	100	24	ug/l	SW846 8260B
Toluene		8360	100	20	ug/l	SW846 8260B
Ethylbenzene		641	100	28	ug/l	SW846 8260B
Xylene (total)		4760	300	66	ug/l	SW846 8260B
Methyl Tert Butyl Ether		105	100	20	ug/l	SW846 8260B
Naphthalene		217 J	500	100	ug/l	SW846 8260B
Tert-Amyl Alcohol		12200	2000	740	ug/l	SW846 8260B
FA21494-2	18686 MW-2					
Benzene		3920	50	12	ug/l	SW846 8260B
Toluene		3910	50	10	ug/l	SW846 8260B
Ethylbenzene		181	50	14	ug/l	SW846 8260B
Xylene (total)		1000	150	33	ug/l	SW846 8260B
Methyl Tert Butyl Ether		26.1 J	50	10	ug/l	SW846 8260B
Naphthalene		69.9 J	250	50	ug/l	SW846 8260B
Tert-Amyl Alcohol		5830	1000	370	ug/l	SW846 8260B
1,2-Dibromoethane ^a		0.17	0.019	0.0096	ug/l	SW846 8011
FA21494-3	18686 MW-3					
Benzene		27.4	1.0	0.24	ug/l	SW846 8260B
Toluene		19.1	1.0	0.20	ug/l	SW846 8260B
Ethylbenzene		7.5	1.0	0.28	ug/l	SW846 8260B
Xylene (total)		65.8	3.0	0.66	ug/l	SW846 8260B
Methyl Tert Butyl Ether		0.48 J	1.0	0.20	ug/l	SW846 8260B
Naphthalene		1.1 J	5.0	1.0	ug/l	SW846 8260B
Tert-Amyl Alcohol		23.9	20	7.4	ug/l	SW846 8260B
FA21494-4	18686 MW-6					
No hits reported in this sample.						
FA21494-5	18686 MW-7					
No hits reported in this sample.						
FA21494-6	18686 MW-8					
No hits reported in this sample.						

Summary of Hits

Page 2 of 6

Job Number: FA21494
Account: GRI (Geological Resources Inc.)
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC
Collected: 01/15/15 thru 01/16/15

Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
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FA21494-7 18686 MW-9

No hits reported in this sample.

FA21494-8 18686 MW-10

No hits reported in this sample.

FA21494-9 18686 MW-13

Methyl Tert Butyl Ether	9.8	1.0	0.20	ug/l	SW846 8260B
Tert-Amyl Methyl Ether	5.1	2.0	0.22	ug/l	SW846 8260B

FA21494-10 18686 MW-14

Benzene	0.73 J	1.0	0.24	ug/l	SW846 8260B
Toluene	0.27 J	1.0	0.20	ug/l	SW846 8260B

FA21494-11 18686 MW-15

No hits reported in this sample.

FA21494-12 18686 MW-19

No hits reported in this sample.

FA21494-13 18686 MW-20

Benzene	4.5	1.0	0.24	ug/l	SW846 8260B
Toluene	0.35 J	1.0	0.20	ug/l	SW846 8260B
Methyl Tert Butyl Ether	93.7	1.0	0.20	ug/l	SW846 8260B
Di-Isopropyl ether	1.6	1.0	0.23	ug/l	SW846 8260B
Ethyl Tert Butyl Ether	1.9 J	2.0	0.20	ug/l	SW846 8260B
Tert-Amyl Alcohol	1880	100	37	ug/l	SW846 8260B
Tert-Amyl Methyl Ether	3.6	2.0	0.22	ug/l	SW846 8260B
Tert-Butyl Alcohol	105	20	8.8	ug/l	SW846 8260B

FA21494-14 18686 MW-21

Benzene	0.93 J	1.0	0.24	ug/l	SW846 8260B
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FA21494-15 18686 MW-22

Benzene	312	10	2.4	ug/l	SW846 8260B
Toluene	15.6	1.0	0.20	ug/l	SW846 8260B

Summary of Hits

Job Number: FA21494**Account:** GRI (Geological Resources Inc.)**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC**Collected:** 01/15/15 thru 01/16/15

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Ethylbenzene		18.8	1.0	0.28	ug/l	SW846 8260B
Xylene (total)		6.2	3.0	0.66	ug/l	SW846 8260B
Methyl Tert Butyl Ether		134	10	2.0	ug/l	SW846 8260B
Naphthalene		4.9 J	5.0	1.0	ug/l	SW846 8260B
1,2-Dichloroethane		0.99 J	1.0	0.24	ug/l	SW846 8260B
Di-Isopropyl ether		3.7	1.0	0.23	ug/l	SW846 8260B
Ethyl Tert Butyl Ether		6.6	2.0	0.20	ug/l	SW846 8260B
Tert-Amyl Alcohol		8180	200	74	ug/l	SW846 8260B
Tert-Amyl Methyl Ether		22.6	2.0	0.22	ug/l	SW846 8260B

FA21494-16 18686 MW-23

Benzene	18.6	10	2.4	ug/l	SW846 8260B
Methyl Tert Butyl Ether	161	10	2.0	ug/l	SW846 8260B
Di-Isopropyl ether	2.9 J	10	2.3	ug/l	SW846 8260B
Ethyl Tert Butyl Ether	4.5 J	20	2.0	ug/l	SW846 8260B
Tert-Amyl Alcohol	4730	200	74	ug/l	SW846 8260B
Tert-Amyl Methyl Ether	19.3 J	20	2.2	ug/l	SW846 8260B
Tert-Butyl Alcohol	339	200	88	ug/l	SW846 8260B

FA21494-17 18686 MW-24

No hits reported in this sample.

FA21494-18 18686 MW-25

No hits reported in this sample.

FA21494-19 18686 MW-26

No hits reported in this sample.

FA21494-20 18686 MW-27

Benzene	0.87 J	1.0	0.24	ug/l	SW846 8260B
Methyl Tert Butyl Ether	1.3	1.0	0.20	ug/l	SW846 8260B
Tert-Amyl Alcohol	11.5 J	20	7.4	ug/l	SW846 8260B

FA21494-21 18686 MW-28

No hits reported in this sample.

FA21494-22 18686 MW-29

No hits reported in this sample.

Summary of Hits

Page 4 of 6

Job Number: FA21494

Account: GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Collected: 01/15/15 thru 01/16/15

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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FA21494-23 18686 MW-30

No hits reported in this sample.

FA21494-24 18686 MW-31

No hits reported in this sample.

FA21494-25 18686 MW-1A

Benzene	1040	20	4.9	ug/l	SW846 8260B
Toluene	4950	50	20	ug/l	SW846 8260B
Ethylbenzene	583	20	5.6	ug/l	SW846 8260B
Xylene (total)	5130	60	13	ug/l	SW846 8260B
Methyl Tert Butyl Ether	78.8	5.0	1.0	ug/l	SW846 8260B
Naphthalene	474	25	5.0	ug/l	SW846 8260B
Di-Isopropyl ether	2.1 J	5.0	1.1	ug/l	SW846 8260B
Ethyl Tert Butyl Ether	3.3 J	10	1.0	ug/l	SW846 8260B
Tert-Amyl Alcohol	11900	400	150	ug/l	SW846 8260B
Tert-Amyl Methyl Ether	12.2	10	1.1	ug/l	SW846 8260B
Tert-Butyl Alcohol	386	100	44	ug/l	SW846 8260B

FA21494-26 18686 MW-2A

Benzene	17900	250	61	ug/l	SW846 8260B
Toluene	20900	250	50	ug/l	SW846 8260B
Ethylbenzene	1680	250	70	ug/l	SW846 8260B
Xylene (total)	8520	750	170	ug/l	SW846 8260B
Methyl Tert Butyl Ether	281	250	50	ug/l	SW846 8260B
Naphthalene	571 J	1300	250	ug/l	SW846 8260B
Tert-Amyl Alcohol	60900	5000	1900	ug/l	SW846 8260B
Tert-Amyl Methyl Ether	103 J	500	55	ug/l	SW846 8260B
1,2-Dibromoethane ^a	0.12	0.020	0.0098	ug/l	SW846 8011

FA21494-27 18686 MW-3A

Benzene	2930	100	24	ug/l	SW846 8260B
Toluene	8310	100	20	ug/l	SW846 8260B
Ethylbenzene	875	100	28	ug/l	SW846 8260B
Xylene (total)	8780	300	66	ug/l	SW846 8260B
Naphthalene	556	500	100	ug/l	SW846 8260B
Tert-Amyl Alcohol	1690 J	2000	740	ug/l	SW846 8260B
1,2-Dibromoethane ^a	0.029	0.020	0.0099	ug/l	SW846 8011

Summary of Hits

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Job Number: FA21494

Account: GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Collected: 01/15/15 thru 01/16/15

2

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA21494-28 18686 MW-4A						
Benzene		2300	200	49	ug/l	SW846 8260B
Toluene		11500	200	40	ug/l	SW846 8260B
Ethylbenzene		1010	200	56	ug/l	SW846 8260B
Xylene (total)		12300	600	130	ug/l	SW846 8260B
Methyl Tert Butyl Ether		50.9 J	200	40	ug/l	SW846 8260B
Naphthalene		511 J	1000	200	ug/l	SW846 8260B
Tert-Amyl Alcohol		2110 J	4000	1500	ug/l	SW846 8260B
1,2-Dibromoethane ^a		0.052	0.019	0.0095	ug/l	SW846 8011
FA21494-29 18686 TW-1						
No hits reported in this sample.						
FA21494-30 18686 TW-2						
Benzene		0.26 J	1.0	0.24	ug/l	SW846 8260B
FA21494-31 18686 WSW-1						
No hits reported in this sample.						
FA21494-32 18686 WSW-3						
No hits reported in this sample.						
FA21494-33 18686 DUP A						
No hits reported in this sample.						
FA21494-34 18686 DUP B						
Benzene		3690	100	20	ug/l	SW846 8260B
Toluene		8250	100	40	ug/l	SW846 8260B
Ethylbenzene		623	100	20	ug/l	SW846 8260B
Xylene (total)		4860	300	51	ug/l	SW846 8260B
Methyl Tert Butyl Ether		105	100	30	ug/l	SW846 8260B
Naphthalene		196 J	500	100	ug/l	SW846 8260B
Tert-Amyl Alcohol		12300	2000	810	ug/l	SW846 8260B
FA21494-35 18686 FIELD BLANK						
No hits reported in this sample.						

Summary of Hits

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Job Number: FA21494

Account: GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Collected: 01/15/15 thru 01/16/15

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						

FA21494-36 18686 TRIP BLANK

No hits reported in this sample.

(a) All hits confirmed by dual column analysis.



