15174

Resolve Environmental Services, PLLC

410 East Franklin Street
Monroe, NC 28112
(704) 289-5881 phone
(704) 292-2910 fax
www.resolvepllc.com

RECEIVED
SEP 19 2011
SOLID WASTE SECTION

September 14, 2011

Mr. Marshall Brothers
Warren County Solid Waste Department
559 Baltimore Road
Warrenton, North Carolina 27589

Re: Second Semi-Annual 2011 Ground Water Monitoring Event
Warren County Closed Sanitary Landfill
Warrenton, North Carolina
Resolve Project No 765.15

Dear Mr. Brothers:

Resolve Environmental Services, PLLC (Resolve) respectfully presents results of the second semi-annual 2011 ground water monitoring event conducted at the Warren County Closed Sanitary Landfill (CSL) located in Warrenton, North Carolina (**Figure 1**). The ground water monitoring activities were conducted in general accordance with North Carolina Department of Environment and Natural Resources' (NCDENR), Division of Solid Waste Management guidelines.

Gauging and Sampling

On August 23, 2011, Resolve personnel collected ground water samples from on-site monitoring wells MW-1A, MW-2, MW-3, and MW-4. The tributary of Possumquarter Creek was dry during the August 2011 site visit and surface water samples could not be collected. A ground water sample was also collected from the nearby water supply well (WSW-1) located on the adjacent residential property to the northwest (539 Baltimore Avenue). A Site Map is provided as **Figure 2**.

Prior to collecting ground water samples from the monitoring wells, water levels were measured in each well from the top of the well casing. Based on the depth to water gauging data, Resolve personnel calculated the volume of standing water in each monitoring well. Prior to sampling, each well was purged of at least three well volumes or until bailed dry using a new, disposable Teflon™ bailer. As generated, the purge water was discharged to the ground surface at the respective wellheads. For quality control purposes, one equipment blank was collected prior to the initiation of ground water sampling activities by passing distilled water provided by the laboratory through a clean, Teflon™ bailer. The surface water samples were collected using grab sample techniques. All collected samples were placed directly into laboratory supplied glassware and placed on ice for transport to a North Carolina certified laboratory for analyses. Prior to sample collection in each monitoring well, field parameters including temperature, pH, and specific conductance were measured using calibrated field instrumentation. Well gauging data and measured field parameters are summarized in **Table 1**.

The collected ground water samples and equipment blank were analyzed for the presence of Appendix I volatile organic compounds (VOCs) including tetrahydrofuran by EPA Method 8260B and Appendix I metals by EPA Methods 6010, as required by the NCDENR. The samples were analyzed by Accutest Laboratories, LLC (Accutest) of Orlando, Florida. Accutest is a North Carolina certified laboratory. A trip blank was also submitted to the laboratory for analysis of Appendix I VOCs by Method 8260B.

Results

Based upon the laboratory analytical report, detectable concentrations of Appendix I VOCs and/or metals were reported in each of the collected samples as summarized below.

MW-1A:

Detectable concentrations of benzene, p-dichlorobenzene, cis-1,2-dichloroethene, lead and zinc were reported in the ground water sample collected from MW-1A. None of the concentrations of detectable concentrations exceeded the North Carolina ground water quality standards (NCGWQS) established in T15A NCAC 2L.0202.

MW-2:

Detectable concentrations of benzene, chlorobenzene, chloroethane, 1,1-dichloroethane, p-dichlorobenzene, cis-1,2-dichloroethene, barium, cobalt, lead and zinc were reported in the ground water sample collected from MW-2. None of the concentrations of detectable concentrations exceeded the NCGWQS, if established. Currently, there are no NCGWQS for chloroethane and cobalt, therefore the concentrations are reportable.

MW-3:

Detectable concentrations of benzene, chlorobenzene, 1,1-dichloroethane, p-dichlorobenzene, cis-1,2-dichloroethene and tetrahydrofuran were reported in the ground water sample collected from MW-3. None of the reported concentrations exceeded the established NCGWQS. There is no NCGWQS for tetrahydrofuran, therefore the concentration is reportable.

MW-4:

Detectable concentrations of benzene, 1,1-dichloroethane, cis-1,2-dichloroethene, barium, chromium, copper, lead, nickel, vanadium and zinc were reported in the ground water sample from MW-4. **The concentrations of chromium, lead and nickel exceed the established NCGWS**. Currently, there is no NCGWQS for vanadium.

WSW-1:

No detectable concentrations of requested method constituents were reported in the ground water sample collected from WSW-1.

Equipment Blank:

A concentration of acetone was reported in the sample collected from the equipment blank and is assumed to be a laboratory contaminant.

The current laboratory analytical results are summarized in **Table 2**. Historical laboratory data is summarized in **Table 3**. A water quality map based upon results of the August 23, 2011 sampling event presented as **Figure 3**. A copy of the laboratory analytical report is attached as **Appendix A**.

Based upon the current sampling data, a ground water quality violation (chromium, lead and nickel) exists at the site. Continued monitoring is recommended.

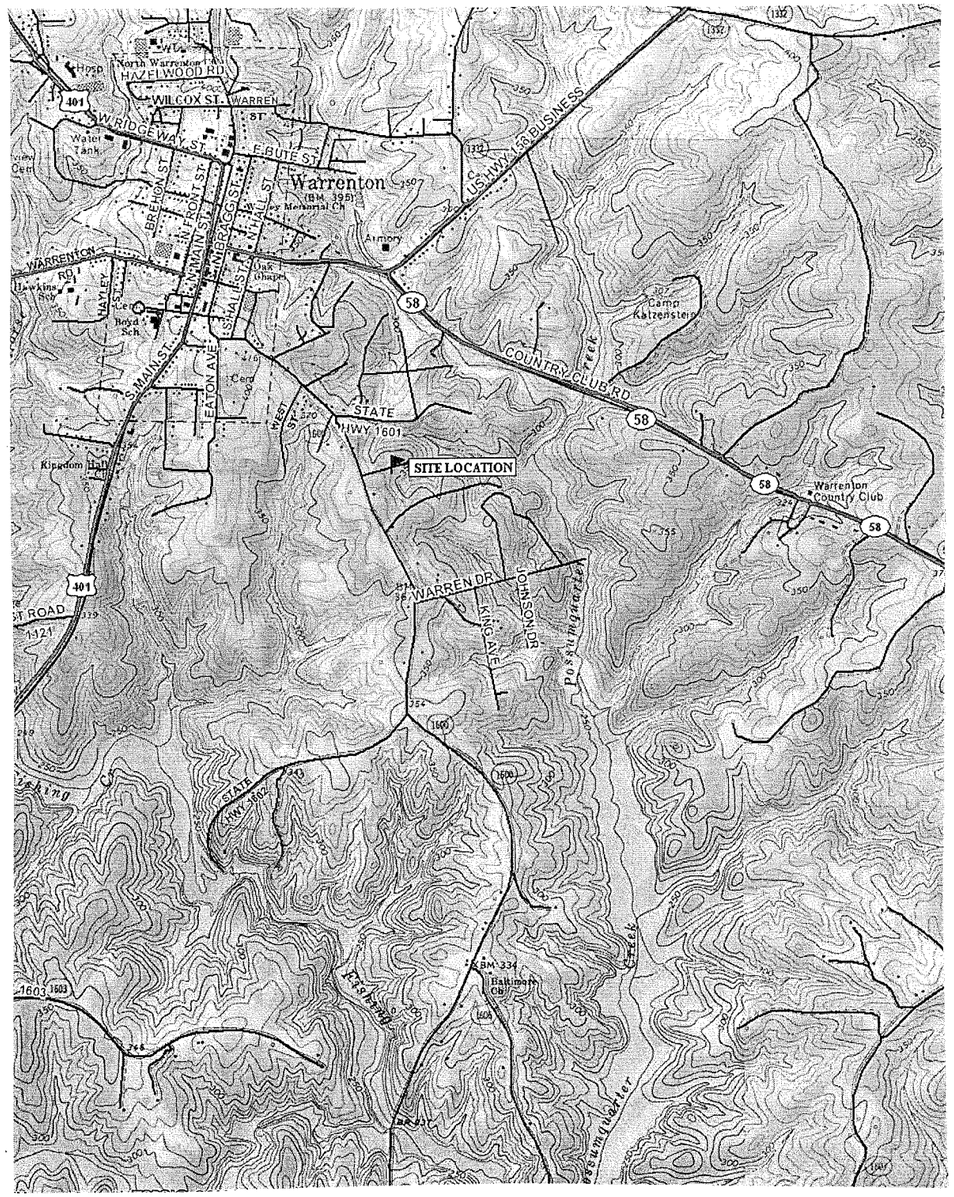
The next semi-annual sampling event will be conducted in February 2012. Please call if you have any questions or require any additional information at (704) 289-5881.