Southeast
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Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 18686 MW-1

Lab Sample ID: FA21494-1

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963322.D	100	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3820	100	24	ug/l	
108-88-3	Toluene	8360	100	20	ug/l	
100-41-4	Ethylbenzene	641	100	28	ug/l	
1330-20-7	Xylene (total)	4760	300	66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	105	100	20	ug/l	
91-20-3	Naphthalene	217	500	100	ug/l	J
107-06-2	1,2-Dichloroethane	ND	100	24	ug/l	
108-20-3	Di-Isopropyl ether	ND	100	23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	5000	380	ug/l	
64-17-5	Ethyl Alcohol	ND	10000	2300	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	200	20	ug/l	
75-85-4	Tert-Amyl Alcohol	12200	2000	740	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	200	22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	2000	880	ug/l	
762-75-4	Tert-Butyl Formate	ND	2000	400	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	93%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.1

3

Client Sample ID:	18686 MW-1	Date Sampled:	01/16/15
Lab Sample ID:	FA21494-1	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8011 SW846 3510C		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80167.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	35.9 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0097	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	69%		63-137%		

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

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

Report of Analysis

Client Sample ID: 18686 MW-2

Lab Sample ID: FA21494-2

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963323.D	50	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3920	50	12	ug/l	
108-88-3	Toluene	3910	50	10	ug/l	
100-41-4	Ethylbenzene	181	50	14	ug/l	
1330-20-7	Xylene (total)	1000	150	33	ug/l	
1634-04-4	Methyl Tert Butyl Ether	26.1	50	10	ug/l	J
91-20-3	Naphthalene	69.9	250	50	ug/l	J
107-06-2	1,2-Dichloroethane	ND	50	12	ug/l	
108-20-3	Di-Isopropyl ether	ND	50	11	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	2500	190	ug/l	
64-17-5	Ethyl Alcohol	ND	5000	1200	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	100	10	ug/l	
75-85-4	Tert-Amyl Alcohol	5830	1000	370	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	100	11	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	1000	440	ug/l	
762-75-4	Tert-Butyl Formate	ND	1000	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	97%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

3.2



Client Sample ID:	18686 MW-2	Date Sampled:	01/16/15
Lab Sample ID:	FA21494-2	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8011 SW846 3510C		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	DD80169.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.4 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	0.17	0.019	0.0096	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	79%		63-137%		

(a) All hits confirmed by dual column analysis.

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

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

Report of Analysis

Client Sample ID: 18686 MW-3

Lab Sample ID: FA21494-3

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963256.D	1	01/22/15	MM	n/a	n/a	VJ4878
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	27.4	1.0	0.24	ug/l	
108-88-3	Toluene	19.1	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	7.5	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	65.8	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.48	1.0	0.20	ug/l	J
91-20-3	Naphthalene	1.1	5.0	1.0	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	23.9	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	18686 MW-3	Date Sampled:	01/16/15
Lab Sample ID:	FA21494-3	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8011 SW846 3510C		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80171.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	37.4 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0094	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	67%		63-137%		

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

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

Report of Analysis

Client Sample ID:	18686 MW-6	Date Sampled:	01/16/15
Lab Sample ID:	FA21494-4	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963257.D	1	01/22/15	MM	n/a	n/a	VJ4878
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	102%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

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

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

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Client Sample ID:	18686 MW-6	Date Sampled:	01/16/15
Lab Sample ID:	FA21494-4	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8011 SW846 3510C		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80172.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.6 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	69%		63-137%		

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

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

Report of Analysis

Client Sample ID: 18686 MW-7

Lab Sample ID: FA21494-5

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963258.D	1	01/22/15	MM	n/a	n/a	VJ4878
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.5

3

Client Sample ID: 18686 MW-7

Lab Sample ID: FA21494-5

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 3510C

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80173.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	35.7 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	0.0098	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	76%		63-137%		

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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3.6

3

Client Sample ID: 18686 MW-8**Lab Sample ID:** FA21494-6**Date Sampled:** 01/15/15**Matrix:** AQ - Ground Water**Date Received:** 01/17/15**Method:** SW846 8260B**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963259.D	1	01/22/15	MM	n/a	n/a	VJ4878
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	18686 MW-8	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-6	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8011 SW846 3510C		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80176.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.0 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0097	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	82%		63-137%		

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

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

Report of Analysis

Client Sample ID: 18686 MW-9

Lab Sample ID: FA21494-7

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963260.D	1	01/22/15	MM	n/a	n/a	VJ4878
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3

Client Sample ID: 18686 MW-9**Lab Sample ID:** FA21494-7**Date Sampled:** 01/15/15**Matrix:** AQ - Ground Water**Date Received:** 01/17/15**Method:** SW846 8011 SW846 3510C**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80177.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.8 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0095	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	89%		63-137%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 18686 MW-10

Lab Sample ID: FA21494-8

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963261.D	1	01/22/15	MM	n/a	n/a	VJ4878
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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**Client Sample ID:** 18686 MW-10**Lab Sample ID:** FA21494-8**Date Sampled:** 01/15/15**Matrix:** AQ - Ground Water**Date Received:** 01/17/15**Method:** SW846 8011 SW846 3510C**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80178.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	37.1 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0094	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	86%		63-137%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 18686 MW-13**Lab Sample ID:** FA21494-9**Date Sampled:** 01/15/15**Matrix:** AQ - Ground Water**Date Received:** 01/17/15**Method:** SW846 8260B**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963262.D	1	01/22/15	MM	n/a	n/a	VJ4878
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	9.8	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	5.1	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

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

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

Report of Analysis

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Client Sample ID: 18686 MW-13

Lab Sample ID: FA21494-9

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 3510C

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80179.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	37.4 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0094	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	73%		63-137%		

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 18686 MW-14

Lab Sample ID: FA21494-10

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963263.D	1	01/22/15	MM	n/a	n/a	VJ4878
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.73	1.0	0.24	ug/l	J
108-88-3	Toluene	0.27	1.0	0.20	ug/l	J
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

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3.10

3

Client Sample ID: 18686 MW-14**Lab Sample ID:** FA21494-10**Date Sampled:** 01/16/15**Matrix:** AQ - Ground Water**Date Received:** 01/17/15**Method:** SW846 8011 SW846 3510C**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80180.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	37.4 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0094	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	85%		63-137%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

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3.11
3

Client Sample ID: 18686 MW-15

Lab Sample ID: FA21494-11

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963264.D	1	01/22/15	MM	n/a	n/a	VJ4878
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

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3.11

3

Client Sample ID: 18686 MW-15

Lab Sample ID: FA21494-11

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 3510C

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80181.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	37.4 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0094	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	73%		63-137%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	18686 MW-19	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-12	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963277.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

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3.12

3

Client Sample ID: 18686 MW-19

Lab Sample ID: FA21494-12

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 3510C

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80182.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.3 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	81%		63-137%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 18686 MW-20

Lab Sample ID: FA21494-13

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963278.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2	J0963313.D	5	01/24/15	MM	n/a	n/a	VJ4880

Purge Volume

Run #1 5.0 ml

Run #2 5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4.5	1.0	0.24	ug/l	
108-88-3	Toluene	0.35	1.0	0.20	ug/l	J
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	93.7	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	1.6	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	1.9	2.0	0.20	ug/l	J
75-85-4	Tert-Amyl Alcohol	1880 ^a	100	37	ug/l	
994-05-8	Tert-Amyl Methyl Ether	3.6	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	105	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^b	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	103%	79-125%
2037-26-5	Toluene-D8	99%	98%	85-112%
460-00-4	4-Bromofluorobenzene	98%	97%	83-118%

(a) Result is from Run# 2

(b) Associated BS recovery outside control limits.

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

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

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3.13

3

Client Sample ID: 18686 MW-20

Lab Sample ID: FA21494-13

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 3510C

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80183.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	37.0 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0095	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	88%		63-137%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

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3.14

3

Client Sample ID: 18686 MW-21**Lab Sample ID:** FA21494-14**Date Sampled:** 01/15/15**Matrix:** AQ - Ground Water**Date Received:** 01/17/15**Method:** SW846 8260B**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963310.D	1	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.93	1.0	0.24	ug/l	J
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	105%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.14

3

Client Sample ID: 18686 MW-21

Lab Sample ID: FA21494-14

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 3510C

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80184.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	35.6 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	0.0098	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	89%		63-137%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.15

3

Client Sample ID: 18686 MW-22

Lab Sample ID: FA21494-15

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963280.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2	J0963314.D	10	01/24/15	MM	n/a	n/a	VJ4880

Purge Volume

Run #1 5.0 ml

Run #2 5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	312 ^a	10	2.4	ug/l	
108-88-3	Toluene	15.6	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	18.8	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	6.2	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	134 ^a	10	2.0	ug/l	
91-20-3	Naphthalene	4.9	5.0	1.0	ug/l	J
107-06-2	1,2-Dichloroethane	0.99	1.0	0.24	ug/l	J
108-20-3	Di-Isopropyl ether	3.7	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	6.6	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	8180 ^a	200	74	ug/l	
994-05-8	Tert-Amyl Methyl Ether	22.6	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^b	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	102%	79-125%
2037-26-5	Toluene-D8	98%	98%	85-112%
460-00-4	4-Bromofluorobenzene	98%	97%	83-118%

(a) Result is from Run# 2

(b) Associated BS recovery outside control limits.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

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3.15

3

Client Sample ID: 18686 MW-22

Lab Sample ID: FA21494-15

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 3510C

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80185.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.9 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0095	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	81%		63-137%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	18686 MW-23	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-16	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963312.D	10	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	18.6	10	2.4	ug/l	
108-88-3	Toluene	ND	10	2.0	ug/l	
100-41-4	Ethylbenzene	ND	10	2.8	ug/l	
1330-20-7	Xylene (total)	ND	30	6.6	ug/l	
1634-04-4	Methyl Tert Butyl Ether	161	10	2.0	ug/l	
91-20-3	Naphthalene	ND	50	10	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	2.4	ug/l	
108-20-3	Di-Isopropyl ether	2.9	10	2.3	ug/l	J
624-95-3	3,3-Dimethyl-1-Butanol	ND	500	38	ug/l	
64-17-5	Ethyl Alcohol	ND	1000	230	ug/l	
637-92-3	Ethyl Tert Butyl Ether	4.5	20	2.0	ug/l	J
75-85-4	Tert-Amyl Alcohol	4730	200	74	ug/l	
994-05-8	Tert-Amyl Methyl Ether	19.3	20	2.2	ug/l	J
75-65-0	Tert-Butyl Alcohol	339	200	88	ug/l	
762-75-4	Tert-Butyl Formate	ND	200	40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

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

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

Report of Analysis

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3.16

3

Client Sample ID: 18686 MW-23

Lab Sample ID: FA21494-16

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 3510C

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80188.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	37.2 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0094	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	102%		63-137%		

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	18686 MW-24	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-17	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963311.D	1	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

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

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

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Client Sample ID: 18686 MW-24

Lab Sample ID: FA21494-17

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 3510C

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80189.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.7 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0095	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	85%		63-137%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.18

3

Client Sample ID: 18686 MW-25	Date Sampled: 01/15/15
Lab Sample ID: FA21494-18	Date Received: 01/17/15
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963283.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

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

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

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3.18

3

Client Sample ID: 18686 MW-25

Lab Sample ID: FA21494-18

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 3510C

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80190.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.5 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	98%		63-137%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	18686 MW-26	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-19	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963284.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

(a) Associated BS recovery outside control limits.

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

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

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3.19

3

Client Sample ID: 18686 MW-26**Lab Sample ID:** FA21494-19**Date Sampled:** 01/15/15**Matrix:** AQ - Ground Water**Date Received:** 01/17/15**Method:** SW846 8011 SW846 3510C**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80191.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.4 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	100%		63-137%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	18686 MW-27	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-20	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963285.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.87	1.0	0.24	ug/l	J
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.3	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	11.5	20	7.4	ug/l	J
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

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3.20

3

Client Sample ID:	18686 MW-27	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-20	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8011 SW846 3510C		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80192.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.0 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0097	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	102%		63-137%

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

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

Report of Analysis

Client Sample ID:	18686 MW-28	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-21	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963286.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

(a) Associated BS recovery outside control limits.

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

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

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3.21

3

Client Sample ID: 18686 MW-28	Date Sampled: 01/15/15
Lab Sample ID: FA21494-21	Date Received: 01/17/15
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8011 SW846 8011	
Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80196.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.8 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0095	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	68%		63-137%

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

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

Report of Analysis

Client Sample ID:	18686 MW-29	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-22	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963287.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

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3.22

3

Client Sample ID: 18686 MW-29

Lab Sample ID: FA21494-22

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 8011

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80197.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.9 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0095	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	69%		63-137%		

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 18686 MW-30

Lab Sample ID: FA21494-23

Matrix: AQ - Ground Water

Method: SW846 8260B

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Date Sampled: 01/15/15

Date Received: 01/17/15

Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963288.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

(a) Associated BS recovery outside control limits.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

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3

Client Sample ID: 18686 MW-30

Lab Sample ID: FA21494-23

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 8011

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80200.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.6 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	63%		63-137%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	18686 MW-31	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-24	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963289.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

(a) Associated BS recovery outside control limits.

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

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

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Client Sample ID:	18686 MW-31	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-24	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8011 SW846 8011		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80201.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.3 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	85%		63-137%		

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

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

Report of Analysis

Client Sample ID:	18686 MW-1A	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-25	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963290.D	5	01/23/15	MM	n/a	n/a	VJ4879
Run #2	J0963315.D	20	01/24/15	MM	n/a	n/a	VJ4880
Run #3	J0963346.D	50	01/26/15	MM	n/a	n/a	VJ4881

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml
Run #3	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1040 ^a	20	4.9	ug/l	
108-88-3	Toluene	4950 ^b	50	20	ug/l	
100-41-4	Ethylbenzene	583 ^a	20	5.6	ug/l	
1330-20-7	Xylene (total)	5130 ^a	60	13	ug/l	
1634-04-4	Methyl Tert Butyl Ether	78.8	5.0	1.0	ug/l	
91-20-3	Naphthalene	474	25	5.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.2	ug/l	
108-20-3	Di-Isopropyl ether	2.1	5.0	1.1	ug/l	J
624-95-3	3,3-Dimethyl-1-Butanol	ND	250	19	ug/l	
64-17-5	Ethyl Alcohol	ND	500	120	ug/l	
637-92-3	Ethyl Tert Butyl Ether	3.3	10	1.0	ug/l	J
75-85-4	Tert-Amyl Alcohol	11900 ^a	400	150	ug/l	
994-05-8	Tert-Amyl Methyl Ether	12.2	10	1.1	ug/l	
75-65-0	Tert-Butyl Alcohol	386	100	44	ug/l	
762-75-4	Tert-Butyl Formate ^c	ND	100	20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
1868-53-7	Dibromofluoromethane	101%	98%	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	103%	103%	79-125%
2037-26-5	Toluene-D8	96%	99%	101%	85-112%
460-00-4	4-Bromofluorobenzene	91%	93%	102%	83-118%

(a) Result is from Run# 2

(b) Result is from Run# 3

(c) Associated BS recovery outside control limits.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.25

3

Client Sample ID: 18686 MW-1A**Lab Sample ID:** FA21494-25**Date Sampled:** 01/15/15**Matrix:** AQ - Ground Water**Date Received:** 01/17/15**Method:** SW846 8011 SW846 8011**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80202.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.4 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	64%		63-137%		

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

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

Report of Analysis

Client Sample ID:	18686 MW-2A	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-26	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963316.D	250	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	17900	250	61	ug/l	
108-88-3	Toluene	20900	250	50	ug/l	
100-41-4	Ethylbenzene	1680	250	70	ug/l	
1330-20-7	Xylene (total)	8520	750	170	ug/l	
1634-04-4	Methyl Tert Butyl Ether	281	250	50	ug/l	
91-20-3	Naphthalene	571	1300	250	ug/l	J
107-06-2	1,2-Dichloroethane	ND	250	60	ug/l	
108-20-3	Di-Isopropyl ether	ND	250	57	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	13000	950	ug/l	
64-17-5	Ethyl Alcohol	ND	25000	5800	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	500	50	ug/l	
75-85-4	Tert-Amyl Alcohol	60900	5000	1900	ug/l	
994-05-8	Tert-Amyl Methyl Ether	103	500	55	ug/l	J
75-65-0	Tert-Butyl Alcohol	ND	5000	2200	ug/l	
762-75-4	Tert-Butyl Formate	ND	5000	1000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	94%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.26

3

Client Sample ID:	18686 MW-2A	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-26	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8011 SW846 8011		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	DD80203.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	35.7 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	0.12	0.020	0.0098	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	67%		63-137%

(a) All hits confirmed by dual column analysis.

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

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

Report of Analysis

Client Sample ID:	18686 MW-3A	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-27	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963317.D	100	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2930	100	24	ug/l	
108-88-3	Toluene	8310	100	20	ug/l	
100-41-4	Ethylbenzene	875	100	28	ug/l	
1330-20-7	Xylene (total)	8780	300	66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	20	ug/l	
91-20-3	Naphthalene	556	500	100	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	24	ug/l	
108-20-3	Di-Isopropyl ether	ND	100	23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	5000	380	ug/l	
64-17-5	Ethyl Alcohol	ND	10000	2300	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	200	20	ug/l	
75-85-4	Tert-Amyl Alcohol	1690	2000	740	ug/l	J
994-05-8	Tert-Amyl Methyl Ether	ND	200	22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	2000	880	ug/l	
762-75-4	Tert-Butyl Formate	ND	2000	400	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	94%		83-118%

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

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

Report of Analysis

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3.27

3

Client Sample ID: 18686 MW-3A

Lab Sample ID: FA21494-27

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 8011

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	DD80204.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	35.5 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	0.029	0.020	0.0099	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	71%		63-137%		

(a) All hits confirmed by dual column analysis.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 18686 MW-4A

Lab Sample ID: FA21494-28

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963318.D	200	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

Purge Volume

Run #1 5.0 ml

Run #2

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2300	200	49	ug/l	
108-88-3	Toluene	11500	200	40	ug/l	
100-41-4	Ethylbenzene	1010	200	56	ug/l	
1330-20-7	Xylene (total)	12300	600	130	ug/l	
1634-04-4	Methyl Tert Butyl Ether	50.9	200	40	ug/l	J
91-20-3	Naphthalene	511	1000	200	ug/l	J
107-06-2	1,2-Dichloroethane	ND	200	48	ug/l	
108-20-3	Di-Isopropyl ether	ND	200	45	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	10000	760	ug/l	
64-17-5	Ethyl Alcohol	ND	20000	4600	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	400	40	ug/l	
75-85-4	Tert-Amyl Alcohol	2110	4000	1500	ug/l	J
994-05-8	Tert-Amyl Methyl Ether	ND	400	44	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	4000	1800	ug/l	
762-75-4	Tert-Butyl Formate	ND	4000	810	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3.28

3

Client Sample ID: 18686 MW-4A**Lab Sample ID:** FA21494-28**Date Sampled:** 01/15/15**Matrix:** AQ - Ground Water**Date Received:** 01/17/15**Method:** SW846 8011 SW846 8011**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	DD80205.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.8 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	0.052	0.019	0.0095	ug/l	.
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	81%		63-137%		

(a) All hits confirmed by dual column analysis.

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

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

Report of Analysis

Client Sample ID:	18686 TW-1	Date Sampled:	01/16/15
Lab Sample ID:	FA21494-29	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963294.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

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3

Client Sample ID: 18686 TW-1

Lab Sample ID: FA21494-29

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 8011

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80206.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.4 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	79%		63-137%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	18686 TW-2	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-30	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963295.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.26	1.0	0.24	ug/l	J
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

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Client Sample ID:	18686 TW-2	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-30	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8011 SW846 8011		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80207.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	37.1 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0094	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	76%		63-137%		

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

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

Report of Analysis

Client Sample ID: 18686 WSW-1

Lab Sample ID: FA21494-31

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963296.D	1	01/23/15	MM	n/a	n/a	VJ4879
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate ^a	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	97%		83-118%

(a) Associated BS recovery outside control limits.

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

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

Report of Analysis

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3.31

3

Client Sample ID: 18686 WSW-1

Lab Sample ID: FA21494-31

Date Sampled: 01/16/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 8011

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80208.D	1	01/27/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.6 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	86%		63-137%		

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

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

Report of Analysis

Client Sample ID:	18686 WSW-3	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-32	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963319.D	1	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	103%		79-125%
2037-26-5	Toluene-D8	101%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

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

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

Report of Analysis

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3.32

3

Client Sample ID: 18686 WSW-3

Lab Sample ID: FA21494-32

Date Sampled: 01/15/15

Matrix: AQ - Ground Water

Date Received: 01/17/15

Method: SW846 8011 SW846 8011

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80209.D	1	01/27/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.0 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0097	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	83%		63-137%		

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

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

Report of Analysis

Client Sample ID:	18686 DUP A	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-33	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963396.D	1	01/27/15	MM	n/a	n/a	VJ4883
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.40	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.51	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.30	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl Ether	ND	1.0	0.20	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	10	ug/l	
64-17-5	Ethyl Alcohol	ND	100	35	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	8.1	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	5.4	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	100%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

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

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

Report of Analysis

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Client Sample ID:	18686 DUP A	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-33	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8011 SW846 8011		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80212.D	1	01/27/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.1 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0097	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	106%		63-137%		

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

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

Report of Analysis

Client Sample ID:	18686 DUP B	Date Sampled:	01/16/15
Lab Sample ID:	FA21494-34	Date Received:	01/17/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963348.D	100	01/26/15	MM	n/a	n/a	VJ4881
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3690	100	20	ug/l	
108-88-3	Toluene	8250	100	40	ug/l	
100-41-4	Ethylbenzene	623	100	20	ug/l	
1330-20-7	Xylene (total)	4860	300	51	ug/l	
1634-04-4	Methyl Tert Butyl Ether	105	100	30	ug/l	
91-20-3	Naphthalene	196	500	100	ug/l	J
107-06-2	1,2-Dichloroethane	ND	100	20	ug/l	
108-20-3	Di-Isopropyl Ether	ND	100	20	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	5000	1000	ug/l	
64-17-5	Ethyl Alcohol	ND	10000	3500	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	200	20	ug/l	
75-85-4	Tert-Amyl Alcohol	12300	2000	810	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	200	22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	2000	540	ug/l	
762-75-4	Tert-Butyl Formate	ND	2000	400	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	102%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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3

Client Sample ID: 18686 DUP B**Lab Sample ID:** FA21494-34**Date Sampled:** 01/16/15**Matrix:** AQ - Ground Water**Date Received:** 01/17/15**Method:** SW846 8011 SW846 8011**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80213.D	1	01/27/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.2 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0097	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	88%		63-137%		

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

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

Report of Analysis

Client Sample ID: 18686 FIELD BLANK

Lab Sample ID: FA21494-35

Date Sampled: 01/16/15

Matrix: AQ - Field Blank Water

Date Received: 01/17/15

Method: SW846 8260B

Percent Solids: n/a

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J0963308.D	1	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	99%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

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

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

Report of Analysis

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3.35

**Client Sample ID:** 18686 FIELD BLANK**Lab Sample ID:** FA21494-35**Date Sampled:** 01/16/15**Matrix:** AQ - Field Blank Water**Date Received:** 01/17/15**Method:** SW846 8011 SW846 8011**Percent Solids:** n/a**Project:** Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DD80214.D	1	01/27/15	NG	01/23/15	OP54691	GDD2377
Run #2							

	Initial Volume	Final Volume
Run #1	36.3 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	88%		63-137%

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

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

Report of Analysis



Client Sample ID:	18686 TRIP BLANK	Date Sampled:	01/15/15
Lab Sample ID:	FA21494-36	Date Received:	01/17/15
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	J0963309.D	1	01/24/15	MM	n/a	n/a	VJ4880
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	98%		85-112%
460-00-4	4-Bromofluorobenzene	98%		83-118%

(a) Sample vial(s) contained significant headspace; reported results are considered minimum values.