Sincerely,
Resolve Environmental Services, PLLC

Laura Minor
Project Manager

Terry D. Kennedy, P.G.
License No. 1435

FIGURES



Warren County Landfill (Closed) **559 Baltimore Road** **Warrenton, North Carolina**	**Figure 1** **Site Location Map**	**RESOLVE ENVIRONMENTAL SERVICES, PLLC** **410 East Franklin Street** **Monroe, North Carolina 28112**

TABLE 3
HISTORICAL SUMMARY OF LABORATORY ANALYSES-GROUND WATER SAMPLES
WARREN COUNTY CLOSED SANITARY LANDFILL

Date : 09/09/2011

Analytical Method →		**Appendix I - 8260**							**Appendix I - 6010/200.7**		**7470**
Contaminant of Concern →											
Well ID	**Date Collected (mm/dd/yy)**	**Benzene**	**Chlorobenzene**	**Chloroethane**	**1,4-Dichlorobenzene/ p-Dichlorobenzene**	**1,1-Dichloroethane**	**cis-1,2-Dichloroethene**	**Tetrahydrofuran**	**Chromium**	**Lead**	**Mercury**
NCGWQS (ug/L)		**1**	**50**	**NS**	**6**	**6**	**70**	**NS**	**10**	**15**	**1**
MW-1A	8/10/2006	**1.3**	<1.0	<1.0	<1.0	<1.0	<1.0	NR	<10	15	NR
	2/22/2007	**1.4**	<1.0	<1.0	<1.0	<1.0	2.5	NR	**33**	**61**	NR
	8/27/2007	**1.3**	<1.0	<1.0	1.4	<1.0	2.6	<10.0	<5.0	<5.0	<0.20
	2/27/2008	**1.7**	<1.0	<1.0	1.9	<1.0	3.0	<10.0	<5.0	<5.0	<0.20
	8/26/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	**15.2**	**25.5**	<0.20
	2/25/2009	**1.2**	<1.0	<1.0	2.2	<1.0	2.5	<10.0	8.1	14.8	**0.21**
	8/19/2009	**1.52**	<1.00	<1.00	1.91	<1.00	2.27	<20.0	<5.00	<5.00	<0.200
	2/8/2010	**1.41**	<0.210	<0.270	2.22	<0.240	2.77	NR	3.72	4.66	0.101
	8/12/2010	**1.29**	<0.210	<0.270	2.23	<0.240	2.56	<1.00	5.10	10.5	<0.0800
	2/16/2011	0.839 J	<0.210	<0.270	1.45	<0.240	1.62	<1.00	31.3	57.1	0.383
	8/23/2011	0.88 J	<0.20	<0.50	1.1	<0.25	2.1	<2.0	<10	5.3	NR
MW-2	8/10/2006	**1.5**	<1.0	**9.2**	4.3	<1.0	10	NR	<10	<10	NR
	2/22/2007	**1.3**	1.1	**7.8**	3.8	<1.0	8.1	NR	<5.0	<5.0	NR
	8/27/2007	**1.1**	1.6	**6.9**	2.9	<1.0	8.2	<10.0	<5.0	<5.0	<0.20
	2/27/2008	**1.6**	1.9	**7.3**	4.7	<1.0	9.9	<10.0	<5.0	<5.0	<0.20
	8/26/2008	<1.0	<1.0	**4.6**	2.8	<1.0	5.5	**19.1**	<5.0	<5.0	<0.20
	2/25/2009	**1.5**	1.7	**9.7**	5.4	<1.0	10.2	<10.0	<5.0	<5.0	<0.20
	8/19/2009	**1.21**	1.48	**7.50**	3.15	<1.00	6.27	<20.0	<5.00	<5.00	<0.200
	2/8/2010	0.837	1.07	**5.62**	2.70	0.372	5.76	NR	<2.00	<3.00	<0.0800
	8/12/2010	**1.49**	2.01	**8.34**	4.22	0.797	9.49	<1.00	<2.00	1.92	<0.0800
	2/16/2011	**1.25**	2.00	**6.22**	3.72	0.670 J	7.14	<1.00	<2.00	<1.50	<0.0800
	8/23/2011	0.65 J	1.3	3.9	2.1	0.33 J	4.5	<2.0	<10	8.7	NR

TABLE 3
HISTORICAL SUMMARY OF LABORATORY ANALYSES-GROUND WATER SAMPLES
WARREN COUNTY CLOSED SANITARY LANDFILL

Date : 09/09/2011

Analytical Method →		**Appendix I - 8260**							**Appendix I - 6010/200.7**		**7470**
Contaminant of Concern →											
Well ID	**Date Collected (mm/dd/yy)**	**Benzene**	**Chlorobenzene**	**Chloroethane**	**1,4-Dichlorobenzene/ p-Dichlorobenzene**	**1,1-Dichloroethane**	**cis-1,2-Dichloroethene**	**Tetrahydrofuran**	**Chromium**	**Lead**	**Mercury**
NCGWQS (υg/L)		**1**	**50**	**NS**	**6**	**6**	**70**	**NS**	**10**	**15**	**1**
MW-3	8/10/2006	<1.0	<1.0	<1.0	<1.0	2.4	2.8	NR	<10	<10	NR
	2/22/2007	<1.0	<1.0	<1.0	<1.0	2.6	3.9	NR	<5.0	<5.0	NR
	8/27/2007	<1.0	<1.0	**2.3**	<1.0	2.3	4.4	**17.2**	<5.0	<5.0	0.23
	2/27/2008	<1.0	<1.0	**1.20**	1.10	2.4	5.5	**27.0**	<5.0	<5.0	<0.20
	8/26/2008	<1.0	<1.0	<1.0	<1.0	1.7	2.6	**19.1**	<5.0	<5.0	<0.20
	2/25/2009	<1.0	<1.0	<1.0	<1.0	1.9	3.8	**20.9**	<5.0	<5.0	<0.20
	8/19/2009	<1.00	<1.00	**1.29**	<1.00	1.67	3.46	**26.3**	<5.00	<5.00	<0.200
	2/8/2010	0.514	0.817	**1.05**	0.996	1.61	3.96	NR	3.12	<1.50	<0.0800
	8/12/2010	0.413	0.544	<0.270	0.853	1.65	3.08	**15.2**	2.83	2.08	<0.0800
	2/16/2011	0.369 J	0.642 J	0.764 J	0.800 J	1.30	2.87	**15.6**	2.26 J	<1.50	<0.0800
	8/23/2011	0.30 J	0.64 J	<0.50	0.63 J	0.92	2.4	**15.4**	<10	<5.0	NR
MW-4	8/10/2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NR	<10	<10	NR
	2/22/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NR	<5.0	<5.0	NR
	8/27/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	13.0	<5.0	<0.20
	2/27/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	**22.5**	<5.0	<0.20
	8/26/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	**63.3**	**15.6**	<0.20
	2/25/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	7.9	<5.0	<0.20
	8/19/2009	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<20.0	**12.2**	<5.00	<0.200
	2/8/2010	0.250	<0.210	<0.270	<0.250	0.401	0.599	NR	**14.4**	<1.50	<0.0800
	8/12/2010	0.295	<0.210	<0.270	<0.250	<0.240	0.715	<1.00	**10.4**	3.27	<0.0800
	2/16/2011	0.250 J	<0.210	<0.270	<0.250	0.346 J	0.607 J	<1.00	**6.65 J**	<1.50	<0.0800
	8/23/2011	0.22 J	<0.20	<0.50	<0.23	0.25 J	0.47 J	<2.0	**180**	**30.3**	NR

TABLE 3
HISTORICAL SUMMARY OF LABORATORY ANALYSES-GROUND WATER SAMPLES
WARREN COUNTY CLOSED SANITARY LANDFILL

Date : 09/09/2011

Analytical Method →		**Appendix I - 8260**							**Appendix I - 6010/200.7**		**7470**
Contaminant of Concern →											
Well ID	**Date Collected (mm/dd/yy)**	**Benzene**	**Chlorobenzene**	**Chloroethane**	**1,4-Dichlorobenzene/ p-Dichlorobenzene**	**1,1-Dichloroethane**	**cis-1,2-Dichloroethene**	**Tetrahydrofuran**	**Chromium**	**Lead**	**Mercury**
NCGWQS (υg/L)		**1**	**50**	**NS**	**6**	**6**	**70**	**NS**	**10**	**15**	**1**
SW-1	8/10/2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NR	<10	**94**	NR
	2/22/2007	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	NR	<5.0	<5.0	NR
	8/27/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<0.20
	2/27/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<0.20
	8/26/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	**248**	**106**	<0.20
	2/25/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<0.20
	8/19/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	2/8/2010	<0.140	<0.210	<0.270	<0.250	<0.240	<0.450	NR	<2.00	<1.50	<0.0800
	8/12/2010	<0.140	<0.210	<0.270	<0.250	<0.240	<0.450	<1.00	<2.00	<1.50	<0.0800
	2/16/2011	<0.140	<0.210	<0.270	<0.250	<0.240	<0.450	<1.00	6.91 J	3.79	<0.0800
	8/23/2011	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
SW-2	8/10/2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NR	<10	<10	NR
	2/22/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NR	<5.0	<5.0	NR
	8/27/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<0.20
	2/27/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<0.20
	8/26/2008	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	2/25/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<0.20
	8/19/2009	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<20.0	**49.4**	**79.4**	0.314
	2/8/2010	<0.140	<0.210	<0.270	<0.250	<0.240	<0.450	NR	3.04	1.87	<0.0800
	8/12/2010	0.143	0.240	<0.270	0.393	<0.240	1.14	**7.77**	<2.00	1.67	<0.0800
	2/16/2011	<0.140	<0.210	<0.270	<0.250	<0.240	0.646 J	**3.06**	<2.00	<1.50	<0.0800
	8/23/2011	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY

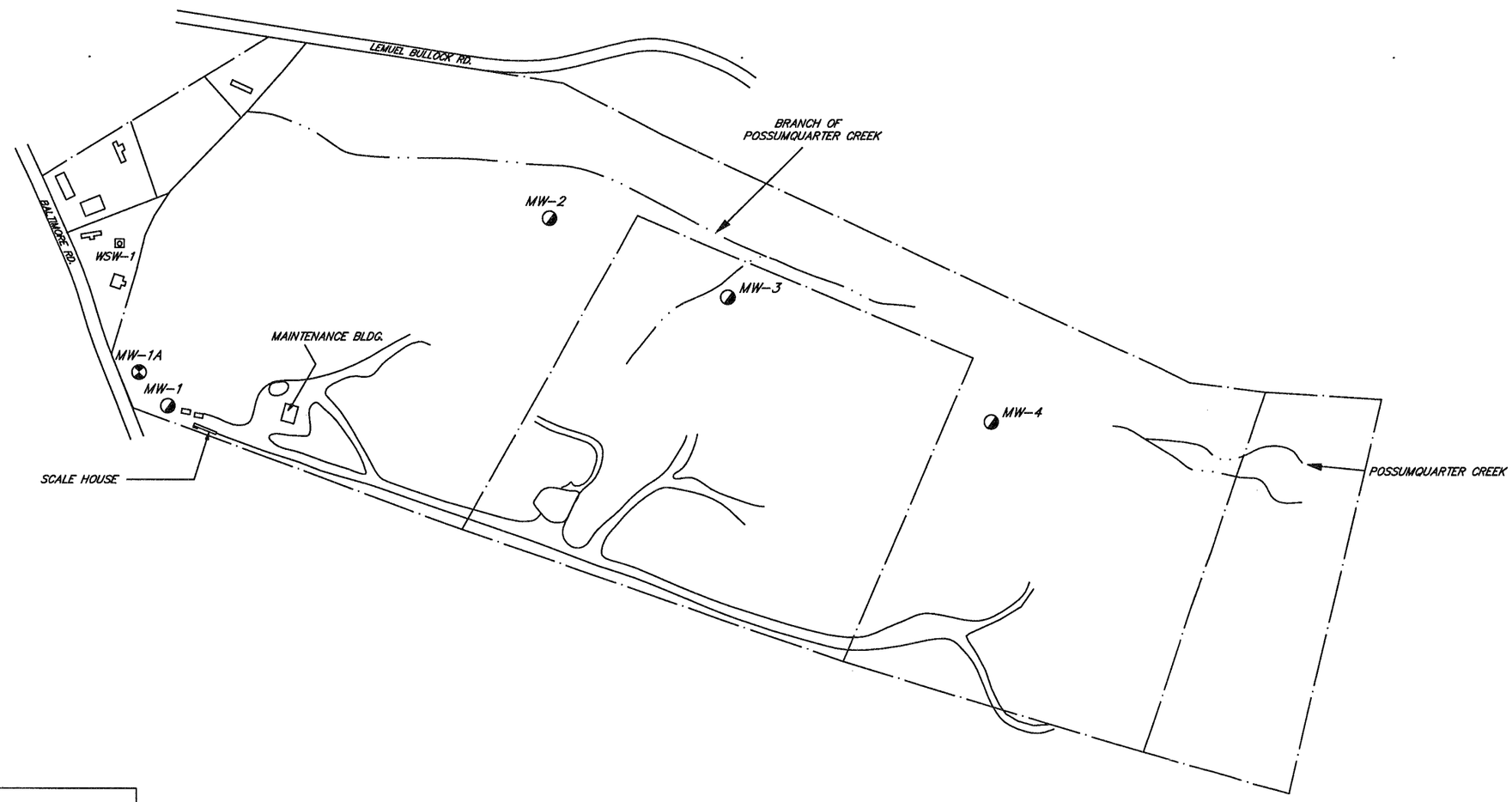
TABLE 3
HISTORICAL SUMMARY OF LABORATORY ANALYSES-GROUND WATER SAMPLES
WARREN COUNTY CLOSED SANITARY LANDFILL

Date : 09/09/2011

Analytical Method →		**Appendix I - 8260**							**Appendix I - 6010/200.7**		**7470**
Contaminant of Concern →											
Well ID	**Date Collected (mm/dd/yy)**	**Benzene**	**Chlorobenzene**	**Chloroethane**	**1,4-Dichlorobenzene/ p-Dichlorobenzene**	**1,1-Dichloroethane**	**cis-1,2-Dichloroethene**	**Tetrahydrofuran**	**Chromium**	**Lead**	**Mercury**
NCGWQS (ug/L)		**1**	**50**	**NS**	**6**	**6**	**70**	**NS**	**10**	**15**	**1**
SW-3	8/10/2006	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NR	<10	<10	NR
	2/22/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NR	<5.0	<5.0	NR
	8/27/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<0.20
	2/27/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<0.20
	8/26/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<0.20
	2/25/2009	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<0.20
	8/19/2009	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<20.0	<5.00	<5.00	<0.200
	2/8/2010	<0.140	<0.210	<0.270	<0.250	<0.240	<0.450	NR	<2.00	<1.50	<0.0800
	8/12/2010	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	2/16/2011	<0.140	<0.210	<0.270	<0.250	<0.240	<0.450	<1.00	<2.00	<1.50	<0.0800
	8/23/2011	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY

LEGEND

- NC TYPE II MONITORING WELL
- NC TYPE III MONITORING WELL
- APPROXIMATE PROPERTY BOUNDARY LINE
- CREEK
- WATER SUPPLY WELL



NOTE: Site Map based on Resolve Environmental Services, P.A. "Sampling Location Map" (date unknown).

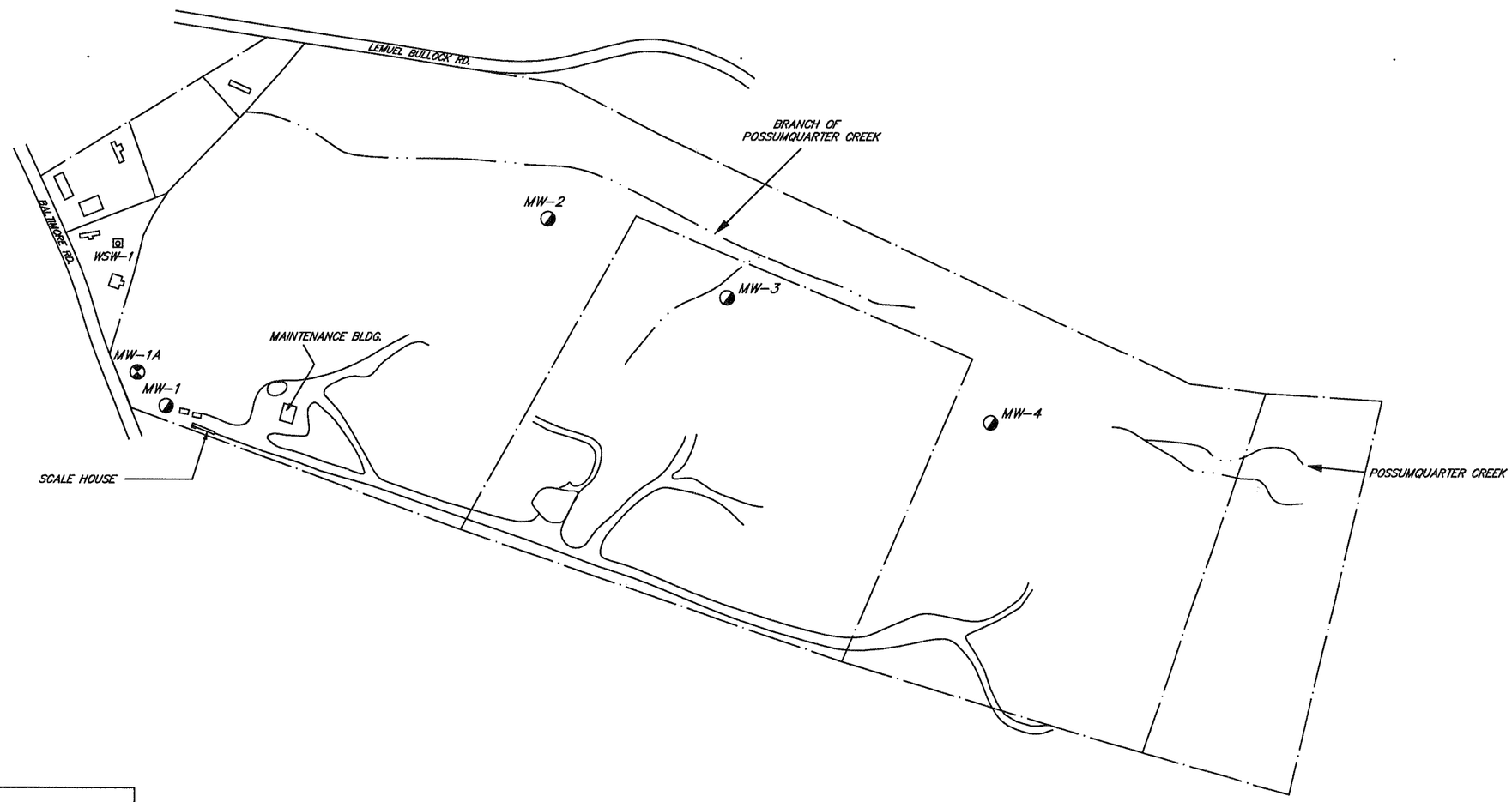
0 150 300

(IN FEET)
1 inch = 300 ft.

SITE MAP			
WARREN COUNTY LANDFILL 559 BALTIMORE ROAD, WARRENTON, WARREN COUNTY, NC PERMIT # 93-01			
Date: 09/13/11	Drawn by: LJM	Figure: 2	
RESOLVE ENVIRONMENTAL SERVICES, PLLC			

LEGEND

- NC TYPE II MONITORING WELL
- NC TYPE III MONITORING WELL
- APPROXIMATE PROPERTY BOUNDARY LINE
- CREEK
- WATER SUPPLY WELL



NOTE: Site Map based on Resolve Environmental Services, P.A. "Sampling Location Map" (date unknown).

0 150 300
(IN FEET)
1 inch = 300 ft.