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

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



Southeast
ACCUTEST
LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

Parameter Certification Exceptions

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
3,3-Dimethyl-1-Butanol	624-95-3	SW846 8260B	AQ	Certified by SOP MS005
Di-Isopropyl Ether	108-20-3	SW846 8260B	AQ	Certified by SOP MS005
Di-Isopropyl ether	108-20-3	SW846 8260B	AQ	Certified by SOP MS005
Tert-Amyl Alcohol	75-85-4	SW846 8260B	AQ	Certified by SOP MS005
Tert-Butyl Formate	762-75-4	SW846 8260B	AQ	Certified by SOP MS005

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FA21494: Chain of Custody

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ACCUTEST
LABORATORIES

Accutest Laboratories Southeast

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811

TEL: 407-425-6700 • FAX: 407-425-0707

www.accutest.com

FA21494

Accutest JOB #

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Client / Reporting Information		Project Information		Analytical Information										Matrix Codes		
Company Name GEOLOGICAL RESOURCES INC		Project Name TISDALE QUICK STOP												DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SS - Soil SL - Sludge LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe		
Address 3502 HAYES Rd.		Street 1989 THURGOOD MARSHALL BLVD														
City MONROE State NC Zip 28110		City KWAGETREE State SC														
Project Contact BOIT BALL E-mail boit@geore.com		Project # 18686														
Phone 704-845-4010		Fax #														
Sample(s) Name(s) (Printed) DANIEL BEALL		Client Purchase Order #														
Field ID / Point of Collection		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	ZONE	AZ	PHED	PERSON	INSTRUMENT	DEWATER	WASH	LAB USE ONLY	
13	18686 MW-20 HOT	1/5/15	1636	DEB	GW	5										
14	18686 MW-21	1/5/15	1253	DEB	GW	5										
15	18686 MW-22	1/5/15	1232	DEB	GW	5										
16	18686 MW-23	1/5/15	1042	DEB	GW	5										
17	18686 MW-24	1/5/15	1029	DEB	GW	5										
18	18686 MW-25	1/5/15	1307	DEB	GW	5										
19	18686 MW-26	1/5/15	1317	DEB	GW	5										
20	18686 MW-27	1/5/15	1216	DEB	GW	5										
21	18686 MW-28	1/5/15	1159	DEB	GW	5										
22	18686 MW-29	1/5/15	1146	DEB	GW	5										
23	18686 MW-30	1/5/15	1010	DEB	GW	5										
24	18686 MW-31	1/5/15	0959	DEB	GW	5										
TURNAROUND TIME (Business Days)		Approved By. / Rush Code		Data Deliverable Information										Comments / Remarks		
<input type="checkbox"/> 10 Days Standard <input type="checkbox"/> 7 Day RUSH <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY <input type="checkbox"/> OTHER				<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 1) <input type="checkbox"/> FULT1 (EPA LEVEL 1) <input type="checkbox"/> EDD'S										SC DHEC USE MANAGEMENT PROGRAM PERMIT 18686		
Emergency or Rush T/A Data Available VIA Email or Lablink																
Relinquished by Sampler: 1 Dan Ball		Date Time: 1/5/15 1600	Received By: 2 FERGUSON	Relinquished by: 3 FO		Date Time: 01-17-15	Received By: 4									
Relinquished by: 5		Date Time:	Received By: 6	Relinquished by: 7		Date Time:	Received By: 8									
Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius: _____																

FA21494: Chain of Custody

Page 2 of 6

LABORATORIES		TEL: 407-425-6700 • FAX: 407-425-0707		www.acctest.com		Accutest Quote #		SKIFF#													
Client / Reporting Information				Project Information				Analytical Information				Matrix Codes									
Company Name GEOLOGICAL RESOURCES INC.				Project Name TISDALE QUICK STOP								DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Waste									
Address 3502 HAYES RD				Street 1989 THURGOOD MARSHALL BLVD																	
City MONTROSE State NC Zip 28610				City KINGSTREE State SC																	
Phone 704-845-4010				Fax #																	
Sample(s) Name(s) (Printed) DANIEL BEALL				Client Purchase Order #																	
Accutest Sample #		Field ID / Point of Collection		CONTAINER INFORMATION																	
				DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	MOBILE	AIR	WATER	SLUDGE	SOIL	LIQUID	SOLID	WASTE	OTHER			
25	18686	NW-1A	HOT	1/15/15	1528	DEB	GW	5			X										
26	18686	NW-2A	HOT	1/15/15	1537	DEB	GW	5			X										
27	18686	NW-3A	HOT	1/15/15	1521	DEB	GW	5			X										
28	18686	NW-4A	HOT	1/15/15	1512	DEB	GV	5			X										
29	18686	TW-1		1/14/15	0911	DEB	GW	5			X										
30	18686	TW-2		1/15/15	1131	DEB	GW	5			X										
31	18686	WSW-1		1/14/15	0959	DEB	GW	5			X										
32	18686	WSW-3		1/15/15	1333	DEB	GW	5			X										
33	18686	DUP A		1/15/15		DEB	GW	5			X										
34	18686	DUP B		1/14/15		DEB	GW	5			X										
35	18686	FIELD BLANK		1/14/15	105R	DEB		5			X										
36	18686	TRIP BLANK						2			X										
TURNAROUND TIME (Business Days)				Date Deliverable Information				Comments / Remarks													
<input type="checkbox"/> 10 Days Standard <input type="checkbox"/> 7 Day RUSH _____ <input type="checkbox"/> 5 Day RUSH _____ <input type="checkbox"/> 3 Day EMERGENCY _____ <input type="checkbox"/> 2 Day EMERGENCY _____ <input type="checkbox"/> 1 Day EMERGENCY _____ <input type="checkbox"/> OTHER _____				<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS & COMMENTS) <input type="checkbox"/> REDT (EPA LEVELS) <input type="checkbox"/> FULT1 (EPA LEVELS) <input type="checkbox"/> EDD'S				SDHCC 45T MANAGEMENT PROGRAM PERMIT 18686													
Emergency or Rush T/A Data Available VIA Email or Lablink																					
Sample Custody must be documented below each time samples change possession, including courier delivery.																					
Relinquished by Sampler:		Date Time:		Received By:		Date Time:		Relinquished by:		Date Time:		Received By:		Date Time:		Received By:		Date Time:			
1 Daniel Beall		1/14/15 1600		2 FELIX		805434221658		3		1/17/15		4		1/17/15		5		1/17/15			
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished by:		Date Time:		Received By:		Date Time:		Received By:		Date Time:			
5				6				7				8									
Lab Use Only: Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved where Applicable: Y N Total # of Coolers: Cooler Temperature (s) Celsius:																					

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811
TEL. 407-425-6700 • FAX: 407-425-0707

Accutest JOB #

FA21494

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FA21494: Chain of Custody

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ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: FA21494 CLIENT: GRI PROJECT: Tisdale's Quick stop
 DATE/TIME RECEIVED: 01-17-15 11:00 (MM/DD/YY 24:00) NUMBER OF COOLERS RECEIVED: 2
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER DELIVERY OTHER: _____
 AIRBILL NUMBERS: 8054 3422 1669/1658

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ CHAIN OF CUSTODY NOT RECEIVED (COC)
- ☐ ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- ☐ SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- ☐ TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- ☒ TRIP BLANK PROVIDED
- ☐ TRIP BLANK NOT PROVIDED
- ☐ TRIP BLANK NOT ON COC
- ☒ TRIP BLANK INTACT
- ☐ TRIP BLANK NOT INTACT
- ☒ RECEIVED WATER TRIP BLANK
- ☐ RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM _____ 5-GRAM _____
 NUMBER OF 5035 FIELD KITS ? _____
 NUMBER OF LAB FILTERED METALS ? _____

pH PAPER LOT#s WIDE RANGE A036122 NARROW RANGE HC421754 OTHER (specify) 405-230010

SUMMARY OF COMMENTS: Received 2 vial EDB per Sample

TEMPERATURE INFORMATION

- ☐ IR THERM ID 1 CORR FACTOR 40.4
- ☐ OBSERVED TEMPS: 20 20
- ☐ CORRECTED TEMPS: 22 24

SAMPLE INFORMATION

- ☒ INCORRECT NUMBER OF CONTAINERS USED
- ☐ SAMPLE RECEIVED IMPROPERLY PRESERVED
- ☐ INSUFFICIENT VOLUME FOR ANALYSIS
- ☐ DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- ☐ ID'S ON COC DO NOT MATCH LABEL
- ☐ VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- ☐ BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- ☐ NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- ☐ UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- ☐ SAMPLE CONTAINER(S) RECEIVED BROKEN
- ☐ 5035 FIELD KITS NOT RECEIVED WITHIN 48 HOURS
- ☐ BULK VOA SOIL JARS NOT RECEIVED WITHIN 48 HOURS
- ☐ % SOLIDS JAR NOT RECEIVED
- ☐ RESIDUAL CHLORINE PRESENT LOT# _____

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

TECHNICIAN SIGNATURE/DATE REWille 01-17-15 REVIEWER SIGNATURE/DATE [Signature] 01/17/15

NF 10/14

receipt confirmation 102914.xls

FA21494: Chain of Custody

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UNITED STATES US

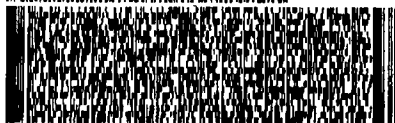
TO **SAMPLE RECEIVING**
ACCUTEST LABS
4405 VINELAND RD
STE C15
ORLANDO FL 32811

(407) 426-8700

REF:

REF1:

REF1: 8054 3422 1658



FedEx
Express



SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 8054 3422 1658
0667

XO TIXA

32811
FL-US MCO



ORIGIN ID: MEDA

UNITED STATES US

TO **SAMPLE RECEIVING**
ACCUTEST LABS
4405 VINELAND RD
STE C15
ORLANDO FL 32811

(407) 426-8700

REF:

REF1:

REF1: 8054 3422 1669



FedEx
Express



SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 8054 3422 1669
0667

XO TIXA

32811
FL-US MCO



FA21494: Chain of Custody
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GC/MS Volatiles



QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4878-MB	J0963244.D	1	01/22/15	MM	n/a	n/a	VJ4878

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-3, FA21494-4, FA21494-5, FA21494-6, FA21494-7, FA21494-8, FA21494-9, FA21494-10, FA21494-11

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	102% 83-118%
17060-07-0	1,2-Dichloroethane-D4	103% 79-125%
2037-26-5	Toluene-D8	98% 85-112%
460-00-4	4-Bromofluorobenzene	100% 83-118%

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Method Blank Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4879-MB	J0963276.D	1	01/23/15	MM	n/a	n/a	VJ4879

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-12, FA21494-13, FA21494-15, FA21494-18, FA21494-19, FA21494-20, FA21494-21, FA21494-22, FA21494-23, FA21494-24, FA21494-25, FA21494-29, FA21494-30, FA21494-31

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	101%
17060-07-0	1,2-Dichloroethane-D4	83-118%
2037-26-5	Toluene-D8	79-125%
460-00-4	4-Bromofluorobenzene	85-112%
		99%

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Method Blank Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4880-MB	J0963306.D	1	01/24/15	MM	n/a	n/a	VJ4880

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-1, FA21494-2, FA21494-13, FA21494-14, FA21494-15, FA21494-16, FA21494-17, FA21494-25, FA21494-26, FA21494-27, FA21494-28, FA21494-32, FA21494-35, FA21494-36

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.24	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.24	ug/l	
108-20-3	Di-Isopropyl ether	ND	1.0	0.23	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	3.8	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.28	ug/l	
64-17-5	Ethyl Alcohol	ND	100	23	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.20	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	7.4	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	8.8	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.66	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	100% 83-118%
17060-07-0	1,2-Dichloroethane-D4	103% 79-125%
2037-26-5	Toluene-D8	100% 85-112%
460-00-4	4-Bromofluorobenzene	100% 83-118%

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Method Blank Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4881-MB	J0963345.D	1	01/26/15	MM	n/a	n/a	VJ4881