SITE MAP			
WARREN COUNTY LANDFILL 559 BALTIMORE ROAD, WARRENTON, WARREN COUNTY, NC PERMIT # 93-01			
Date: 09/13/11	Drawn by: LJM	Figure: 2	
RESOLVE ENVIRONMENTAL SERVICES, PLLC			

TABLES

TABLE 1
MONITORING WELL GAUGING AND FIELD PARAMETER DATA
WARREN COUNTY CLOSED SANITARY LANDFILL

Date: 09/09/11

Sample Location	Total Well Depth (feet)	Depth to Water (feet)	Temperature (in C)	pH	Specific Conductance (μmhos)	Volume Purged (gals)
MW-1A	41.93	34.74	18	6.2	0.11	4.50
MW-2	15.75	10.94	16	7.5	0.26	3.00
MW-3	28.83	7.67	15	6.6	0.19	9.25
MW-4	23.07	5.99	16	8.4	0.31	13.50

Notes:
- Gauging and field parameters collected on August 23, 2011 by Resolve personnel.
- All measurements relative to the top of well casing.

TABLE 2
SUMMARY OF LABORATORY ANALYSES-GROUND WATER SAMPLES
WARREN COUNTY CLOSED SANITARY LANDFILL

Date : 09/09/2011

Analytical Method →		**Appendix I - 8260**							**Appendix I - 6010**							
Contaminant of Concern →																
Well ID	**Date Collected (mm/dd/yy)**	**Benzene**	**Chlorobenzene**	**Chloroethane**	**1,1-Dichloroethane**	**p-Dichlorobenzene**	**cis-1,2-Dichloroethylene**	**Tetrahydrofuran**	**Barium**	**Chromium**	**Cobalt**	**Copper**	**Lead**	**Nickel**	**Vanadium**	**Zinc**
NCGWQS (υg/L)		**1**	**50**	**NS**	**6**	**6**	**70**	**NS**	**700**	**10**	**NS**	**1,000**	**15**	**100**	**NS**	**2,100**
MW-1A	08/23/11	0.88 J	<0.20	<0.50	<0.25	1.1	2.1	<2.0	<200	<10	<50	<25	5.3	<40	<50	41.3
MW-2	08/23/11	0.65 J	1.3	3.9	0.33 J	2.1	4.5	<2.0	262	<10	56.0	<25	8.7	<40	<50	85.3
MW-3	08/23/11	0.30 J	0.64 J	<0.50	0.92 J	0.63 J	2.4	15.4	<200	<10	<50	<25	<5.0	<40	<50	<20
MW-4	08/23/11	0.22 J	<0.20	<0.50	0.25 J	<0.23	0.47 J	<2.0	425	**180**	<50	172	**30.3**	**119**	123	214
WSW-1	08/23/11	<0.20	<0.20	<0.50	<0.25	<0.25	<0.26	<2.0	<200	<10	<50	<25	<5.0	<40	<50	<20
Equipment Blank	08/23/11	<0.20	<0.20	<0.50	<0.25	<0.23	<0.26	<2.0	<200	<10	<50	<25	<5.0	<40	<50	<20
Trip Blank	08/23/11	<0.20	<0.20	<0.50	<0.25	<0.23	<0.26	<2.0	NR	NR	NR	NR	NR	NR	NR	NR

Notes:
- Results reported in µg/L (micrograms per Liter)
- NCGWQS: North Carolina Ground Water Quality Standard as specified in T15A NCAC 2L. 0202.
- < : Less than the method detection limit specified in the laboratory report.
- NS: Not specified.
- Concentrations in bold face type exceeded the 2L standard.
- J: Estimated concentration.
- A concentration of acetone (11.5 µg/L) was detected in the equipment blank. The concentration does not exceed the NCGWQS.
- NR: Analysis not requested.

TABLE 3
HISTORICAL SUMMARY OF LABORATORY ANALYSES-GROUND WATER SAMPLES
WARREN COUNTY CLOSED SANITARY LANDFILL

Date : 09/09/2011

Analytical Method →		**Appendix I - 8260**							**Appendix I - 6010/200.7**		**7470**
Contaminant of Concern →											
Well ID	**Date Collected (mm/dd/yy)**	**Benzene**	**Chlorobenzene**	**Chloroethane**	**1,4-Dichlorobenzene/ p-Dichlorobenzene**	**1,1-Dichloroethane**	**cis-1,2-Dichloroethene**	**Tetrahydrofuran**	**Chromium**	**Lead**	**Mercury**
NCGWQS (ug/L)		**1**	**50**	**NS**	**6**	**6**	**70**	**NS**	**10**	**15**	**1**
WSW-1/WS/WSW	8/10/2006	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	2/22/2007	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NR	<5.0	<5.0	NR
	8/27/2007	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	2/27/2008	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	8/26/2008	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	2/25/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	8/19/2009	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	2/8/2010	<0.140	<0.210	<0.270	<0.250	<0.240	<0.450	NR	<2.00	4.29	0.272
	2/25/2010	<0.140	<0.210	<0.270	<0.250	<0.240	<0.450	NR	<2.00	<1.50	0.338
	8/12/2010	<0.140	<0.210	<0.270	<0.250	<0.240	<0.450	<1.00	<2.00	2.19	0.225
	2/16/2011	<0.140	<0.210	<0.270	<0.250	<0.240	<0.450	0.186	<2.00	<1.50	0.242
	8/23/2011	<0.20	<0.20	<0.50	<0.25	<0.25	<0.26	<2.0	<10	<5.0	NR

Notes:
- Results reported in µg/L (micrograms per Liter) .
- NCGWQS: North Carolina Ground Water Quality Standard as specified in T15A NCAC 2L. 0202.
- < : Less than the method detection limit specified in the laboratory report.
- NR: Analysis not requested or sample was not collected.
- NS: Not specified.
- Concentrations in bold face type exceeded the 2L standard.
- Concentrations of tetrachloroethene (0.254 µg/L and 0.357 µg/L, respectively) in MW-3 and WSW-1 on 2/8/2010; a concentration of tetrachloroethene (0.189 J ug/L) was reported in MW-3 on February 16, 2011.
- J: Estimated concentration.

APPENDIX A

Southeast
ACCUTEST
LABORATORIES

09/06/11

Technical Report for

Resolve Environmental

Warren County; Warrenton, NC

Accutest Job Number: F85512

Sampling Date: 08/23/11

Report to:

Resolve Environmental
410 E Franklin St
Monroe, NC 28112
resolve@carolina.rr.com

ATTN: Laura Minor

Total number of pages in report: 50

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Muna Mohammed 407-425-6700

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Accutest Laboratories is the sole authority for authorizing edits or modifications to this document. Unauthorized modification of this report is strictly prohibited.

Table of Contents

-1-

Sections: 1 2 3 4 5 6 7

Section 1: Sample Summary 3
Section 2: Sample Results 4
2.1: F85512-1: WSW-1 5
2.2: F85512-2: MW-1A 8
2.3: F85512-3: MW-2 11
2.4: F85512-4: MW-3 14
2.5: F85512-5: MW-4 17
2.6: F85512-6: EQUIPMENT BLANK 20
2.7: F85512-7: TRIP BLANK 23
Section 3: Misc. Forms 25
3.1: Chain of Custody 26
Section 4: GC/MS Volatiles - QC Data Summaries 28
4.1: Method Blank Summary 29
4.2: Blank Spike Summary 31
4.3: Matrix Spike/Matrix Spike Duplicate Summary 33
Section 5: Metals Analysis - QC Data Summaries 35
5.1: Prep QC MP21233: Sb,As,Ba,Be,Cd,Cr,Co,Cu,Pb,Ni,Se,Ag,V,Zn 36
Section 6: Misc. Forms (Accutest New Jersey) 42
6.1: Chain of Custody 43
Section 7: Metals Analysis - QC Data (Accutest New Jersey) 45
7.1: Prep QC MP60009: Tl 46

Sample Summary

Resolve Environmental

Warren County; Warrenton, NC

Job No: F85512

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
F85512-1	08/23/11	10:00 LM	08/27/11	AQ	Ground Water	WSW-1
F85512-2	08/23/11	12:15 LM	08/27/11	AQ	Ground Water	MW-1A
F85512-3	08/23/11	11:50 LM	08/27/11	AQ	Ground Water	MW-2
F85512-4	08/23/11	11:35 LM	08/27/11	AQ	Ground Water	MW-3
F85512-5	08/23/11	11:45 LM	08/27/11	AQ	Ground Water	MW-4
F85512-6	08/23/11	10:18 LM	08/27/11	AQ	Equipment Blank	EQUIPMENT BLANK
F85512-7	08/23/11	00:00 LM	08/27/11	AQ	Trip Blank Water	TRIP BLANK

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	WSW-1		
Lab Sample ID:	F85512-1	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0053505.D	1	08/31/11	NMC	n/a	n/a	VM2163
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	10	3.0	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.22	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.20	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.22	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.25	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.26	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.25	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.35	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
591-78-6	2-Hexanone	ND	10	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.20	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	

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:	WSW-1		
Lab Sample ID:	F85512-1	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.25	ug/l	
109-99-9	Tetrahydrofuran	ND	5.0	2.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	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	95%		86-112%
460-00-4	4-Bromofluorobenzene	97%		84-120%

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	WSW-1		
Lab Sample ID:	F85512-1	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
		Percent Solids:	n/a
Project:	Warren County; Warrenton, NC		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Arsenic	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Beryllium	< 4.0	4.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cobalt	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Copper	< 25	25	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Nickel	< 40	40	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Thallium [a]	< 1.0	1.0	ug/l	2	09/02/11	09/03/11	ANJ	SW846 6020A [2]	SW846 3010A [4]
Vanadium	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Zinc	< 20	20	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9184
(2) Instrument QC Batch: N:MA27033
(3) Prep QC Batch: MP21233
(4) Prep QC Batch: N:MP60009