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-25, FA21494-34

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl Ether	ND	1.0	0.20	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	10	ug/l	
64-17-5	Ethyl Alcohol	ND	100	35	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.30	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	8.1	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	5.4	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	
108-88-3	Toluene	ND	1.0	0.40	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.51	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	79-125%
2037-26-5	Toluene-D8	101%	85-112%
460-00-4	4-Bromofluorobenzene	103%	83-118%

Method Blank Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4883-MB	J0963395.D	1	01/27/15	MM	n/a	n/a	VJ4883

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-33

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
108-20-3	Di-Isopropyl Ether	ND	1.0	0.20	ug/l	
624-95-3	3,3-Dimethyl-1-Butanol	ND	50	10	ug/l	
64-17-5	Ethyl Alcohol	ND	100	35	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	2.0	0.20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.30	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
75-85-4	Tert-Amyl Alcohol	ND	20	8.1	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	2.0	0.22	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	20	5.4	ug/l	
762-75-4	Tert-Butyl Formate	ND	20	4.0	ug/l	
108-88-3	Toluene	ND	1.0	0.40	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	100% 83-118%
17060-07-0	1,2-Dichloroethane-D4	105% 79-125%
2037-26-5	Toluene-D8	100% 85-112%
460-00-4	4-Bromofluorobenzene	101% 83-118%

Blank Spike Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4878-BS	J0963242.D	1	01/22/15	MM	n/a	n/a	VJ4878

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-3, FA21494-4, FA21494-5, FA21494-6, FA21494-7, FA21494-8, FA21494-9, FA21494-10, FA21494-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.2	97	81-122
107-06-2	1,2-Dichloroethane	25	23.9	96	75-125
108-20-3	Di-Isopropyl ether	25	24.8	99	68-123
624-95-3	3,3-Dimethyl-1-Butanol	1250	1310	105	55-126
100-41-4	Ethylbenzene	25	24.6	98	81-121
64-17-5	Ethyl Alcohol	500	696	139	46-145
637-92-3	Ethyl Tert Butyl Ether	25	23.5	94	71-120
1634-04-4	Methyl Tert Butyl Ether	25	22.6	90	72-117
91-20-3	Naphthalene	25	23.2	93	63-132
75-85-4	Tert-Amyl Alcohol	250	245	98	65-124
994-05-8	Tert-Amyl Methyl Ether	25	24.2	97	73-122
75-65-0	Tert-Butyl Alcohol	250	259	104	63-129
762-75-4	Tert-Butyl Formate	250	321	128	46-130
108-88-3	Toluene	25	23.9	96	80-120
1330-20-7	Xylene (total)	75	77.1	103	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4879-BS	J0963274.D	1	01/23/15	MM	n/a	n/a	VJ4879

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-12, FA21494-13, FA21494-15, FA21494-18, FA21494-19, FA21494-20, FA21494-21, FA21494-22, FA21494-23, FA21494-24, FA21494-25, FA21494-29, FA21494-30, FA21494-31

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.2	97	81-122
107-06-2	1,2-Dichloroethane	25	24.3	97	75-125
108-20-3	Di-Isopropyl ether	25	24.9	100	68-123
624-95-3	3,3-Dimethyl-1-Butanol	1250	1180	94	55-126
100-41-4	Ethylbenzene	25	24.0	96	81-121
64-17-5	Ethyl Alcohol	500	579	116	46-145
637-92-3	Ethyl Tert Butyl Ether	25	23.6	94	71-120
1634-04-4	Methyl Tert Butyl Ether	25	22.1	88	72-117
91-20-3	Naphthalene	25	21.8	87	63-132
75-85-4	Tert-Amyl Alcohol	250	218	87	65-124
994-05-8	Tert-Amyl Methyl Ether	25	23.5	94	73-122
75-65-0	Tert-Butyl Alcohol	250	245	98	63-129
762-75-4	Tert-Butyl Formate	250	335	134*	46-130
108-88-3	Toluene	25	23.5	94	80-120
1330-20-7	Xylene (total)	75	75.8	101	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4880-BS	J0963304.D	1	01/24/15	MM	n/a	n/a	VJ4880

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-1, FA21494-2, FA21494-13, FA21494-14, FA21494-15, FA21494-16, FA21494-17, FA21494-25, FA21494-26, FA21494-27, FA21494-28, FA21494-32, FA21494-35, FA21494-36

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	26.1	104	81-122
107-06-2	1,2-Dichloroethane	25	26.0	104	75-125
108-20-3	Di-Isopropyl ether	25	26.7	107	68-123
624-95-3	3,3-Dimethyl-1-Butanol	1250	1150	92	55-126
100-41-4	Ethylbenzene	25	26.6	106	81-121
64-17-5	Ethyl Alcohol	500	595	119	46-145
637-92-3	Ethyl Tert Butyl Ether	25	25.0	100	71-120
1634-04-4	Methyl Tert Butyl Ether	25	23.2	93	72-117
91-20-3	Naphthalene	25	24.6	98	63-132
75-85-4	Tert-Amyl Alcohol	250	232	93	65-124
994-05-8	Tert-Amyl Methyl Ether	25	24.6	98	73-122
75-65-0	Tert-Butyl Alcohol	250	259	104	63-129
762-75-4	Tert-Butyl Formate	250	341	136*	46-130
108-88-3	Toluene	25	25.3	101	80-120
1330-20-7	Xylene (total)	75	81.5	109	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	79-125%
2037-26-5	Toluene-D8	98%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4881-BS	J0963343.D	1	01/26/15	MM	n/a	n/a	VJ4881

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-25, FA21494-34

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	25.8	103	81-122
107-06-2	1,2-Dichloroethane	25	26.4	106	75-125
108-20-3	Di-Isopropyl Ether	25	24.6	98	68-123
624-95-3	3,3-Dimethyl-1-Butanol	1250	1100	88	55-126
64-17-5	Ethyl Alcohol	500	424	85	46-145
100-41-4	Ethylbenzene	25	26.5	106	81-121
637-92-3	Ethyl Tert Butyl Ether	25	24.1	96	71-120
1634-04-4	Methyl Tert Butyl Ether	25	23.2	93	72-117
91-20-3	Naphthalene	25	22.1	88	63-132
75-85-4	Tert-Amyl Alcohol	250	227	91	65-124
994-05-8	Tert-Amyl Methyl Ether	25	24.4	98	73-122
75-65-0	Tert-Butyl Alcohol	250	225	90	63-129
762-75-4	Tert-Butyl Formate	250	271	108	46-130
108-88-3	Toluene	25	26.0	104	80-120
1330-20-7	Xylene (total)	75	84.4	113	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	101%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VJ4883-BS	J0963393.D	1	01/27/15	MM	n/a	n/a	VJ4883

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-33

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	25.6	102	81-122
107-06-2	1,2-Dichloroethane	25	26.1	104	75-125
108-20-3	Di-Isopropyl Ether	25	25.5	102	68-123
624-95-3	3,3-Dimethyl-1-Butanol	1250	1110	89	55-126
64-17-5	Ethyl Alcohol	500	490	98	46-145
100-41-4	Ethylbenzene	25	26.2	105	81-121
637-92-3	Ethyl Tert Butyl Ether	25	24.6	98	71-120
1634-04-4	Methyl Tert Butyl Ether	25	23.6	94	72-117
91-20-3	Naphthalene	25	24.7	99	63-132
75-85-4	Tert-Amyl Alcohol	250	226	90	65-124
994-05-8	Tert-Amyl Methyl Ether	25	24.9	100	73-122
75-65-0	Tert-Butyl Alcohol	250	221	88	63-129
762-75-4	Tert-Butyl Formate	250	274	110	46-130
108-88-3	Toluene	25	25.2	101	80-120
1330-20-7	Xylene (total)	75	83.4	111	80-126

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	79-125%
2037-26-5	Toluene-D8	99%	85-112%
460-00-4	4-Bromofluorobenzene	97%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA21494-3MS	J0963265.D	1	01/22/15	MM	n/a	n/a	VJ4878
FA21494-3MSD	J0963266.D	1	01/22/15	MM	n/a	n/a	VJ4878
FA21494-3	J0963256.D	1	01/22/15	MM	n/a	n/a	VJ4878

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-3, FA21494-4, FA21494-5, FA21494-6, FA21494-7, FA21494-8, FA21494-9, FA21494-10, FA21494-11

CAS No.	Compound	FA21494-3 ug/l	Spike Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	27.4		25	51.6	97	25	51.8	98	0	81-122/14
107-06-2	1,2-Dichloroethane	ND		25	23.4	94	25	24.0	96	3	75-125/14
108-20-3	Di-Isopropyl ether	ND		25	24.4	98	25	25.4	102	4	68-123/16
624-95-3	3,3-Dimethyl-1-Butanol	ND		1250	1090	87	1250	1160	93	6	55-126/17
100-41-4	Ethylbenzene	7.5		25	30.9	94	25	31.6	96	2	81-121/14
64-17-5	Ethyl Alcohol	ND		500	347	69	500	523	105	40*	46-145/30
637-92-3	Ethyl Tert Butyl Ether	ND		25	22.8	91	25	23.6	94	3	71-120/14
1634-04-4	Methyl Tert Butyl Ether	0.48	J	25	21.5	84	25	22.2	87	3	72-117/14
91-20-3	Naphthalene	1.1	J	25	21.9	83	25	24.0	92	9	63-132/25
75-85-4	Tert-Amyl Alcohol	23.9		250	211	75	250	237	85	12	65-124/23
994-05-8	Tert-Amyl Methyl Ether	ND		25	22.5	90	25	23.1	92	3	73-122/13
75-65-0	Tert-Butyl Alcohol	ND		250	314	126	250	368	147*	16	63-129/27
762-75-4	Tert-Butyl Formate	ND		250	10.7	4*	250	8.4	3*	24	46-130/33
108-88-3	Toluene	19.1		25	42.0	92	25	41.6	90	1	80-120/14
1330-20-7	Xylene (total)	65.8		75	139	98	75	138	96	1	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA21494-3	Limits
1868-53-7	Dibromofluoromethane	100%	101%	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	100%	101%	79-125%
2037-26-5	Toluene-D8	99%	98%	99%	85-112%
460-00-4	4-Bromofluorobenzene	93%	97%	98%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA21494-12MS	J0963297.D	1	01/23/15	MM	n/a	n/a	VJ4879
FA21494-12MSD	J0963298.D	1	01/23/15	MM	n/a	n/a	VJ4879
FA21494-12	J0963277.D	1	01/23/15	MM	n/a	n/a	VJ4879

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-12, FA21494-13, FA21494-15, FA21494-18, FA21494-19, FA21494-20, FA21494-21, FA21494-22, FA21494-23, FA21494-24, FA21494-25, FA21494-29, FA21494-30, FA21494-31