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-1A		
Lab Sample ID:	F85512-2	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0053506.D	1	08/31/11	NMC	n/a	n/a	VM2163
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	10	3.0	ug/l	
71-43-2	Benzene	0.88	1.0	0.20	ug/l	J
74-97-5	Bromochloromethane	ND	1.0	0.22	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.20	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.22	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.25	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	2.1	1.0	0.26	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.25	ug/l	
106-46-7	p-Dichlorobenzene	1.1	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.35	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
591-78-6	2-Hexanone	ND	10	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.20	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-1A		
Lab Sample ID:	F85512-2	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.25	ug/l	
109-99-9	Tetrahydrofuran	ND	5.0	2.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	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	98%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	95%		84-120%

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-1A		
Lab Sample ID:	F85512-2	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
		Percent Solids:	n/a
Project:	Warren County; Warrenton, NC		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Arsenic	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Beryllium	< 4.0	4.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cobalt	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Copper	< 25	25	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	5.3	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Nickel	< 40	40	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Thallium [a]	< 1.0	1.0	ug/l	2	09/02/11	09/03/11	ANJ	SW846 6020A [2]	SW846 3010A [4]
Vanadium	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Zinc	41.3	20	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9184
(2) Instrument QC Batch: N:MA27033
(3) Prep QC Batch: MP21233
(4) Prep QC Batch: N:MP60009

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	F85512-3	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0053507.D	1	08/31/11	NMC	n/a	n/a	VM2163
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	10	3.0	ug/l	
71-43-2	Benzene	0.65	1.0	0.20	ug/l	J
74-97-5	Bromochloromethane	ND	1.0	0.22	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.20	ug/l	
108-90-7	Chlorobenzene	1.3	1.0	0.20	ug/l	
75-00-3	Chloroethane	3.9	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.22	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	0.33	1.0	0.25	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	4.5	1.0	0.26	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.25	ug/l	
106-46-7	p-Dichlorobenzene	2.1	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.35	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
591-78-6	2-Hexanone	ND	10	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.20	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	F85512-3	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.25	ug/l	
109-99-9	Tetrahydrofuran	ND	5.0	2.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	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	100%		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

Accutest Laboratories

Report of Analysis

Client Sample ID: MW-2
Lab Sample ID: F85512-3
Matrix: AQ - Ground Water
Project: Warren County; Warrenton, NC

Date Sampled: 08/23/11
Date Received: 08/27/11
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Arsenic	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	262	200	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Beryllium	< 4.0	4.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cobalt	56.0	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Copper	< 25	25	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	8.7	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Nickel	< 40	40	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Thallium [a]	< 1.0	1.0	ug/l	2	09/02/11	09/03/11	ANJ	SW846 6020A [2]	SW846 3010A [4]
Vanadium	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Zinc	85.3	20	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9184
(2) Instrument QC Batch: N:MA27033
(3) Prep QC Batch: MP21233
(4) Prep QC Batch: N:MP60009

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	F85512-4	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0053508.D	1	08/31/11	NMC	n/a	n/a	VM2163
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	10	3.0	ug/l	
71-43-2	Benzene	0.30	1.0	0.20	ug/l	J
74-97-5	Bromochloromethane	ND	1.0	0.22	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.20	ug/l	
108-90-7	Chlorobenzene	0.64	1.0	0.20	ug/l	J
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.22	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	0.92	1.0	0.25	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	2.4	1.0	0.26	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.25	ug/l	
106-46-7	p-Dichlorobenzene	0.63	1.0	0.23	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.35	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
591-78-6	2-Hexanone	ND	10	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.20	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	F85512-4	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.25	ug/l	
109-99-9	Tetrahydrofuran	15.4	5.0	2.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	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	99%		86-112%
460-00-4	4-Bromofluorobenzene	95%		84-120%

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID: MW-3
Lab Sample ID: F85512-4
Matrix: AQ - Ground Water
Project: Warren County; Warrenton, NC

Date Sampled: 08/23/11
Date Received: 08/27/11
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Arsenic	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Beryllium	< 4.0	4.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cobalt	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Copper	< 25	25	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Nickel	< 40	40	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Thallium [a]	< 1.0	1.0	ug/l	2	09/02/11	09/03/11	ANJ	SW846 6020A [2]	SW846 3010A [4]
Vanadium	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Zinc	< 20	20	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9184
(2) Instrument QC Batch: N:MA27033
(3) Prep QC Batch: MP21233
(4) Prep QC Batch: N:MP60009

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	F85512-5	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0053509.D	1	08/31/11	NMC	n/a	n/a	VM2163
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	10	3.0	ug/l	
71-43-2	Benzene	0.22	1.0	0.20	ug/l	J
74-97-5	Bromochloromethane	ND	1.0	0.22	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.20	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.22	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	0.25	1.0	0.25	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.47	1.0	0.26	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.25	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.35	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
591-78-6	2-Hexanone	ND	10	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.20	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	F85512-5	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.25	ug/l	
109-99-9	Tetrahydrofuran	ND	5.0	2.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	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	95%		86-112%
460-00-4	4-Bromofluorobenzene	96%		84-120%

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	F85512-5	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
		Percent Solids:	n/a
Project:	Warren County; Warrenton, NC		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Arsenic	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	425	200	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Beryllium	< 4.0	4.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	180	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cobalt	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Copper	172	25	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	30.3	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Nickel	119	40	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Thallium [a]	< 2.0	2.0	ug/l	2	09/02/11	09/03/11	ANJ	SW846 6020A [2]	SW846 3010A [4]
Vanadium	123	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Zinc	214	20	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9184
(2) Instrument QC Batch: N:MA27033
(3) Prep QC Batch: MP21233
(4) Prep QC Batch: N:MP60009

(a) Elevated sample detection limit due to difficult sample matrix. Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	F85512-6	**Date Sampled:**	08/23/11
Matrix:	AQ - Equipment Blank	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0053510.D	1	08/31/11	NMC	n/a	n/a	VM2163
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	11.5	25	10	ug/l	J
107-13-1	Acrylonitrile	ND	10	3.0	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.22	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.20	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.22	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.25	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.26	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.25	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.35	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
591-78-6	2-Hexanone	ND	10	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.20	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	F85512-6	**Date Sampled:**	08/23/11
Matrix:	AQ - Equipment Blank	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.25	ug/l	
109-99-9	Tetrahydrofuran	ND	5.0	2.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	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	100%		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

Accutest Laboratories

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	F85512-6	**Date Sampled:**	08/23/11
Matrix:	AQ - Equipment Blank	**Date Received:**	08/27/11
		Percent Solids:	n/a
Project:	Warren County; Warrenton, NC		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Arsenic	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Beryllium	< 4.0	4.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cobalt	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Copper	< 25	25	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Nickel	< 40	40	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Thallium [a]	< 1.0	1.0	ug/l	2	09/02/11	09/03/11	ANJ	SW846 6020A [2]	SW846 3010A [4]
Vanadium	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Zinc	< 20	20	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9184
(2) Instrument QC Batch: N:MA27033
(3) Prep QC Batch: MP21233
(4) Prep QC Batch: N:MP60009

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F85512-7	**Date Sampled:**	08/23/11
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0053511.D	1	08/31/11	NMC	n/a	n/a	VM2163
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	10	3.0	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.22	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.20	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.22	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.25	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.26	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.25	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.35	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
591-78-6	2-Hexanone	ND	10	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.20	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F85512-7	**Date Sampled:**	08/23/11
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.25	ug/l	
109-99-9	Tetrahydrofuran	ND	5.0	2.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	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	98%		86-112%
460-00-4	4-Bromofluorobenzene	96%		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

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

ACCUTEST

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

F85512

Accutest JOB # PAGE 1 OF 1

Accutest Quote # | SKIFF#

Client / Reporting Information

Company Name: Resolve Environmental
Address: 410 E. Franklin St
City: Monroe State: NC Zip: 28112
Project Contact: Laura Minor E-mail: resolve@carolina.rr.com
Phone#: 704 289 5881
Sampler(s) Name(s) (Printed): Laura M

Project Information

Project Name: Warren County
Street:
City: Warrenton State: NC
Project #:
Fax #:
Client Purchase Order #:

Analytical Information

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

Accutest Sample #	Field ID / Point of Collection	Date	Time	Sampled By	Matrix	Total # of Bottles	Other	None	HCl	MeOH	HNO3	NaOH	NaHSO4	DI Water	MeOH	Appendix I VOCs + 8260 Acetone/Methylene Chloride	Appendix I Metals	LAB USE ONLY
1	WSW-1	8/23/11	1000	LM	GW	4										X	X	
2	MW-1A		1215			4										X	X	
3	MW-2		1150			4										X	X	
4	MW-3		1135			4										X	X	
5	MW-4		1145			4										X	X	
6	Equipment Blank		1018			4										X	X	
7	Trip Blank					3										X		

TURNAROUND TIME (Business Days)

- [x] 10 Days Standard
- [ ] 7 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] OTHER

Approved By: / Rush Code

Emergency or Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

EDD required (Resolve will provide format)

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 Laura M / Resolve		2	3	8/26 15:00	4 FX
Relinquished by:	Date Time:	Received By:	Relinquished by:	Date Time:	Received By:
5	8/26/11 1000	6	7 FX	8/27/11 9:00	8 [illegible] 8/27/11 9:00

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: 3.2

F85512: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F85512 CLIENT: RESOLVE ENVIRONMENTAL PROJECT: WARREN COUNTY

DATE/TIME RECEIVED: 8/27/11 9:00 (MM/DD/YY 24:00) NUMBER OF COOLERS RECEIVED: 1

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

AIRBILL NUMBERS: 8767 0742 7556

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

- [X] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [X] TRIP BLANK NOT INTACT
- [X] 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 +0.4
- [ ] OBSERVED TEMPS: 2.8
- [ ] CORRECTED TEMPS: 3.2

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

(APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

SUMMARY OF COMMENTS: CLIENT PROVIDED TRIP BLANK. RECEIVED ONLY 2 40 ML VIALS FOR SAMPLE #7 (TRIP BLANK). COC READS 3 VIALS.