CAS No.	Compound	FA21494-12 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	25	24.0	96	25	23.3	93	3	81-122/14
107-06-2	1,2-Dichloroethane	ND	25	23.6	94	25	23.2	93	2	75-125/14
108-20-3	Di-Isopropyl ether	ND	25	24.4	98	25	24.1	96	1	68-123/16
624-95-3	3,3-Dimethyl-1-Butanol	ND	1250	1140	91	1250	1120	90	2	55-126/17
100-41-4	Ethylbenzene	ND	25	23.2	93	25	23.1	92	0	81-121/14
64-17-5	Ethyl Alcohol	ND	500	439	88	500	641	128	37*	46-145/30
637-92-3	Ethyl Tert Butyl Ether	ND	25	22.7	91	25	22.2	89	2	71-120/14
1634-04-4	Methyl Tert Butyl Ether	ND	25	21.1	84	25	21.0	84	0	72-117/14
91-20-3	Naphthalene	ND	25	20.1	80	25	21.2	85	5	63-132/25
75-85-4	Tert-Amyl Alcohol	ND	250	206	82	250	204	82	1	65-124/23
994-05-8	Tert-Amyl Methyl Ether	ND	25	22.1	88	25	22.1	88	0	73-122/13
75-65-0	Tert-Butyl Alcohol	ND	250	336	134*	250	338	135*	1	63-129/27
762-75-4	Tert-Butyl Formate	ND	250	43.9	18*	250	36.8	15*	18	46-130/33
108-88-3	Toluene	ND	25	22.5	90	25	22.4	90	0	80-120/14
1330-20-7	Xylene (total)	ND	75	71.6	95	75	71.5	95	0	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA21494-12	Limits
1868-53-7	Dibromofluoromethane	103%	100%	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	101%	104%	79-125%
2037-26-5	Toluene-D8	97%	99%	100%	85-112%
460-00-4	4-Bromofluorobenzene	95%	96%	99%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA21494-32MS	J0963327.D	1	01/24/15	MM	n/a	n/a	VJ4880
FA21494-32MSD	J0963328.D	1	01/24/15	MM	n/a	n/a	VJ4880
FA21494-32	J0963319.D	1	01/24/15	MM	n/a	n/a	VJ4880

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-1, FA21494-2, FA21494-13, FA21494-14, FA21494-15, FA21494-16, FA21494-17, FA21494-25, FA21494-26, FA21494-27, FA21494-28, FA21494-32, FA21494-35, FA21494-36

CAS No.	Compound	FA21494-32 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	25	25.3	101	25	24.8	99	2	81-122/14
107-06-2	1,2-Dichloroethane	ND	25	25.2	101	25	24.9	100	1	75-125/14
108-20-3	Di-Isopropyl ether	ND	25	25.6	102	25	25.6	102	0	68-123/16
624-95-3	3,3-Dimethyl-1-Butanol	ND	1250	1070	86	1250	1140	91	6	55-126/17
100-41-4	Ethylbenzene*	ND	25	24.5	98	25	24.5	98	0	81-121/14
64-17-5	Ethyl Alcohol	ND	500	503	101	500	583	117	15	46-145/30
637-92-3	Ethyl Tert Butyl Ether	ND	25	24.0	96	25	24.3	97	1	71-120/14
1634-04-4	Methyl Tert Butyl Ether	ND	25	22.7	91	25	23.1	92	2	72-117/14
91-20-3	Naphthalene	ND	25	22.8	91	25	24.1	96	6	63-132/25
75-85-4	Tert-Amyl Alcohol	ND	250	214	86	250	226	90	5	65-124/23
994-05-8	Tert-Amyl Methyl Ether	ND	25	23.6	94	25	24.5	98	4	73-122/13
75-65-0	Tert-Butyl Alcohol	ND	250	353	141*	250	372	149*	5	63-129/27
762-75-4	Tert-Butyl Formate	ND	250	8.7	3*	250	7.3	3*	18	46-130/33
108-88-3	Toluene	ND	25	23.8	95	25	23.7	95	0	80-120/14
1330-20-7	Xylene (total)	ND	75	75.3	100	75	74.7	100	1	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA21494-32	Limits
1868-53-7	Dibromofluoromethane	101%	99%	99%	83-118%
17060-07-0	1,2-Dichloroethane-D4	105%	104%	103%	79-125%
2037-26-5	Toluene-D8	98%	98%	101%	85-112%
460-00-4	4-Bromofluorobenzene	92%	92%	95%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA21580-4MS	J0963360.D	50	01/26/15	MM	n/a	n/a	VJ4881
FA21580-4MSD	J0963361.D	50	01/26/15	MM	n/a	n/a	VJ4881
FA21580-4	J0963354.D	50	01/26/15	MM	n/a	n/a	VJ4881

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-25, FA21494-34

CAS No.	Compound	FA21580-4 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	50 U	1250	1310	105	1250	1310	105	0	81-122/14
107-06-2	1,2-Dichloroethane	50 U	1250	1320	106	1250	1340	107	2	75-125/14
108-20-3	Di-Isopropyl Ether	50 U	1250	1270	102	1250	1300	104	2	68-123/16
624-95-3	3,3-Dimethyl-1-Butanol	2500 U	62500	57300	92	62500	59400	95	4	55-126/17
64-17-5	Ethyl Alcohol	5000 U	25000	24400	98	25000	26300	105	7	46-145/30
100-41-4	Ethylbenzene	50 U	1250	1330	106	1250	1280	102	4	81-121/14
637-92-3	Ethyl Tert Butyl Ether	100 U	1250	1220	98	1250	1220	98	0	71-120/14
1634-04-4	Methyl Tert Butyl Ether	50 U	1250	1120	90	1250	1160	93	4	72-117/14
91-20-3	Naphthalene	250 U	1250	1150	92	1250	1230	98	7	63-132/25
75-85-4	Tert-Amyl Alcohol	1000 U	12500	12100	97	12500	12400	99	2	65-124/23
994-05-8	Tert-Amyl Methyl Ether	100 U	1250	1210	97	1250	1240	99	2	73-122/13
75-65-0	Tert-Butyl Alcohol	1000 U	12500	12400	99	12500	12500	100	1	63-129/27
762-75-4	Tert-Butyl Formate	1000 U	12500	12100	97	12500	12400	99	2	46-130/33
108-88-3	Toluene	50 U	1250	1300	104	1250	1260	101	3	80-120/14
1330-20-7	Xylene (total)	150 U	3750	4200	112	3750	4080	109	3	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA21580-4	Limits
1868-53-7	Dibromofluoromethane	100%	101%	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	100%	98%	79-125%
2037-26-5	Toluene-D8	100%	98%	100%	85-112%
460-00-4	4-Bromofluorobenzene	94%	100%	101%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

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Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA21586-2MS	J0963416.D	1	01/27/15	MM	n/a	n/a	VJ4883
FA21586-2MSD	J0963417.D	1	01/27/15	MM	n/a	n/a	VJ4883
FA21586-2	J0963407.D	1	01/27/15	MM	n/a	n/a	VJ4883

The QC reported here applies to the following samples:

Method: SW846 8260B

FA21494-33

CAS No.	Compound	FA21586-2 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	25	26.9	108	25	25.7	103	5	81-122/14
107-06-2	1,2-Dichloroethane	ND	25	27.1	108	25	26.7	107	1	75-125/14
108-20-3	Di-Isopropyl Ether	ND	25	26.5	106	25	26.1	104	2	68-123/16
624-95-3	3,3-Dimethyl-1-Butanol	ND	1250	1130	90	1250	1150	92	2	55-126/17
64-17-5	Ethyl Alcohol	ND	500	501	100	500	514	103	3	46-145/30
100-41-4	Ethylbenzene	ND	25	25.9	104	25	25.0	100	4	81-121/14
637-92-3	Ethyl Tert Butyl Ether	ND	25	25.2	101	25	24.7	99	2	71-120/14
1634-04-4	Methyl Tert Butyl Ether	ND	25	24.1	96	25	23.8	95	1	72-117/14
91-20-3	Naphthalene	ND	25	21.1	84	25	23.1	92	9	63-132/25
75-85-4	Tert-Amyl Alcohol	ND	250	230	92	250	233	93	1	65-124/23
994-05-8	Tert-Amyl Methyl Ether	ND	25	25.6	102	25	25.3	101	1	73-122/13
75-65-0	Tert-Butyl Alcohol	ND	250	306	122	250	316	126	3	63-129/27
762-75-4	Tert-Butyl Formate	ND	250	100	40*	250	87.6	35*	13	46-130/33
108-88-3	Toluene	ND	25	25.4	102	25	24.4	98	4	80-120/14
1330-20-7	Xylene (total)	ND	75	80.0	107	75	76.9	103	4	80-126/15

CAS No.	Surrogate Recoveries	MS	MSD	FA21586-2	Limits
1868-53-7	Dibromofluoromethane	101%	102%	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	102%	102%	79-125%
2037-26-5	Toluene-D8	96%	97%	98%	85-112%
460-00-4	4-Bromofluorobenzene	95%	96%	95%	83-118%

* = Outside of Control Limits.



GC Volatiles



QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54661-MB	DD80166.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377

The QC reported here applies to the following samples:

Method: SW846 8011

FA21494-1, FA21494-2, FA21494-3, FA21494-4, FA21494-5, FA21494-6, FA21494-7, FA21494-8, FA21494-9, FA21494-10, FA21494-11, FA21494-12, FA21494-13, FA21494-14, FA21494-15, FA21494-16, FA21494-17, FA21494-18, FA21494-19, FA21494-20

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	0.010	ug/l	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	82% 63-137%

6.1.1

6

Method Blank Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54691-MB	DD80195.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377

The QC reported here applies to the following samples:

Method: SW846 8011

FA21494-21, FA21494-22, FA21494-23, FA21494-24, FA21494-25, FA21494-26, FA21494-27, FA21494-28, FA21494-29, FA21494-30, FA21494-31, FA21494-32, FA21494-33, FA21494-34, FA21494-35

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	0.010	ug/l	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	78% 63-137%

6.1.2

6

Blank Spike Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54661-BS	DD80164.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377

The QC reported here applies to the following samples:

Method: SW846 8011

FA21494-1, FA21494-2, FA21494-3, FA21494-4, FA21494-5, FA21494-6, FA21494-7, FA21494-8, FA21494-9, FA21494-10, FA21494-11, FA21494-12, FA21494-13, FA21494-14, FA21494-15, FA21494-16, FA21494-17, FA21494-18, FA21494-19, FA21494-20

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.18	72	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	77%	63-137%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54661-BS2	DD80165.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377

The QC reported here applies to the following samples:

Method: SW846 8011

FA21494-1, FA21494-2, FA21494-3, FA21494-4, FA21494-5, FA21494-6, FA21494-7, FA21494-8, FA21494-9, FA21494-10, FA21494-11, FA21494-12, FA21494-13, FA21494-14, FA21494-15, FA21494-16, FA21494-17, FA21494-18, FA21494-19, FA21494-20

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.23	92	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	87%	63-137%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54691-BS	DD80193.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377

The QC reported here applies to the following samples:

Method: SW846 8011

FA21494-21, FA21494-22, FA21494-23, FA21494-24, FA21494-25, FA21494-26, FA21494-27, FA21494-28, FA21494-29, FA21494-30, FA21494-31, FA21494-32, FA21494-33, FA21494-34, FA21494-35

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.18	72	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	76%	63-137%

* = Outside of Control Limits.

Blank Spike Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54691-BS2	DD80194.D	1	01/26/15	NG	01/23/15	OP54691	GDD2377

The QC reported here applies to the following samples:

Method: SW846 8011

FA21494-21, FA21494-22, FA21494-23, FA21494-24, FA21494-25, FA21494-26, FA21494-27, FA21494-28, FA21494-29, FA21494-30, FA21494-31, FA21494-32, FA21494-33, FA21494-34, FA21494-35

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.24	96	72-134

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	83%	63-137%

* = Outside of Control Limits.

Matrix Spike Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54661-MS	DD80168.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
FA21494-1	DD80167.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377

The QC reported here applies to the following samples:

Method: SW846 8011

FA21494-1, FA21494-2, FA21494-3, FA21494-4, FA21494-5, FA21494-6, FA21494-7, FA21494-8, FA21494-9, FA21494-10, FA21494-11, FA21494-12, FA21494-13, FA21494-14, FA21494-15, FA21494-16, FA21494-17, FA21494-18, FA21494-19, FA21494-20

CAS No.	Compound	FA21494-1 ug/l	Spike Q	MS ug/l	MS %	Limits
106-93-4	1,2-Dibromoethane	ND	0.24	0.21	87	72-134

CAS No.	Surrogate Recoveries	MS	FA21494-1	Limits
460-00-4	4-Bromofluorobenzene	83%	69%	63-137%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54691-MS	DD80216.D	1	01/27/15	NG	01/23/15	OP54691	GDD2377
OP54691-MSD	DD80217.D	1	01/27/15	NG	01/23/15	OP54691	GDD2377
FA21511-18	DD80215.D	1	01/27/15	NG	01/23/15	OP54691	GDD2377

The QC reported here applies to the following samples:

Method: SW846 8011

FA21494-21, FA21494-22, FA21494-23, FA21494-24, FA21494-25, FA21494-26, FA21494-27, FA21494-28, FA21494-29, FA21494-30, FA21494-31, FA21494-32, FA21494-33, FA21494-34, FA21494-35

CAS No.	Compound	FA21511-18 ug/l	Spike Q	ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND		0.241	0.25	104	0.24	0.22	92	13	72-134/28

CAS No.	Surrogate Recoveries	MS	MSD	FA21511-18 Limits
460-00-4	4-Bromofluorobenzene	93%	88%	78% 63-137%

* = Outside of Control Limits.

Duplicate Summary

Page 1 of 1

Job Number: FA21494

Account: GRINCC GRI (Geological Resources Inc.)

Project: Tisdale's Quick Stop; 1989 Thurgood Marshall Blvd, Kingston, SC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP54661-DUP	DD80170.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377
FA21494-2 ^a	DD80169.D	1	01/26/15	NG	01/21/15	OP54661	GDD2377

The QC reported here applies to the following samples:

Method: SW846 8011

FA21494-1, FA21494-2, FA21494-3, FA21494-4, FA21494-5, FA21494-6, FA21494-7, FA21494-8, FA21494-9, FA21494-10, FA21494-11, FA21494-12, FA21494-13, FA21494-14, FA21494-15, FA21494-16, FA21494-17, FA21494-18, FA21494-19, FA21494-20

CAS No.	Compound	FA21494-2		DUP		RPD	Limits
		ug/l	Q	ug/l	Q		
106-93-4	1,2-Dibromoethane	0.17		0.20		16	28

CAS No.	Surrogate Recoveries	DUP	FA21494-2	Limits
460-00-4	4-Bromofluorobenzene	78%	79%	63-137%

(a) All hits confirmed by dual column analysis.

* = Outside of Control Limits.

APPENDIX B
Ground Water Sampling Data Sheets

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): <u>7/5/14 1/16/15</u>	
Field Personnel: <u>DANIEL BEALL</u>	
General Weather Conditions: <u>CLOUDY</u>	
Ambient Air Temperature: <u>50°</u> F	
Quality Assurance	
pH Meter serial no.	Conductivity Meter serial no.
pH=4.0	Standard
pH=7.0	Standard
pH=10.0	Standard
Chain of Custody	
<u>MANNA 7525</u>	<u>YSI 13 B1000 13/13 A34</u>
Relinquished by	Received by
Date/Time	Date/Time

Facility Name: <u>TISDALES QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW-1</u>
Well Diameter (D): <u>0.167</u> 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:	<u>0</u> feet
Depth to Ground Water (DGW)	<u>13.53</u> feet
Total Well Depth (TWD)	<u>19.91</u> feet
Length of the water column (LWC = TWD-DGW)	<u>6.38</u> feet
1 casing volume (CV = LWC X C) =	<u>1.00</u>
3 casing volume 3 X CV =	<u>3.00</u> gals (standard purge volume)
Total volume of Water Purged Before Sampling	<u>0</u> gals
Total volume of Water Purged for Post Sampling	<u>0</u> gals
	<u>0</u> Total Purged
*if free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)	0939							0939
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	1.54							
PID readings, if required								
Remarks:								

NO PURGE

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): <u>4/5/14</u> <u>4/16/15</u>	
Field Personnel: <u>DANIEL</u> <u>BEALL</u>	
General Weather Conditions: <u>CLOUDY</u>	
Ambient Air Temperature: <u>50°</u> F	
Quality Assurance	
pH Meter	Conductivity Meter
serial no.	serial no.
pH=4.0	Standard
pH=7.0	Standard
pH=10.0	Standard
Chain of Custody	
<u>MANWA</u> <u>7525</u>	<u>YS113B100013/13A34</u>
Relinquished by	Received by
Date/Time	Date/Time

Facility Name: <u>TISDALES QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW-2</u>
Well Diameter (D): <u>0.167</u> feet	
Conversion factor (C): 3.14 X (D/2) ² for a 2 inch well C = 0.163 for a 4 inch well C = 0.852	
* Free Product Thickness:	<u>0</u> feet
Depth to Ground Water (DGW)	<u>13.52</u> feet
Total Well Depth (TWD)	<u>25.33</u> feet
Length of the water column (LWC = TWD-DGW)	<u>11.81</u> feet
1 casing volume (CV = LWC X C) =	<u>1.90</u>
3 casing volume 3 X CV =	<u>5.7</u> gals (standard purge volume)
Total volume of Water Purged Before Sampling	<u>0</u> gals
Total volume of Water Purged for Post Sampling	<u>0</u> gals
	<u> </u> Total Purged
*if free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)	0927							0927
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	0.59							
PID readings, if required								
Remarks:								

NO PURGE

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): ~~7/5/14~~ ~~7/16/14~~ 7/16/15

Field Personnel: DANIEL BEALL

General Weather Conditions: CLOUDY

Ambient Air Temperature: 50° F

Quality Assurance

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

Chain of Custody

MANWA 7525 YS113 B100013/13 A34 CALIBRATED 7/14/14

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES QUICK STOP

Site ID # 18686 Monitoring Well # MW-3

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 = 0.852

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 13.52 feet

Total Well Depth (TWD) 25.09 feet

Length of the water column (LWC = TWD-DGW) 11.57 feet

1 casing volume (CV = LWC X C) = 1.90

3 casing volume 3 X CV = 5.70 gals (standard purge volume)

Total volume of Water Purged Before Sampling 0 gals

Total volume of Water Purged for Post Sampling 0 gals

Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)	0952							0952
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	1.16							
PID readings, if required								
Remarks:								

NO PURGE

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): 7/5/14 7/16/15

Field Personnel: DANIEL BEALL

General Weather Conditions: CLOUDY

Ambient Air Temperature: 50° F

Quality Assurance

pH Meter		Conductivity Meter
serial no.	_____	serial no. _____
pH=4.0	_____	Standard _____
pH=7.0	_____	Standard _____
pH=10.0	_____	Standard _____

Chain of Custody

<u>MANWA</u>	<u>7525</u>	<u>YS13 B100013/13A34</u>	<u>CALIBRATED</u> <u>7/14/14</u>
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Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES QUICK STOP

Site ID # 18686 Monitoring Well # MW-6

Well Diameter (D): _____ 0.167 feet

Conversion factor (C): $3.14 \times (D/2)^2$ for a 2 inch well $C = 0.163$
for a 4 inch well $C = 0.852$

* Free Product Thickness: _____ 0 feet

Depth to Ground Water (DGW) _____ 13.07 feet

Total Well Depth (TWD) _____ 20.50 feet

Length of the water column (LWC = TWD-DGW) _____ 7.43 feet

1 casing volume (CV = LWC X C) = _____ 1.20

3 casing volume 3 X CV = 3.60 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ 0 gals

Total volume of Water Purged for Post Sampling _____ 0 gals

_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)	1024							1024
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	2.09							
PID readings, if required								
Remarks								

NO PURGE

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): <u>4/5/14</u> <u>1/16/15</u>	
Field Personnel: <u>DANIEL BEALL</u>	
General Weather Conditions: <u>CLOUDY</u>	
Ambient Air Temperature: <u>50°</u> F	
Quality Assurance	
pH Meter serial no. _____	Conductivity Meter serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____
Chain of Custody	
<u>MANNA T525</u> <u>YS113 B100013/13 A34</u> <u>CALIBRATED 1/14/14</u>	
Relinquished by _____	Received by _____
Date/Time _____	Date/Time _____

Facility Name: <u>TISDALES QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW- 7</u>
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: _____ 0 feet	
Depth to Ground Water (DGW) _____ 12.81 feet	
Total Well Depth (TWD) _____ 21.13 feet	
Length of the water column (LWC = TWD-DGW) _____ 8.32 feet	
1 casing volume (CV = LWC X C) = _____ 1.35	
3 casing volume 3 X CV = <u>4.05</u> gals (standard purge volume)	
Total volume of Water Purged Before Sampling _____ 0 gals	
Total volume of Water Purged for Post Sampling _____ 0 gals	
_____ Total Purged	
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	<u>0.25</u>							
Time (military)	<u>1012</u>							<u>1012</u>
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	<u>2.86</u>							
PID readings, if required								
Remarks:								

NO PURGE

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): <u>7/13/14</u> <u>7/15/15</u>	
Field Personnel: <u>DANIEL BEALL</u>	
General Weather Conditions: <u>CLOUDY</u>	
Ambient Air Temperature: <u>50°</u> F	
<u>Quality Assurance</u>	
pH Meter serial no. _____ pH=4.0 _____ pH=7.0 _____ pH=10.0 _____	Conductivity Meter serial no. _____ Standard _____ Standard _____ Standard _____
<u>Chain of Custody</u>	
<u>HANNA 7525</u> <u>YS113 B100013/13A34</u> <u>CALIBRATED 7/14/14</u>	
Relinquished by	Date/Time Received by Date/Time

Facility Name: <u>TISDALES QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW-8</u>
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: <u>0</u> feet	
Depth to Ground Water (DGW)	<u>13.27</u> feet
Total Well Depth (TWD)	<u>21.08</u> feet
Length of the water column (LWC = TWD-DGW)	<u>7.81</u> feet
1 casing volume (CV = LWC X C) =	<u>1.25</u>
3 casing volume 3 X CV =	<u>3.75</u> gals (standard purge volume)
Total volume of Water Purged Before Sampling	<u>0</u> gals
Total volume of Water Purged for Post Sampling	<u>0</u> gals
	<u>1.25</u> 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)	<u>0.25</u>							
Time (military)	<u>1448</u>							<u>1448</u>
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	<u>4.47</u>							
PID readings, if required								
Remarks:								

NO PURGE

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): <u>7/15/14</u> <u>7/15/15</u>	
Field Personnel: <u>DANIEL BEALL</u>	
General Weather Conditions: <u>CLOUDY</u>	
Ambient Air Temperature: <u>50°</u> F	
Quality Assurance	
pH Meter serial no. _____ pH=4.0 _____ pH=7.0 _____ pH=10.0 _____	Conductivity Meter serial no. _____ Standard _____ Standard _____ Standard _____
Chain of Custody	
<u>MANWA 7525</u> <u>YS113B100013/13A34</u> <u>CALIBRATED 7/14/14</u>	
Relinquished by _____	Date/Time _____ Received by _____ Date/Time _____

Facility Name: <u>TISDALES QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW-9</u>
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 = 0.852	
* Free Product Thickness: _____ 0 feet	
Depth to Ground Water (DGW) _____ 14.59 feet	
Total Well Depth (TWD) _____ 21.24 feet	
Length of the water column (LWC = TWD-DGW) _____ 6.65 feet	
1 casing volume (CV = LWC X C) = _____ 1.10	
3 casing volume 3 X CV = _____ 3.30 gals (standard purge volume)	
Total volume of Water Purged Before Sampling _____ 0 gals	
Total volume of Water Purged for Post Sampling _____ 0 gals	
_____ Total Purged	
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)	1551							1551
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	5.02							
PID readings, if required								
Remarks:								