TECHNICIAN SIGNATURE/DATE [signature] 08/27/11 REVIEWER SIGNATURE/DATE [signature] 8-27-11

NF 12/10 receipt confirmation 122910.xls

F85512: Chain of Custody
Page 2 of 2

Southeast ACCUTEST LABORATORIES

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

Job Number: F85512
Account: RENCM Resolve Environmental
Project: Warren County; Warrenton, NC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM2163-MB	M0053489.D	1	08/31/11	NMC	n/a	n/a	VM2163

The QC reported here applies to the following samples: **Method:** SW846 8260B

F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6, F85512-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	10	3.0	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.22	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.20	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.22	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.25	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.26	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.25	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.35	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
591-78-6	2-Hexanone	ND	10	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.20	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: F85512
Account: RENCM Resolve Environmental
Project: Warren County; Warrenton, NC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM2163-MB	M0053489.D	1	08/31/11	NMC	n/a	n/a	VM2163

The QC reported here applies to the following samples: **Method:** SW846 8260B

F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6, F85512-7

CAS No.	Compound	Result	RL	MDL	Units	Q
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.25	ug/l	
109-99-9	Tetrahydrofuran	ND	5.0	2.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	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	100%	84-120%

Blank Spike Summary

Job Number: F85512
Account: RENCM Resolve Environmental
Project: Warren County; Warrenton, NC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM2163-BS	M0053487.D	1	08/31/11	NMC	n/a	n/a	VM2163

The QC reported here applies to the following samples: **Method:** SW846 8260B

F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6, F85512-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	142	114	59-134
107-13-1	Acrylonitrile	125	115	92	62-124
71-43-2	Benzene	25	25.4	102	83-124
74-97-5	Bromochloromethane	25	22.8	91	78-112
75-27-4	Bromodichloromethane	25	25.0	100	76-116
75-25-2	Bromoform	25	24.4	98	68-128
108-90-7	Chlorobenzene	25	25.9	104	87-115
75-00-3	Chloroethane	25	26.9	108	54-166
67-66-3	Chloroform	25	24.8	99	85-123
75-15-0	Carbon disulfide	25	25.2	101	67-147
56-23-5	Carbon tetrachloride	25	27.6	110	74-139
75-34-3	1,1-Dichloroethane	25	24.8	99	82-127
75-35-4	1,1-Dichloroethylene	25	27.2	109	75-133
96-12-8	1,2-Dibromo-3-chloropropane	25	24.1	96	61-118
106-93-4	1,2-Dibromoethane	25	24.5	98	80-115
107-06-2	1,2-Dichloroethane	25	24.5	98	76-122
78-87-5	1,2-Dichloropropane	25	23.6	94	81-120
124-48-1	Dibromochloromethane	25	26.4	106	74-116
156-59-2	cis-1,2-Dichloroethylene	25	26.6	106	81-114
10061-01-5	cis-1,3-Dichloropropene	25	24.8	99	83-119
95-50-1	o-Dichlorobenzene	25	25.0	100	85-115
106-46-7	p-Dichlorobenzene	25	25.5	102	87-113
156-60-5	trans-1,2-Dichloroethylene	25	26.0	104	82-126
10061-02-6	trans-1,3-Dichloropropene	25	28.0	112	87-123
100-41-4	Ethylbenzene	25	26.9	108	87-118
591-78-6	2-Hexanone	125	124	99	58-125
108-10-1	4-Methyl-2-pentanone	125	124	99	62-125
74-83-9	Methyl bromide	25	25.0	100	55-151
74-87-3	Methyl chloride	25	26.2	105	55-173
74-88-4	Methyl iodide	25	24.8	99	72-125
74-95-3	Methylene bromide	25	26.0	104	81-116
75-09-2	Methylene chloride	25	26.0	104	69-125
78-93-3	Methyl ethyl ketone	125	116	93	61-127
100-42-5	Styrene	25	25.4	102	78-118
630-20-6	1,1,1,2-Tetrachloroethane	25	25.6	102	81-119
71-55-6	1,1,1-Trichloroethane	25	26.2	105	79-133

Blank Spike Summary

Job Number: F85512
Account: RENCM Resolve Environmental
Project: Warren County; Warrenton, NC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VM2163-BS	M0053487.D	1	08/31/11	NMC	n/a	n/a	VM2163

4.2.1

4

The QC reported here applies to the following samples: **Method:** SW846 8260B

F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6, F85512-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
79-34-5	1,1,2,2-Tetrachloroethane	25	23.7	95	71-120
79-00-5	1,1,2-Trichloroethane	25	24.6	98	80-114
96-18-4	1,2,3-Trichloropropane	25	24.4	98	77-115
127-18-4	Tetrachloroethylene	25	28.3	113	80-131
109-99-9	Tetrahydrofuran	25	21.9	88	60-125
108-88-3	Toluene	25	27.1	108	86-116
79-01-6	Trichloroethylene	25	25.7	103	85-124
75-69-4	Trichlorofluoromethane	25	29.5	118	66-156
110-57-6	Trans-1,4-Dichloro-2-Butene	25	23.0	92	51-137
75-01-4	Vinyl chloride	25	26.5	106	57-153
108-05-4	Vinyl Acetate	125	128	102	38-159
1330-20-7	Xylene (total)	75	83.1	111	86-120

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	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	95%	84-120%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F85512
Account: RENCM Resolve Environmental
Project: Warren County; Warrenton, NC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F85513-4MS	M0053499.D	1	08/31/11	NMC	n/a	n/a	VM2163
F85513-4MSD	M0053500.D	1	08/31/11	NMC	n/a	n/a	VM2163
F85513-4	M0053490.D	1	08/31/11	NMC	n/a	n/a	VM2163

The QC reported here applies to the following samples: **Method:** SW846 8260B

F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6, F85512-7

CAS No.	Compound	F85513-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	101	81	105	84	4	59-134/14
107-13-1	Acrylonitrile	ND		125	107	86	113	90	5	62-124/13
71-43-2	Benzene	30.9		25	61.4	122	57.4	106	7	83-124/11
74-97-5	Bromochloromethane	ND		25	25.6	102	23.8	95	7	78-112/10
75-27-4	Bromodichloromethane	ND		25	28.6	114	27.9	112	2	76-116/10
75-25-2	Bromoform	ND		25	27.4	110	25.3	101	8	68-128/11
108-90-7	Chlorobenzene	ND		25	28.9	116*	26.8	107	8	87-115/9
75-00-3	Chloroethane	4.6		25	31.7	108	28.9	97	9	54-166/20
67-66-3	Chloroform	ND		25	28.1	112	26.5	106	6	85-123/10
75-15-0	Carbon disulfide	ND		25	28.8	115	27.1	108	6	67-147/12
56-23-5	Carbon tetrachloride	ND		25	30.9	124	29.8	119	4	74-139/13
75-34-3	1,1-Dichloroethane	4.5		25	34.2	119	32.4	112	5	82-127/10
75-35-4	1,1-Dichloroethylene	ND		25	31.6	126	29.2	117	8	75-133/13
96-12-8	1,2-Dibromo-3-chloropropane	ND		25	27.0	108	27.4	110	1	61-118/15
106-93-4	1,2-Dibromoethane	ND		25	28.3	113	27.0	108	5	80-115/10
107-06-2	1,2-Dichloroethane	ND		25	28.8	115	27.2	109	6	76-122/11
78-87-5	1,2-Dichloropropane	ND		25	27.2	109	26.1	104	4	81-120/11
124-48-1	Dibromochloromethane	ND		25	29.4	118*	27.3	109	7	74-116/11
156-59-2	cis-1,2-Dichloroethylene	ND		25	29.7	119*	27.8	111	7	81-114/10
10061-01-5	cis-1,3-Dichloropropene	ND		25	26.6	106	25.7	103	3	83-119/10
95-50-1	o-Dichlorobenzene	0.29	J	25	28.9	114	26.9	106	7	85-115/9
106-46-7	p-Dichlorobenzene	ND		25	28.5	114*	27.4	110	4	87-113/10
156-60-5	trans-1,2-Dichloroethylene	ND		25	29.4	118	27.2	109	8	82-126/10
10061-02-6	trans-1,3-Dichloropropene	ND		25	29.8	119	28.4	114	5	87-123/10
100-41-4	Ethylbenzene	ND		25	29.9	120*	27.4	110	9	87-118/10
591-78-6	2-Hexanone	ND		125	126	101	127	102	1	58-125/14
108-10-1	4-Methyl-2-pentanone	ND		125	150	120	147	118	2	62-125/13
74-83-9	Methyl bromide	ND		25	24.6	98	22.9	92	7	55-151/21
74-87-3	Methyl chloride	ND		25	24.1	96	23.0	92	5	55-173/22
74-88-4	Methyl iodide	ND		25	28.9	116	27.3	109	6	72-125/11
74-95-3	Methylene bromide	ND		25	29.5	118*	28.0	112	5	81-116/10
75-09-2	Methylene chloride	ND		25	29.6	118	27.9	112	6	69-125/11
78-93-3	Methyl ethyl ketone	ND		125	111	89	112	90	1	61-127/13
100-42-5	Styrene	ND		25	28.4	114	25.7	103	10	78-118/11
630-20-6	1,1,1,2-Tetrachloroethane	ND		25	28.5	114	27.0	108	5	81-119/10
71-55-6	1,1,1-Trichloroethane	ND		25	30.6	122	29.5	118	4	79-133/11

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F85512
Account: RENCM Resolve Environmental
Project: Warren County; Warrenton, NC

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F85513-4MS	M0053499.D	1	08/31/11	NMC	n/a	n/a	VM2163
F85513-4MSD	M0053500.D	1	08/31/11	NMC	n/a	n/a	VM2163
F85513-4	M0053490.D	1	08/31/11	NMC	n/a	n/a	VM2163

4.3.1

4

The QC reported here applies to the following samples: **Method:** SW846 8260B

F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6, F85512-7

CAS No.	Compound	F85513-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	28.2	113	27.3	109	3	71-120/11
79-00-5	1,1,2-Trichloroethane	ND		25	28.2	113	26.2	105	7	80-114/11
96-18-4	1,2,3-Trichloropropane	ND		25	28.8	115	28.9	116*	0	77-115/12
127-18-4	Tetrachloroethylene	ND		25	30.1	120	28.8	115	4	80-131/12
109-99-9	Tetrahydrofuran	4.6	J	25	34.4	119	34.3	119	0	60-125/16
108-88-3	Toluene	0.33	J	25	30.3	120*	28.3	112	7	86-116/10
79-01-6	Trichloroethylene	ND		25	29.9	120	27.5	110	8	85-124/10
75-69-4	Trichlorofluoromethane	ND		25	29.0	116	28.0	112	4	66-156/15
110-57-6	Trans-1,4-Dichloro-2-Butene	ND		25	27.8	111	26.0	104	7	51-137/24
75-01-4	Vinyl chloride	11.0		25	37.8	107	36.0	100	5	57-153/22
108-05-4	Vinyl Acetate	ND		125	106	85	103	82	3	38-159/11
1330-20-7	Xylene (total)	0.97	J	75	92.8	122*	86.2	114	7	86-120/10

CAS No.	Surrogate Recoveries	MS	MSD	F85513-4	Limits
1868-53-7	Dibromofluoromethane	96%	99%	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	97%	102%	96%	76-127%
2037-26-5	Toluene-D8	100%	101%	100%	86-112%
460-00-4	4-Bromofluorobenzene	99%	100%	99%	84-120%

Southeast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F85512
Account: RENCM - Resolve Environmental
Project: Warren County; Warrenton, NC

QC Batch ID: MP21233
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/30/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	24	25		
Antimony	6.0	1	2	-0.60	<6.0
Arsenic	10	1	2	-0.10	<10
Barium	200	4	5	-0.20	<200
Beryllium	4.0	.1	1	-0.30	<4.0
Cadmium	5.0	.1	1	-0.20	<5.0
Cálcium	1000	50	100		
Chromium	10	1	1	-0.30	<10
Cobalt	50	1	1	-0.30	<50
Copper	25	1	2	0.20	<25
Iron	300	23	35		
Lead	5.0	1	1	0.50	<5.0
Magnesium	5000	50	100		
Manganese	15	1	1		
Molybdenum	50	1	2		
Nickel	40	1	2	-0.30	<40
Potassium	10000	50	500		
Selenium	10	2	2	-1.8	<10
Silver	10	1	1	-0.70	<10
Sodium	10000	850	1900		
Strontium	10	1	1		
Thallium	10	1.5	1.9		
Tin	50	1	1		
Titanium	10	1	2		
Vanadium	50	1	1	-0.20	<50
Zinc	20	1	5	-0.40	<20

Associated samples MP21233: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F85512
Account: RENCM - Resolve Environmental
Project: Warren County; Warrenton, NC

QC Batch ID: MP21233
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:			08/30/11					08/30/11	
Metal	F85512-1 Original	DUP	RPD	QC Limits	F85512-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	anr								
Antimony	0.0	0.0	NC	0-20	0.0	466	500	93.2	80-120
Arsenic	0.0	0.0	NC	0-20	0.0	1850	2000	92.5	80-120
Barium	18.7	18.6	0.5	0-20	18.7	1950	2000	96.6	80-120
Beryllium	0.10	0.20	66.7 (a)	0-20	0.10	48.8	50	97.4	80-120
Cadmium	0.0	0.0	NC	0-20	0.0	48.5	50	97.0	80-120
Calcium	anr								
Chromium	1.1	1.1	0.0	0-20	1.1	201	200	100.0	80-120
Cobalt	0.0	0.0	NC	0-20	0.0	487	500	97.4	80-120
Copper	3.2	3.1	3.2	0-20	3.2	245	250	96.7	80-120
Iron	anr								
Lead	0.0	0.0	NC	0-20	0.0	467	500	93.4	80-120
Magnesium									
Manganese	anr								
Molybdenum									
Nickel	0.0	0.0	NC	0-20	0.0	488	500	97.6	80-120
Potassium									
Selenium	0.0	0.0	NC	0-20	0.0	1890	2000	94.5	80-120
Silver	0.0	0.0	NC	0-20	0.0	48.2	50	96.4	80-120
Sodium	anr								
Strontium									
Thallium									
Tin									
Titanium									
Vanadium	0.0	0.0	NC	0-20	0.0	484	500	96.8	80-120
Zinc	12.2	12.0	1.7	0-20	12.2	475	500	92.6	80-120

Associated samples MP21233: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F85512
Account: RENCM - Resolve Environmental
Project: Warren County; Warrenton, NC

QC Batch ID: MP21233
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/30/11

Metal	F85512-1 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	0.0	479	500	95.8	2.8	20
Arsenic	0.0	1900	2000	95.0	2.7	20
Barium	18.7	2020	2000	100.1	3.5	20
Beryllium	0.10	49.8	50	99.4	2.0	20
Cadmium	0.0	49.6	50	99.2	2.2	20
Calcium	anr					
Chromium	1.1	204	200	101.5	1.5	20
Cobalt	0.0	496	500	99.2	1.8	20
Copper	3.2	250	250	98.7	2.0	20
Iron	anr					
Lead	0.0	476	500	95.2	1.9	20
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	0.0	499	500	99.8	2.2	20
Potassium						
Selenium	0.0	1920	2000	96.0	1.6	20
Silver	0.0	49.4	50	98.8	2.5	20
Sodium	anr					
Strontium						
Thallium						
Tin						
Titanium						
Vanadium	0.0	496	500	99.2	2.4	20
Zinc	12.2	487	500	95.0	2.5	20

Associated samples MP21233: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F85512
Account: RENCM - Resolve Environmental
Project: Warren County; Warrenton, NC

QC Batch ID: MP21233
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/30/11

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum	anr			
Antimony	448	500	89.6	80-120
Arsenic	1780	2000	89.0	80-120
Barium	1860	2000	93.0	80-120
Beryllium	47.8	50	95.6	80-120
Cadmium	47.7	50	95.4	80-120
Calcium	anr			
Chromium	198	200	99.0	80-120
Cobalt	480	500	96.0	80-120
Copper	235	250	94.0	80-120
Iron	anr			
Lead	456	500	91.2	80-120
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	477	500	95.4	80-120
Potassium				
Selenium	1820	2000	91.0	80-120
Silver	47.6	50	95.2	80-120
Sodium	anr			
Strontium				
Thallium				
Tin				
Titanium				
Vanadium	475	500	95.0	80-120
Zinc	450	500	90.0	80-120

Associated samples MP21233: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F85512
Account: RENCM - Resolve Environmental
Project: Warren County; Warrenton, NC

QC Batch ID: MP21233
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/30/11

Metal	F85512-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	18.7	0.00	100.0(a)	0-10
Beryllium	0.100	0.00	100.0(a)	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	anr			
Chromium	1.10	0.00	100.0(a)	0-10
Cobalt	0.00	0.00	NC	0-10
Copper	3.20	0.00	100.0(a)	0-10
Iron	anr			
Lead	0.00	0.00	NC	0-10
Magnesium				
Manganese	anr			
Molybdenum				
Nickel	0.00	0.00	NC	0-10
Potassium				
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Sodium	anr			
Strontium				
Thallium				
Tin				
Titanium				
Vanadium	0.00	0.00	NC	0-10
Zinc	12.2	10.5	13.9 (a)	0-10

Associated samples MP21233: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: F85512
Account: RENCM - Resolve Environmental
Project: Warren County; Warrenton, NC

QC Batch ID: MP21233
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 08/30/11

Metal	Sample ml	Final ml	F85512-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony	9.8	10	0	0	87.8	0.2	5	100	87.8	80-120
Arsenic	9.8	10	0	0	87.3	0.2	5	100	87.3	80-120
Barium	9.8	10	18.7	18.326	241.1	0.2	12.5	250	89.1	80-120
Beryllium	9.8	10	0.1	0.098	45.7	0.2	2.5	50	91.2	80-120
Cadmium	9.8	10	0	0	48.3	0.2	2.5	50	96.6	80-120
Calcium										
Chromium	9.8	10	1.1	1.078	48.9	0.2	2.5	50	95.6	80-120
Cobalt	9.8	10	0	0	46.4	0.2	2.5	50	92.8	80-120
Copper	9.8	10	3.2	3.136	96.3	0.2	5	100	93.2	80-120
Iron										
Lead	9.8	10	0	0	44.3	0.2	2.5	50	88.6	80-120
Magnesium										
Manganese										
Molybdenum										
Nickel	9.8	10	0	0	95.6	0.2	5	100	95.6	80-120
Potassium										
Selenium	9.8	10	0	0	88.9	0.2	5	100	88.9	80-120
Silver	9.8	10	0	0	44.5	0.2	2.5	50	89.0	80-120
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium	9.8	10	0	0	46.2	0.2	2.5	50	92.4	80-120
Zinc	9.8	10	12.2	11.956	232.9	0.2	12.5	250	88.4	80-120