NO PURGE

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): <u>7/5/14</u> <u>7/15/15</u>	
Field Personnel: <u>DANIEL BEALL</u>	
General Weather Conditions: <u>CLOUDY</u>	
Ambient Air Temperature: <u>50°</u> F	
Quality Assurance	
pH Meter	Conductivity Meter
serial no.	serial no.
pH=4.0	Standard
pH=7.0	Standard
pH=10.0	Standard
Chain of Custody	
<u>MANWA 7525</u> <u>YS113 B100013/13A34</u> <u>CALIBRATED 7/14/14</u>	
Relinquished by	Date/Time Received by Date/Time

Facility Name: <u>TISDALES QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW-10</u>
Well Diameter (D): <u>0.167</u> feet	
Conversion factor (C): 3.14 X (D/2) ² for a 2 inch well C = 0.163 for a 4 inch well C = 0.852	
* Free Product Thickness:	<u>0</u> feet
Depth to Ground Water (DGW)	<u>15.26</u> feet
Total Well Depth (TWD)	<u>24.59</u> feet
Length of the water column (LWC = TWD-DGW)	<u>9.33</u> feet
1 casing volume (CV = LWC X C) =	<u>1.50</u>
3 casing volume 3 X CV =	<u>4.50</u> gals (standard purge volume)
Total volume of Water Purged Before Sampling	<u>0</u> gals
Total volume of Water Purged for Post Sampling	<u>0</u> gals
	<u> </u> 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)	<u>0.25</u>							
Time (military)	<u>1600</u>							<u>1600</u>
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	<u>6.38</u>							
PID readings, if required								

Remarks: NO PURGE

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): 7/5/14 7/15/15

Field Personnel: DANIEL BEALL

General Weather Conditions: CLOUDY

Ambient Air Temperature: 50° F

Quality Assurance

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

Chain of Custody

MANUAL 7525 75113 BID0013/13A34 CALIBRATED 7/14/14

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES QUICK STOP

Site ID # 18686 Monitoring Well # MW-13

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: 0 feet

Depth to Ground Water (DGW) 13.94 feet

Total Well Depth (TWD) 23.38 feet

Length of the water column (LWC = TWD-DGW) 9.44 feet

1 casing volume (CV = LWC X C) = 1.55

3 casing volume 3 X CV = 4.65 gals (standard purge volume)

Total volume of Water Purged Before Sampling 0 gals

Total volume of Water Purged for Post Sampling 0 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)	0.25							
Time (military)	1613							1613
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	5.28							
PID readings, if required								
Remarks:								

NO PURGE

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): <u>7/5/19</u> <u>1/16/15</u>	
Field Personnel: <u>DANIEL</u> <u>BEALL</u>	
General Weather Conditions: <u>CLOUDY</u>	
Ambient Air Temperature: <u>50°</u> F	
Quality Assurance	
pH Meter	Conductivity Meter
serial no.	serial no.
pH=4.0	Standard
pH=7.0	Standard
pH=10.0	Standard
Chain of Custody	
MANUAL 7525	YSI 13 BID0013/13A34
Relinquished by	Received by
Date/Time	Date/Time
	CALIBRATED 1/14/14

Facility Name: <u>TISDALES QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW-14</u>
Well Diameter (D): <u>0.167</u> 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:	<u>0</u> feet
Depth to Ground Water (DGW)	<u>14.61</u> feet
Total Well Depth (TWD)	<u>23.67</u> feet
Length of the water column (LWC = TWD-DGW)	<u>9.06</u> feet
1 casing volume (CV = LWC X C) =	<u>1.50</u>
3 casing volume 3 X CV =	<u>4.50</u> gals (standard purge volume)
Total volume of Water Purged Before Sampling	<u>0</u> gals
Total volume of Water Purged for Post Sampling	<u>0</u> gals
	Total Purged
*if free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)	1039							1039
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	4.29							
PID readings, if required								
Remarks:								

No PURGE

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): <u>4/15/19</u> <u>1/16/15</u>	
Field Personnel: <u>DANIEL</u> <u>BEALL</u>	
General Weather Conditions: <u>CLOUDY</u>	
Ambient Air Temperature: <u>50°</u> F	
Quality Assurance	
pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____
Chain of Custody	
<u>MANNA 7525</u> <u>YS113B100013/13A34</u> <u>1/14/14</u> <small>CALIBRATED</small>	
Relinquished by	Date/Time Received by Date/Time

Facility Name: <u>TISDALES QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW-15</u>
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 = 0.852	
* Free Product Thickness: <u>0</u> feet	
Depth to Ground Water (DGW) <u>14.44</u> feet	
Total Well Depth (TWD) <u>23.99</u> feet	
Length of the water column (LWC = TWD-DGW) <u>9.05</u> feet	
1 casing volume (CV = LWC X C) = <u>1.45</u>	
3 casing volume 3 X CV = <u>4.35</u> gals (standard purge volume)	
Total volume of Water Purged Before Sampling <u>0.</u> gals	
Total volume of Water Purged for Post Sampling <u>0</u> gals	
_____ Total Purged	
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	<u>0.25</u>							
Time (military)	<u>1052</u>							<u>1052</u>
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	<u>4.13</u>							
PID readings, if required								
Remarks:								

NO PURGE

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): 7/5/14 7/5/15

Field Personnel: DANIEL BEALL

General Weather Conditions: CLOUDY

Ambient Air Temperature: 50° F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

HANNA 7525 7/5/13 B100013/13 A34 CALIBRATED 7/14/14

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: TISDALES QUICK STOP

Site ID # 18686 Monitoring Well # MW-19

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: 0 feet

Depth to Ground Water (DGW) 17.26 feet

Total Well Depth (TWD) 24.21 feet

Length of the water column (LWC = TWD-DGW) 6.95 feet

1 casing volume (CV = LWC X C) = 1.15

3 casing volume 3 X CV = 3.45 gals (standard purge volume)

Total volume of Water Purged Before Sampling 0 gals

Total volume of Water Purged for Post Sampling 0 gals

_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)	1647							1647
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	5.48							
PID readings, if required								
Remarks:								

NO PURGE

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): <u>7/5/14</u> <u>7/15/15</u>		
Field Personnel: <u>DANIEL BEALL</u>		
General Weather Conditions: <u>CLOUDY</u>		
Ambient Air Temperature: <u>50°</u> F		
<u>Quality Assurance</u>		
pH Meter	Conductivity Meter	
serial no.	serial no.	
pH=4.0	Standard	
pH=7.0	Standard	
pH=10.0	Standard	
<u>Chain of Custody</u>		
<u>MANWA 7525</u> <u>YS113B100013/13A34</u> <u>CALIBRATED 7/14/14</u>		
Relinquished by	Date/Time	Received by Date/Time

Facility Name: <u>TISDALES QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW-20</u>
Well Diameter (D): _____	<u>0.167</u> 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:	<u>0</u> feet
Depth to Ground Water (DGW)	<u>14.41</u> feet
Total Well Depth (TWD)	<u>23.29</u> feet
Length of the water column (LWC = TWD-DGW)	<u>8.88</u> feet
1 casing volume (CV = LWC X C) =	<u>1.45</u>
3 casing volume 3 X CV =	<u>4.35</u> gals (standard purge volume)
Total volume of Water Purged Before Sampling	<u>0</u> gals
Total volume of Water Purged for Post Sampling	<u>0</u> gals
	_____ Total Purged
*if free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	<u>0.25</u>							
Time (military)	<u>1636</u>							<u>1636</u>
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	<u>2.98</u>							
PID readings, if required								
Remarks:								

NO PURGE

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): 7/5/14 7/5/15

Field Personnel: DANIEL BEALL

General Weather Conditions: CLOUDY

Ambient Air Temperature: 50° F

Quality Assurance

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

Chain of Custody

MANNA 7525 YS113 BID0013/13A34 CALIBRATED 7/14/14

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: TISDALES QUICK STOP

Site ID # 18686 Monitoring Well # MW-21

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: 0 feet

Depth to Ground Water (DGW) 13.48 feet

Total Well Depth (TWD) 20.33 feet

Length of the water column (LWC = TWD-DGW) 6.85 feet

1 casing volume (CV = LWC X C) = 1.10

3 casing volume 3 X CV = 3.30 gals (standard purge volume)

Total volume of Water Purged Before Sampling 0 gals

Total volume of Water Purged for Post Sampling 0 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)	0.25							
Time (military)	1253							1253
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	5.89							
PID readings, if required								
Remarks:								

No Purge

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): 7/5/14 7/15/15

Field Personnel: DANIEL BEALL

General Weather Conditions: CLOUDY

Ambient Air Temperature: 50° F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

MANWA 7525 YS113 B100013/13A34 CALIBRATED 7/14/14

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: TISDALES QUICK STOP

Site ID # 18686 Monitoring Well # MW-22

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: 0 feet

Depth to Ground Water (DGW) 14.17 feet

Total Well Depth (TWD) 23.31 feet

Length of the water column (LWC = TWD-DGW) 9.14 feet

1 casing volume (CV = LWC X C) = 1.50

3 casing volume 3 X CV = 4.50 gals (standard purge volume)

Total volume of Water Purged Before Sampling 0 gals

Total volume of Water Purged for Post Sampling 0 gals

_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)	1232							1232
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	2.97							
PID readings, if required								
Remarks:								

NO PURGE

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): 7/5/14 7/5/15

Field Personnel: DANIEL BEALL

General Weather Conditions: CLOUDY

Ambient Air Temperature: 50° F

Quality Assurance

pH Meter	Conductivity Meter
serial no. _____	serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____

Chain of Custody

HANNA 7525 YS113B100013/13A34 1/14/14 CALIBRATED

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: TISDALES QUICK STOP

Site ID # 18686 Monitoring Well # MW-23

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 = 0.852

* Free Product Thickness: 0 feet

Depth to Ground Water (DGW) 13.89 feet

Total Well Depth (TWD) 22.21 feet

Length of the water column (LWC = TWD-DGW) 8.32 feet

1 casing volume (CV = LWC X C) = 1.35

3 casing volume 3 X CV = 4.05 gals (standard purge volume)

Total volume of Water Purged Before Sampling 0 gals

Total volume of Water Purged for Post Sampling 0 gals

_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25							
Time (military)	1042							1042
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	4.02							
PID readings, if required								

Remarks:

NO PURGE

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): <u>7/15/14 7/15/15</u>	
Field Personnel: <u>DANIEL BEALL</u>	
General Weather Conditions: <u>CLOUDY</u>	
Ambient Air Temperature: <u>50°</u> F	
Quality Assurance	
pH Meter serial no. _____	Conductivity Meter serial no. _____
pH=4.0 _____	Standard _____
pH=7.0 _____	Standard _____
pH=10.0 _____	Standard _____
Chain of Custody	
<u>HANNA T525</u> <u>YS113 B100013/15 A34</u> <u>CALIBRATED 7/14/14</u>	
Relinquished by _____	Date/Time _____
Received by _____	Date/Time _____

Facility Name: <u>TISDALES QUICK STOP</u>	
Site ID # <u>18686</u>	Monitoring Well # <u>MW-24</u>
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: <u>0</u> feet	
Depth to Ground Water (DGW)	<u>11.73</u> feet
Total Well Depth (TWD)	<u>20.77</u> feet
Length of the water column (LWC = TWD-DGW)	<u>9.04</u> feet
1 casing volume (CV = LWC X C) =	<u>1.50</u>
3 casing volume 3 X CV =	<u>4.50</u> gals (standard purge volume)
Total volume of Water Purged Before Sampling	<u>0</u> gals
Total volume of Water Purged for Post Sampling	<u>0</u> gals
	_____ Total Purged
*If free product is present over 1/8 inch, sampling will not be required.	

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	<u>0.25</u>							
Time (military)	<u>1029</u>							<u>1029</u>
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)	<u>5.71</u>							
PID readings, if required								
Remarks:								

NO PURGE