Associated samples MP21233: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested

Southeast ACCUTEST LABORATORIES

Misc. Forms

6

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody

ACCUTEST Laboratories

Accutest Laboratories Southeast
Subcontract Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL 407-425-6700 FAX: 407-425-0707
www.accutest.com

PAGE 1 OF 1

Client / Reporting Information

Company Name: Accutest Laboratories
Address: 4405 Vineland Rd.
City: Orlando State: FL Zip: 32811
Phone #: (407) 425-6700 Fax#: (407) 425-0707

Project Information

Project Name: F85512
Please send report to dawnd@accutest.com
For any other issues contact munam@accutest.com

Analytical Information

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

Lab ID #	Sample ID	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaSh+ZnAC	DI WATER	MEOH	TLMS										LAB USE ONLY
	F85512-1	08/23/11	10:00			1					X					X										
	F85512-2	08/23/11	12:15			1					X					X										
	F85512-3	08/23/11	11:50			1					X					X										ME28
	F85512-4	08/23/11	11:35			1					X					X										
	F85512-5	08/23/11	11:45			1					X					X										
	F85512-6	08/23/11	10:18			1					X					X										

Turnaround Time (Business days)

Std. 10 Business Days
7 Day *RUSH*
5 Day *RUSH*
3 Day *EMERGENCY*
2 Day *EMERGENCY*
1 Day *EMERGENCY*
Other

Approved By: / Date/Rush Code:
8-25-11

Data Deliverable Information

- ☐ COMMERCIAL "A" (RESULTS ONLY)
- ☒ COMMERCIAL "B" (RESULTS PLUS QC)
- ☐ REDT1 (EPA LEVEL 3)
- ☐ FULLT1 (EPA LEVEL 4)
- ☐ EDD'S

Comments / Remarks

Ship to Laboratory - ALNJ
Approved by - Muna M.
TLMS by 6020

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

Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1 ALSE	8/30/11 1700	2 FED EX	3 FED EX	1000 8-31-11	4
Relinquished by/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
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: 23.8°c
NO ICE

TM

6.1

F85512: Chain of Custody
Page 1 of 2
Accutest New Jersey

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number F85512 **Client:**

Date / Time Received: 8/31/2011 **Project:**

No. Coolers: 1 **Airbill #'s:** **Delivery Method:**

Cooler Security	Y	or N		Y	or N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	or N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	

Quality Control Preservatio	Y	or N	N/A
1. Trip Blank present / cooler:	☐	☐	☑
2. Trip Blank listed on COC:	☐	☐	☑
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation	Y	or N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	or N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	or N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

6.1

6

F85512: Chain of Custody
Page 2 of 2

Southeast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F85512
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: RENCM: Warren County; Warrenton, NC

QC Batch ID: MP60009
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/02/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.14	5.3		
Antimony	1.0	.024	.36		
Barium	2.0	.012	.055		
Beryllium	1.0	.008	.023		
Boron	10	2	3.2		
Cadmium	1.0	.034	.039		
Calcium	500	4.8	24		
Chromium	2.0	.14	.11		
Cobalt	1.0	.006	.024		
Copper	2.0	.046	.25		
Iron	50	4.3	4.3		
Lead	1.0	.012	.11		
Magnesium	500	.2	3.7		
Manganese	1.0	.024	.089		
Molybdenum	2.0	.024	.053		
Nickel	2.0	.028	1.2		
Potassium	500	9.2	16		
Selenium	1.0	.064	.17		
Silver	1.0	.006	.021		
Sodium	500	14	24		
Strontium	10	.006	.052		
Thallium	1.0	.09	.25	0.12	<1.0
Tin	10	.03	.43		
Titanium	2.0	.038	.37		
Vanadium	2.0	.74	.26		
Zinc	4.0	.1	2.2		

Associated samples MP60009: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.1.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F85512
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: RENCM: Warren County; Warrenton, NC

QC Batch ID: MP60009
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/02/11

Metal	T85176-4 Original MS		Spikelot MPIRW1	% Rec	QC Limits
Aluminum					
Antimony					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium	0.56	1820	2000	91.0	75-125
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP60009: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

7.1.2

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F85512
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: RENCM: Warren County; Warrenton, NC

QC Batch ID: MP60009
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/02/11

Metal	T85176-4 Original	MSD	Spikelot MPIRW1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium	0.56	1800	2000	90.0	1.1	20
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP60009: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

7.1.2

7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F85512
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: RENCM: Warren County; Warrenton, NC

QC Batch ID: MP60009
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/02/11

Metal	LCS Result	Spikelot MPLCW3	% Rec	QC Limits
Aluminum				
Antimony				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium	523	500	104.6	80-120
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP60009: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.1.3

7

SERIAL DILUTION RESULTS SUMMARY

Login Number: F85512
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: RENCM: Warren County; Warrenton, NC

QC Batch ID: MP60009
Matrix Type: AQUEOUS

Methods: SW846 6020A
Units: ug/l

Prep Date: 09/02/11

Metal	T85176-4 Original	SDL 2:10	%DIF	QC Limits
Aluminum				
Antimony				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium	0.555	1.37	146.4(a)	0-10
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP60009: F85512-1, F85512-2, F85512-3, F85512-4, F85512-5, F85512-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Resolve Environmental Services, PLLC
410 East Franklin Street
Monroe, North Carolina 28112
(704) 289-5881 phone
(704) 292-2910 fax
www.resolvepllc.com

RECEIVED
SEP 19 2011
SOLID WASTE SECTION

September 9, 2011

Ms. Jacqueline Smith
539 Baltimore Road
Warrenton, NC 27589

Re: Water Supply Well Sampling Results
539 Baltimore Road, Warrenton, NC

Dear Ms. Smith:

This letter is to inform you of the recent water supply well (WSW-1) sampling results conducted on August 23, 2011. Resolve Environmental Services, PLLC (Resolve) has been contracted by the Warren County Solid Waste Department to conduct semi-annual ground water sampling activities at their facility. The water supply well connected to your residence was included in the sampling schedule.

No detectable concentrations of requested method constituents were reported in the ground water sample. A copy of the applicable analytical laboratory results has been included as an attachment. This information has been submitted to the NCDENR Solid Waste Section and will be maintained in their files.

As part of the ongoing sampling schedule at Warren County Landfill, WSW-1 will be sampled again in February 2012. The analytical results will be forwarded to you following the receipt of the analytical report. If you have any questions, please call me at (704) 289-5881.

Sincerely,
Resolve Environmental Services, PLLC

Laura Minor

cc: Mr. Ervin Lane, NCDENR-Division of Waste Management/Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646
Mr. Marshall Brothers, Warren County Solid Waste Department, 559 Baltimore Road, Warrenton, North Carolina 27589

attachment

Accutest Laboratories

Report of Analysis

Client Sample ID:	WSW-1		
Lab Sample ID:	F85512-1	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0053505.D	1	08/31/11	NMC	n/a	n/a	VM2163
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	10	ug/l	
107-13-1	Acrylonitrile	ND	10	3.0	ug/l	
71-43-2	Benzene	ND	1.0	0.20	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.22	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.20	ug/l	
75-25-2	Bromoform	ND	1.0	0.20	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.20	ug/l	
75-00-3	Chloroethane	ND	2.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.22	ug/l	
75-15-0	Carbon disulfide	ND	2.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.25	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.25	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.23	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.50	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.37	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.20	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.25	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.26	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.25	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.35	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
591-78-6	2-Hexanone	ND	10	4.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	0.50	ug/l	
74-87-3	Methyl chloride	ND	2.0	0.50	ug/l	
74-88-4	Methyl iodide	ND	1.0	0.20	ug/l	
74-95-3	Methylene bromide	ND	2.0	0.25	ug/l	
75-09-2	Methylene chloride	ND	5.0	2.0	ug/l	

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	WSW-1		
Lab Sample ID:	F85512-1	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Warren County; Warrenton, NC		

VOA Appendix I 40 CFR Part 258

CAS No.	Compound	Result	RL	MDL	Units	Q
78-93-3	Methyl ethyl ketone	ND	5.0	2.0	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.23	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.22	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	2.0	0.30	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.25	ug/l	
109-99-9	Tetrahydrofuran	ND	5.0	2.0	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.26	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.50	ug/l	
110-57-6	Trans-1,4-Dichloro-2-Butene	ND	10	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	
108-05-4	Vinyl Acetate	ND	10	2.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.52	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	95%		86-112%
460-00-4	4-Bromofluorobenzene	97%		84-120%

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	WSW-1		
Lab Sample ID:	F85512-1	**Date Sampled:**	08/23/11
Matrix:	AQ - Ground Water	**Date Received:**	08/27/11
		Percent Solids:	n/a
Project:	Warren County; Warrenton, NC		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Antimony	< 6.0	6.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Arsenic	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Beryllium	< 4.0	4.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cobalt	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Copper	< 25	25	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	< 5.0	5.0	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Nickel	< 40	40	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Thallium [a]	< 1.0	1.0	ug/l	2	09/02/11	09/03/11	ANJ	SW846 6020A [2]	SW846 3010A [4]
Vanadium	< 50	50	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]
Zinc	< 20	20	ug/l	1	08/30/11	08/30/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9184
(2) Instrument QC Batch: N:MA27033
(3) Prep QC Batch: MP21233
(4) Prep QC Batch: N:MP60009

(a) Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit