

# INTERIM REMEDIAL MEASURE PROGRAM

# FOURTH SEMI-ANNUAL PROGRESS REPORT (OCTOBER 1998 – MARCH 1999)

FORMER GRIFFIN TECHNOLOGY FACILITY TOWN OF FARMINGTON ONTARIO COUNTY, NEW YORK INDEX NO. (B8-315-90-01)

Prepared for Diebold, Inc. Canton, Ohio

June 23, 1999

### URS Greiner Woodward Clyde, Inc.

A Division of URS Corporation

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# INTERIM REMEDIAL MEASURE SEMI-ANNUAL PROGRESS REPORT GRIFFIN TECHNOLOGY, INC. FACILITY TOWN OF FARMINGTON ONTARIO COUNTY, NEW YORK

The enclosed Fourth Semi-Annual Progress Report has been reviewed by the undersigned, and has been found to be consistent with the requirements of the Order on Consent (Index No. B8-315-90-01), entered into by the New York State Department of Environmental Conservation and Griffin Technology, Inc.

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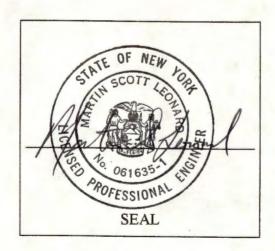
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SECTIONONE Introduction

This report presents information collected by URS Greiner Woodward Clyde (URSGWC) during the fourth six-month period of operation (October 1998 through March 1999) of the Interim Remedial Measure (IRM) system at the Griffin Technology, Inc. (GTI) site located at 6132 Victor-Manchester Road in the Town of Farmington, Ontario County, New York. The IRM system consists of three wells equipped with groundwater extraction pumps, which have been plumbed to discharge groundwater into the local sanitary sewer system. A general location map is included as Figure 1-1.

The IRM system was proposed in the IRM Work Plan submitted to the New York State Department of Environmental Conservation (NYSDEC) on July 10, 1996. The Work Plan was prepared in accordance with the Order on Consent agreement (Index No. B8-315-90-01) entered into by GTI and the NYSDEC. Information supporting the selected IRM, such as the Field Sampling Plan (FSP), Quality Assurance Project Plan (QAPP), and Health and Safety Plan (HASP), were included in the Work Plan.

On September 27, 1996, GTI submitted an Interim Remedial Measure Program, Final Design Document to the NYSDEC. This document contained the proposed layout and detail drawings for the IRM system and a copy of the letter approving the discharge of recovered groundwater into the local publicly-owned treatment works (POTW) sanitary sewer. In addition, an implementation schedule to construct the system and a proposed two year sample collection and reporting schedule were included in the design document.

During December 1996 and January 1997, the IRM components were installed at the site. Following approval by the NYSDEC and the Canandaguia-Farmington Water and Sewer District to discharge recovery water into the sanitary sewer system, the system was placed on-line. The IRM system began operating on February 18, 1997.

The activities performed during the fourth six-month period of operation are described in Section 2.0. Information collected during this period of operation is presented in Section 3.0. Conclusions and recommendations are presented in Section 4.0.

SECTIONTWO Scope of Work

The Scope of Work for the IRM was presented in the Final Design Document presented to the NYSDEC on September 27, 1996. Implementation of the IRM consisted of the following elements:

- Installing an IRM system in the undeveloped parcel of land located downgradient of the source area. The IRM system consisted of installing three groundwater extraction wells, one bedrock monitoring well located in the source area which could potentially be used for additional recovery, two sets of nested piezometers located between each of the three extraction wells to monitor groundwater elevations between each well, a groundwater recovery and collection system to convey water to a central access vault, electrical power supply and controllers for each recovery pump, sample collection and flow monitoring appurtenances, and a force main sewer to discharge effluent from the access vault to a sanitary sewer located on the southeast portion of the site.
- Monitoring the quantity and quality of groundwater recovered from the system monthly and reporting this data to the local POTW.
- Monitoring the groundwater elevations in all on-site wells and piezometers to evaluate the
  effectiveness of the IRM as a groundwater extraction system and hydraulic barrier.
- Collecting groundwater samples from all wells located on-site and off-site semi-annually
  beginning six months after initiation of the system and continuing for a period of two years.
  All groundwater samples collected during these semi-annual activities will be analyzed for
  volatile organic compounds (VOCs) by NYSDEC Test Method ASP 91-1 (now referenced as
  NYSDEC Test Method ASP 95-1).
- Preparing progress reports for submission to the NYSDEC. The reports should include data
  collected during the preceding months of operation as well as information and activities to be
  performed during subsequent reporting periods.

#### 2.1 IRM SYSTEM

The IRM installation activities were performed during December 1996 and January 1997. Operation of the IRM system was initiated on February 18, 1997. The layout of the IRM system, on-site groundwater monitoring wells and piezometers, and other pertinent features discussed in this report are shown in Figure 2-1. The system is currently in operation. The components comprising the IRM system are discussed in greater detail below.

#### 2.1.1 IRM System Configuration

The IRM system consists of a network of three groundwater recovery wells (designated as RW-01, RW-02, and RW-03). The recovery wells are constructed with 20-foot screened intervals that straddle the contact between the overburden and the bedrock. The total depths of the wells range between approximately 27 and 33 feet below ground surface (bgs).

A Goulds Model 10GS electric, submersible pump was installed in each recovery well. Each pump is connected to a PumpTec<sup>®</sup> "Load-Sensor" type controller to automate the operation of the pump. The controllers are currently operating on 4-minute reset time intervals.

SECTIONTWO Scope of Work

Underground piping and wiring connect the recovery wells to a Central Access Vault, located on the western side of the facility building. At the Central Access Vault, the individual groundwater conveyance pipe from each recovery well is connected to a manifold, which connects to a common header discharge pipe. Each individual conveyance pipe on the manifold is equipped with a shut-off valve, sample port, and totalizing flow meter to facilitate individual well monitoring. In addition, a shut-off valve, sample port, and totalizing flow meter are located on the common header pipe prior to discharge.

The extracted groundwater flows from the manifold and header in the Central Access Vault through a force main pipe and into a sanitary clean-out located on the southeast portion of the site. The sanitary clean-out was installed in-line with the existing sanitary sewer to facilitate discharges into a gravity sewer. Effluent is discharged into the clean-out riser pipe, down into the sanitary sewer where it is travels by gravity to the Canandaguia-Farmington Water and Sewer District for ultimate disposal. Prior to installation of the force main discharge and subsequent system start-up, it was necessary for the Canandaguia-Farmington Water and Sewer District to receive permission from the NYSDEC to receive this wastewater.

#### 2.2 IRM SYSTEM MONITORING

During the fourth six-month period of operation, groundwater elevation, discharge volume, and groundwater analytical data were collected to monitor the effectiveness of the IRM system. The data collected are discussed in the following subsections.

#### 2.2.1 Hydraulic Head Measurement

Hydraulic head (groundwater elevation) measurements were collected from each groundwater well and piezometer located on site a minimum of once per month during routine site visits. During some visits, hydraulic head measurements were also collected from nearby monitoring wells MW-6S and MW-6D. All groundwater measurements were collected using an electronic water level indicator capable of measuring the water elevation to the nearest 0.01 ft.

On March 17, 1999, prior to the collection of groundwater samples, the water level in each on-site and off-site groundwater monitoring well was measured and recorded to evaluate groundwater flow conditions. Measurements were not obtained from staff gauge SG-1 because the elevation of the creek was below this gauge's minimum depth.

#### 2.2.2 Groundwater Sampling and Analysis

During the fourth six-month period of operation, composite effluent samples were collected monthly from the common header discharge in the Central Access Vault. These samples were submitted to Columbia Analytical Services, Inc. (CASI) of Rochester, New York for analysis of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) method 8260. The analytical results of these composite samples were used to report estimated loadings on the POTW.

On March 17 and 18, 1999, groundwater samples were collected to evaluate regional groundwater quality. Samples were collected from all monitoring wells. Prior to sample collection, the static water level in each well was measured (Section 2.2.1). Using the static water

SECTIONTWO Scope of Work

level measurements, the volume of water contained in each well (the well volume) was calculated. The monitoring well was then purged of a minimum of three well volumes of water or until dry using a new, disposable, high density polyethylene (HDPE) bailer equipped with a nylon cord.

Groundwater samples were collected within 24 hours of purging each well. Samples were placed into laboratory supplied containers and placed into a cooler with ice for preservation until delivered to the laboratory for analysis. One duplicate sample was collected from monitoring well MW-4. Groundwater samples were submitted to CASI and analyzed for VOCs by NYSDEC Test Method ASP 95-1. Chain-of-custody procedures were observed throughout the sampling event.

The data collected during the fourth six-month period of IRM system operation and the results of the fourth semi-annual groundwater sampling event are presented in the following subsections.

#### **EFFLUENT OPERATING DATA AND ANALYTICAL RESULTS** 3.1

A summary of the operating data and effluent analysis collected during each month of IRM system operation is presented in Table 3-1. The results continue to indicate that groundwater containing chemicals of concern (COCs) is being removed from underneath the GTI site. The COCs detected in the effluent samples consisted of trichloroethene (TCE); 1,1,1-trichloroethane (1,1,1-TCA); cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride. These COCs are generally consistent with earlier results except that vinyl chloride was not previously identified in effluent samples. TCE was consistently the compound with the highest reported concentration. The concentrations of COCs in the system effluent fluctuated during this operating period. The concentrations of COCs in the system effluent were higher at the beginning of this operating period and lower near the end of the operating period, but remained within the range of historical levels. The quantity of water removed by the system increased during the latter months (February and March 1999) of this operating period. This appears to be related to higher seasonal groundwater elevations during late winter and spring and is similar to conditions observed during previous years. Laboratory data sheets for effluent samples collected during this period of operation are provided in Appendix A.

#### **GROUNDWATER ANALYTICAL RESULTS** 3.2

A summary of groundwater analytical data collected from all wells on March 17 and 18, 1999 is presented in Table 3-2. Table 3-2 also summarizes the data from previous sampling events. The laboratory data sheets from CASI, for the fourth semi-annual groundwater sampling event, are provided in Appendix B. A data validation report for this data, prepared by URSGWC's internal QA/QC reviewer, is provided in Appendix C. Results of the validation indicate that the data are acceptable. Low concentrations of acetone were reported in some samples; however, results of the validation suggest that the presence of acetone is attributed to laboratory activities.

Groundwater analytical results obtained from the March 17 and 18, 1999 event showed that concentrations of COCs were generally lower than those reported for the previous (September 2, 1998) groundwater sampling event. The COCs detected in groundwater samples collected during March 1999 consisted of TCE; 1,1,1-TCA; and cis-1,2-DCE. These COCs are consistent with the results of earlier sampling events. TCE was consistently the compound with the highest reported concentration.

#### 3.3 HYDRAULIC HEAD MEASUREMENT RESULTS

Hydraulic head measurements collected during the past six months of operation from selected on-site groundwater monitoring wells and piezometers and nearby monitoring wells MW-6S and MW-6D are presented in Table 3-3. These data were used to construct monthly groundwater contour maps of the site for the overburden water-bearing zone (Figures 3-1 through 3-5) and the bedrock water-bearing zones (Figures 3-7 through 3-11).

The measurements collected from all on-site and off-site groundwater monitoring wells and piezometers on March 17, 1999 in conjunction of the groundwater sampling event are presented in Table 3-4. Hydraulic head measurements from previous groundwater sampling events at the site are included in Table 3-4. Figure 3-6 is a contour map illustrating groundwater flow conditions in the vicinity of the site in the overburden water-bearing zone on March 17, 1999. Figure 3-12 is a contour map illustrating groundwater flow conditions in the vicinity of the site in the bedrock water-bearing zone on March 17, 1999.

The groundwater contour maps from the GTI site indicate that groundwater in the overburden water-bearing zone generally appears to flow to the south or southwest. In the bedrock water-bearing zone, groundwater generally appears to flow toward a groundwater low area near the southwest corner of the site, in the vicinity of RW-03. The March 1999 data suggest that groundwater in the bedrock zone at the site flowed to the southwest toward a groundwater low in the vicinity of monitoring well MW-7D. The groundwater elevation data indicate that the IRM system is continuing to influence groundwater flow patterns at the GTI site. These results are consistent with previous observed site conditions.

Based on the information collected during the fourth six-month period of IRM system operation, the following summary has been developed regarding environmental conditions at the GTI site:

- Groundwater flow in the overburden and bedrock zones at the site is primarily to the southwest. This is consistent with previous reports for the GTI site.
- The IRM system is influencing groundwater flow patterns in the vicinity of the GTI facility. The groundwater elevation data generally indicate the presence of a groundwater low in the bedrock water-bearing zone in the southwest portion of the site, in the immediate vicinity of the IRM system. The March 1999 bedrock groundwater elevation data indicate the presence of a groundwater low southwest of the site in the vicinity of monitoring well MW-7D.
- The monthly quantity of groundwater removed by the IRM system increased during wet weather (spring) conditions. The concentrations of COCs in the IRM system effluent were higher at the beginning of this operating period and lowest near the end of the operating period, but remained consistent with historical levels. TCE was consistently the COC reported at the highest concentration in the IRM system effluent.
- Groundwater analytical results for samples collected during the March 1999 sampling event indicated that concentrations of COCs were generally lower than those reported for the previous (September 2, 1999) groundwater sampling event.

Data collection activities for the third year of IRM system operation will be continued in the same manner as the first and second years of IRM system operation. Continued monitoring of the site and additional data collection during the next period of operation will provide additional data to evaluate the long-term effectiveness of the IRM system.

URS Greiner Woodward Clyde

TABLE 3-1 SUMMARY OF EFFLUENT DISCHARGES TO POTW GRIFFIN TECHNOLOGY FACILITY FARMINGTON, NEW YORK

4-1	DISCHARGE			CONCEN	TRATIONS	
MONTH	(GAL.)	TCE	1,1,1-TCA	1,2-DCE	2-BUTANONE	VINYL CHLORIDE
March 1997	320,150	610	14	6.5	ND	ND
April 1997	362,132	240	5.8	6	ND	ND
May 1997	235,601	360	9.8	ND	ND	ND
June 1997	213,976	380	12	10	ND	ND
July 1997	135,320	570	16	15	ND	ND
August 1997	68,270	700	21	13	26.0	ND
September 1997	70,218	810	ND	ND	ND	ND
October 1997	90,717	880	18	10	ND	ND
November 1997	93,914	690	17	12	ND	ND
December 1997	210,268	420	ND	ND	ND	ND
January 1998	456,551	250	ND	ND	ND	ND
February 1998	191,493	180	ND	ND	ND	ND
March 1998	387,910	200	5.4	ND	ND	ND
April 1998	352,742	150	ND	ND	ND	ND
May 1998	191,088	250	ND	ND	ND	ND
June 1998	96,750	320	7.5	ND	ND	ND
July 1998	270,973	200	ND	ND	ND	ND
August 1998	68,147	400	13	12	ND	ND

- 1. All results expressed in micrograms per liter ( $\mu g/l$ ).
- 2. No other VOC compounds detected.
- 3. ND indicates not detected.

TABLE 3-1 SUMMARY OF EFFLUENT DISCHARGES TO POTW GRIFFIN TECHNOLOGY FACILITY FARMINGTON, NEW YORK

DISCHARGE				CONCENTRATIONS			
MONTH	(GAL.)	TCE	1,1,1-TCA	1,2-DCE	2-BUTANONE	VINYL CHLORIDE	
September 1998	44,030	510	14	15	ND	ND	
October 1998	66,160	400	ND	ND	ND	ND	
November 1998	44,150	440	12	ND	ND	ND	
December 1998	43,580	590	22	19	ND	ND	
January 1999	33,531	660	ND	ND	ND	ND	
February 1999	144,720	230	ND	ND	ND	ND	
March 1999	139,410	140	ND	12	ND	17	

- 1. All results expressed in micrograms per liter (μg/l).
- 2. No other VOC compounds detected.
- 3. ND indicates not detected.

TABLE 3-2
SUMMARY OF MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Monitoring Well No.	Sample Date	TCE	1,1,1-TCA	1,2-DCE	XYLENES
MW-01	12/19/94	ND	ND		
141 44-01	5/21/96	ND		ND	ND
	8/13/97	ND	ND	ND	ND
	3/18/98	ND	ND	ND	ND
	9/2/98	ND	ND	ND	ND
	3/18/99	ND	ND ND	ND ND	ND ND
MW-02S	12/19/94	850	ND	ND	
141 44 -025	5/21/96	30	ND	1	ND ND
	8/13/97	NS	NS	NS	
- 2	3/18/98	17,000	ND	ND	ND
	9/2/98	18,000	210	ND	ND
	3/18/99	28	ND	ND	ND ND
MW-02D	8/13/97	450	23	42	ND
	3/18/98	740	16	28	ND
	9/2/98	680	25	39	ND
	3/18/99	190	5	6	ND
MW-03	12/19/94	190	ND	ND	ND
	5/21/96	120	ND	2	ND
	8/13/97	150	ND	2	ND
	3/18/98	88	ND	ND	ND
	9/2/98	110	ND	ND	ND
	3/18/99	45	ND	ND	ND
MW-04	12/19/94	710	6.7	23	ND
	5/21/96	16	ND	2	ND
	8/13/97	NS	NS	NS	ND
	3/18/98	59	ND	2	ND
	9/2/98	450	7	20	ND
	3/18/99	58	ND	1	ND
MW-05S	12/19/94	580	15	ND	ND
	5/21/96	350	16	ND	ND
	8/13/97	760	31	4	ND
	3/18/98	120	4	ND	- 1
	9/2/98	390	14	ND	ND
	3/18/99	95	3	ND	ND

- 1. 12/19/94 measurements collected by Blasland, Bouck & Lee.
- 2. No other VOC compounds detected at method detection limit.
- 3. ND indicates not detected.
- 4. All results expressed in micrograms per liter (µg/l).
- 5. "NS" indicates no sample collected.

TABLE 3-2
SUMMARY OF MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Monitoring Well No.	Sample Date	TCE	1,1,1-TCA	1,2-DCE	XYLENES
MW-05D	12/19/94	820	23	ND	
W W-03D	5/21/96	1,000	48		ND
	8/13/97	250	7	8	ND
	3/18/98			2	· · ND
		250	7	ND	ND
	9/2/98 3/18/99	300	8	2	ND
	3/10/99	200	7	2	ND
MW-06S	12/19/94	270	7.8	ND	ND
	5/21/96	ND	2	ND	ND
	8/13/97	140	9	3	ND
	3/18/98	5	ND	ND	ND
	9/2/98	140	8	2	ND
	3/17/99	ND	ND	ND	ND
MW-06D	12/19/94	190	7.5	ND	ND
	5/21/96	240	10	ND	ND
	8/13/97	150	10	2	ND
	3/18/98	6	ND	ND	ND
	9/2/98	140	8	2	ND
	3/17/99	ND	ND	ND	ND
MW-07S	12/19/94	250	6.6	8	ND
	5/21/96	310	7	6	ND
	8/13/97	250	6	6	ND
	3/18/98	3	ND	ND	ND
	9/2/98	220	5	4	ND
-	3/17/99	ND	ND	ND	ND
MW-07D	12/19/94	260	ND	7	ND
	5/21/96	290	4	12	ND
	8/13/97	180	2	13	ND
	3/18/98	150	2	15	ND
	9/2/98	200	2	15	ND
	3/17/99	100	ND	8	ND
MW-08S	12/19/94	29	ND	ND	ND
			ll abandoned.	1-	1,12

- 1. 12/19/94 measurements collected by Blasland, Bouck & Lee.
- 2. No other VOC compounds detected at method detection limit.
- 3. ND indicates not detected.
- 4. All results expressed in micrograms per liter (μg/l).
- 5. "NS" indicates no sample collected.

TABLE 3-2
SUMMARY OF MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Monitoring Well No.	Sample Date	TCE	1,1,1-TCA	1,2-DCE	XYLENES
MW-08D	12/19/94	55	ND	ND	ND
			ell abandoned.		ND.
MW-09S	12/19/94	ND	ND	ND	ND
	5/21/96	ND	ND	ND	ND
	8/13/97	2	ND	ND	ND
	3/18/98	3	ND	ND	ND
	9/2/98	NS	NS	NS	NS
	3/18/99	ND	ND	ND	ND
MW-09D	12/19/94	ND	ND	ND	ND
	5/21/96	ND	ND	ND	ND
	8/13/97	ND	ND	ND	ND
	3/18/98	ND	ND	ND	ND
	9/2/98	NS	NS	NS	NS
	3/18/99	ND	ND	ND	ND
MW-10S	12/19/94	7.8	ND	ND	ND
	5/29/96	30	1	ND	ND
	8/13/97	15	ND	ND	ND
	3/18/98	NS	NS	NS	NS
	9/2/98	8	ND	ND	ND
	3/18/99	ND	ND	ND	ND
MW-10D	12/19/94	8.2	ND	ND	ND
	5/29/96	8	ND	ND	ND
	8/13/97	15	ND	ND	ND
	3/18/98	NS	NS	NS	NS
	9/2/98	9	ND	ND	ND
	3/18/99	ND	ND	ND	ND
MW-11D	4/11/96	ND	ND	ND	ND
	5/21/96	ND	ND	ND	ND
	8/13/97	ND	ND	ND	ND
	3/18/98	ND	ND	ND	ND
	9/2/98	ND	ND	ND	ND
	3/18/99	ND	ND	ND	ND

- 1. 12/19/94 measurements collected by Blasland, Bouck & Lee.
- 2. No other VOC compounds detected at method detection limit.
- 3. ND indicates not detected.
- 4. All results expressed in micrograms per liter (μg/l).
- 5. "NS" indicates no sample collected.

TABLE 3-2
SUMMARY OF MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Monitoring Well No.	Sample Date	TCE	1,1,1-TCA	1,2-DCE	XYLENES
MW-13D	4/11/96	610	5	4	ND
	5/21/96	190	5	4	ND
	8/13/97	160	4	4	ND
	3/18/98	110	2	ND	ND
	9/2/98	140	3	2	ND
	3/17/99	120	2	2	ND

- 1. 12/19/94 measurements collected by Blasland, Bouck & Lee.
- 2. No other VOC compounds detected at method detection limit.
- 3. ND indicates not detected.
- 4. All results expressed in micrograms per liter (μg/l).
- 5. "NS" indicates no sample collected.

TABLE 3-3
SUMMARY OF SEMI-MONTHLY GROUNDWATER ELEVATIONS - OCTOBER 1998 - MARCH GRIFFIN TECHNOLOGY FACILITY
FARMINGTON, NEW YORK

Wall	Groundwater Elevation (ft)							
Well Designation	10/01/98	10/15/98	11/02/98	11/16/98	12/01/98	12/15/98		
MW-01	627.90	628.51	627.14	626.61	626.26	625.89		
MW-2S	DRY	625.30	DRY	DRY	DRY	DRY		
MW-2D	624.82	625.42	623.96	623.46	623.14	622.71		
MW-03	624.75	625.51	623.97	623,44	623.12	622.63		
MW-04	622.25	623.90	622.23	622.20	622.17	622.18		
MW-5S	621.09	621.35	620.27	DRY	DRY	DRY		
MW-5D	618.70	618.90	618.11	617.78	617.48	616.91		
MW-06S	NM	622.04	NM	620.71	NM	619.96		
MW-06D	NM	622.04	NM	620.68	NM	619.91		
MW-11D	624.20	624.29	623.46	623.10	622,71	622.39		
PZ-1S	DRY	DRY	DRY	DRY	DRY	DRY		
PZ-1D	DRY	DRY	DRY	DRY	DRY	DRY		
PZ-2S	DRY	DRY	DRY	DRY	DRY	DRY		
PZ-2D	620.03	620.37	619.40	619.13	619.06	618.94		

- 1. Groundwater elevations measured on dates shown.
- 2. NM indicates groundwater elevation not measured on date shown.
- 3. DRY indicates no water present in well at time of measurement.
- 4. All measurements relative to mean sea level (msl).

6/23/99

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TABLE 3-3
SUMMARY OF SEMI-MONTHLY GROUNDWATER ELEVATIONS - OCTOBER 1998 - MARCH GRIFFIN TECHNOLOGY FACILITY
FARMINGTON, NEW YORK

Well Designation	01/05/99	01/14/99	01/26/99	02/15/99	03/02/99	03/17/99
MW-01	626.79	626.07	636.35	637.20	635.89	637.82
MW-2S	DRY	DRY	632.47	634.19	632.12	636.36
MW-2D	622.97	622.53	632.48	634.21	631.95	637.69
MW-03	623.39	622.84	635.77	635.45	632.22	637.29
MW-04	622.20	622.15	630.86	633.35	628.95	635.83
MW-5S	DRY	DRY	627.62	632.05	627.30	635.60
MW-5D	616.82	616.60	624.55	630.69	626.32	634.74
MW-06S	NM	NM	NM	629.49	NM	633.11
MW-06D	NM	NM	NM	629.60	NM	633.23
MW-11D	622.30	622.19	624.29	632.11	629.48	635.09
PZ-1S	DRY	DRY	DRY	632.91	DRY	637.48
PZ-1D	DRY	DRY	629.35	632.94	628.68	637.50
PZ-2S	DRY	DRY	626.56	631.29	626.57	636.41
PZ-2D	618.87	618.83	626.38	631.39	626.55	636,50

- 1. Groundwater elevations measured on dates shown.
- 2. NM indicates groundwater elevation not measured on date shown.
- 3. DRY indicates no water present in well at time of measurement.
- 4. All measurements relative to mean sea level (msl).

TABLE 3-4
SUMMARY OF SEMI-ANNUAL MONITORING WELL GROUNDWATER ELEVATION DATA
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date <sup>1</sup>	Groundwater (ft)	Groundwater Elevation (ft)
MW-01	641.79	12/19/94	5.60	(2(10
1V1 W -01	041.79	5/24/96	3.32	636.19
		5/29/96	3.81	638.47
		8/13/97		637.98
		3/17/98	13.61	628.18
			6.86	634.93
		9/1/98	12.52	629.27
		3/17/99	3.97	637.82
MW-02S	641.28	12/19/94	7.50	633.78
		5/24/96	3.60	637.68
		5/29/96	4.47	636.81
		8/13/97	15.92	625.36
		3/17/98	6.87	634.41
		9/1/98	14.61	626.67
		3/17/99	4.92	636.36
MW-02D	642.37	8/13/97	17.55	624.82
	0.12.57	3/17/98	7.97	634.40
		9/1/98	15.60	626.77
		3/17/99	4.68	637.69
MW-03	(42.17	10/10/04		
IVI W -U3	642.17	12/19/94	7.83	634.34
		5/24/96	4.82	637.35
		5/29/96	5.77	636.40
		8/13/97	17.32	624.85
		3/17/98	6.84	635.33
		9/1/98	15.79	626.38
NOTES		3/17/99	4.88	637.29

<sup>&</sup>lt;sup>1</sup> - 12/19/94 measurements collected by Blasland, Bouck & Lee.

NA - Data not available.

NS - Water elevation not collected.

TABLE 3-4
SUMMARY OF SEMI-ANNUAL MONITORING WELL GROUNDWATER ELEVATION DATA
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well	Top of	16	Groundwater	Groundwater
ID	Casing Elevation (ft)	Date <sup>1</sup>	(ft)	Elevation (ft)
MW-04	641.75	12/19/94	8.48	633.27
		5/24/96	4.42	637.33
		5/29/96	5.29	636.46
		8/13/97	19.50	622.25
		3/17/98	8.27	633.48
		9/1/98	16.54	625.21
		3/17/99	5.92	635.83
MW-05S	640.85	12/19/94	8.00	632.85
		5/24/96	3.85	637.00
		5/29/96	4.83	636.02
		8/13/97	19.86	620.99
		3/17/98	9.19	631.66
		9/1/98	16.12	624.73
		3/17/99	5.25	635.60
MW-05D	641.01	12/19/94	8.44	632.57
		5/24/96	4.48	636.53
		5/29/96	5.52	635.49
		8/13/97	22.24	618.77
		3/17/98	16.68	624.33
		9/1/98	16.21	624.80
		3/17/99	6.27	634.74

<sup>- 12/19/94</sup> measurements collected by Blasland, Bouck & Lee.

NA - Data not available.

NS - Water elevation not collected.

TABLE 3-4
SUMMARY OF SEMI-ANNUAL MONITORING WELL GROUNDWATER ELEVATION DATA
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well	Top of		Groundwater	Groundwater
ID	Casing Elevation (ft)	Date <sup>1</sup>	(ft)	Elevation (ft)
MW-06S	636.61	12/19/94	7.36	629.25
		5/24/96	3.70	632.91
		5/29/96	4.89	631.72
		8/13/97	14.87	621.74
		3/17/98	5.24	631.37
		9/1/98	13.89	622.72
		3/17/99	3.50	633.11
MW-06D	636.83	12/19/94	7.43	629.40
		5/24/96	3.77	633.06
		5/29/96	5.03	631.80
		8/13/97	15.07	621.76
		3/17/98	5.41	631.42
		9/1/98	14.09	622.74
	de	3/17/99	3.60	633.23
MW-07S	634.29	12/19/94	7.53	626.76
		5/24/96	4.26	630.03
		5/29/96	5.18	629.11
		8/13/97	14.70	619.59
		3/17/98	4.85	629.44
	-27	9/1/98	13.68	620.61
		3/17/99	4.72	629.57
MW-07D	634.16	12/19/94	32.95	601.21
		5/24/96	32.51	601.65
		5/29/96	31.85	602.31
		8/13/97	37.35	596.81
		3/17/98	33.02	601.14
		9/1/98	36.80	597.36
		3/17/99	33.22	600.94

<sup>&</sup>lt;sup>1</sup> - 12/19/94 measurements collected by Blasland, Bouck & Lee.

NA - Data not available.

NS - Water elevation not collected.

TABLE 3-4
SUMMARY OF SEMI-ANNUAL MONITORING WELL GROUNDWATER ELEVATION DATA
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date <sup>1</sup>	Groundwater (ft)	Groundwater Elevation (ft)
MW-08S	633.64	12/19/94	11.39 Well Abandoned	622.25
MW-08D	633.91	12/19/94	13.16 Well Abandoned	620.75
MW-09S	630.16	12/19/94	11.56	618.60
		5/24/96	9.17	620.99
		5/29/96	10.24	619.92
		8/13/97	14.69	615.47
		3/17/98	10.21	619.95
		9/1/98	NS	
		3/17/99	10.38	619.78
	4-			
MW-09D	630.29	12/19/94	12.71	617.58
		5/24/96	17.02	613.27
		5/29/96	14.78	615.51
		8/13/97	20.56	609.73
		3/17/98	15.91	614.38
		9/1/98	NS	
		3/17/99	13.60	616.69
MW-10S	629.00	12/19/94	14.87	614.13
		5/24/96	NA	NA
		5/29/96	15.26	613.74
		8/13/97	16.62	612.38
		3/17/98	NS	
		9/1/98	16.55	612.45
		3/17/99	14.98	614.02

<sup>&</sup>lt;sup>1</sup> - 12/19/94 measurements collected by Blasland, Bouck & Lee.

NA - Data not available.

NS - Water elevation not collected.

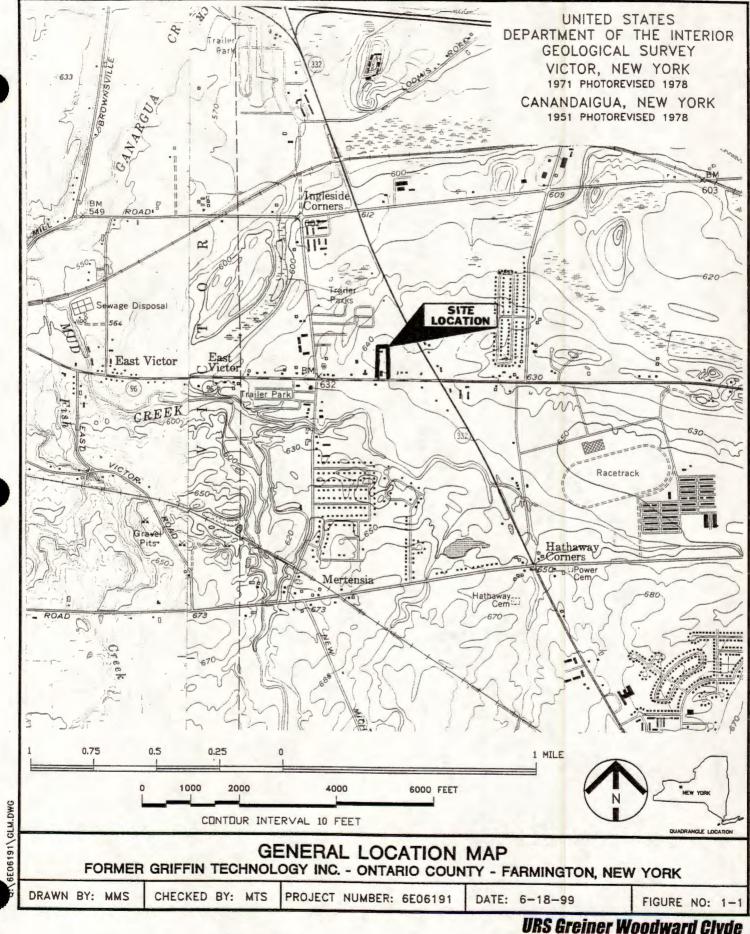
TABLE 3-4
SUMMARY OF SEMI-ANNUAL MONITORING WELL GROUNDWATER ELEVATION DATA
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

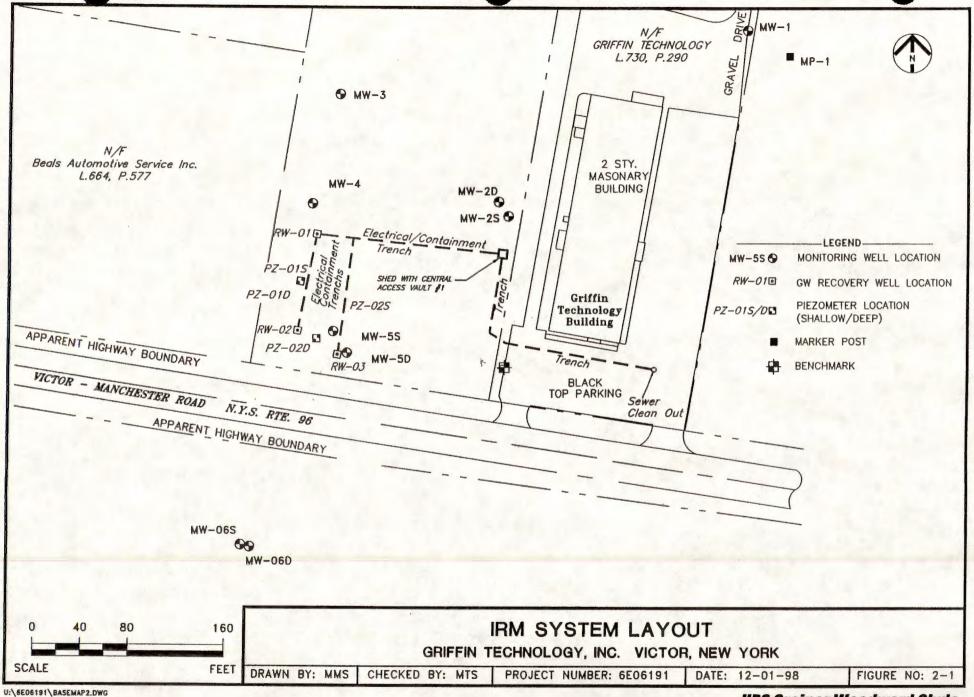
Well ID	Top of Casing Elevation (ft)	Date <sup>1</sup>	Groundwater (ft)	Groundwater Elevation (ft)
	5/24/96	NA	NA	
	5/29/96	4.78	622.02	
	8/13/97	17.92	608.88	
	3/17/98	NS		
	9/1/98	17.77	609.03	
	3/17/99	16.34	610.46	
MW-11D	641.89	12/19/94	NA	
		5/24/96	7.10	634.79
		5/29/96	8.71	633.18
		8/13/97	17.53	624.36
		3/17/98	7.85	634.04
		9/1/98	16.60	625.29
		3/17/99 _	6.80	635.09
MW-13D	636.58	12/19/94	NA	
		5/24/96	3.45	633.13
	•	5/29/96	4.78	631.80
		8/13/97	16.25	620.33
		3/17/98	7.29	629.29
		9/1/98	13.80	622.78
		3/17/99	4.98	631.60

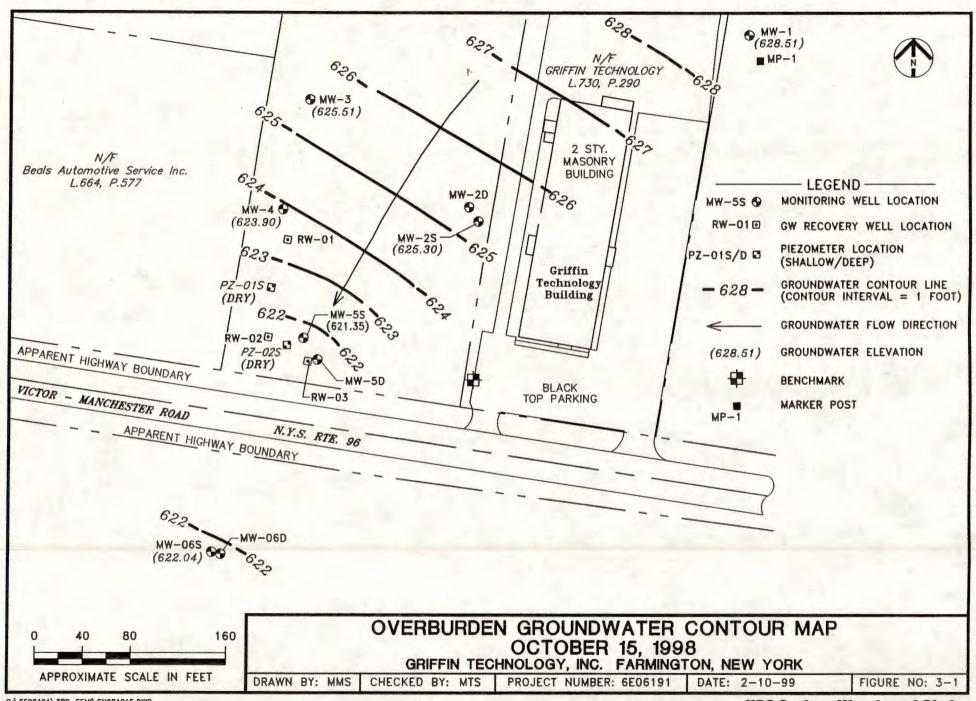
<sup>&</sup>lt;sup>1</sup> - 12/19/94 measurements collected by Blasland, Bouck & Lee.

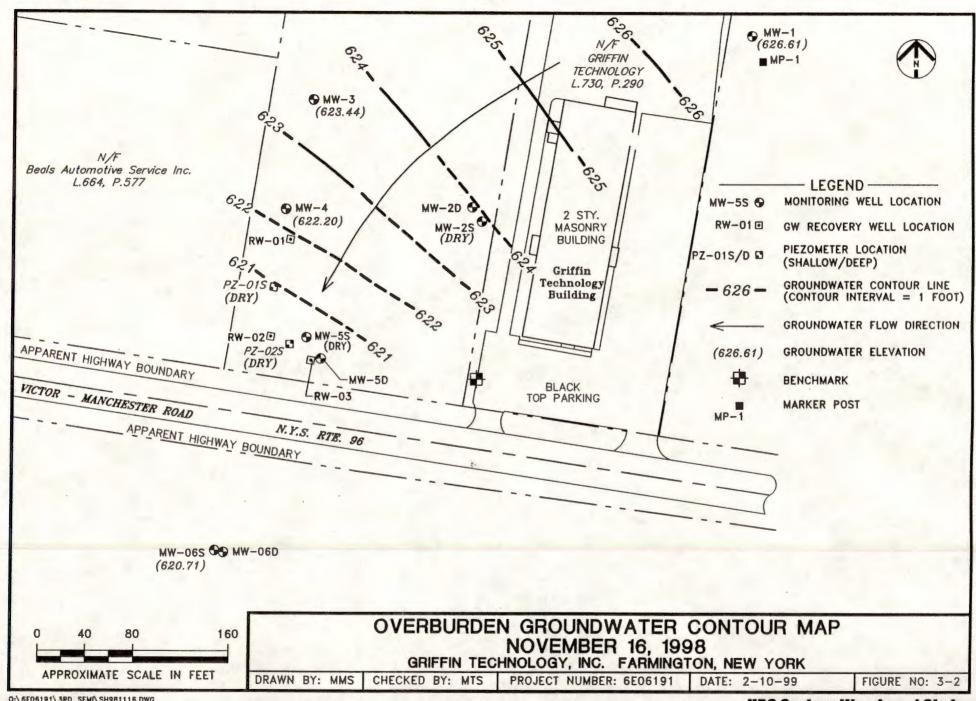
NA - Data not available.

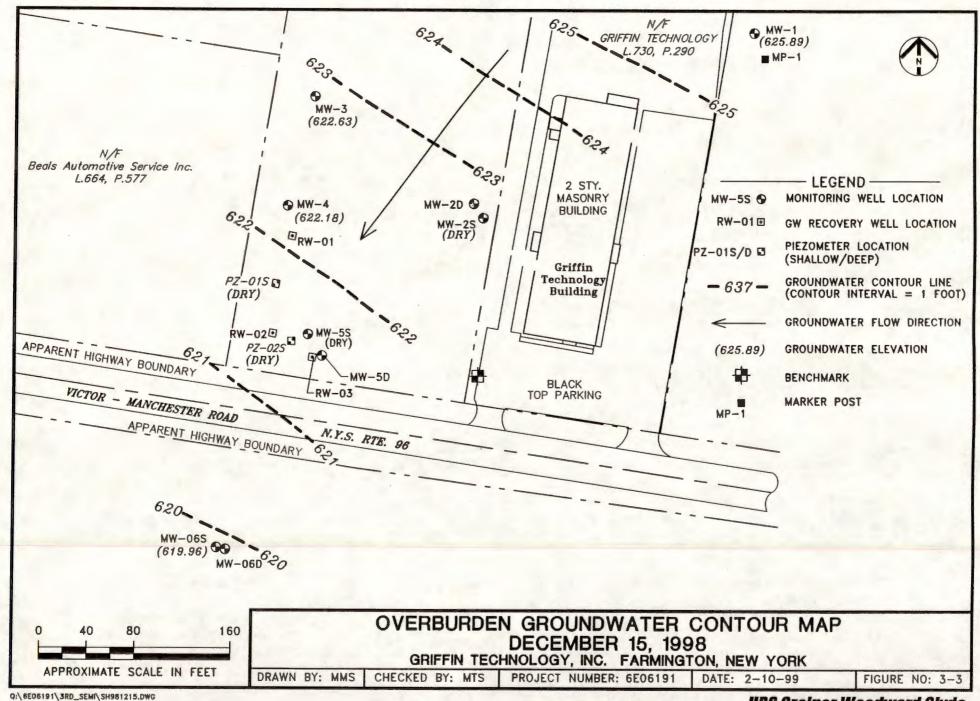
NS - Water elevation not collected.

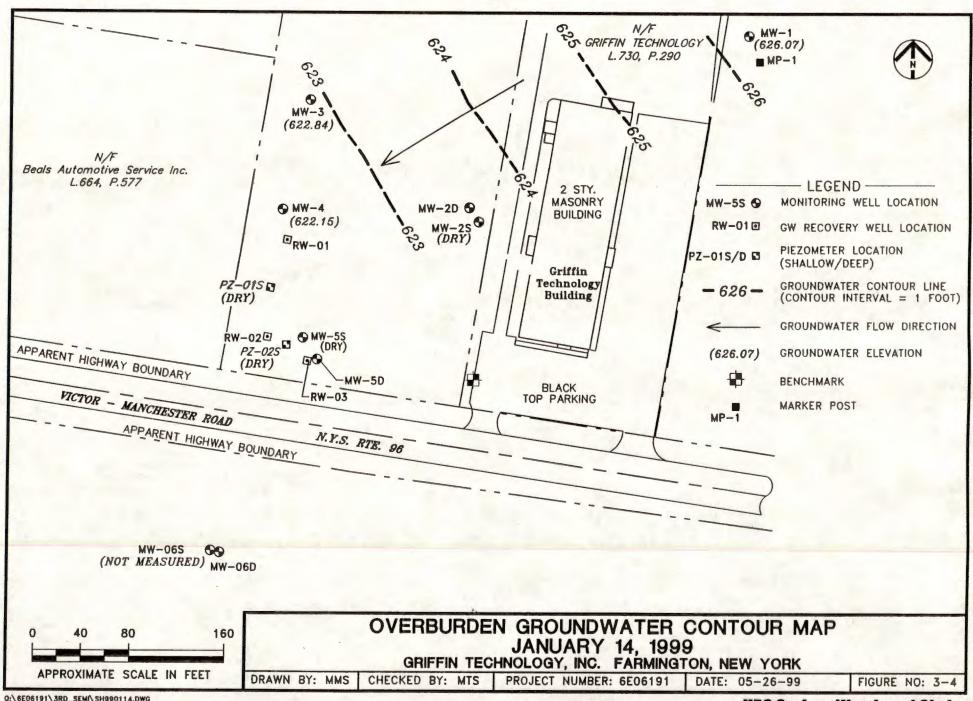


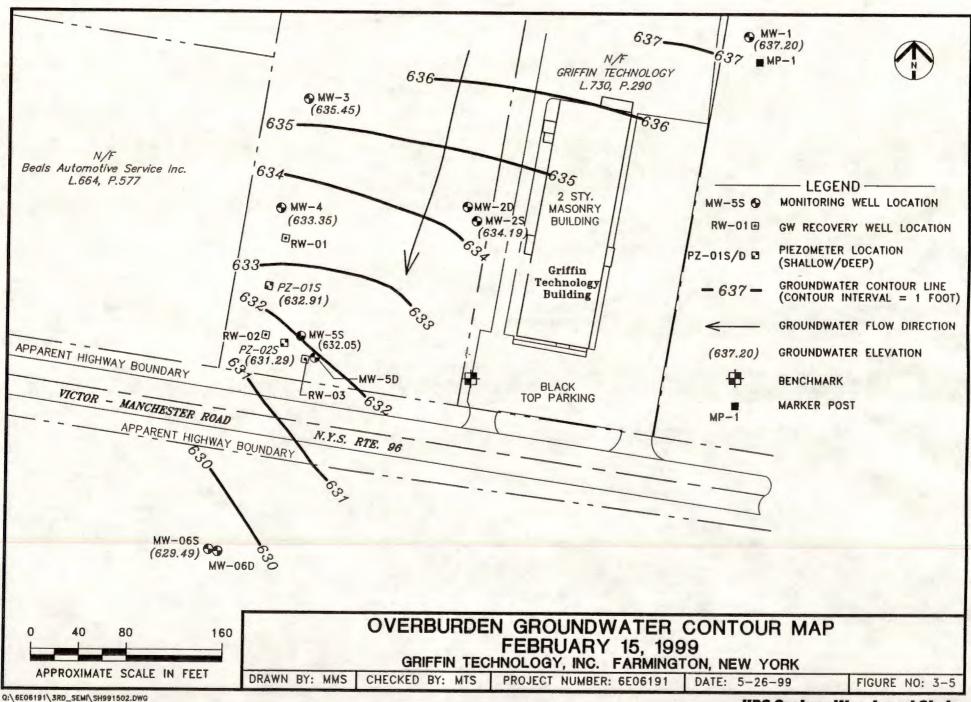


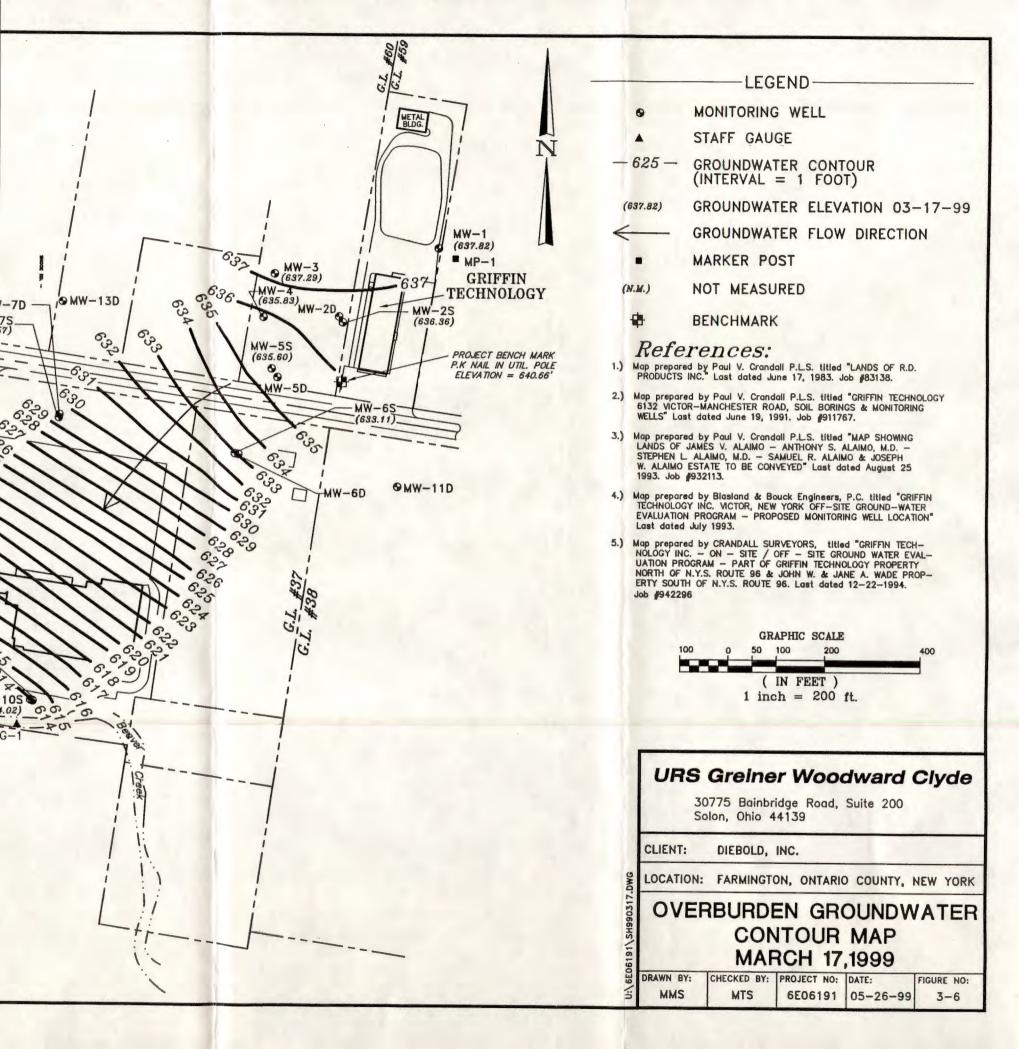


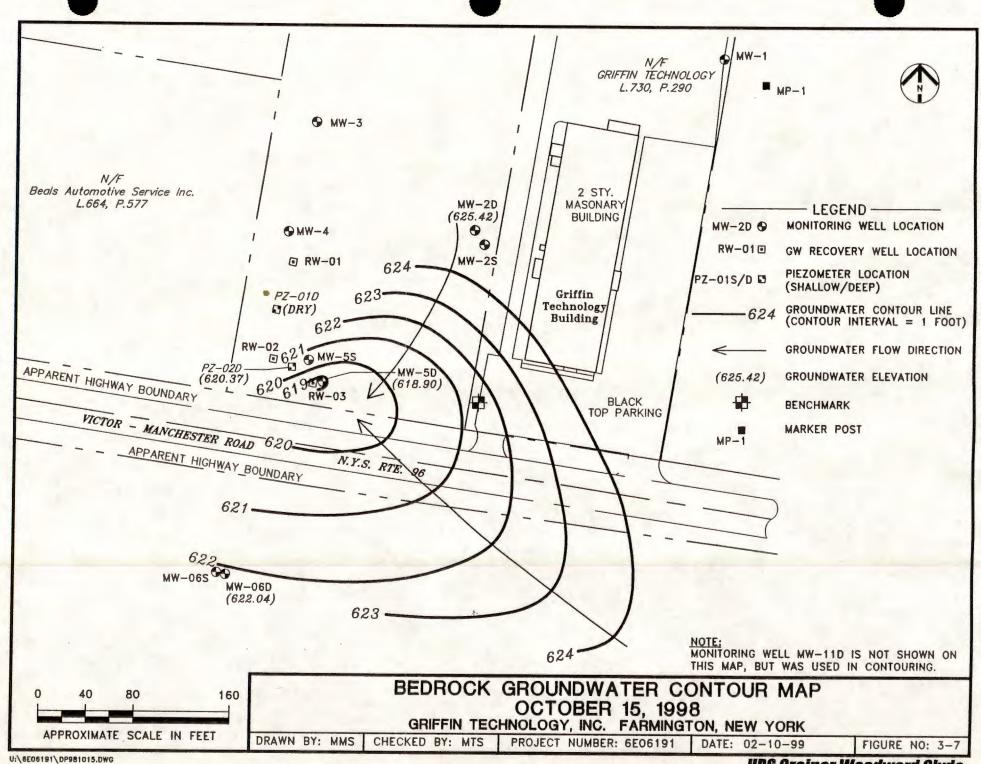


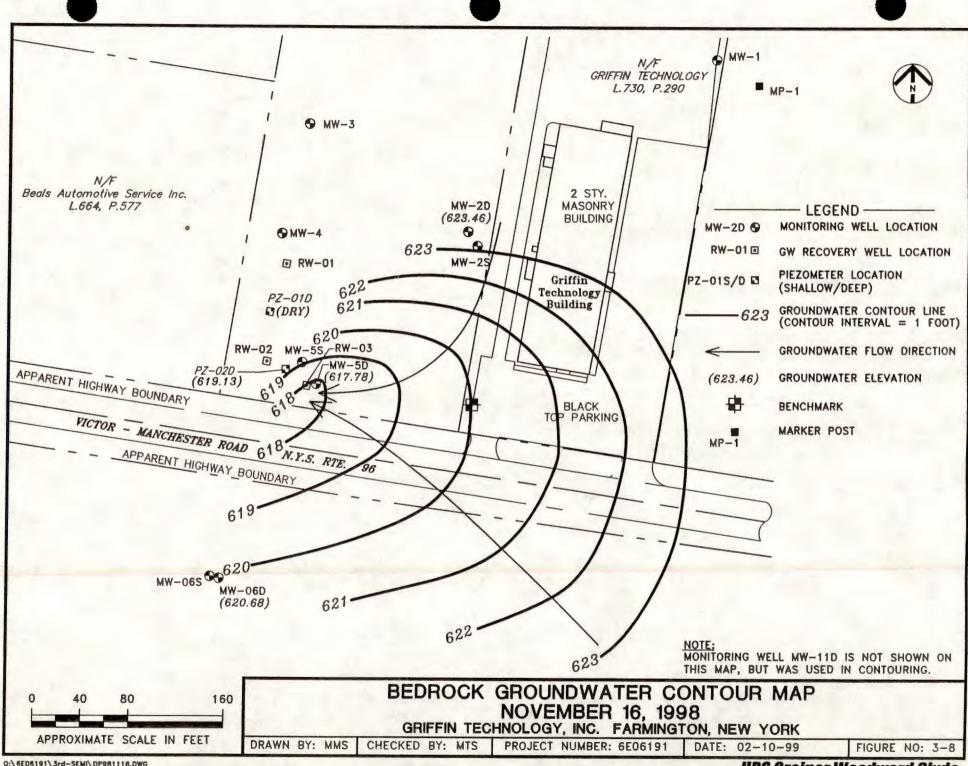


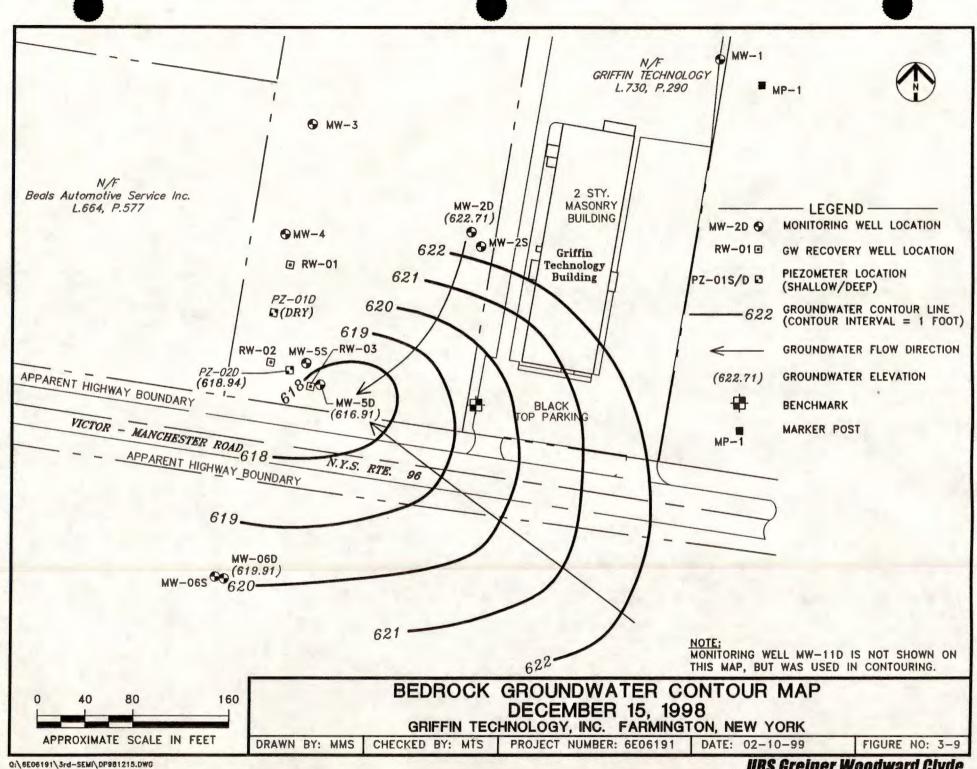


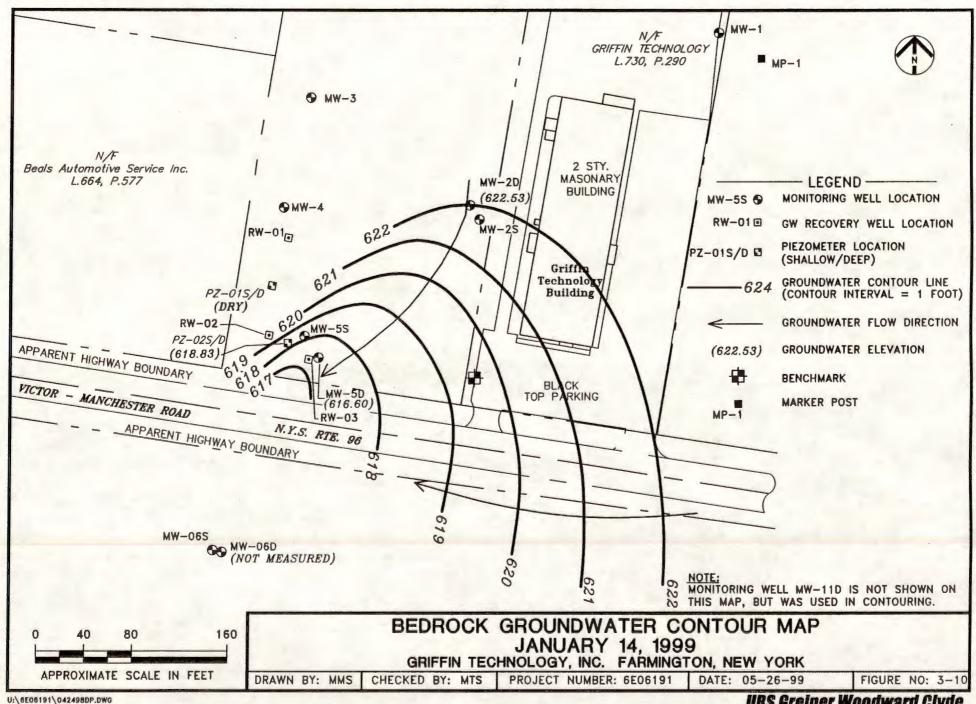


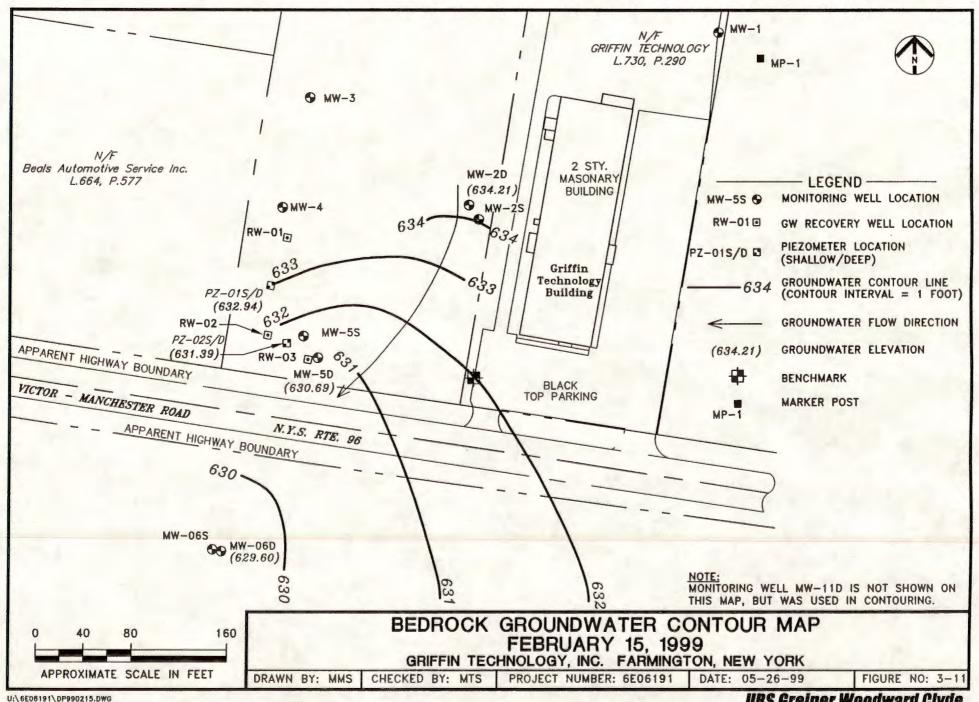


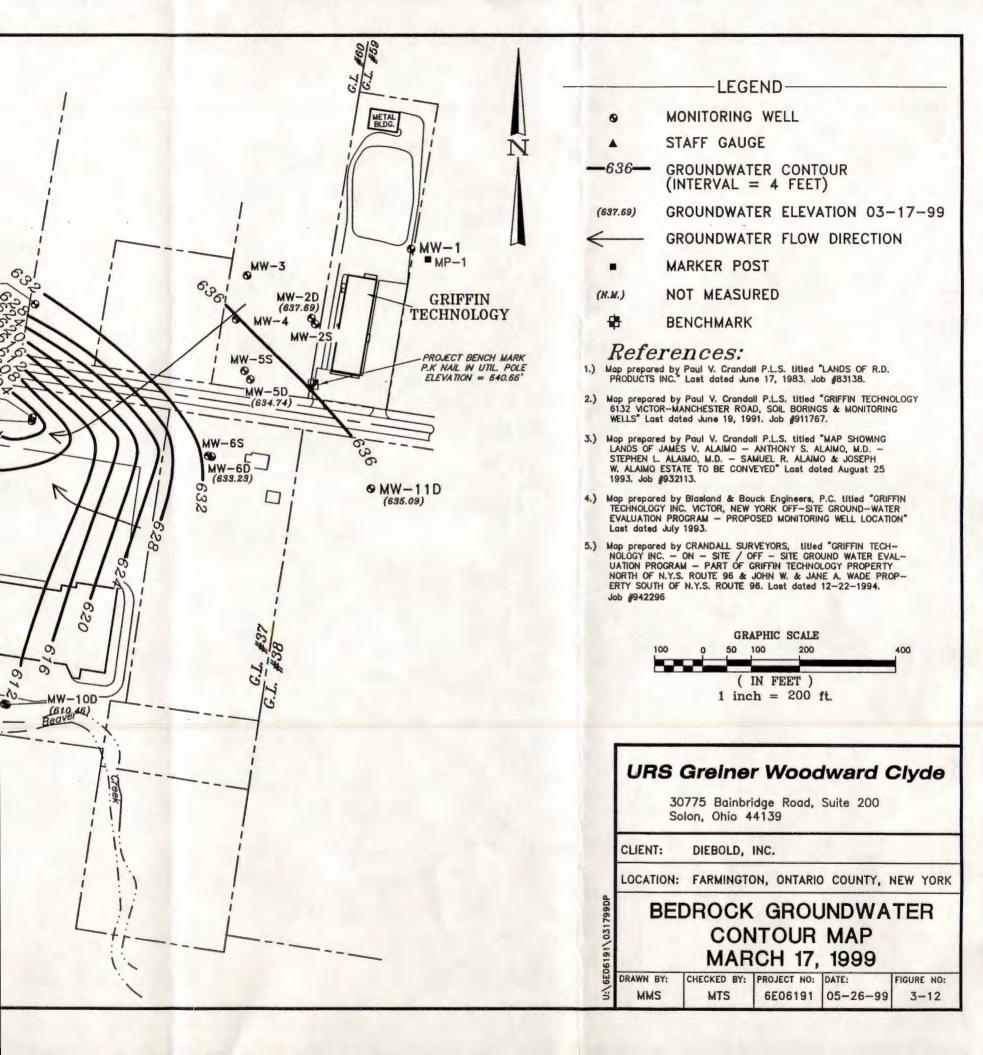














October 30, 1998

Mr. Ken Armstrong Woodward Clyde Consultants 30775 Bainbridge Road Suite 200 Solon, OH 44139

PROJECT: GRIFFIN IRM-MONTHLY Submission #:9810000247

Dear Mr. Armstrong

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Marte lite

Mark Wilson

Client Service Manager

Enc.

HOV 05 1992



Effective 04/01/96

### CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

- U Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J Indicates an estimated value. For further explanation see case narrative / cover letter.
- B This flag is used when the analyte is found in the associated blank as well as in the sample.
- E This flag identifies compounds whose concentrations exceed the calibration range.
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- N Spiked sample recovery not within control limits.
   (Flag the entire batch Inorganic analysis only)
- \* Duplicate analysis not within control limits.

  (Flag the entire batch Inorganic analysis only)
  - Also used to qualify Organics QC data outside limits.
- D Spike diluted out.
- S Reported value determined by Method of Standard Additions. (MSA)
- X As specified in the case narrative.

#### CAS Lab ID # for State Certifications

NY ID # in Rochester: 10145 CT ID # in Rochester: PH0556 MA ID # in Rochester: M-NY032

NJ ID # in Rochester: 73004 RI ID # in Rochester: 158

VOLATILE ORGANICS METHOD 8250B TCL Reported: 10/30/98

Woodward Clyde Consultants

Project Reference: GRIFFIN IRM-MONTHLY

Client Sample ID : EFF-10-15-98

Date Sampled: 10/15/98 Order #: 247565 Sample Matrix: WATER Date Received: 10/15/98 Submission #: 9810000247 Analytical Run 31777

The received. 10/13/96 Submi	.SSION #: 9810000247 A	nalytical Run	31777
ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/29/98			
ANALYTICAL DILUTION: 2.	50		
ACETONE	20	EO II	**** /**
BENZENE	5.0	50 U	UG/L
BROMODICHLOROMETHANE	5.0	13 U	UG/L
BROMOFORM	5.0	13 U	UG/L
BROMOMETHANE	5.0	13 U	UG/L
2-BUTANONE (MEK)	10	13 U	UG/L
CARBON DISULFIDE	10	25 U	UG/L
CARBON TETRACHLORIDE	5.0	25 U	UG/L
CHLOROBENZENE	5.0	13 U	UG/L
CHLOROETHANE	5.0	13 U	UG/L
CHLOROFORM	5.0	13 U	UG/L
CHLOROMETHANE	5.0	13 U	UG/L
DIBROMOCHLOROMETHANE		13 U	UG/L
1,1-DICHLOROETHANE	5.0	13 U	UG/L
1,2-DICHLOROETHANE	5.0	13 U	UG/L
1,1-DICHLOROETHENE	÷ 5.0	13 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	13 U	UG/L
TRANS-1, 2-DICHLOROETHENE	5.0	13 U	UG/L
1,2-DICHLOROPROPANE	5.0	13 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	13 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	13 U	UG/L
ETHYLBENZENE	5.0	13 U	UG/L
2-HEXANONE	5.0	13 U	UG/L
METHYLENE CHLORIDE	10	25 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	5.0	13 U	UG/L
STYRENE	10	25 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	13 U	UG/L
TETRACHLOROETHENE	5.0	13 U	UG/L
TOLUENE	5.0	13 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	13 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	13 U	UG/L
PRICHLOROETHENE	5.0	13 U	UG/L
VINYL CHLORIDE	5.0	400	UG/L
O-XYLENE	5.0	13 U	UG/L
M+P-XYLENE	5.0	13 U	UG/L
THE RIDENE	5.0	13 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	100	
TOLUENE-D8	(88 - 110 %)	102	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	101	90
	110 0)	93	%

VOLATILE ORGANICS METHOD 8260B TCL Reported: 10/30/98

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Sampled: Order #: 251268
Date Received: Submission #: Sample Matrix: WATER
Analytical Run 31777

Date Received: Sur	omission #:	A	nalytical Run	31777
ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 10/29/	98			
ANALYTICAL DILUTION:	1.00			
ACETONE		20	20.77	
BENZENE		5.0	20 U	UG/L
BROMODICHLOROMETHANE			5.0 U	UG/L
BROMOFORM		5.0	5.0 U	UG/L
BROMOMETHANE		5.0	5.0 U	UG/L
2-BUTANONE (MEK)		5.0	5.0 U	UG/L
CARBON DISULFIDE		10	10 U	UG/L
CARBON TETRACHLORIDE		10	10 U	UG/L
CHLOROBENZENE		5.0	5.0 U	UG/L
CHLOROETHANE		5.0	5.0 U	UG/L
CHLOROFORM		5.0	5.0 U	UG/L
CHLOROMETHANE		5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE		5.0	5.0 U	UG/L
1,1-DICHLOROETHANE		5.0	5.0 U	UG/L
1,2-DICHLOROETHANE		5.0	5.0 U	UG/L
1,1-DICHLOROETHENE		5.0	5.0 U	UG/L
CIC 1 2 DIGH COOPER		5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE		5.0	5.0 U	UG/L
TRANS-1, 2-DICHLOROETHENE		5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE		5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE		5.0	5.0 U	UG/L
TRANS-1, 3-DICHLOROPROPENE		5.0	5.0 U	UG/L
ETHYLBENZENE		5.0	5.0 U	UG/L
2-HEXANONE		10	10 U	UG/L
METHYLENE CHLORIDE		5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)		10	10 U	UG/L
STYRENE		5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE		5.0	5.0 U	UG/L
TETRACHLOROETHENE		5.0	5.0 U	UG/L
TOLUENE		5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE		5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE		5.0	5.0 U	UG/L
TRICHLOROETHENE		5.0	5.0 U	UG/L
VINYL CHLORIDE		5.0	5.0 U	UG/L
O-XYLENE		5.0	5.0 U	UG/L
M+P-XYLENE		5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC LIMITS			
4-BROMOFLUOROBENZENE	(86 - 115	2 \		
TOLUENE-D8	(88 - 110		99	96
DIBROMOFLUOROMETHANE	(86 - 118	•	101	alo .
	(00 - 110	6 /	93	010

1 Musterd St., Suite 250, P.O. Box 90859, Rochester, NY 14609-0859 (716) 288-5380 • FAX (716) 288-8475

# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE /	0-15-98	PAGE	/ or .	/
0,11	0 1 - 1 0	PAGE		,

PROJECT NAME	Briff	in I	IRM				ANALYSIS REQUESTED																		
PROJECT MANAGER/CO	ONTACT_	Ken 1	Armstong								10	0	N. H	I				T					PRE	SERVA	ATIO
COMPANY/ADDRESS _	3077 Solo	15 Bai	nbridge k	Ed., Ste 201	VERS .		45	] 601/602	B's	21 VOA's	70 SVOA'S	S.A.	TERIZATIC		VED										
PROJECT MANAGER/COCOMPANY/ADDRESS  TEL (440) 349-2 SAMPLER'S SIGNATURE	708 E	FAX (4	10) 349-1	1514	OF CONTAINERS	IS VOA's	GC/MS SVOA's © 8270A © 625	GC VOA's	CIDES/PC	S LIST 802	S LIST 827	A'S   SVC	E CHARAC	LS, TOTAL BELOW)	LS, DISSOI BELOW)	140							0.	2	
SAMPLE I.D.	DATE		LAB I.D.	SAMPLE MAIRIX	# 0.	GC/N	GC/N	GCV	PEST 806	STAR	STAR	JOL VO	WAST	META	META	522						42	2H < 2.0	H > 12	t.
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Signature Printed Name		Signature Printed Name				-				<del>,</del>	-				<del> </del>	, 1,								and the species as the contract of the contrac	
Firm		Flim		65 RAI	MAP	O VA	LLEY	ROA	D		20	1-51	2-320	2 2	no w	EST	ini	EV A	/E			-	10. ==		



December 3, 1998

RECEIVED

Mr. Mark Schmidt Woodward Clyde Consultants 30775 Bainbridge Road Suite 200 Solon, OH 44139 DEC 0 9 1993

Salar Carlain

PROJECT: GRIFFIN IRM-MONTHLY Submission #:9811000278

Dear Mr. Schmidt:

Enclosed are the analytical results of the analyses requested. The analytical data was provided to you on 12/01/98 per a Facsimile transmittal. All data has been reviewed prior to report submission.

Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson

Client Service Manager

Mark! lite.

Enc.

VOLATILE ORGANICS METHOD 8260E TCL Reported: 12/03/98

Woodward Clyde Consultants

Project Reference: GRIFFIN IRM-MONTHLY

Client Sample ID : EFF-11-16-98

Date Sampled: 11/16/98 Order #: 256028 Sample Matrix: WATER Date Received: 11/16/98 Submission #: 9811000278 Analytical Run 32970

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 11/20/98			
ANALYTICAL DILUTION: 2.00			
ACETONE	20	40 U	UG/L
BENZENE	5.0	10 U	UG/L
BROMODICHLOROMETHANE	5.0	10 U	UG/L
BROMOFORM	5.0	10 U	UG/L
BROMOMETHANE	5.0	10 U	UG/L
2-BUTANONE (MEK)	10	20 U	UG/L
CARBON DISULFIDE	10	20 U	UG/L
CARBON TETRACHLORIDE	5.0	10 U	UG/L
CHLOROBENZENE	5.0	10 U	UG/L
CHLOROETHANE	5.0	10 U	UG/L
CHLOROFORM	5.0	10 U	
CHLOROMETHANE	5.0	10 U	UG/L
DIBROMOCHLOROMETHANE	4 5.0	10 U	UG/L
1,1-DICHLOROETHANE	5.0	10 U	UG/L
1,2-DICHLOROETHANE	5.0	10 U	UG/L
1,1-DICHLOROETHENE	5.0		UG/L
CIS-1,2-DICHLOROETHENE	5.0	10 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	10 U	UG/L
1,2-DICHLOROPROPANE	5.0	10 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	10 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	10 U	UG/L
ETHYLBENZENE	5.0	10 U	UG/L
2-HEXANONE		10 U	UG/L
METHYLENE CHLORIDE	10	20 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	5.0	10 U	UG/L
STYRENE	10	20 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0 5:0	10 U	UG/L
TETRACHLOROETHENE	5.0	10 U	UG/L
TOLUENE		10 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	10 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	12	UG/L
TRICHLOROETHENE	5.0	10 U	UG/L
VINYL CHLORIDE	5.0	440 E	UG/L
O-XYLENE	5.0	10 U	UG/L
M+P-XYLENE	5.0	10 U	UG/L UG/L
SURROGATE RECOVERIES	QC LIMITS		-,-
4-BROMOFLUOROBENZENE (8	36 - 115 %)	93	0/0
TOLUENE-D8 (8	38 - 110 %)	99	000
	36 - 118 %)	100	9

VOLATILE ORGANICS METHOD 8260B TCL Reported: 12/03/98

Project Reference:

DATE ANALYZED : 11/20/98 ANALYTICAL DILUTION: 1.00  ACETONE	Date Date	Sampled: Received:	Order Submission	#: 259324 #:	Sample Matrix: Analytical Run	WATER 32970
ANALYTICAL DILUTION: 1.00  ACETONE	ANAI	LYTE		PQL	RESULT	UNITS
ACETONE BENZENE BENZENE BROMODICHLOROMETHANE BROMOFORM S.O. 5.0 U UG/L BROMOMETHANE S.O. 5.0 U UG/L CARBON DISULFIDE 10 10 U UG/L CARBON TETRACHLORIDE CARBON TETRACHLORIDE CHLOROBENEME S.O. 5.0 U UG/L CHLOROFORM S.O. 5.0 U UG/L CHLOROFTHANE S.O. 5.0 U UG/L L1,2-DICHLOROFTHANE S.O. 5.0 U UG/L 1,1-DICHLOROETHANE S.O. 5.0 U UG/L 1,1-DICHLOROETHENE S.O. 5.0 U UG/L 1,1-DICHLOROETHENE S.O. 5.0 U UG/L 1,1-DICHLOROFTHENE S.O. 5.0 U UG/L CIS-1,2-DICHLOROFTHENE S.O. 5.0 U UG/L 1,2-DICHLOROFTHENE S.O. 5.0 U UG/L 1,2-DICHLOROFOPENE S.O. 5.0 U UG/L 1,1-2-DICHLOROFTHENE S.O. 5.0 U UG/L 1,1-2-TETRACHLOROFTHENE S.O. 5.0 U UG/L 2-HEXANONE STYRENE S.O. 5.0 U UG/L 4-METHYLENE CHLORIDE STYRENE S.O. 5.0 U UG/L 4-METHYLENE CHLOROFTHANE S.O. 5.0 U UG/L 4-METHYLENE CHLOROFTHANE STYRENE S.O. 5.0 U UG/L 4-METHYLENE CHLOROFTHANE STYRENE S.O. 5.0 U UG/L 4-METHYLENE CHLOROFTHANE STYRENE S.O. 5.0 U UG/L 4-METHYLENE CHLOROFTHANE S.O. 5.0 U UG/L 4-METHYLENE S.O. 5.0 U UG/L 5.0 S.O U UG/L						
BENZENE BROMODICHLOROMETHANE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE BROMOFORM BROMOMETHANE BROMOFORM BROMOMETHANE BROMOFORM BROMOMETHANE BROMOFORM BROMOMETHANE BROMOFORM BROMOMETHANE	ANAI	LYTICAL DILUTION:	1.00			
BENZÉME BENZÉME BEROMOFICHLOROMÉTHANE BEROMOFICH BROMOFICH CARBON DISULFIDE 10 10 U UG/L CARBON DISULFIDE 10 10 U UG/L CARBON DISULFIDE 10 10 U UG/L CARBON TETRACHLORIDE 5.0 5.0 U UG/L CHLOROFICH CHLOROFICH 5.0 5.0 U UG/L CHLOROFICH CHLOROFICH 5.0 5.0 U UG/L CHLOROFICH 1,1-DICHLOROFICH 5.0 5.0 U UG/L 1,1-DICHLOROFICH 1,1-Z-DICHLOROFICH 1,1-Z-DICHLOROFICH 1,1-Z-DICHLOROFICH 1,1-Z-DICHLOROFICH 10 U UG/L 1,1-Z-DICHLOROFICH 10 U UG/L 1,1-Z-TICHLOROFICH 10 U UG/L 10	ACETO	ONE		20	70 77	TTC /T
BROMOFICEM BROMOMETHANE S.0 5.0 U UG/L SUBJECT CARBON DISULFIDE LO 10 U UG/L CARBON TETRACHLORIDE LO 10 U UG/L CARBON TETRACHLORIDE S.0 5.0 U UG/L CHLOROBENZENE S.0 5.0 U UG/L CHLOROFORM S.0 5.0 U UG/L CHLOROFORM S.0 5.0 U UG/L CHLOROFORM S.0 5.0 U UG/L CHLOROMOFICHANE S.0 5.0 U UG/L L1,1-DICHLOROETHANE S.0 5.0 U UG/L 1,2-DICHLOROETHENE S.0 5.0 U UG/L 1,2-DICHLOROETHENE S.0 5.0 U UG/L TRANS-1,2-DICHLOROETHENE S.0 5.0 U UG/L TRANS-1,3-DICHLOROFROPENE S.0 5.0 U UG/L CIS-1,3-DICHLOROFROPENE S.0 5.0 U UG/L ETHYLEENZENE S.0 5.0 U UG/L CIS-1,3-DICHLOROPROPENE S.0 5.0 U UG/L CIS-1,3-DICHLOROPROPENE S.0 5.0 U UG/L TRANS-1,3-DICHLOROPROPENE S.0 5.0 U UG/L TRANS-1,3-DICHLOROFROPENE S.0 5.0 U UG/L TRANS-1,3-						
BROMOFORM BROMOMETHANE 2-BUTANONE (MEK) 10 10 U UG/L CARBON DISULFIDE 10 10 U UG/L CARBON TETRACHLORIDE 5.0 5.0 U UG/L CARBON TETRACHLORIDE 5.0 5.0 U UG/L CHLOROBENZENE 5.0 5.0 U UG/L CHLOROFORM 5.0 5.0 U UG/L CHLOROFORM 5.0 5.0 U UG/L CHLOROMETHANE 5.0 5.0 U UG/L CHLOROMETHANE 5.0 5.0 U UG/L DIBROMOCHLOROMETHANE 5.0 5.0 U UG/L 1,2-DICHLOROBETHANE 5.0 5.0 U UG/L 1,2-DICHLOROBETHANE 5.0 5.0 U UG/L 1,2-DICHLOROBETHENE 5.0 5.0 U UG/L CIS-1,2-DICHLOROBETHENE 5.0 5.0 U UG/L TRANS-1,2-DICHLOROBETHENE 5.0 5.0 U UG/L TRANS-1,3-DICHLOROFOPENE 5.0 5.0 U UG/L TRANS-1,3-DICHLOROPROPENE 5.0 5.0 U UG/L TRANS-1,3-DICHLOROPROPENE 5.0 5.0 U UG/L TRANS-1,3-DICHLOROPROPENE 5.0 5.0 U UG/L TRANS-1,3-DICHLOROBENE 5.0 5.0 U UG/L TRANS-1,3-DICHLOROBENE 5.0 5.0 U UG/L TRANS-1,3-DICHLOROPROPENE 5.0 5.0 U UG/L TRANS-1,3-DICHLOROPRO	BROMO	DDICHLOROMETHANE				
BROMOMETHANE 2-BUTANONE (MEK) 10 10 UG/L CARBON DISULFIDE 10 10 U UG/L CARBON TETRACHLORIDE 5.0 5.0 U UG/L CHLOROBENZENE 5.0 5.0 U UG/L CHLOROFTHANE 5.0 5.0 U UG/L 1,1-DICHLOROFTHANE 5.0 5.0 U UG/L 1,2-DICHLOROFTHANE 5.0 5.0 U UG/L 1,1-DICHLOROFTHANE 5.0 5.0 U UG/L 1,2-DICHLOROFTHANE 5.0 5.0 U UG/L 1,2-DICHLOROFTHENE 5.0 5.0 U UG/L CIS-1,2-DICHLOROFTHENE 5.0 5.0 U UG/L 1,2-DICHLOROFTHENE 5.0 5.0 U UG/L 1,2-DICHLOROFTHENE 5.0 5.0 U UG/L CIS-1,3-DICHLOROFTHENE 5.0 5.0 U UG/L CIS-1,3-DICHLOROFOPENE 5.0 5.0 U UG/L ETHYLBENZENE 5.0 5.0 U UG/L 2-HEXANONE 10 10 U UG/L 2-HEXANONE 10 10 U UG/L STYRENE 10 10 U UG/L TETRACHLOROFTHENE 5.0 5.0 U UG/L 1,1,2-TETRACHLOROFTHANE 5.0 5.0 U UG/L TETRACHLOROFTHENE 5.0 5.0 U UG/L TETRACHLOROFTHENE 5.0 5.0 U UG/L TETRACHLOROFTHENE 5.0 5.0 U UG/L 1,1,2-TETRACHLOROFTHANE 5.0 5.0 U UG/L TETRACHLOROFTHENE	BROMO	DFORM				
2-BUTANONE (MEK)  10 10 U UG/L  CARBON DISULFIDE  10 10 U UG/L  CARBON TETRACHLORIDE  5.0 5.0 U UG/L  CHLOROBENZENE  5.0 5.0 U UG/L  CHLOROFORM  5.0 5.0 U UG/L  CHLOROFORM  5.0 5.0 U UG/L  CHLOROMETHANE  5.0 5.0 U UG/L  1,2-DICHLOROMETHANE  5.0 5.0 U UG/L  1,2-DICHLOROMETHANE  5.0 5.0 U UG/L  1,1-DICHLOROMETHANE  5.0 5.0 U UG/L  1,1-DICHLOROMETHANE  5.0 5.0 U UG/L  1,2-DICHLOROMETHANE  5.0 5.0 U UG/L  1,2-DICHLOROMETHENE  5.0 5.0 U UG/L  1,2-DICHLOROMETHENE  5.0 5.0 U UG/L  1,2-DICHLOROMETHENE  5.0 5.0 U UG/L  1,2-DICHLOROMENDENE  5.0 5.0 U UG/L  1,2-DICHLOROMENDENE  5.0 5.0 U UG/L  2-HEXANONE  METHYLENE CHLORIDE  5.0 5.0 U UG/L  4-METHYL-2-PENTANONE (MIBK)  5.0 5.0 U UG/L  1,1,2,2-TETRACHLOROMETHANE  5.0 5.0 U UG/L  1,1,2-TRICHLOROMETHANE  5.0 5.0 U UG/L  TETRACHLOROMETHANE  5.0 5.0 U UG/L  TETRACHLOROMETHANE  5.0 5.0 U UG/L  1,1,2-TRICHLOROMETHANE  5.0 5.0 U UG/L  1,1,2-TRICHLOROMETHANE  5.0 5.0 U UG/L  1,1,2-TRICHLOROMETHANE  5.0 5.0 U UG/L  VINYL CHLORIDE  5.0 5.0 U UG/L  VINYL CHLOROMETHANE  5.0 5.0 U UG/L  SURROGATE RECOVERIES  QC LIMITS  4-BROMOFLUOROMETURNE  5-0 5-0 U UG/L  5-0 5-	BROMO	OMETHANE				
CARBON DISULFIDE CARBON TETRACHLORIDE CARBON TETRACHLORIDE CHLOROBENZENE 5.0 5.0 U UG/L CHLOROBENZENE 5.0 5.0 U UG/L CHLOROFORM 5.0 CHLOROFORM 5.0 CHLOROMETHANE 5.0 CHLOROMETHANE 5.0 CHLOROFORM 5.0 U UG/L CHLOROMETHANE 5.0 CHLOROPROPENE 5.0 CHLOROPROPENE 5.0 CHLOROMETHANE 5.0 CHLOR						
CARBON TETRACHLORIDE  CHLOROBENZENE  5.0  5.0  UG/L  CHLOROFORM  5.0  CHLOROFORM  5.0  CHLOROMETHANE  5.0  5.0  UG/L  CHLOROMETHANE  5.0  5.0  UG/L  CHLOROMETHANE  5.0  5.0  UG/L  CHLOROMETHANE  5.0  5.0  UG/L  1,1-DICHLOROETHANE  5.0  5.0  UG/L  1,1-DICHLOROETHANE  5.0  5.0  UG/L  1,1-DICHLOROETHANE  5.0  5.0  UG/L  CIS-1,2-DICHLOROETHENE  5.0  CIS-1,2-DICHLOROETHENE  5.0  CIS-1,2-DICHLOROETHENE  5.0  CIS-1,3-DICHLOROETHENE  5.0  CIS-1,3-DICHLOROPROPENE  5.0  CIS-1,1-TICHLOROPROPENE  5.0  CIS-1,1-TICHLOROPROPE						
CHLOROBENZENE 5.0 5.0 U UG/L CHLOROFORM 5.0 5.0 U UG/L CHLOROFORM 5.0 5.0 U UG/L CHLOROMETHANE 5.0 5.0 U UG/L DIBROMOCHLOROMETHANE 5.0 5.0 U UG/L 1,1-DICHLOROETHANE 5.0 5.0 U UG/L 1,2-DICHLOROETHANE 5.0 5.0 U UG/L 1,1-DICHLOROETHENE 5.0 5.0 U UG/L 1,1-DICHLOROETHENE 5.0 5.0 U UG/L 1,2-DICHLOROETHENE 5.0 5.0 U UG/L 1,2-DICHLOROPROPENE 5.0 5.0 U UG/L 2-HEXANONE 5.0 5.0 U UG/L 2-HEXANONE 10 UG/L 4-METHYLENE CHLORIDE 5.0 5.0 U UG/L 5TYRENE 5.0 5.0 U UG/L 1,1,2-TETRACHLOROETHANE 5.0 5.0 U UG/L 1,1,2,2-TETRACHLOROETHANE 5.0 5.0 U UG/L 1,1,2,2-TETRACHLOROETHANE 5.0 5.0 U UG/L 1,1,1-TRICHLOROETHANE 5.0 5.0 U UG/L 1,1,2-TRICHLOROETHANE 5.0 5.0 U UG/L 5-XYLENE 5.0 5.0 U UG/L	CARBO	ON TETRACHLORIDE				
CHLOROETHANE CHLOROFORM 5.0 5.0 UG/L CHLOROFORM 5.0 CHLOROMETHANE 5.0 5.0 UG/L CHLOROMETHANE 5.0 5.0 UG/L CHLOROMETHANE 5.0 5.0 UG/L 1,1-DICHLOROETHANE 5.0 5.0 UG/L 1,2-DICHLOROETHANE 5.0 5.0 UG/L 1,1-DICHLOROETHANE 5.0 5.0 UG/L CIS-1,2-DICHLOROETHENE 5.0 5.0 UG/L CIS-1,2-DICHLOROETHENE 5.0 5.0 UG/L CIS-1,3-DICHLOROPROPENE 5.0 5.0 UG/L CIS-1,3-DICHLOROPROPENE 5.0 5.0 UG/L CIS-1,3-DICHLOROPROPENE 5.0 CIS-1,3-DICHLOROPROPENE 5.0 UG/L CIS-1,1-TICHLOROPROPENE 5.0 UG/L CIS-1,2-TICHLOROPROPENE 5.0 UG/L CIS-1,2-TICHLOROPROPENE 5.0 UG/L CIS-1,2-TICHLOROPROPENE 5.	CHLOF	ROBENZENE				
CHLOROFORM CHLOROMETHANE CHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 2,0 5.0 5.0 U UG/L 1,1-DICHLOROETHENE 3.0 5.0 U UG/L 1,1-DICHLOROETHENE 3.0 5.0 U UG/L 3.0 U UG/	CHLOF	ROETHANE				
CHLOROMETHANE DIBROMOCHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHENE 1,2-DICHLOROETHENE 1,2-DICHLOROETHENE 1,2-DICHLOROETHENE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPENE 1,2-DICHLOROPROPENE 1,2-DICHLOROPROPENE 1,1-1-DICHLOROPROPENE 1,1-1-DICHLOROETHANE 1,1-1-DICHLOROETHANE 1,1-1-DICHLOROETHANE 1,1-1-DICHLOROETHANE 1,1-1-TRICHLOROETHANE 1,1-1-T						
DIBROMOCHLOROMETHANE						
1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE 2,50 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5						
1,2-DICHLOROETHANE 1,1-DICHLOROETHENE 2,0	1,1-1	CICHLOROETHANE				
1.1-DICHLOROETHENE			,	5.0		
CIS-1,2-DICHLOROETHENE			944	5.0		
TRANS-1, 2-DICHLOROETHENE	C15-1	, 2-DICHLOROETHENE		5.0	5.0 U	
1,2-DICHLOROPROPENE	TRANS	5-1,2-DICHLOROETHEN	3	5.0	5.0 U	
CIS-1,3-DICHLOROPROPENE	1,2-D	CHLOROPROPANE		5.0	5.0 U	
TRANS-1,3-DICHLOROPROPENE   5.0   5.0   U   UG/L	CIS-I	, 3-DICHLOROPROPENE	1.0		5.0 U	
STATESTATEME			JE .		5.0 U	
METHYLENE CHLORIDE  4-METHYL-2-PENTANONE (MIBK)  STYRENE  1.1,2,2-TETRACHLOROETHANE  TETRACHLOROETHANE  TO U UG/L  1.1,1-TRICHLOROETHANE  1.1,2-TRICHLOROETHANE					5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)  STYRENE  1.1,2,2-TETRACHLOROETHANE  TETRACHLOROETHENE  TOLUENE  1.1,1-TRICHLOROETHANE  1.1,2-TRICHLOROETHANE  1.1,2-TRICHLOROETHANE					10 U	UG/L
STYRENE  1,1,2,2-TETRACHLOROETHANE  5.0  TETRACHLOROETHENE  5.0  TOLUENE  1,1,1-TRICHLOROETHANE  1,1,2-TRICHLOROETHANE  1,1,2-TRICHLOROETHANE  5.0  TRICHLOROETHENE  5.0  TRICHLOROETHENE  5.0  TRICHLOROETHENE  5.0  TRICHLOROETHENE  5.0  TRICHLORIDE  5.0  TRICHLORID			777			UG/L
1,1,2,2-TETRACHLOROETHANE TETRACHLOROETHENE TOLUENE TOLUENE 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE 0-XYLENE M+P-XYLENE SURROGATE RECOVERIES QC LIMITS 4-BROMOFLUOROBENZENE 4-BROMOFLUOROBENZENE (86 - 115 %) FOLUENE-D8 (88 - 110 %) POLIBROMOFLUOROMETUANE			BK)			
TETRACHLOROETHENE  TOLUENE  1,1,1-TRICHLOROETHANE  1,1,2-TRICHLOROETHANE  TRICHLOROETHENE  VINYL CHLORIDE  0-XYLENE  M+P-XYLENE  SURROGATE RECOVERIES  QC LIMITS  4-BROMOFLUOROBENZENE  (86 - 115 %)  FOLUENE-D8  (88 - 110 %)  98			TEP			
TOLUENE  1,1,1-TRICHLOROETHANE  1,1,2-TRICHLOROETHANE  1,1,2-TRICHLOROETHANE  1,1,2-TRICHLOROETHANE  1,1,2-TRICHLOROETHANE  1,1,2-TRICHLOROETHANE  5.0 5.0 U UG/L  5.0 SURROGATE RECOVERIES  4-BROMOFLUOROBENZENE  4-BROMOFLUOROBENZENE  (86 - 115 %) FOLUENE-D8 (88 - 110 %) 98	TETRA	CHLOROETHENE	(E			
1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 5.0 TRICHLOROETHENE VINYL CHLORIDE 0-XYLENE M+P-XYLENE  SURROGATE RECOVERIES QC LIMITS  4-BROMOFLUOROBENZENE (86 - 115 %) TOLUENE-D8 (88 - 110 %) PURPOMOELUOPOMETURNE						
1,1,2-TRICHLOROETHANE  TRICHLOROETHENE  VINYL CHLORIDE  0-XYLENE  M+P-XYLENE  S.0  5.0  UG/L  5.0  SURROGATE RECOVERIES  QC LIMITS  4-BROMOFLUOROBENZENE  (86 - 115 %)  10LUENE-D8  (88 - 110 %)  98	1,1,1	-TRICHLOROETHANE				
TRICHLOROETHENE VINYL CHLORIDE  0-XYLENE M+P-XYLENE  5.0 5.0 UG/L 6.0 UG/L						
VINYL CHLORIDE 0-XYLENE M+P-XYLENE 5.0 5.0 U UG/L 6.0 U	TRICH	LOROETHENE				
O-XYLENE  M+P-XYLENE  5.0  5.0 U UG/L  5.0 U UG/L  SURROGATE RECOVERIES  QC LIMITS  4-BROMOFLUOROBENZENE  (86 - 115 %)  FOLUENE-D8  (88 - 110 %)  98						
SURROGATE RECOVERIES QC LIMITS  4-BROMOFLUOROBENZENE (86 - 115 %) FOLUENE-D8 (88 - 110 %) 98 %						
SURROGATE RECOVERIES  QC LIMITS  4-BROMOFLUOROBENZENE (86 - 115 %) 86 % FOLUENE-D8 (88 - 110 %) 98 %	M+P-X	YLENE				
TOLUENE-D8 (88 - 110 %) 98	SURR	OGATE RECOVERIES	QC L	IMITS		
TOLUENE-D8 (88 - 110 %) 98	4-BRO	MOFLUOROBENZENE	(86	- 115 %)	0.0	D.
DTRPOMORI HODOMERITA NTP	TOLUE:	NE-D8				
	DIBRO	MOFLUOROMETHANE	•	- 118 %)	100	00

## COLUM ANALYTICAL SERVICES, INC.

1 Mustard St., Suite 250, P.O. Box 90859, Rochester, NY 14609-0859 (716) 288-5380 • FAX (716) 288-8475

# CHAIN OF STODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 11-16-98 PAGE / OF	DATE	11-16-	98 PAGE	/ OF
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PROJECT NAME GIFFIN																QUE	STE	D						+	
PROJECT MANAGER COMPANY/ADDRESS TEL 440 ) 349-	CONTACT_30773	Mark 5 Bu	Schmidt inbridge Ro	1. Ste 200	ERS			601/602	3,8	1 VOA's	o SVOA's	S A'S □ H/P	TERIZATION	METALS, TOTAL (LIST BELOW)	VED								PRES	SERVA	NOIT
TEL 440 ) 349- SAMPLER'S SIGNATU			40) 349-15	14	8	MS VOA's 60 🗆 624	4S SVOA's	/OA's	TICIDES/PCE 80 🗆 608	STAR'S LIST 8021 VOA'S	TAL TCI	A'S SVO	TE CHARACT	ALS, TOTAL BELOW)	ALS, DISSOL BELOW)	260				8			< 2.0	12	
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	# OF	GC/I	GC/I	GC \	PES 0	STAF	STAF	TOL	WAS	MET,	MET)	6						43	Y Ha	Y Ha	Other
EFF-11-16-98	11-16-98	11:20	256028		2											X							u		
RELINQUISHED  By Fabra  Signature Bob Fabra  Printed Name WCC	BY:	Signatule	RECEIVED BY:  Islanding:	TURNA24 hi		48 hr.	5 d	ay	1.8	Routine I	IEQUIR Report		TS	P.O. #:	INVOI	CE INFO	RMATI	ON:					ECEIP		
Printed Name WCC  Irm 11-16-98 Date/Time	12:09	Punted Nath	q p /1:	07	de Verb	)-15 worl al Prelim Prelimin	inary Re	esults	3. E	Varrative EPA Leve	el III le Packa		-,-,							Shipping Shipping Tempera	g #:				
ate/Time Date/Time P			Requeste					5. N	)ellverab	les Leve CLP Deli		s							Submiss	sion No:	9811-378			8	
rinted Name		Printed Name		SPEC		ISTRU	ICTIO	NS/CC	OMME	NTS:									L		ı				
ale/Time		Date/Time		METAI	LS												W	CCL	1_	_6	-	Mr.	War	K Sc	Gni
RELINQUISHED	BY:		RECEIVED BY:	ORGA	NICS	: 01	CL	□ PPI		AE O	nly (	□ BN	Only		pecia	List									_
gnalure		Signature													1										
inted Name		Printed Name Firm				= 111				· · · · · · · · · · · · · · · · · · ·															
ato/Time		F. C. CEL		65 RA	MAP	O VA	LLEY	ROA	D		20	1-51	2-329	92 3	109 W	EST	RIDLI	EYA	VE.			6	10-52	1-308	3



January 20, 1999

Mr. Mark Schmidt Woodward Clyde Consultants 30775 Bainbridge Road Suite 200 Solon, OH 44139

PROJECT: GRIFFIN IRM-MONTHLY Submission #:9812000210

Dear Mr. Schmidt

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson

Client Service Manager

Enc.



Effective 04/01/96

#### CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

- U Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J Indicates an estimated value. For further explanation see case narrative / cover letter.
- B This flag is used when the analyte is found in the associated blank as well as in the sample.
- E This flag identifies compounds whose concentrations exceed the calibration range.
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- N Spiked sample recovery not within control limits.
  (Flag the entire batch Inorganic analysis only)
- \* Duplicate analysis not within control limits.

  (Flag the entire batch Inorganic analysis only)
  - Also used to qualify Organics QC data outside limits.
- D Spike diluted out.
- S Reported value determined by Method of Standard Additions. (MSA)
- X As specified in the case narrative.

#### CAS Lab ID # for State Certifications

NY ID # in Rochester: 10145 CT ID # in Rochester: PH0556 MA ID # in Rochester: M-NY032 NJ ID # in Rochester: 73004 RI ID # in Rochester: 158

VOLATILE ORGANICS METHOD 8260B TCL Reported: 01/20/99

Woodward Clyde Consultants

Project Reference: GRIFFIN IRM-MONTHLY

Client Sample ID : EFF-12-15-98

Date Sampled: 12/15/98 Order #: 262639 Sample Matrix: WATER Date Received: 12/15/98 Submission #: 9812000210 Analytical Run 34329

				1327
ANALYTE	PÇ	ΣL	RESULT	UNITS
DATE ANALYZED : 12/23/	98			
ANALYTICAL DILUTION:	1.00			
ACETONE		20	20 U	UG/L
BENZENE		5.0	5.0 U	
BROMODICHLOROMETHANE		5.0	5.0 U	UG/L
BROMOFORM		5.0	5.0 U	UG/L
BROMOMETHANE		5.0		UG/L
2-BUTANONE (MEK)		10	5.0 U	UG/L
CARBON DISULFIDE		10	10 U	UG/L
CARBON TETRACHLORIDE		5.0	10 U	UG/L
CHLOROBENZENE		5.0	5.0 U	UG/L
CHLOROETHANE		5.0	5.0 U	UG/L
CHLOROFORM		5.0	5.0 U	UG/L
CHLOROMETHANE		5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE			5.0 U	UG/L
1,1-DICHLOROETHANE		5.0	5.0 U	UG/L
1,2-DICHLOROETHANE		5.0	5.0 U	UG/L
1,1-DICHLOROETHENE		5.0	5.0 U	UG/L
CIS-1, 2-DICHLOROETHENE		5.0	5.0 U	UG/L
TRANS-1, 2-DICHLOROETHENE		5.0	19	UG/L
1,2-DICHLOROPROPANE		5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE		5.0	5.0 U	UG/L
TRANS-1, 3-DICHLOROPROPENE		5.0	5.0 U	UG/L
ETHYLBENZENE		5.0	5.0 U	UG/L
2-HEXANONE	•	5.0	5.0 U	UG/L
METHYLENE CHLORIDE		10	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)		5.0	5.0 U	UG/L
STYRENE (MIBK)		10	10 U	UG/L
1,1,2,2-TETRACHLOROETHANE		5.0	5.0 U	UG/L
TETRACHLOROETHENE		5.0	5.0 U	UG/L
TOLUENE		5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE		5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE		5.0	22	UG/L
TRICHLOROETHENE		5.0	5.0 U	UG/L
VINYL CHLORIDE		5.0	590	UG/L
O-XYLENE		5.0	5.0 U	UG/L
M+P-XYLENE		5.0 5.0	5.0 U 5.0 U	UG/L
SURROGATE RECOVERIES	OC LIMITS	3.0	5.0 0	UG/L
A DROWGE TO THE PARTY OF THE PA				
4-BROMOFLUOROBENZENE	(86 - 115 %)		102	00
TOLUENE-D8	(88 - 110 %)		101	00
DIBROMOFLUOROMETHANE	(86 - 118 %)		102	%

VOLATILE ORGANICS METHOD 8260B TCL Reported: 01/20/99

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order #: Submission #:	267224	Sample Matrix:	: WATER 1 34329
ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 12/ ANALYTICAL DILUTION:	<sup>'</sup> 23/98 1.00	-		
ACETONE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE 2-BUTANONE (MEK) CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROETHANE CHLOROFORM CHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE 1,2-DICHLOROPROPANE CIS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE ETHYLBENZENE 2-HEXANONE METHYLENE CHLORIDE 4-METHYL-2-PENTANONE (MIB. STYRENE 1,1,2,2-TETRACHLOROETHANE TOLUENE 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE O-XYLENE M+P-XYLENE		20 0 0 0 0 0 0 0 0 0 0 0 0 0	20 UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
SURROGATE RECOVERIES	QC LIMI	TS		
4-BROMOFLUOROBENZENE TOLUENE-D8 DIBROMOFLUOROMETHANE	(88 - 1:	15 %) 10 %) 18 %)	102 103 102	ماه ماه ماه

# COL SIA ANALYTICAL SERVICES, INC.

1 Mustard St., Suite 250, P.O. Box 90859, Rochester, NY 14609-0859 (716) 288-5380 • FAX (716) 288-8475

# CHAIN OF USTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

to Autom	12-15-90	. ,	,
DATE	12-10-91	PAGE /	OF (

PROJECT NAME	Stiffin	IRM	ı					11-				A	NAL	YSIS	SRE	QU	EST	ED							
PROJECT MANAGER/							T		П		•		Zi	T				T	T		1	T	PRE	SERV/	MOLTA
TEL (14/10) 349-2	3077: Solon	Bain	btidge Rd.	Ste 200	KERS		5	] 601/602	,B's	21 VOA's	70 SVOA's	S. DA's □ H/F	TERIZATIO		LVED								rne	JEHV)	
TEL (140) 349-2 SAMPLER'S SIGNATUR	708 RE Bo	_ FAX (4)	40, 349-15	14	OF CONTAINERS	AS VOA's 60	GC/MS SVOA's	GC VOA's	TICIDES/PC	TAL DTC	TAL DTC	A'S C SVC	TE CHARAC	LS, TOTAL BELOW)	METALS, DISSOLVED (LIST BELOW)	0+							2.0	12	
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	0 #	GC/A	GC/N	00 00 00 00 00 00	PES D	STAF	STAF	75.	WAST	META (LIST	META	82							> Hd	v Hd	Other
EFF-12-15-98	12-15-58	10:58	262631	WATER	2											X							o.	a.	-
								4*																	
·																					41	4	The		
RELINQUISHED E  Signature Bob Fabro  Printed Name WCC  Firm 12-15-95  Date/Time	BY: (1:45	Signature /7 Pripted Name Figny //5 Date/Time	RECEIVED BY:  - Hasting  Hesting  198 /1:40		dard (10	48 hr. )-15 worl		ay s) esults	1. F 2. F N 3. E	Routine I Routine I Parrative PA Leve	Rep. w/C	CASE	TS	P.O. #:	INVOIC		DRMA	rion:		Shippin	ng Via: _	MPLE F	inb		
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Printed Name Firm Date/Time		Signature Printed Name Firm		SPEC		ISTRU	ICTIO	NS/CC																	
RELINQUISHED B	Y:	Date/Time	ECEIVED BY:	ORGA	METALS ORGANICS:			□ PPI		AE O	nly l	□ BN	Only	□s	pecial	List			A.C.						
Signature		Signature		-																-					
Printed Name		Printed Name																							
Film		Firm		65 RA				ROA	D		20	01-51	2-329	2 3	09 W	EST	BIDI	EY A	VE			6	10-52	1-301	33
Date/Time		Date/Time		MAHW						F	AX 20				RIDLE						F	AX 6			



January 29, 1999

Mr. Mark Schmidt Woodward Clyde Consultants 30775 Bainbridge Road Suite 200 Solon, OH 44139

PROJECT: GRIFFIN IRM Submission #:9901000143

Dear Mr. Schmidt:

Enclosed are the analytical results of the analyses requested. The analytical data was provided to you on 01/28/99 per a Facsimile transmittal. All data has been reviewed prior to report submission.

Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson

Client Service Manager

Market hile

Enc.

This package has been reviewed by Columbia Analytical Services OA Department/Laboratory Director prior to report submittal



Effective 04/01/96

#### CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

- U Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J Indicates an estimated value. For further explanation see case narrative / cover letter.
- B This flag is used when the analyte is found in the associated blank as well as in the sample.
- E This flag identifies compounds whose concentrations exceed the calibration range.
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- N Spiked sample recovery not within control limits.
   (Flag the entire batch Inorganic analysis only)
- \* Duplicate analysis not within control limits.

  (Flag the entire batch Inorganic analysis only)
  - Also used to qualify Organics QC data outside limits.
- D Spike diluted out.
- S Reported value determined by Method of Standard Additions. (MSA)
- X As specified in the case narrative.

#### CAS Lab ID # for State Certifications

NY ID # in Rochester: 10145
CT ID # in Rochester: PH0556
MA ID # in Rochester: M-NY032

NJ ID # in Rochester: 73004 RI ID # in Rochester: 158

WOLATILE ORGANICS
METHOD 8260B TCL
Reported: 01/29/99

Woodward Clyde Consultants Project Reference: GRIFFIN IRM Client Sample ID : EFF-1-14-99

Date Sampled: 01/14/99 Order #: 267710 Sample Matrix: WATER Date Received: 01/14/99 Submission #: 9901000143 Analytical Run 34700

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 01/20/99			
ANALYTICAL DILUTION: 5.00			
ACETONE	20	300 77	****
BENZENE	5.0	100 U	UG/L
BROMODICHLOROMETHANE	5.0	25 U	UG/L
BROMOFORM	5.0	25 U	UG/L
BROMOMETHANE		25 U	UG/L
2-BUTANONE (MEK)	5.0	25 U	UG/L
CARBON DISULFIDE	10	50 U	UG/L
CARBON TETRACHLORIDE	10	50 U	UG/L
CHLOROBENZENE	5.0	25 U	UG/L
CHLOROETHANE	5.0	25 U	UG/L
CHLOROFORM	5.0	25 U	UG/L
CHLOROMETHANE	5.0	25 U	UG/L
	5.0	25 U	UG/L
DIBROMOCHLOROMETHANE	5.0	25 U	UG/L
1,1-DICHLOROETHANE	5.0	25 U	UG/L
1,2-DICHLOROETHANE	5.0	25 Ú	UG/L
1,1-DICHLOROETHENE	5.0	25 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	25 U	UG/L
TRANS-1, 2-DICHLOROETHENE	5.0	25 U	
1,2-DICHLOROPROPANE	5.0	25 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	25 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0		UG/L
ETHYLBENZENE	5.0	25 U	UG/L
2-HEXANONE	10	25 U	UG/L
METHYLENE CHLORIDE	5.0	50 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	25 U	UG/L
STYRENE		50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	25 U	UG/L
TETRACHLOROETHENE	5.0	25 U	UG/L
TOLUENE	5.0	25 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	25 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	25 U	UG/L
PRICHLOROETHENE	5.0	25 U	UG/L
VINYL CHLORIDE	5.0	660	UG/L
D-XYLENE	5.0	25 U	UG/L
M+P-XYLENE	5.0	25 U	UG/L
*** ***********************************	5.0	25 U	UG/L
SURROGATE RECOVERIES QC LIN	MITS		
1-BROMOFLUOROBENZENE (86 -	115 %)	111	
FOLUENE-D8 (88 -	110 %)	111	%
OTDDOMOET HODOMEDITE	-	105	00
(00	118 %)	102	9

VOLATILE ORGANICS METHOD 8260B TCL Reported: 01/29/99

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled: Date Received: S	Order #:	270248	Sample Matrix Analytical Ru	: WATER 34700
ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 01/2	0/99			
ANALYTICAL DILUTION:	1.00			
ACETONE		20	20.77	30-15
BENZENE		5.0	20 U	UG/L
BROMODICHLOROMETHANE		5.0	5.0 U 5.0 U	UG/L
BROMOFORM		5.0	5.0 U	UG/L
BROMOMETHANE		5.0	5.0 U	UG/L
2-BUTANONE (MEK)		10	10 U	UG/L
CARBON DISULFIDE		10	10 U	UG/L
CARBON TETRACHLORIDE		5.0	5.0 U	UG/L
CHLOROBENZENE		5.0	5.0 U	UG/L
CHLOROETHANE		5.0	5.0 U	UG/L
CHLOROFORM		5.0	5.0 U	UG/L UG/L
CHLOROMETHANE		5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE		5.0	5.0 U	UG/L
1,1-DICHLOROETHANE 1,2-DICHLOROETHANE		5.0	5.0 U	, UG/L
1,1-DICHLOROETHENE	, .	5.0	5.0 U	UG/L
CIS-1, 2-DICHLOROETHENE	**	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE		5.0	5.0 U	UG/L
1, 2-DICHLOROPROPANE		5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE		5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE		5.0	5.0 U	UG/L
ETHYLBENZENE		5.0	5.0 U	UG/L
2-HEXANONE		5.0	5.0 U	UG/L
METHYLENE CHLORIDE		10	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	•	5.0	5.0 U	UG/L
STYRENE		10	10 U	UG/L
1,1,2,2-TETRACHLOROETHANE		5.0 5.0	5.0 U	UG/L
TETRACHLOROETHENE		5.0	5.0 U	UG/L
TOLUENE		5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE		5.0	5.0 U 5.0 U	UG/L
1,1,2-TRICHLOROETHANE		5.0	5.0 U	UG/L
FRICHLOROETHENE		5.0	5.0 U	UG/L
VINYL CHLORIDE		5.0	5.0 U	UG/L
D-XYLENE		5.0	5.0 U	UG/L
M+P-XYLENE		5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC LIMI	TS		/-
BROMOFLUOROBENZENE	(86 - 1	15 %\		
OLUENE-D8		15 %) 10 %)	108	96
DIBROMOFLUOROMETHANE		18 %)	102	90

1 Mustard uite 250, P.O. Box 90859, Rochester, NY 14609-0859 (716) 288-5380 • FAX (716) 288-8475

# CHAIN QUESTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 1-14-99 PAGE 1 OF

company/address 30775 Bainbridg Solon, whio	dt Rd.			1		-								STE							
COMPANY/ADDRESS 307/15 Bain bidg	Rd.	1			N			S	\$	No.									PRE	SERV	ATIO
Solon, phio		INERS	4	25	0 601/60	CB's	21 VOA's	ZO SVOA	LS OA's □ F	STERIZAT		OLVED									
TEL (440) 349-2708 FAX (440) 34  SAMPLER'S SIGNATURE Bob Fabrian	7-1514	# OF CONTAINERS	GC/MS VOA's	IS SVOA's	OA's 0/8020	ICIDES/P(	S LIST 80	S LIST 82	A'S   SV	E CHARAC	LS, TOTAL BELOW)	METALS, DISSOLVED (LIST BELOW)	40						0.	2	
SAMPLE I.D. DATE TIME LAB	.D. SAMPLE MATRIX	# 04	GC/N	GC/M	GC V	PEST 808	STAR D	STAR'	TCLP D VO	WAST	METAI (LIST	METAI (LIST	2						pH < 2.	pH > 12	Other
EFF-1-14-99 1-14-99 12:55	WHITER	2											×						_ d	<u>a</u>	
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													-		-						
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RELINQUISHED BY:  RECEIVED	TURNA TURNA		D REQU 48 hr.				ORT R		EMEN	rs		INVOIC	E INFO	RMATION	]  :		SAN	IPLE R	ECEIP	<u> </u>	
RELINQUISHED BY:  Signature Bod, Fording,  Printed Name  Wec  Firm  Received	Slar	dard (10	-15 work	ng days	)	2. Ro	ouline Rarrative	ep. w/C	ASE	- 1	P.O. #: Bill To:					Shippin		1	-/-	13	-
Date/Time	Prov		Prelimina			4. N.	lidatable J. Reduc	ced								Tempera	alure:				
HELINQUISHED BY: RECEIVED  Signature Signature	Y: Request	ed Repo	I Date _		-	5. NY		LP Deli	verables							Submiss	sion No:	01	-/	13	
Printed Name Printed Name Firm			STRU	CTION	IS/CO	MME	VTS:				_										
Date/Time Date/Time  RELINQUISHED BY: RECEIVED B	META			21 [	7 pp							2	-				-	30 10		rilly savilyanajingiani	-
HELINQUISHED BY: RECEIVED B Signature	Ond/	1100.	□ T(	JL L	J PPL		AL Ur	HY L	T BM	Unly	LJ S	pecial	ist							alalis disdocrelarado e "dis.	-
Printed Name Printed Name													7	-	111						
Firm   Firm   Date/Time   Date	65 RA	МАР	O VAL	LEY	ROAL	D	FA		1-512 1-512			09 W	STF	IDLEY	AVE.					1-308	



April 2, 1999

Mr. Mark Schmidt Woodward Clyde Consultants 30775 Bainbridge Road Suite 200 Solon, OH 44139

PROJECT: GRIFFIN IRM-MONTHLY Submission #:9902000190

Dear Mr. Schmidt

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson

Client Service Manager

Enc.



Effective 04/01/96

### CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

- U Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J Indicates an estimated value. For further explanation see case narrative / cover letter.
- B This flag is used when the analyte is found in the associated blank as well as in the sample.
- E This flag identifies compounds whose concentrations exceed the calibration range.
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- N Spiked sample recovery not within control limits.

  (Flag the entire batch Inorganic analysis only)
- Duplicate analysis not within control limits.
   (Flag the entire batch Inorganic analysis only)
  - Also used to qualify Organics QC data outside limits.
- D Spike diluted out.
- S Reported value determined by Method of Standard Additions. (MSA)
- X As specified in the case narrative.

### CAS Lab ID # for State Certifications

NY ID # in Rochester: 10145
CT ID # in Rochester: PH0556
MA ID # in Rochester: M-NY032
OH EPA # in Rochester: VAP

NJ ID # in Rochester: 73004
RI ID # in Rochester: 158
NH ID # in Rochester: 294198-A
AIHA # in Rochester: 7889

VOLATILE ORGANICS METHOD 8260B TCL Reported: 03/02/99

Woodward Clyde Consultants

Project Reference: GRIFFIN IRM-MONTHLY

Client Sample ID : EFF-2-15-99

Date Sampled: 02/15/99 Order #: 273244 Sample Matrix: WATER Date Received: 02/15/99 Submission #: 9902000190 Analytical Run 35600

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 02/26/9	9			
	.00			
ACETONE		2.0		
BENZENE		20	40 U	UG/L
BROMODICHLOROMETHANE		5.0	10 U	UG/L
BROMOFORM		5.0	10 U	UG/L
BROMOMETHANE		5.0	10 U.	UG/L
2-BUTANONE (MEK)		5.0	10 U	UG/L
CARBON DISULFIDE		10	20 U	UG/L
CARBON TETRACHLORIDE		10	20 U	UG/L
CHLOROBENZENE		5.0	10 U	UG/L
CHLOROETHANE		5.0	10 U	UG/L
CHLOROFORM		5.0	10 U	UG/L
CHLOROMETHANE		5.0	10 U	UG/L
DIBROMOCHLOROMETHANE		5.0	10 U	UG/L
1,1-DICHLOROETHANE		5.0	10, U	UG/L
1,2-DICHLOROETHANE		5.0	10 U	UG/L
1,1-DICHLOROETHENE		5.0	10 U	UG/L
CIS-1,2-DICHLOROETHENE		5.0	10 U	UG/L
TRANS-1,2-DICHLOROETHENE		5.0	10 U	UG/L
1,2-DICHLOROPROPANE		5.0	10 U	UG/L
CIS-1,3-DICHLOROPROPENE		5.0	10 U	UG/L
TRANS-1, 3-DICHLOROPROPENE		5.0	10 U	UG/L
ETHYLBENZENE		5.0	10 U	UG/L
2-HEXANONE		5.0	10 U	UG/L
METHYLENE CHLORIDE		10	20 U	UG/L
4-METHYL-2-PENTANONE (MIBK)		5.0	10 U	UG/L
STYRENE		10	20 U	UG/L
1,1,2,2-TETRACHLOROETHANE		5.0	10 U	UG/L
TETRACHLOROETHENE		5.0	10 U	UG/L
FOLUENE		5.0	10 U	UG/L
1,1,1-TRICHLOROETHANE		5.0	10 U	UG/L
1,1,2-TRICHLOROETHANE		5.0	10 U	UG/L
TRICHLOROETHENE		5.0	10 U	UG/L
/INYL CHLORIDE		5.0	230	UG/L
D-XYLENE		5.0	10 U	UG/L
M+P-XYLENE		5.0	10 U	UG/L
2111111111		5.0	10 U	UG/L
SURROGATE RECOVERIES	QC LIMITS			
-BROMOFLUOROBENZENE	(86 - 115 %)	)	07	
COLUENE-D8	(88 - 110 %)		91	%
DIBROMOFLUOROMETHANE	(86 - 118 %)		101	%
	210 6	/	104	9

VOLATILE ORGANICS METHOD 8260B TCL Reported: 03/02/99

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled: Date Received: Subr	Order #: 275852	Sample Matrix: Analytical Run	WATER 35600
ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 02/26/9 ANALYTICAL DILUTION:	99 1.00		
ACETONE	2	0 20 U	UG/L
BENZENE	5.		
BROMODICHLOROMETHANE	5.		UG/L
BROMOFORM	5.		UG/L
BROMOMETHANE	5.		UG/L
2-BUTANONE (MEK)	i		UG/L
CARBON DISULFIDE	î		UG/L
CARBON TETRACHLORIDE	5.		UG/L
CHLOROBENZENE	5.		UG/L
CHLOROETHANE	5.		UG/L
CHLOROFORM	5.		UG/L
CHLOROMETHANE	5.		UG/L
DIBROMOCHLOROMETHANE	5.		UG/L
1,1-DICHLOROETHANE			UG/L
1,2-DICHLOROETHANE	5.	7	UG/L
1,1-DICHLOROETHENE	5.		UG/L
CIS-1,2-DICHLOROETHENE			UG/L
TRANS-1, 2-DICHLOROETHENE	5.		UG/L
1,2-DICHLOROPROPANE	5.		UG/L
CIS-1,3-DICHLOROPROPENE	5.		UG/L
TRANS-1, 3-DICHLOROPROPENE	5.		UG/L
ETHYLBENZENE	5.		UG/L
2-HEXANONE	5.		UG/L
METHYLENE CHLORIDE	_1		UG/L
4-METHYL-2-PENTANONE (MIBK)	5.		UG/L
STYRENE	_1		UG/L
1,1,2,2-TETRACHLOROETHANE	5.1		UG/L
TETRACHLOROETHENE	5.0		UG/L
TOLUENE	5.		UG/L
1,1,1-TRICHLOROETHANE	5.0		UG/L
1,1,2-TRICHLOROETHANE	5.0		UG/L
TRICHLOROETHENE	5.0		UG/L
VINYL CHLORIDE	5.0		UG/L
O-XYLENE	5.0		UG/L
M÷P-XYLENE	5.( 5.(		UG/L UG/L
SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	88	Q,
TOLUENE-D8	(88 - 110 %)	97	00
DIBROMOFLUOROMETHANE	(86 - 118 %)	100	000 010

### COLUMA ANALYTICAL SERVICES, INC.

(716) 288-5380 • FAX (716) 288-8475

CHAIN OF STODY/LABORATORY ANALYSIS REQUE FORM

(800) 695-7222

DATE 2-15-99 PAGE / OF /

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PROJECT NAME	eri-ffin	IR	m									A	NAL	YSI	RE	QUI	STED					-	—— <i>;</i> v
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April 7, 1999

Mr. Mark Schmidt URS Greiner Woodward Clyde 30775 Bainbridge Road Suite 200 Solon, OH 44139

PROJECT:GRIFFIN IRM Submission #:9903000257

Dear Mr. Schmidt

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson

Client Service Manager

Enc.

This package has been reviewed by Columbia Analytical Services; On Department/Laboratory Director prior to report submittal.



Effective 04/01/96

### CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

- U Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J Indicates an estimated value. For further explanation see case narrative / cover letter.
- B This flag is used when the analyte is found in the associated blank as well as in the sample.
- E This flag identifies compounds whose concentrations exceed the calibration range.
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- N Spiked sample recovery not within control limits.
   (Flag the entire batch Inorganic analysis only)
- Duplicate analysis not within control limits.
   (Flag the entire batch Inorganic analysis only)
  - Also used to qualify Organics QC data outside limits.
- D Spike diluted out.
- S Reported value determined by Method of Standard Additions. (MSA)
- X As specified in the case narrative.

### CAS Lab ID # for State Certifications

 NY ID # in Rochester:
 10145
 NJ ID # in Rochester:
 73004

 CT ID # in Rochester:
 PH0556
 RI ID # in Rochester:
 158

 MA ID # in Rochester:
 M-NY032
 NH ID # in Rochester:
 294198-A

 OH EPA # in Rochester:
 VAP
 AIHA # in Rochester:
 7889

VOLATIL ORGANICS METHOD 8260B TCL Reported: 04/07/99

URS Greiner Woodward Clyde Project Reference: GRIFFIN IRM Client Sample ID: EFF-3-18-99

Date Sampled: 03/18/99 Order #: 279618 Sample Matrix: WATER
Date Received: 03/18/99 Submission #: 9903000257 Analytical Run 36755

ANALYTE		PQL	DECITE	
DATE ANALYZED : 03/2		1 0 1	RESULT	UNITS
ANALYTICAL DILUTION:	7/99			
PARADITICAL DILUTION:	1.00			
ACETONE				
BENZENE		20	20 U	UG/L
BROMODICHLOROMETHANE		5.0	5.0 U	UG/L
BROMOFORM		5.0	5.0 U	UG/L
BROMOMETHANE		5.0	5.0 U	UG/L
2-BUTANONE (MEK)		5.0	5.0 U	UG/L
CARBON DISULFIDE		10	10 U	UG/L
CARBON TETRACHLORIDE		10	10 U	UG/L
CHLOROBENZENE		5.0	5.0 U	UG/L
CHLOROETHANE		5.0	5.0 U	UG/L
CHLOROFORM		5.0	5.0 U	UG/L
CHLOROMETHANE		5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE		5.0	5.0 U	UG/L
1,1-DICHLOROETHANE		5.0	5.0 U	UG/L
1,2-DICHLOROETHANE		5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	de	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE		5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE		5.0	12	UG/L
1,2-DICHLOROPROPANE		5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE		5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE		5.0	5.0 U	UG/L
THYLBENZENE		5.0	5.0 U	UG/L
- HEXANONE		5.0	5.0 U	UG/L
ETHYLENE CHLORIDE		10	10 U	UG/L
-METHYL-2-PENTANONE (MIBK)		5.0	5.0 U	UG/L
TYRENE		10	10 U	UG/L
,1,2,2-TETRACHLOROETHANE		5.0	5.0 U	UG/L
ETRACHLOROETHENE		5.0	5.0 U	UG/L
OLUENE		5.0	5.0 U	UG/L
,1,1-TRICHLOROETHANE		5.0	5.0 U	UG/L
,1,2-TRICHLOROETHANE		5.0	5.0 U	UG/L
RICHLOROETHENE		5.0	5.0 U	UG/L
INYL CHLORIDE		5.0	140	UG/L
-XYLENE		5.0	17	UG/L
+P-XYLENE		5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC LIMIT	rs		UG/L
-BROMOFLUOROBENZENE	(86 - 11			
OLUENE-D8		15 %)	109	00
IBROMOFLUOROMETHANE	(86 - 11	LO %)	105	9

WETHOD 8260B TCL Reported: 04/07/99

Project Reference:

Client Sample ID : METHOD BLANK

Date Sampled: Date Received: Su	Order #: bmission #:	283339	Sample Matrix: Analytical Run	WATER 36755
ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 03/27 ANALYTICAL DILUTION:	/99 1.00			
ACETONE BENZENE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE 2-BUTANONE (MEK) CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROETHANE CHLOROFORM CHLOROMETHANE DIBROMOCHLOROMETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE 1,2-DICHLOROPROPANE CIS-1,3-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE ETHYLBENZENE 2-HEXANONE		20 5.0 5.0 10 10 5.0 10 10 5.0 10 10 5.0 10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	20 5.0 10 10 10 10 10 10 10 10 10 1	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
METHYLENE CHLORIDE 4-METHYL-2-PENTANONE (MIBK) STYRENE 1,1,2,2-TETRACHLOROETHANE TETRACHLOROETHENE TOLUENE 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE 0-XYLENE M+P-XYLENE SURROGATE RECOVERIES		10 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0	10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L
-BROMOFLUOROBENZENE OLUENE-D8 IBROMOFLUOROMETHANE	(88 - 13	TS  -5 %) .0 %) .8 %)	108 103 102	ماه ماه ماه

## A ANALYTICAL SERVICES, INC.

1 Mustard St., Sulte 250, P.O. Box 90859, Rochester, NY 14609-0859 (716) 288-5380 • FAX (716) 288-8475

# CHAIN OF STODY/LABORATORY ANALYSIS REQUED FORM

(800) 695-7222

DATE_	3-18-99	PAGE	2-	OF	2-
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PROJECT NAME	Con	PG.	[Run				3		4			A	NAL	YSI	RE	QUI	EST	ED							h
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PROJECT MANAGER/CO	DNTACT_	Marie	Schmat					22		60	A's	F	IZATION	,									PRES	SERVA	TION
COMPANY/ADDRESS _	30775	Barne	ridge Rd.	,	SS	1		601/602		O	8		ZZ		0	-			٠						
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miday	3-18-93	12:03	279609	WATER	2	-				-						1							-		-
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April 16, 1999

Mr. Mark Schmidt
URS Greiner Woodward Clyde
30775 Bainbridge Road
Suite 200
Solon. OH 44139

PROJECT: GRIFFIN IRM Submission #:9903000256

Dear Mr. Schmidt

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson

Client Service Manager

Mark Chils.

Enc.

This package has been reviewed by Columbia Analytical Services | QA Department/Laboratory Director prior to report submittal.

#### COMBIA ANALYTICAL SERVICES, INC.

Mustard Suite 250, P.O. Box 90859, Rochester, NY 14609-0859 (716) 288-5380 • FAX (716) 288-8475

CHAIN QUISTODY/LABORATORY ANALYSIS REQUEST

(800) 695-7222

DATE 3-18-99 PAGE 2 OF 2

PROJECT NAME	Gri	ffin I	Rm									A	NAL	YSIS	RE	QUI	EST	ED							
PROJECT MANAGER/CO	ONTACT_	Mark	Schmidt								100	ď	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.									1	PRES	SERV/	TION
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mw-20 V		12:28	611		2-											X									
mw73 V		12:40	6/2		2											X									
mw-4 V		12:50	613		2								-												
/						-	-									X									-
mw-55		13:00	614		2											X									
MW-,5D		13:08	615		2											X									
DUP MN-4			6/6		2											X									
Thip			617		12											X									
EFF-3-18-99	V	13:30	3-257	V	2												X								
RELINQUISHED B	Y:		RECEIVED BY:	TUF	NAROUN	ID REQ	UIREM	ENTS	REF	PORT	REQUI	REMEN	ITS		INVO	CE INF	ORMAT	ION:			SAI	APLE F	RECEIP	T:	
Signature Bob Fabian		Ton	RECEIVED BY:	0 -2	!4 hr	48 hr.	5	day		Routine	Report Rep. w/s	CASE		50.5									1.	, L	
Printed Name URS wcc		Signature Printed Name	Hasting	35	Standard (1	0-15 wo	rking day	ys)		Narrative	9	01102		P.O. #:							ng Via: _	-	1100	1	_
Firm 3-18-99 1	4:30	FIFT /10/	99 14:	70 -F	rovide Verl	bal Prelin	ninary P	lesults		EPA Lev Validatat	el III ble Pack	age								Shippir	-	5	.9	-	
Date/Time		Date/Time			rovide FA)	( Preilmi	nary Res	sults	4.1	V.J. Red	luced	•		-						Temper	iature	-		- 1	handlenspile
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Signature		Signature							6. 8	Site spec	cific QC.									3	3- 7	25-	7		
Printed Name		Printed Name		SP	ECIAL I	NSTR	UCTIC	NS/C	OMME	ENTS:															
Firm		Firm		ME	TALS																				
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Signature		Signature																							
Printed Name		Printed Name																							
Firm Date/Time		Firm Date/Time			RAMAI				AD				12-32			VEST					-		10-52		
Date/ Time		Date/Time		IVIA	HWAH	, NJ U	7430				AX 2	U1-5	12-33	62	HIDL	EY P	ARK,	PA 1	9078	1	F	AX E	10-52	21-45	89

### CO IBIA ANALYTICAL SERVICES, INC.

1 Mustard St., Suite 250, P.O. Box 90859, Rochester, NY 14609-0859 (716) 288-5380 • FAX (716) 288-8475 CHAIN CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 3-18-99 PAGE / OF 2

PROJECT NAME GY	iffin	IRm							* ***				Al	NAL	YSIS	RE	QUE	STED							
PROJECT MANAGER/CO			Schmidt										0	N. H									PRES	SERVA	TION
COMPANY/ADDRESS _									602		A's	OA's	□ H/P	ATIC											
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SAMPLER'S SIGNATURE	Bo	- Fal	ien	-		- CONTAINERS	GC/MS VOA's □ 8260 □ 624	GC/MS SVOA's	GC VOA's	PESTICIDES/PCB's	TAL	A'S LIS	TCLP   METALS   VOA'S   SVOA'S	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	ALS, T	METALS, [	450					a	2.0	12	
SAMPLE I.D.	DATE	TIME	LAB I.D.	SAM	IPLE RIX	# OF	GC/N	GC/N	GC 080	PES	STA	STA	J5D	WAS	MET.	MET (LIST	4						PH ^	¥.	Other
mw-13D-	3-17-99	09:00	279599	wni		2											×								
mw-65 V	1	09:15	600		1	2											X								
MW-60		09:33	601			2											X								
mw-78		09:55	602			2											X								
MW-7D 1	VI	10:05	603			2											X						- 1/		
mw-98 V	3-18-97	10:20	604			2		î-									X								
mw-90		10:43	605			2											X								
mw-105 /		11:02	606			2											X								
mw-100		11:20	607			2											X								
mw- 11)	V	11:40	608	V	/	2											X								
RELINQUISHED BY  But Falcon  Signature 3.5 Fabran  Printed Name URS WCC  Firm 3-18-99  Date/Time		Tem	Hastings)		Stan	r dard (10 ide Vert	48 hr. 0-15 wor oal Prelim	5 (king da	day ys) lesults	1.1	PORT I Routine Routine Narrative EPA Lev Validatal	Report Rep. w/ e el III ble Pack		NTS	P.O. #:		CE INFO	RMATION:		Shippir Shippir Temper	ng Via:		/ic	T:	
RELINQUISHED BY	<b>/</b> :	Signature	RECEIVED BY:		Request	ed Repo	ort Date			5. 1	Deliveral NY ASP Site spec	CLP De	eliverable	95						Submis	sion No	, 5	2)	6	
Printed Name		Printed Name	9		SPEC	IAL II	NSTRI	UCTIO	NS/C	ОММ	NTS:														
Firm		Firm			META	100																			
Date/Firms		Date/Time			META	Lo			<del> </del>							-									
RELINQUISHED BY	<b>':</b>	Signature	RECEIVED BY:		ORGA	NICS	S: 🗆	TCL	☐ PF	'L [	AEC	Only	□ BN	V Only		Specia	al List								
Printed Name		Printed Name	9																						
Firm		Firm			65 RA					AD		2	01-5	12-32	92	309 \	WEST I	RIDLEY	AVE.					21-30	
Date/Time		Date/Time			MAH	WAH,	NJ O	7430			F	FAX 2	201-5	12-33	62	RIDL	EY PA	RK, PA	19078	3				21-45	

#### CASE NARRATIVE

COMPANY: Woodward Clyde Consultants Griffin IRM SUBMISSION #: 9903000256

WCC water samples were collected on 03/17-18/99 and received at CAS on 03/18/99 in good condition. See the CAS Batching form to cross reference between Client ID and CAS sample numbers.

#### **VOLATILE ORGANICS**

Water samples and a trip blank were analyzed for Target Compound List (TCL) of volatile organics by method 95-1 from the NYSASP.

Sample MW-5D was analyzed twice with the diluted analysis designated MW-5DDL.

Sample MW2S was analyzed for site specific QC. All matrix spike recoveries and %RPD were within QC limits. All blank spike recoveries were within limits.

All tuning criteria for BFB were met.

The initial and continuing calibration criteria were met for all analytes.

All surrogate standard recoveries were within acceptance limits.

All internal standard areas were within QC Limits.

All samples were analyzed within the holding time as specified in the method.

No other analytical or QC problems were encountered.

SDG #: MW-	CASE No.:	BATCH C	OMPLETE:yes		DATE REV	/ISED:		
SUBMISSIO	9903000256	DISKETT	E REQUESTED: Y N_x_		DATE DUE	E: 4/18/98		
CLIENT:	Woodward Clyde Consultants	DATE: 03	/18/99		PROTOCO	DL: ASP-B		
CLIENT REP	: Mark Wilson	CUSTOD	Y SEAL: PRESENT/ABSENT:		SHIPPING	No.:		
PROJECT:	GRIFFIN IRM	CHAIN O	F CUSTODY: PRESENT/ABSEN	T:				
CAS JOB#	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE	DATE	pН	%	REMARKS
				SAMPLE	RECEIVE	(SOLIDS)	SOLIDS	AMPLE CONDITIO
279599	MW-13D	WATER	95-1	3/17/99	3/18/99			
279600	MW-6S	WATER	95-1	3/17/99	3/18/99			
279601	MW-6D	WATER	95-1	3/17/99	3/18/99			
279602	MW-7S	WATER	95-1	3/17/99	3/18/99			
279603	MW-7D	WATER	95-1	3/17/99	3/18/99			
279604	MW-9S	WATER	95-1	3/18/99	3/18/99			
279605	MW-9D	WATER	95-1	3/18/99	3/18/99			
279606	MW-10S	WATER	95-1	3/18/99	3/18/99			
279607	MW-10D	WATER	95-1	3/18/99	3/18/99			
279608	MW-11D	WATER	95-1	3/18/99	3/18/99			
279609	MW-1	WATER	95-1	3/18/99	3/18/99			
279610	MW-2S	WATER	95-1	3/18/99	3/18/99			
279611	MW-2D	WATER	95-1	3/18/99	3/18/99			
279612	MW-3	WATER	95-1	3/18/99	3/18/99			
279613	MW-4	WATER	95-1	3/18/99	3/18/99			
279614	MW-5S	WATER	95-1	3/18/99	3/18/99			
279615	MW-5D	WATER	95-1	3/18/99	3/18/99			
279616	DUP	WATER	95-1	3/18/99	3/18/99			
279617	TRIP BLANK	WATER	95-1	3/18/99	3/18/99			
			(and the state of					
00								

3/18/99 279599.XLS

SDG #: MW- CASE No.:

SUBMISSIO 9903000256

DATE REVISED:

**DATE DUE: 4/18/98** 

BATCH COMPLETE: \_\_yes\_\_\_ DISKETTE REQUESTED: Y\_\_ N\_\_x\_

#### NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

Customer Sample	Laboratory Sample	Analytical Requirements* 95ASP PROTOCOL					
Code	Code	*VOA GC/MS	*BNA GC/MS	*VOA GC	*PEST PCB	*METALS	*OTHER
MW-13D	279599	X					
MW-6S	279600	X					
MW-6D	279601	X					
MW-7S	279602	X					
MW-7D	279603	X					
MW-9S	279604	X					
MW-9D	279605	X					
MW-10S	279606	X					
MW-10D	279607	X					
MW-11D	279608	X					
MW-1	279609	X					h =
MW-2S	279610	X					
MW-2D	279611	X					
MW-3	279612	X					
MW-4	279613	X					
MW-5S	279614	X					
MW-5D	279615	X					
DUP	279616	X					
TRIP BLANK	279617	Х					
				-			
						0.70	

<sup>\*</sup>Check Appropriate Boxes

NCF1

9/89

<sup>\*</sup>CLP, Non-CLP
\*HSL, Priority Pollutant

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SAMPLE PREPARATION AND ANALYSIS SUMMARY VOA ANALYSES

ABORATORY	MATRIX	DATE	DATE REC'D AT LAB	LOW LEVEL	DATE ANALYZED
SAMPLE ID	1111255				
279599	WATER	3/17/99	3/18/99	LOW	3/25/99
279600	WATER	3/17/99	3/18/99	LOW	3/26/99
279601	WATER	3/17/99	3/18/99	LOW	3/26/99
279602	WATER	3/17/99	3/18/99	LOW	3/26/99
279603	WATER	3/17/99	3/18/99	LOW	3/26/99
279604	WATER	3/18/99	3/18/99	LOW	3/26/99
279605	WATER	3/18/99	3/18/99	LOW	3/26/99
279606	WATER	3/18/99	3/18/99	LOW	3/26/99
279607	WATER	3/18/99	3/18/99	LOW	3/26/99
279608	WATER	3/18/99	3/18/99	LOW	3/26/99
279609	WATER	3/18/99	3/18/99	LOW	3/26/99
279610	WATER	3/18/99	3/18/99	LOW	3/26/99
279611	WATER	3/18/99	3/18/99	LOW	3/26/99
279612	WATER	3/18/99	3/18/99	LOW	3/26/99
279613	WATER	3/18/99	3/18/99	LOW	3/26/99
279614	WATER	3/18/99	3/18/99	LOW	3/26/99
279615	WATER	3/18/99	3/18/99	LOW	3/26/99
279616	WATER	3/18/99	3/18/99	LOW	3/26/99
279617	WATER	3/18/99	3/18/99	LOW	3/26/99

NCF5 5/91

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION SAMPLE PREPARATION AND ANALYSIS SUMMARY

#### ORGANIC ANALYSES

279599				AUXILARY	DIL/CONG
279599		PROTOCOL	METHOD	CLEAN UP	FACTOR
	WATER	95-1			1
279600	WATER	95-1			1
279601	WATER	95-1			1
279602	WATER	95-1			1
279603	WATER	95-1			1
279604	WATER	95-1			1
279605	WATER	95-1			1
279606	WATER	95-1		1,1-3	1
279607	WATER	95-1			1
279608	WATER	95-1			1
279609	WATER	95-1			1
279610	WATER	95-1			1
279611	WATER	95-1			1
279612	WATER	95-1			1
279613	WATER	95-1			1
279614	WATER	95-1			1
279615	WATER	95-1			1, 2
279616	WATER	95-1			1
279617	WATER	95-1			1
		,			

NCF2 9/89

EPA	SAMPL	E NO
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Lab Name:	10145			Contract:	WCC		
Lab Code:	CAS/RC	oc (	Case No.: 99-3-256	SAS No	o.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATER	<u> </u>	La	b Sample ID:	279616 1	
Sample wt/ve	ol:	5.0	(g/ml) ML	La	b File ID:	A5481.D	
Level: (low/r	med)	LOW		Da	ate Received:	03/18/99	
% Moisture:	not dec.			Da	ite Analyzed:	03/26/99	
GC Column:	RTX50	02. ID:	0.53 (mm)	Dil	lution Factor:	1.0	
Soil Extract	Volume		(uL)	So	oil Aliquot Vol	ume:	(uL

AS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	1	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	59	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMF	PLE NO.
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Lab Name: 10145	Contract: WCC
Lab Code: CAS/ROC Case No.: 99-3-	256 SAS No.: SDG No.: MW-1
Matrix: (soil/water) WATER	Lab Sample ID: 279616 1
Sample wt/vol: 5.0 (g/ml) ML	Lab File ID: A5481.D
Level: (low/med) LOW	Date Received: 03/18/99
% Moisture: not dec.	Date Analyzed: 03/26/99
GC Column: RTX502. ID: 0.53 (mm)	Dilution Factor: 1.0
Soil Extract Volume (uL)	Soil Aliquot Volume: (uL
Number TICs found: 0	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L
CAS NO. COMPOUND	RT EST. CONC. Q

EPA SAMPLE NO.

Lab Name:	10145			Contract:	WCC		
Lab Code: CAS/ROC Case No.: 99-3-256		56 SAS N	o.: S	SDG No.: MW-1			
Matrix: (soil/	water)	WATER		La	b Sample ID:	279609 1	
Sample wt/v	ol:	5.0	(g/ml) ML	La	b File ID:	A5499.D	
Level: (low/	med)	LOW		Da	ate Received:	03/18/99	
% Moisture:	not dec.			Da	ate Analyzed:	03/26/99	
GC Column	RTX5	02. ID: 0.5	63 (mm)	Di	lution Factor:	1.0	
Soil Extract	Volume		(uL)	Sc	oil Aliquot Vol	ume:	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chioroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SA	MP	LE	NO
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Lab Name:	10145		Contract:	NCC		MW-1	
Lab Code:	CAS/ROC	Case No.: 99-3	-256 SAS No.:	SI	DG No.:	MW-1	
Matrix: (soil/v	vater) WAT	ER	Lab	Sample ID:	279609	1	
Sample wt/vo	ol: <u>5.0</u>	(g/ml) ML	Lab	File ID:	A5499.D		
Level: (low/n	ned) LOW	<u> </u>	Date	Received:	03/18/99		
% Moisture: r	not dec.		Date	Analyzed:	03/26/99		
GC Column:	RTX502. IC	0: <u>0.53</u> (mm)	Dilut	ion Factor:	1.0		
Soil Extract \	/olume	(uL)	Soil	Aliquot Volu	ıme:		(uL)
Number TICs	found:	0	CONCENTRATION (ug/L or ug/Kg)	ON UNITS: UG/L			
CAS NO.	con	MPOUND		RT ES	ST. CONC	s	Q

EPA SAMPLE NO.

MW-2D Lab Name: 10145 Contract: WCC Lab Code: CAS/ROC SAS No.: SDG No.: MW-1 Case No.: 99-3-256 WATER Matrix: (soil/water) Lab Sample ID: 279611 1 Sample wt/vol: 5.0 (g/mi) ML Lab File ID: A5477.D LOW Level: (low/med) Date Received: 03/18/99 % Moisture: not dec. Date Analyzed: 03/26/99 GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 1.0 Soil Extract Volume (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	6	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	5	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	190	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xyiene	10	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: 1014	15		Contract: WCC	MW-	2D
Lab Code: CAS	/ROC Case I	No.: 99-3-256	SAS No.:	SDG No.: MV	V-1
Matrix: (soil/water)	WATER		Lab Sampl	e ID: 279611 1	
Sample wt/vol:	5.0	g/ml) ML	Lab File ID	: A5477.D	
Level: (low/med)	LOW		Date Recei	ved: 03/18/99	
% Moisture: not de	ес	A Land	Date Analy	zed: 03/26/99	
GC Column: RT	X502. ID: 0.53	(mm)	Dilution Fa	ctor: 1.0	
Soil Extract Volum	ne(	(uL)	Soil Aliquo	t Volume:	(uL)
Number TICs four	nd: 0		CENTRATION UN or ug/Kg) UG		
CAS NO.	COMPOUND		RT	EST. CONC.	Q

EPA SAMPLE NO.

Lab Name:	10145		1 = 1		Contract:	WCC	10100-23	
Lab Code:	CAS/RO	oc (	Case No.:	99-3-256	SAS No	o.: S	DG No.: MW-1	
Matrix: (soil/	water)	WATER	2		La	b Sample ID:	279610 1	
Sample wt/v	ol:	5.0	(g/ml)	ML	La	b File ID:	A5486.D	
Level: (low/	med)	LOW			Da	te Received:	03/18/99	
% Moisture:	not dec.				Da	te Analyzed:	03/26/99	
GC Column	RTX5	02. ID:	0.53 (n	nm)	Dil	ution Factor:	1.0	
Soil Extract	Volume		(uL)		So	il Aliquot Vol	ume:	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	28	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

#### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	10145			Contract:	wcc	10100-23	
Lab Code:	CAS/RO	OC Cas	se No.: 99-3-	256 SAS No	o.:	SDG No.: MW-	1
Matrix: (soil/	water)	WATER	100	Lal	b Sample II	D: 279610 1	
Sample wt/v	rol:	5.0	(g/ml) ML	La	b File ID:	A5486.D	
Level: (low/	med)	LOW		Da	te Receive	d: 03/18/99	
% Moisture:	not dec.			Da	te Analyze	d: 03/26/99	
GC Column	RTX5	02. ID: 0.	53 (mm)	Dil	ution Facto	r: 1.0	
Soil Extract	Volume		_ (uL)	So	il Aliquot V	olume:	_ (uL)
				CONCENTRA			
Number TIC	s found:	0	_	(ug/L or ug/Kg)	UG/L		
CAS NO.		COMPOL	JND		RT	EST. CONC.	Q

EPA SAMPLE NO.

Lab Name:	10145			Contract:	wcc		MW-3	
Lab Code:	CAS/ROC	Case No.:	99-3-256	SAS No	).:	SDG No.:	MW-1	

Matrix: (soil/water) WATER Lab Sample ID: 279612 1
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: A5482.D

Level: (low/med) LOW Date Received: 03/18/99

% Moisture: not dec.

Date Analyzed: 03/26/99

GC Column: RTX502. ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume (uL) Soil Aliquot Volume: (uL)

74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	45	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO
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Lab Name:	10145		Contract:	wcc	N	IW-3
Lab Code:	CAS/ROC	Case No.: 99-3-	256 SAS No	o.:	SDG No.:	MW-1
Matrix: (soil/w	ater) W	ATER	La	b Sample II	D: <u>279612 1</u>	
Sample wt/vol	5.0	(g/ml) ML	La	b File ID:	A5482.D	
Level: (low/m	ed) LC	w	Da	ite Receive	d: 03/18/99	
% Moisture: n	ot dec.		Da	ite Analyze	d: 03/26/99	
GC Column:	RTX502.	ID: 0.53 (mm)	Di	lution Facto	or: 1.0	
Soil Extract V	olume	(uL)	So	oil Aliquot V	olume:	(uL)
Number TICs	found:	0	CONCENTRA (ug/L or ug/Kg			
CAS NO.	C	OMPOUND		RT	EST. CONC	. 0

EPA SAMPLE NO.

Lab Name:	10145				Contract:	WCC		
Lab Code:	CAS/RO	OC Cas	se No.: 99	-3-256	SAS No	.: s	DG No.: MW-	1
Matrix: (soil/	water)	WATER			Lat	Sample ID:	279613 1	
Sample wt/v	ol:	5.0	(g/ml) M	IL	Lat	File ID:	A5478.D	
Level: (low/	med)	LOW			Da	te Received:	03/18/99	
% Moisture:	not dec.				Da	te Analyzed:	03/26/99	
GC Column:	RTX5	02. ID: 0.5	3 (mm)	)	Dil	ution Factor:	1.0	
Soil Extract	Volume		_ (uL)		So	il Aliquot Volu	ıme:	(uL

#### **CONCENTRATION UNITS:**

AS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	1-2-	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	58	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

DL 04/16/99

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### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMP	LE NO
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Lab Name: 1014	.5	Contract:	wcc	1	/W-4
Lab Code: CAS	/ROC Case No.: 9	9-3-256 SAS No	o.:	SDG No.:	MW-1
Matrix: (soil/water)	WATER	La	b Sample	D: 279613 1	
Sample wt/vol:	5.0 (g/ml)	ML La	b File ID:	A5478.D	
Level: (low/med)	LOW	Da	ate Recei	ved: 03/18/99	
% Moisture: not de	ес	Da	ate Analy	zed: 03/26/99	
GC Column: RT	X502. ID: 0.53 (mr	n) Di	lution Fac	ctor: 1.0	
Soil Extract Volum	ne (uL)	Sc	oil Aliquot	Volume:	(uL)
Number TICs four	nd: 0	CONCENTRA (ug/L or ug/Kg			
CAS NO.	COMPOUND		RT	EST. CONC	c. Q

EPA SAMPLE NO.

MW-5D

Lab Name:	10145			Contract: VVCC		
Lab Code:	CAS/RO	OC Cas	se No.: 99-3-256	SAS No.:	SDG No.: MW-1	
Matrix: (soil/	water)	WATER		Lab Sample	ID: <u>279615 1</u>	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:	A5480.D	
Level: (low/	med)	LOW		Date Receiv	/ed: 03/18/99	
% Moisture:	not dec.			Date Analyz	zed: 03/26/99	
GC Column:	RTX5	02. ID: 0.	53 (mm)	Dilution Fac	tor. 1.0	
Soil Extract	Volume		(uL)	Soil Aliquot	Volume:	(uL

AS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	. 10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	2	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	7	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	230	E
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

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#### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMF	PLE N	10.
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Lab Name:	10145				Contract:	WCC			111-00	
Lab Code:	CAS/RC	C Ca	se No.: 9	9-3-256	SAS No	).:	_ SD	G No.:	MW-1	
Matrix: (soil/	water)	WATER			La	b Sample	ID: 2	279615	1	
Sample wt/v	ol:	5.0	(g/ml)	ML	La	b File ID:		A5480.I		
Level: (low/	med)	LOW	1		Da	te Recei	ved:	03/18/9	9	1
% Moisture:	not dec.				Da	te Analyz	zed:	03/26/9	9	
GC Column	RTX50	2. ID: 0.	53 (mi	m)	Dil	ution Fac	ctor:	1.0		
Soil Extract	Volume .		_ (uL)		So	il Aliquot	Volur	ne:		(uL)
Number TIC	s found:	0			NCENTRA' L or ug/Kg)			_		
CAS NO.		COMPOL	JND			RT	ES	T. CON	c.	Q

EPA SAMPLE NO.

MW-5DDL

Lab Name:	10145				Contract:	WCC		
Lab Code:	CAS/RO	00_ (	Case No.:	99-3-256	SAS No	o.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATER	3		La	b Sample ID:	279615 2	
Sample wt/v	ol:	5.0	(g/ml)	ML	La	b File ID:	A5483.D	
Level: (low/	med)	LOW			Da	te Received:	03/18/99	
% Moisture:	not dec.				Da	te Analyzed:	03/26/99	
GC Column:	RTX5	02. ID:	0.53 (n	nm)	Dil	ution Factor:	2.0	
Soil Extract	Volume		(uL)		So	il Aliquot Vol	ume:	(uL

AS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	20	U
75-01-4	Vinyl chloride	20	U
75-00-3	Chloroethane	20	U
74-83-9	Bromomethane	20	U
67-64-1	Acetone	20	U
75-35-4	1,1-Dichloroethene	20	U
75-09-2	Methylene chloride	20	U
75-15-0	Carbon disulfide	20	U
75-34-3	1,1-Dichloroethane	20	U
78-93-3	2-Butanone	20	U
540-59-0	1,2-Dichloroethene (total)	20	U
67-66-3	Chloroform	20	U
107-06-2	1,2-Dichloroethane	20	U
71-55-6	1,1,1-Trichloroethane	6	JD
56-23-5	Carbon tetrachloride	20	U
71-43-2	Benzene	20	U
79-01-6	Trichloroethene	200	D
78-87-5	1,2-Dichloropropane	20	U
75-27-4	Bromodichloromethane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
10061-02-6	trans-1,3-Dichloropropene	20	U
79-00-5	1,1,2-Trichloroethane	20	U
124-48-1	Dibromochloromethane	20	U
75-25-2	Bromoform	20	U
108-10-1	4-Methyl-2-pentanone	20	U
108-88-3	Toluene	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	20	Ų
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
1330-20-7	o-Xylene	20	U
100-42-5	Styrene	20	U
108-88-3	1,1,2,2-Tetrachloroethane	20	U
108383& 106423	(m+p) Xylene	20	U

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MALEDDI

Lab Name:	10145		Contract:	wcc	WIVV-5D	DL
Lab Code:	CAS/ROC	Case No.: 99-3	3-256 SAS N	o.:	SDG No.: MW	-1
Matrix: (soil/w	rater) WAT	ER	La	b Sample IC	D: 279615 2	
Sample wt/vo	l: <u>5.0</u>	(g/ml) ML	La	b File ID:	A5483.D	
Level: (low/m	led) LOW		Da	ate Received	d: 03/18/99	
% Moisture: n	ot dec.		Da	ate Analyzed	d: 03/26/99	
GC Column:	RTX502. ID	): <u>0.53</u> (mm)	Di	ilution Factor	r: 2.0	
Soil Extract V	olume	(uL)	S	oil Aliquot Vo	olume:	(uL)
Number TICs	found:	0	CONCENTRA (ug/L or ug/Kg			
CAS NO.	cor	MPOUND		RT	EST. CONC.	Q

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#### VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name:	10145			Contract:	wcc		MW-5S	
Lab Code:	CAS/ROC	Case No.:	99-3-256	SAS No	).:	SDG No.:	MW-1	

Matrix: (soil/water) WATER Lab Sample ID: 279614 1

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: A5479.D

Level: (low/med) LOW Date Received: 03/18/99

% Moisture: not dec. Date Analyzed: 03/26/99

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume (uL) Soil Aliquot Volume: \_\_\_\_ (uL)

AS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	3	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	95	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

<b>EPA</b>	SAMP	LE NO.
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Lab Name: 10145	Contract: WCC
Lab Code: CAS/ROC Case No.: 99-3-2	256 SAS No.: SDG No.: MW-1
Matrix: (soil/water) WATER	Lab Sample ID: 279614 1
Sample wt/vol: 5.0 (g/ml) ML	Lab File ID: A5479.D
Level: (low/med) LOW	Date Received: 03/18/99
% Moisture: not dec.	Date Analyzed: 03/26/99
GC Column: RTX502. ID: 0.53 (mm)	Dilution Factor: 1.0
Soil Extract Volume (uL)	Soil Aliquot Volume: (uL)
	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L
CAS NO. COMPOUND	RT EST. CONC. Q

EPA SAMPLE NO.

Lab Name:	10145				Contract:	WCC	
Lab Code:	CAS/R	OC C	ase No.:	99-3-256	SAS No.: SI		DG No.: MW-1
Matrix: (soil/	water)	WATER	_		Lal	Sample ID:	279601 1
Sample wt/v	ol:	5.0	(g/ml)	ML	Lal	b File ID:	A5493.D
Level: (low/	med)	LOW	440		Da	te Received:	03/18/99
% Moisture:	not dec.				Da	te Analyzed:	03/26/99

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume \_\_\_\_\_ (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	3	JB
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	Ų
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	Ü
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

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## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	10145		Contract:	wcc	MW-6	D
Lab Code:	CAS/ROC	Case No.: 99-3-	256 SAS No.:	SI	DG No.: MW	-1
Matrix: (soil/wa	ater) WAT	ER	Lab	Sample ID:	279601 1	
Sample wt/vol	5.0	(g/ml) ML	Lab	File ID:	A5493.D	
Level: (low/m	ed) LOW		Date	e Received:	03/18/99	
% Moisture: no	ot dec.		Date	e Analyzed:	03/26/99	
GC Column:	RTX502. ID	0: <u>0.53</u> (mm)	Dilu	tion Factor:	1.0	
Soil Extract Vo	olume	(uL)	Soil	Aliquot Volu	ıme:	(uL)
			CONCENTRATI			
Number TICs	found:	0	(ug/L or ug/Kg)	OG/L		
CAS NO.	cor	MPOUND		RT ES	ST. CONC.	Q

EPA SAMPLE NO.

Lab Name:	10145				Contract:	WCC	MW-6S	
Lab Code:	CAS/R	oc c	ase No.: 9	99-3-256	SAS No	o.: S	DG No.: MW-1	
Matrix: (soil/	water)	WATER			La	b Sample ID:	279600 1	
Sample wt/v	ol:	5.0	(g/ml)	ML	La	b File ID:	A5492.D	
Level: (low/	med)	LOW	_		Da	te Received:	03/18/99	
% Moisture:	not dec.				Da	te Analyzed:	03/26/99	
GC Column:	RTX5	02. ID: 0	).53 (m	m)	Dil	ution Factor:	1.0	
Soil Extract	Volume		(uL)		So	il Aliquot Vol	ume:	(uL)

AS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform 4	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPL	E NO.
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Lab Name:	10145	0	Contract: WCC	14144-0	3
Lab Code:	CAS/ROC	Case No.: 99-3	3-256 SAS No.:	SDG No.: MW	-1
Matrix: (soil/	water) W.	ATER	Lab Sam	ple ID: 279600 1	
Sample wt/v	rol: <u>5.0</u>	(g/ml) ML	Lab File	ID: A5492.D	
Level: (low/	med) LC	oww	Date Rec	ceived: 03/18/99	3
% Moisture:	not dec.		Date Ana	lyzed: 03/26/99	
GC Column:	RTX502.	ID: 0.53 (mm)	Dilution F	actor: 1.0	
Soil Extract	Volume	(uL)	Soil Aliqu	uot Volume:	(uL)
			CONCENTRATION	JNITS:	
Number TIC	s found:	0	(ug/L or ug/Kg)	JG/L	
CAS NO.	C	OMPOUND	RT	EST. CONC.	Q

EPA SAMPLE NO.

Lab Name: 10145				Contract:	wcc	'	MW-7D	
Lab Code:	CAS/ROC_	Case No.:	99-3-256	SAS No	o.:	SDG No.:	MW-1	

Matrix: (soil/water) WATER Lab Sample ID: 279603 1

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: A5485.D

Level: (low/med) LOW Date Received: 03/18/99

% Moisture: not dec. Date Analyzed: 03/26/99

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume (uL) Soil Aliquot Volume: (uL)

AS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	8	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	100	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	L
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPL	E NO
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Lab Name:	10145			Contrac	t: WCC		MW-7	D
Lab Code:	CAS/RC	Ca:	se No.: 99-3-	256 SAS	No.:	_ SDG N	No.: MW	-1
Matrix: (soil/	water)	WATER			Lab Sampl	e ID: 279	603 1	
Sample wt/v	ol:	5.0	(g/ml) ML	Teat on the	Lab File ID	: A54	85.D	
Level: (low/	med)	LOW			Date Rece	ived: 03/1	18/99	
% Moisture:	not dec.				Date Analy	zed: 03/2	26/99	
GC Column:	RTX50	2. ID: 0.	53 (mm)		Dilution Fa	ctor: 1.0		
Soil Extract	Volume		_ (uL)	1, 5	Soil Aliquo	t Volume:		(uL)
				CONCENTE	NOITAS	NITS:		
Number TIC	s found:	0	20	(ug/L or ug/l	(g) <u>U(</u>	3/L		
CAS NO.		COMPOL	JND		RT	EST. C	ONC.	Q

EPA SAMPLE NO.

MW-7S

Lab Name:	10145				Contract:	WCC		
Lab Code:	CAS/RC	C Ca	se No.:	99-3-256	SAS No	.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATER			Lai	Sample ID:	279602 1	
Sample wt/v	ol:	5.0	(g/ml)	ML	Lal	b File ID:	A5484.D	
Level: (low/r	med)	LOW	_		Da	te Received:	03/18/99	
% Moisture:	not dec.				Da	te Analyzed:	03/26/99	
GC Column:	RTX50	2. ID: 0.	53 (r	nm)	Dil	ution Factor:	1.0	
Soil Extract	Volume		(uL)		So	il Aliquot Volu	ume:	(uL

AS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	7	J
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10 !	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	40	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	L
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	L
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	L
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	L
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	L
100-42-5	Styrene	10	L
108-88-3	1,1,2,2-Tetrachloroethane	; 10	U
108383& 106423	(m+p) Xylene	10	U

TENTATIVELY IDENTIFIED COMPOUNDS

FPA	SAMPL	E NO
EFA	SAIVIPL	E NU.

Lab Name:	10145			Contrac	t: WCC	-	MW-7S	
Lab Code:	CAS/RO	C Cas	se No.: 99-3-	256 SAS	No.:	SDG No.	: MW-1	
Matrix: (soil/	water)	WATER		1	Lab Samp	le ID: 27960	2 1	
Sample wt/v	ol:	5.0	(g/ml) ML		Lab File IC	): A5484	.D	
Level: (low/	med)	LOW			Date Rece	eived: 03/18/	99	1
% Moisture:	not dec.			1	Date Analy	yzed: 03/26/	99	7
GC Column:	RTX50	2. ID: 0.5	53 (mm)		Dilution Fa	actor: 1.0	-	
Soil Extract	Volume _		_ (uL)		Soil Aliquo	ot Volume:		_ (uL)
Number TIC	s found:	0		CONCENTR (ug/L or ug/k		NITS: G/L		
CAS NO.		COMPOU	IND		RT	EST. CO	NC.	Q

EPA SAMPLE NO.

Lab Name:	10145				Contract:	WCC		
Lab Code:	CAS/RO	oc_	Case No.:	99-3-256	SAS No	o.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATE	R		La	b Sample ID:	279605 1	
Sample wt/v	ol:	5.0	(g/ml)	ML	La	b File ID:	A5495.D	
Level: (low/	med)	LOW			Da	nte Received:	03/18/99	
% Moisture:	not dec.				Da	ite Analyzed:	03/26/99	
GC Column:	RTX5	02. ID:	0.53 (n	nm)	Dil	lution Factor:	1.0	
Soil Extract	Volume		(ol)		So	il Aliquot Vol	ime.	(ul.)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	7	JB
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	10145		Contract:	wcc	MW	-9D
Lab Code:	CAS/ROC	Case No.: 99-	3-256 SAS No	o.:	SDG No.: M	W-1
Matrix: (soil/	(water) W	ATER	La	b Sample II	D: 279605 1	
Sample wt/v	rol: <u>5.</u>	0 (g/ml) ML	La	b File ID:	A5495.D	
Level: (low/	med) LC	oww	Da	ite Received	d: 03/18/99	
% Moisture:	not dec.		Da	ite Analyzed	d: 03/26/99	
GC Column	: RTX502.	ID: 0.53 (mm)	Dil	lution Factor	г. 1.0	
Soil Extract	Volume	(uL)	So	oil Aliquot Vo	olume:	(uL)
			CONCENTRA'		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	
Number TIC	s found:	0	(-5			
CAS NO.	C	OMPOUND		RT	EST. CONC.	Q

EPA SAMPLE NO.

Lab Name:	10145				Contract:	WCC		
Lab Code:	CAS/RC	C Ca	se No.:	99-3-256	SAS No	o.: :	SDG No.: MW-1	
Matrix: (soil/	water)	WATER			La	b Sample ID	279604 1	
Sample wt/ve	ol:	5.0	(g/ml)	ML	La	b File ID:	A5494.D	
Level: (low/r	med)	LOW			Da	te Received	: 03/18/99	
% Moisture:	not dec.				Da	te Analyzed:	: 03/26/99	
GC Column:	RTX50	02. ID: 0.	53 (r	nm)	Dil	ution Factor	: 1.0	
Soil Extract	Volume		(uL)		So	il Aliquot Vo	lume:	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	5	JB
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	10145		Contract:	wcc	MW-9S	
Lab Code:	CAS/ROC	Case No.: 99-	3-256 SAS No	o.: \$	SDG No.: MW-1	1
Matrix: (soil/	water) W	ATER	La	b Sample ID	279604 1	
Sample wt/v	rol: <u>5.0</u>	(g/ml) ML	La	b File ID:	A5494.D	_
Level: (low/	med) LC	oww	Da	ate Received	: 03/18/99	
% Moisture:	not dec.		Da	ate Analyzed:	03/26/99	
GC Column:	RTX502.	ID: 0.53 (mm)	Di	lution Factor	1.0	
Soil Extract	Volume	(uL)	So	oil Aliquot Vo	lume:	_ (uL)
Number TIC	s found:	0	CONCENTRA (ug/L or ug/Kg)		<u> </u>	
CAS NO.	C	OMPOUND		RT E	ST. CONC.	Q

EPA SAMPLE NO.

_ab Name:	10145		Contract: WCC	14144-100
Lab Code:	CAS/ROC	Case No.: 99-3-256	SAS No.:	SDG No.: MW-1
Matrix: (soil/	water) WAT	TER	Lab Samp	le ID: 279607 1

 Sample wt/vol:
 5.0
 (g/ml) ML
 Lab File ID:
 A5497.D

 Level:
 (low/med)
 LOW
 Date Received:
 03/18/99

% Moisture: not dec. Date Analyzed: 03/26/99

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume (uL) Soil Aliquot Volume: (uL)

AS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	6	JE
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

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### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	10145		Contract: WCC	MW-10E	,
Lab Code:	CAS/ROC	Case No.: 99-3-25	66 SAS No.:	SDG No.: MW-1	
Matrix: (soil/	(water) V	VATER	Lab Sample II	0: 279607 1	
Sample wt/v	rol: <u>5</u>	.0 (g/ml) ML	Lab File ID:	A5497.D	
Level: (low/	med) L	ow	Date Received	d: <u>03/18/99</u>	
% Moisture:	not dec.		Date Analyzed	1: 03/26/99	
GC Column:	RTX502	ID: <u>0.53</u> (mm)	Dilution Factor	r. 1.0	
Soil Extract	Volume	(uL)	Soil Aliquot Vo	olume:	_ (uL)
			ONCENTRATION UNITS	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Number TIC	s found:	0 ((	ig/L or ug/Kg) UG/L		
CAS NO.		COMPOUND	RT	EST. CONC.	Q

EPA SAMPLE NO.

Lab Name:	10145				Contract:	WCC		
Lab Code:	CAS/RO	OC Cas	e No.:	99-3-256	SAS No	o.: S	DG No.: MW-1	
Matrix: (soil/	water)	WATER			La	b Sample ID:	279606 1	
Sample wt/vol:		5.0	(g/ml)	ML	La	b File ID:	A5496.D	
Level: (low/s	med)	LOW			Da	te Received:	03/18/99	
% Moisture:	not dec.				Da	te Analyzed:	03/26/99	·
GC Column: RTX502. ID: 0.53 (mm)				Dil	ution Factor:	1.0		
Soil Extract Volume		(uL)		Soil Aliquot Volume:		ume:	(uL)	

74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
	1,1,2,2-Tetrachloroethane	10	U
100-42-5 108-88-3 108383& 106423			

1E

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	10145			Contract:	wcc	MW-10	IS
Lab Code:	CAS/RC	C Cas	se No.: 99-	3-256 SAS No	o.:	SDG No.: MW-	-1
Matrix: (soil/	water)	WATER		La	b Sample ID	279606 1	
Sample wt/v	ol:	5.0	(g/ml) ML	La	b File ID:	A5496.D	
Level: (low/	med)	LOW		Da	ite Received	1: 03/18/99	
% Moisture:	not dec.			Da	nte Analyzed	1: 03/26/99	
GC Column:	RTX50	2. ID: 0.5	53 (mm)	Di	lution Factor	T. 1.0	
Soil Extract	Volume		_ (uL)	So	oil Aliquot Vo	olume:	(uL)
Number TIC	s found:	0		CONCENTRA (ug/L or ug/Kg)			
CAS NO.		COMPOL	JND		RT I	EST. CONC.	Q

EPA SAMPLE NO.

Lab Name:	10145				Contract:	WCC	MIVV-11D	
Lab Code:	CAS/RC	Ca	se No.:	99-3-256	SAS No	o.: s	SDG No.: MW-1	
Matrix: (soil/	water)	WATER			Lai	Sample ID:	279608 1	
Sample wt/v	ol:	5.0	(g/ml)	ML	Lai	b File ID:	A5498.D	
Level: (low/	med)	LOW			Da	te Received:	03/18/99	,
% Moisture:	not dec.				Da	te Analyzed:	03/26/99	
GC Column:	RTX50	02. ID: 0.	53 (n	nm)	Dil	ution Factor:	1.0	
Soil Extract	Volume		_ (uL)		So	il Aliquot Vol	ume:	(uL)

AS NO.	COMPOUND (ug/L or ug/Kg)	<u>UG/L</u>	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	· 10	U
67-64-1	Acetone	3	JE
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

### 1E

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	10145			Contract:	wcc	^	/W-11D	
Lab Code:	CAS/RO	C Cas	e No.: 99-3	-256 SAS N	o.:	SDG No.:	MW-1	
Matrix: (soil/	water)	WATER		La	ab Sample II	279608	1	143
Sample wt/vo	oi:	5.0	(g/ml) ML	Li	ab File ID:	A5498.I	)	M
Level: (low/r	med)	LOW		D	ate Received	d: <u>03/18/9</u>	9	
% Moisture:	not dec.		14.14	D	ate Analyzed	1: 03/26/9	9	
GC Column:	RTX50	2. ID: 0.5	3 (mm)	D	ilution Factor	r: 1.0		3.
Soil Extract \	Volume _		_ (uL)	S	oil Aliquot Vo	olume:		(uL)
Number TIC:	s found:	0		CONCENTRA (ug/L or ug/Kg				
CAS NO.		COMPOU	IND		RT	EST. CON	c.	Q

EPA SAMPLE NO.

Lab Name:	10145				Contract:	WCC		
Lab Code:	CAS/RC	OC_	Case No	99-3-256	SAS No	o.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATE	R		La	b Sample ID:	279599 1.0	
Sample wt/v	ol:	5.0	(g/r	nl) ML	La	b File ID:	A5472.D	
Level: (low/	med)	LOW			Da	te Received:	03/18/99	
% Moisture:	not dec.			_	Da	te Analyzed:	03/25/99	
GC Column:	RTX50	02. ID:	0.53	(mm)	Di	lution Factor:	1.0	
Soil Extract	Volume		(u)	1)	So	il Aliquot Vol	ume:	(ul.)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	2	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	2	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	120	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

#### 1E

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPL	E NO.
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Lab Name: 10145	Contract: WCC MW-13D
Lab Code: • CAS/ROC Case No.: 99-3-25	6 SAS No.: SDG No.: MW-1
Matrix: (soil/water) WATER	Lab Sample ID: 279599 1.0
Sample wt/vol: 5.0 (g/ml) ML	Lab File ID: A5472.D
Level: (low/med) LOW	Date Received: 03/18/99
% Moisture: not dec.	Date Analyzed: 03/25/99
GC Column: RTX502. ID: 0.53 (mm)	Dilution Factor: 1.0
Soil Extract Volume (uL)	Soil Aliquot Volume: (uL
C	ONCENTRATION UNITS:
Number TICs found: 0 (u	g/L or ug/Kg) UG/L
CAS NO. COMPOUND	RT EST. CONC. Q

EPA SAMPLE NO.

TRIP BLANK

Lab Name:	10145			Contract:	WCC	TRIPBL	AIVIN
Lab Code:	CAS/ROC	Case No.:	99-3-256	SAS No	o.: S	DG No.: MW-	1
Matrix: (soil/	water) V	VATER		La	b Sample ID:	279617 1	
Sample wt/v	ol: <u>5</u>	.0 (g/ml)	ML	La	b File ID:	A5500.D	_
Level: (low/	med) L	ow		Da	te Received:	03/18/99	
% Moisture:	not dec.			Da	te Analyzed:	03/26/99	_
GC Column:	RTX502	. ID: <u>0.53</u> (r	nm)	Dil	ution Factor:	1.0	
Soil Extract	Volume	(uL)		So	il Aliquot Voli	ume:	(uL)
			CO	NCENTRA"	TION UNITS:		
CASNI	0	COMPOLIND	luci	I or ualka	LICA		

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	12	J
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

DD 4/16/99

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## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	10145		Ī.	Contract:	wcc	IKIPE	LAINK
Lab Code:	CAS/ROC	Case No.: 99	-3-256	SAS No	).:	SDG No.: M	W-1
Matrix: (soil/	water) WA	TER		Lal	b Sample	ID: 279617 1	
Sample wt/v	vol: <u>5.0</u>	(g/ml) N	1L	Lal	b File ID:	A5500.D	
Level: (low/	med) LOV	v		Da	te Receiv	ed: 03/18/99	
% Moisture:	not dec.			Da	te Analyze	ed: 03/26/99	
GC Column	RTX502. I	D: 0.53 (mm	)	Dil	ution Fact	or. 1.0	
Soil Extract	Volume	(uL)		So	il Aliquot	Volume:	(uL)
Number TIC	e found:	0		NCENTRATION (L or ug/Kg)			
Number 110	is tourid.					<u> </u>	
CAS NO.	CO	MPOUND			RT	EST. CONC.	Q

EPA SAMPLE NO.

COOLER BLK

Lab Name:	10145			Contract:	WCC		
Lab Code:	CAS/RO	Case N	o.: 99-3-256	SAS No	.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATER		Lal	Sample ID:	279675 1	_
Sample wt/v	ol:	5.0 (g/	ml) ML	Lal	File ID:	A5511.D	_
Level: (low/	med)	LOW		Da	te Received:	03/18/99	_
% Moisture:	not dec.		_	Da	te Analyzed:	03/27/99	_
GC Column:	RTX50	2. ID: 0.53	(mm)	Dil	ution Factor:	1.0	_
Soil Extract	Volume	(1	ıL)	So	il Aliquot Vol	ume:	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q	
74-87-3	Chloromethane	10	U	
75-01-4	Vinyl chloride	10	U	
75-00-3	Chloroethane	10	U	
74-83-9	Bromomethane	10	U	
67-64-1	Acetone	4	J	
75-35-4	1,1-Dichloroethene	10	U	
75-09-2	Methylene chloride	10	U	
75-15-0	Carbon disulfide	10	U	
75-34-3	1,1-Dichloroethane	10	U	
78-93-3	2-Butanone	10	U	
540-59-0	1,2-Dichloroethene (total)	10	U	
67-66-3	Chloroform	10	U	
107-06-2	1,2-Dichloroethane	10	U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon tetrachloride	10	U	
71-43-2	Benzene	10	U	
79-01-6	Trichloroethene	10	U	
78-87-5	1,2-Dichloropropane	10	U	
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
124-48-1	Dibromochloromethane	10	U	
75-25-2	Bromoform	10	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	
1330-20-7	o-Xylene	10	U	
100-42-5	Styrene	10	U	
108-88-3	1,1,2,2-Tetrachloroethane	10	U	
108383& 106423	(m+p) Xylene	10	U	

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## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPL	E NO
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Lab Name:	10145			Contract:	wcc	COOL	ER BLK
Lab Code:	CAS/RC	C Cas	e No.: 99-3-2	256 SAS N	o.: S	SDG No.: N	/IVV-1
Matrix: (soil/	water)	WATER		La	b Sample ID:	279675 1	
Sample wt/v	ol:	5.0	(g/ml) ML	La	ab File ID:	A5511.D	
Level: (low/	med)	LOW		D	ate Received:	03/18/99	
% Moisture:	not dec.			D	ate Analyzed:	03/27/99	
GC Column:	RTX50	2. ID: 0.5	3 (mm)	Di	lution Factor:	1.0	
Soil Extract	Volume		_ (uL)	S	oil Aliquot Vol	lume:	(uL)
				CONCENTRA			
Number TIC	s found:	0		(ug/L or ug/Kg	) UG/L		
CAS NO.		COMPOU	ND		RT E	ST. CONC.	Q

## 2A WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: 10145 Contract: WCC

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	TOT
11	VBLK01	94	100	100	0
2	VBLK01MS	97	100	99	0
13	MW-13D	96	103	100	0

SMC1 = 1,2-Dichloroethane-d4 (76-114)
SMC2 = Toluene-d8 (88-110)
SMC3 = Bromofluorobenzene (86-115)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

## 2A WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: 10145 Contract: WCC

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

	EPA	SMC1	SMC2	SMC3	TOT
	SAMPLE NO.	#	#	#	OUT
01	VBLK02	98	101	95	0
02	MW-2D	98	101	95	0
03	MW-4	104	104	100	0
04	MW-5S	100	103	97	0
05	MW-5D	103	101	96	0
06	DUP	103	102	99	0
07	MW-3	105	99	95	0
08	MW-5DDL	95	101	98	0
09	MW-7S	101	99	95	0
10	MW-7D	105	100	96	0
11	MW-2S	101	103	96	0
12	VBLK03	105	97	95	0
13	MW-2SMS	108	101	95	0
14	MW-2SMSD	107	101	97	0
15	MW-6S	106	100	94	0
16	MW-6D	110	99	95	0
17	MW-9S	108	101	95	0
18	MW-9D	106	99	94	0
19	MW-10S	112	103	95	0
20	MW-10D	111	102	99	0
21	MW-11D	107	101	91	0
22	MW-1	108	101	97	0
23	TRIP BLANK	113	100	97	0
24	VBLK04	102	104	101	0
25	COOLER BLK	100	101	100	0

			QC LIMITS
SMC1	=	1,2-Dichloroethane-d4	(76-114)
SMC2	=	Toluene-d8	(88-110)
SMC3	=	Bromofluorobenzene	(86-115)

# Column to be used to flag recovery values

\* Values outside of contract required QC limits

D System Monitoring Compound diluted out

### 3A WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 10145 Contract: WCC

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

Matrix Spike - EPA Sample No.: MW-2S

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC#	QC LIMITS REC.
1,1-Dichloroethene	50	0.0	49	98	61 - 145
Benzene	50	0.0	44	88	76 - 127
Trichloroethene	50	28	68	80	71 - 120
Toluene	50	0.0	43	86	76 - 125
Chlorobenzene	50	0.0	43	86	75 - 130

	SPIKE ADDED	MSD CONCENTRATION	MSD %	%	QCI	LIMITS
COMPOUND	(ug/L)	(ug/L)	REC#	RPD#	RPD	REC.
1,1-Dichloroethene	50	49	98	0	14	61 - 145
Benzene	50	46	92	4	11	76 - 127
Trichloroethene	50	69	82	2	14	71 - 120
Toluene	50	44	88	2	13	76 - 125
Chlorobenzene	50	44	88	2	13	75 - 130

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS:

EPA SAMPLE NO.

MW-2SMS Lab Name: 10145 Contract: WCC Lab Code: CAS/ROC SAS No.: SDG No.: MW-1 Case No.: 99-3-256 Matrix: (soil/water) Lab Sample ID: 279610 1 WATER Sample wt/vol: 5.0 (g/ml) ML Lab File ID: A5490.D Level: (low/med) LOW Date Received: 03/18/99 % Moisture: not dec. Date Analyzed: 03/26/99 GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 1.0 Soil Extract Volume Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	49	
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	44	
79-01-6	Trichloroethene	68	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	43	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	43	
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

EPA SAMPLE NO.

Lab Name:	10145		Contract: WCC	MW-2SMSD	
Lab Code:	CAS/ROC	Case No.: 99-3-256	SAS No.:	SDG No.: MW-1	
Matrix: (soil/ Sample wt/v	-		Lab Sample ID:	279610 1	-
Level: (low/r		(g/ml) ML	Lab File ID:  Date Received:	A5491.D 03/18/99	
% Moisture:			Date Analyzed:		
GC Column:		): <u>0.53</u> (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume	(uL)	Soil Aliquot Vol	ume: (ı	uL)

	CONCENTRATION UNITS:			
CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q	
74-87-3	Chloromethane	10		
75-01-4	Vinyl chloride	10	U	
75-00-3	Chloroethane	10	U	
74-83-9	Bromomethane	10	U	
67-64-1	Acetone	10	U	
75-35-4	1,1-Dichloroethene	10	U	
75-09-2	Methylene chloride	49	-	
75-15-0	Carbon disulfide	10	U	
75-34-3	1,1-Dichloroethane	10	U	
78-93-3	2-Butanone	10	U	
540-59-0	1,2-Dichloroethene (total)	10	U	
67-66-3	Chloroform	10	U	
107-06-2	1,2-Dichloroethane	10	- U	
71-55-6	1,1,1-Trichloroethane	10	U	
56-23-5	Carbon tetrachloride	10	U	
71-43-2	Benzene	10	U	
79-01-6	Trichloroethene	46		
78-87-5	1,2-Dichloropropane	69		
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
124-48-1	Dibromochloromethane	10	U	
75-25-2	Bromoform	10	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	10	U	
591-78-6	2-Hexanone	44		
127-18-4	Tetrachloroethene	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	44		
1330-20-7	o-Xylene	10	U	
100-42-5	Styrene	10	U	
108-88-3	1,1,2,2-Tetrachloroethane	10	U	
108383& 106423	(m+p) Xylene	10	U	
	- F/ Affolio	10	U	

### 3A WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: 10145 Contract: WCC

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC#	QC LIMITS REC.
1,1-Dichloroethene	50	0.0	45	90	61 - 145
Benzene	50	0.0	45	90	76 - 127
Trichloroethene	50	0.0	41	82	71 - 120
Toluene	50	0.0	44	88	76 - 125
Chlorobenzene	50	0.0	42	84	75 - 130

# Column to be used to flag recovery and RPD values with an asterisk

\* Values outside of QC limits

RPD: 1 out of 5 outside limits

Spike Recovery: 1 out of 10 outside limits

COMMENTS:

EPA SAMPLE NO.

	-			
V	RL	.Ko	1	MS

Lab Name: 10145	Contract: WCC
Lab Code: CAS/ROC Case No.: 99-3-256	S SAS No.: SDG No.: MW-1
Matrix: (soil/water) WATER	Lab Sample ID: BLANK SPIKE
Sample wt/vol: 5.0 (g/ml) ML	Lab File ID: A5468.D
Level: (low/med) LOW	Date Received:
% Moisture: not dec.	Date Analyzed: 03/25/99
GC Column: RTX502. ID: 0.53 (mm)	Dilution Factor: 1.0
Soil Extract Volume (uL)	Soil Aliquot Volume:(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	45	
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	45	
79-01-6	Trichloroethene	41	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	44	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	42	
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

### 4A VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: 10145 Contract: WCC

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

Lab File ID: A5462.D Lab Sample ID: MET BLK #1

Date Analyzed: 03/25/99 Time Analyzed: 16:17

GC Column: RTX502. ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: GCMS#1

### THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA	LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	VBLK01MS	BLANK SPIKE	A5468.D	20:14
02	MW-13D	279599 1.0	A5472.D	22:44

COMMENTS

EPA SAMPLE NO.

VBLK01

Lab Name:	10145		Contract: WCC	_	
Lab Code:	CAS/ROC	Case No.: 99-3-256	SAS No.:	SDG No.: MW-1	
Matrix: (soil/	water) WAT	TER	Lab Sample ID:	MET BLK #1	
Sample wt/v	ol: <u>5.0</u>	(g/ml) ML	Lab File ID:	A5462.D	
Level: (low/r	med) LOV	1	Date Received:		
% Moisture:	not dec.		Date Analyzed:	03/25/99	
GC Column:	RTX502. II	D: <u>0.53</u> (mm)	Dilution Factor:	1.0	
Soil Extract	Volume	(uL)	Soil Aliquot Vol	lume:	(uL)

### CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

FORM I VOA

1F

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

	EPA	SAMPI	LE NO.
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Lab Name:	10145		Contract: V	vcc	VBLN	01
Lab Code:	CAS/ROC	Case No.: 99-3-25	SAS No.:	s	DG No.: MW	-1
Matrix: (soil/	water) WA	TER	Lab S	Sample ID:	MET BLK #1	
Sample wt/v	ol: <u>5.0</u>	(g/ml) ML	Lab F	File ID:	A5462.D	
Level: (low/	med) LOV	V	Date	Received:		
% Moisture:	not dec.		Date	Analyzed:	03/25/99	
GC Column:	RTX502.	D: <u>0.53</u> (mm)	Diluti	on Factor.	1.0	
Soil Extract	Volume	(uL)	Soil /	Aliquot Volu	ıme:	(uL)
Number TIC	s found:		ONCENTRATION	ON UNITS:		
70.70						
CAS NO.	СО	MPOUND		RT ES	ST. CONC.	Q

## VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK02

Lab Name: 10145

Contract: WCC

Lab Code: CAS/ROC

Case No.: 99-3-256

SAS No.: SDG No.: MW-1

Lab File ID:

A5476.D

Lab Sample ID: MET BLK #2

GC Column: RTX502. ID: 0.53 (mm)

Date Analyzed: 03/26/99

Time Analyzed: 08:19

Heated Purge: (Y/N)

Instrument ID: GCMS#1

### THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA	LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	MW-2D	279611 1	A5477.D	08:56
02	MW-4	279613 1	A5478.D	09:32
03	MW-5S	279614 1	A5479.D	10:08
04	MW-5D	279615 1	A5480.D	10:49
05	DUP	279616 1	A5481.D	11:27
06	MW-3	279612 1	A5482.D	12:05
07	MW-5DDL	279615 2	A5483.D	12:46
08	MW-7S	279602 1	A5484.D	13:27
09	MW-7D	279603 1	A5485.D	14:09
10	MW-2S	279610 1	A5486.D	14:51

COMMENTS

EPA SAMPLE NO.

VBLK02
VDLRUZ

Lab Name:	10145				Contract:	WCC		
Lab Code:	CAS/RO	C Ca	se No.:	99-3-256	SAS No	.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATER	_		Lal	Sample ID:	MET BLK #2	_
Sample wt/v	ol:	5.0	(g/ml)	ML	Lal	b File ID:	A5476.D	_
Level: (low/	med)	LOW			Da	te Received:	03/18/99	
% Moisture:	not dec.				Da	te Analyzed:	03/26/99	
GC Column:	RTX50	2. ID: 0.	53 (n	nm)	Dil	ution Factor:	1.0	_
Soil Extract	Volume		(uL)		So	il Aliquot Voli	ume:	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

#### 1F

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMP	LE NO.
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Lab Name:	10145				Contra	ct:	WCC		V	BLKUZ	2
Lab Code:	CAS/RO	OC Ca	se No.: 99-3	3-256	SAS	No	.:	SDG	No.:	MW-1	
Matrix: (soil/	(water)	WATER				Lat	Sample	ID: ME	ET BL	K #2	
Sample wt/v	vol:	5.0	(g/ml) ML		300	Lat	File ID:	A5	476.0	)	
Level: (low/	med)	LOW				Dat	te Receive	ed: <u>03</u>	/18/99	)	
% Moisture:	not dec.					Dat	te Analyze	ed: 03	/26/99	)	
GC Column	: RTX5	02. ID: 0.	53 (mm)			Dilu	ution Fact	or: 1.0	)		
Soil Extract	Volume		_ (uL)			Soi	I Aliquot \	/olume	:		(uL)
Number TIC	s found:	0			NCENTE		TION UNIT				
CAS NO.		COMPOL	JND		-		RT	EST.	CON	c.	Q

### 4A VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

Lab Name: 10145 Contract: WCC VBLK03

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

Lab File ID: A5489.D Lab Sample ID: MET BLK #3

Date Analyzed: 03/26/99 Time Analyzed: 16:34

GC Column: RTX502. ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: GCMS#1

### THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA	LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	MW-2SMS	279610 1	A5490.D	17:11
02	MW-2SMSD	279610 1	A5491.D	17:49
03	MW-6S	279600 1	A5492.D	18:26
04	MW-6D	279601 1	A5493.D	19:02
05	MW-9S	279604 1	A5494.D	19:40
06	MW-9D	279605 1	A5495.D	20:17
7	MW-10S	279606 1	A5496.D	20:55
08	MW-10D	279607 1	A5497.D	21:33
09	MW-11D	279608 1	A5498.D	22:10
10	MW-1	279609 1	A5499.D	22:48
11	TRIP BLANK	279617 1	A5500.D	23:26

COMMENTS

EPA SAMPLE NO.

VBLK03

Lab Name:	10145		Contract: WCC		
Lab Code:	CAS/ROC	Case No.: 99-3-256	SAS No.:	SDG No.: MW-1	
Matrix: (soil/	water) WAT	ER	Lab Sample	ID: MET BLK #3	
Sample wt/v	ol: 5.0	(g/ml) ML	Lab File ID:	A5489.D	
Level: (low/	med) LOV		Date Receiv	ved:	
% Moisture:	not dec.		Date Analyz	red: 03/26/99	
GC Column	RTX502. II	D: <u>0.53</u> (mm)	Dilution Fac	tor: 1.0	
Soil Extract	Volume	(uL)	Soil Aliquot	Volume:	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	5	J
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK03 Lab Name: 10145 Contract: WCC Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1 Matrix: (soil/water) WATER Lab Sample ID: MET BLK #3 Sample wt/vol: 5.0 (g/ml) ML Lab File ID: A5489.D Level: (low/med) LOW Date Received: % Moisture: not dec. Date Analyzed: 03/26/99 GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 1.0 Soil Extract Volume \_\_\_\_\_ (uL) Soil Aliquot Volume: (uL) **CONCENTRATION UNITS:** (ug/L or ug/Kg) UG/L Number TICs found: 0 COMPOUND CAS NO.

RT

EST. CONC.

Q

### VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK04

Lab Name: 10145

Contract: WCC

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

Lab File ID: A5510.D

Lab Sample ID: MET BLK #4

Date Analyzed: 03/27/99

Time Analyzed: 09:25

GC Column: RTX502. ID: 0.53 (mm)

Heated Purge: (Y/N)

Instrument ID: GCMS#1

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA	LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	COOLER BLK	279675 1	A5511.D	10:09

COMMENTS

EPA SAMPLE NO.

VBLK04

Lab Name:	10145		Contract: WCC		
Lab Code:	CAS/ROC	Case No.: 99-3-256	SAS No.:S	DG No.: MW-1	
Matrix: (soil/v	water) WATE	ER	Lab Sample ID:	MET BLK #4	
Sample wt/vo	ol: 5.0	(g/ml) ML	Lab File ID:	A5510.D	
Level: (low/r	ned) LOW		Date Received:	03/18/99	
% Moisture:	not dec.		Date Analyzed:	03/27/99	
GC Column:	RTX502. ID	0.53 (mm)	Dilution Factor:	1.0	
Soil Extract \	/olume	(uL)	Soil Aliquot Volu	ume:	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
74-83-9	Bromomethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	Ü
1330-20-7	o-Xylene	10	U
100-42-5	Styrene	10	U
108-88-3	1,1,2,2-Tetrachloroethane	10	U
108383& 106423	(m+p) Xylene	10	U

# 1E VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	10145		Contract: WCC	VBLK	04
Lab Code:	CAS/ROC	Case No.: 99-3-25	6 SAS No.:	SDG No.: MW	-1
Matrix: (soil/	water) WAT	TER	Lab Samp	le ID: MET BLK #4	
Sample wt/v	ol: <u>5.0</u>	(g/ml) ML	Lab File II	D: A5510.D	
Level: (low/	med) LOV	<u> </u>	Date Rece	eived: 03/18/99	
% Moisture:	not dec.		Date Analy	yzed: 03/27/99	
GC Column:	RTX502. II	D: <u>0.53</u> (mm)	Dilution Fa	actor: 1.0	
Soil Extract	Volume	(uL)	Soil Alique	ot Volume:	(uL)
Number TIC	s found:		ONCENTRATION UI	NITS:	
CAS NO.	co	MPOUND	RT	EST. CONC.	Q

Lab Name: 10145 Contract: WCC

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

Lab File ID (Standard): A5459.D Date Analyzed: 03/25/99

Instrument ID: GCMS#1 Time Analyzed: 13:49

GC Column: RTX502.2 ID: 0.53 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR ST	174581	11.25	867471	13.04	667822	19.67
LOWER LIMIT	87291	10.75	433736	12.54	333911	19.17
UPPER LIMIT	349162	11.75	1734942	13.54	1335644	20.17
EPA SAMPLE NO.						
VBLK01	189573	11.25	926764	13.05	714368	19.67
VBLK01MS	182981	11.26	903323	13.06	696587	19.68
MW-13D	188625	11.27	916328	13.05	703476	19.67

IS1 = Bromochloromethane IS2 = 1,4-Difluorobenzene IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area AREA LOWER LIMIT = -50% of internal standard area RT UPPER LIMIT = +0.50 minutes of internal standard RT RT LOWER LIMIT = -0.50 minutes of internal standard RT

<sup>#</sup> Column to be used to flag values outside QC limit with an asterisk.

<sup>\*</sup> Values outside of contract required QC limits

Lab Name: 10145 Contract: WCC

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

Lab File ID (Standard): A5475.D Date Analyzed: 03/26/99

Instrument ID: GCMS#1 Time Analyzed: 07:42

GC Column: RTX502.2 ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR ST	187265	11.25	907285	13.04	693775	19.65
Г	LOWER LIMIT	93633	10.75	453643	12.54	346888	19.15
	UPPER LIMIT	374530	11.75	1814570	13.54	1387550	20.15
	EPA SAMPLE NO.						
1	VBLK02	183253	11.25	867775	13.04	667796	19.67
2	MW-2D	178326	11.25	874515	13.05	669344	19.67
3	MW-4	170773	11.28	848675	13.06	637985	19.68
4	MW-5S	170044	11.25	828181	13.04	644112	19.67
5	MW-5D	168790	11.28	837536	13.06	643193	19.68
6	DUP	174208	11.27	836449	13.05	638626	19.69
7	MW-3	162578	11.27	810251	13.06	629137	19.68
8	MW-5DDL	177008	11.27	838777	13.06	639492	19.68
9	MW-7S	174089	11.27	820269	13.05	631433	19.69
0	MW-7D	164534	11.26	836961	13.06	641831	19.68
1	MW-2S	171209	11.25	828446	13.05	629250	19.69

IS1 = Bromochloromethane IS2 = 1,4-Difluorobenzene IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area AREA LOWER LIMIT = -50% of internal standard area RT UPPER LIMIT = +0.50 minutes of internal standard RT RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column to be used to flag values outside QC limit with an asterisk.

<sup>\*</sup> Values outside of contract required QC limits

Lab Name: 10145 Contract: WCC

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

Lab File ID (Standard): A5488.D Date Analyzed: 03/26/99

Instrument ID: GCMS#1 Time Analyzed: 15:46

GC Column: RTX502.2 ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR ST	178720	11.27	812166	13.06	625623	19.68
1	LOWER LIMIT	89360	10.77	406083	12.56	312812	19.18
1	UPPER LIMIT	357440	11.77	1624332	13.56	1251246	20.18
	EPA SAMPLE NO.			-			
01	VBLK03	176968	11.27	836735	13.05	648954	19.69
02	MW-2SMS	167493	11.28	828956	13.06	643336	19.68
03	MW-2SMSD	164787	11.27	794727	13.07	627156	19.69
04	MW-6S	176023	11.29	838568	13.07	651660	19.69
05	MW-6D	167004	11.27	806917	13.07	632869	19.69
06	MW-9S	172802	11.27	834666	13.07	647586	19.69
07	MW-9D	174730	11.27	828488	13.06	649711	19.69
80	MW-10S	163725	11.28	814180	13.06	623654	19.69
09	MW-10D	167343	11.27	804363	13.07	618408	19,69
10	MW-11D	173780	11.29	817431	13.07	632002	19.67
11	MW-1	172883	11.27	826029	13.07	631594	19.69
12	TRIP BLANK	163110	11.27	815843	13.07	623380	19.69

IS1 = Bromochloromethane IS2 = 1,4-Difluorobenzene IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area AREA LOWER LIMIT = -50% of internal standard area RT UPPER LIMIT = +0.50 minutes of internal standard RT RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column to be used to flag values outside QC limit with an asterisk.

<sup>\*</sup> Values outside of contract required QC limits

Lab Name: 10145 Contract: WCC

Lab Code: CAS/ROC Case No.: 99-3-256 SAS No.: SDG No.: MW-1

Lab File ID (Standard): A5508.D Date Analyzed: 03/27/99

Instrument ID: GCMS#1 Time Analyzed: 08:00

GC Column: RTX502.2 ID: 0.53 (mm) Heated Purge: (Y/N) N

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
12 HOUR ST	185859	11.25	888410	13.06	692117	19.67
LOWER LIMIT	92930	10.75	444205	12.56	346059	19.17
UPPER LIMIT	371718	11.75	1776820	13.56	1384234	20.17
EPA SAMPLE NO.						
VBLK04	177184	11.26	894972	13.04	675632	19.68
COOLER BLK	181862	11.25	850793	13.04	662776	19.67

IS1 = Bromochloromethane IS2 = 1,4-Difluorobenzene IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

<sup>#</sup> Column to be used to flag values outside QC limit with an asterisk.

<sup>\*</sup> Values outside of contract required QC limits

### APPENDIX C

ANALYTICAL DATA VALIDATION
GRIFFIN TECHNOLOGY SITE
SYSTEM OPERATION
SEMI-ANNUAL GROUNDWATER SAMPLING
FIRST ROUND, 1999

### INTRODUCTION

This appendix presents the findings of a validation of analytical data for samples collected in March 1999 at the Griffin Technology Inc. (GTI) Site. Sampling was conducted by URS GreinerWoodward Clyde (URSGWC) and analytical services were provided by Columbia Analytical Services, Inc. (CASI) of Rochester, New York. All samples were analyzed for volatile organic compounds (VOCs) in accordance with New York State Department of Environmental Conservation (NYSDEC) Analytical Service Protocol (ASP) Method 95-1.

The procedures for validation of the data followed guidance from the following documents:

- Interim Remedial Measure Program Appendix B: Quality Assurance Project Plan (QAPP). July 1996. Prepared by Woodward-Clyde Consultants.
- CLP Organics Data Review and Preliminary Review. S.O.P. No. HW-6 No. 8, January 1992. Prepared by USEPA Region II.

The above "Guidelines" provided the criteria to review. Additional quantitative criteria are given in the analytical method.

The criteria evaluated included the following:

### **VOCs**

Significant problems identified in case narrative
Results reported from secondary dilutions
Sample holding times
Instrument performance and calibration
Method blank and trip blank contamination
Surrogate spike recoveries
MS/MSD recoveries and relative percent difference (RPD) values
Internal standard areas and retention times

### **VOCs continued:**

Field duplicate results

Compound identification and quantitation

Overall assessment of data

The following sections present the data validation:

### SIGNIFICANT PROBLEMS IDENTIFIED IN CASE NARRATIVE

No significant problems were identified in the laboratory case narrative.

### RESULTS REPORTED FROM SECONDARY DILUTIONS

For samples that required dilutions, part of the validation process is to evaluate which set of results (initial or diluted) are considered to be more representative of the sample matrix. For this data set, one sample required dilution for VOC analysis.

• For the initial VOC analysis of sample MW-5D analyzed at a 1.0 dilution factor, the corresponding TCE concentration exceeded the instrument's linear calibration range, and the sample was reanalyzed at a dilution factor of 1:2. For this sample, the TCE concentration reported from the diluted analysis is considered to be more representative of the samples' concentration and was transcribed onto the data summary table, along with any appropriate qualifiers.

### SAMPLE HOLDING TIMES

The VOC holding time criterion established in the QAPP is seven days from receipt at the laboratory to analysis. All samples were analyzed between eight and nine days from sample receipt. Data qualification was not considered necessary since the samples were analyzed within the "Guidelines" holding time criterion of fourteen days from collection to analyses.

#### GC/MS INSTRUMENT PERFORMANCE

GC/MS instrument performance checks are performed to ensure mass resolution, identification, and instrument sensitivity. Criteria for instrument performance checks included evaluation of possible transcription or calculation errors, adherence to instrument tuning frequency requirements, mass assignments, and ion abundance criteria. All criteria for bromofluorobenzene (BFB) for VOCs were met for this data set. Additionally, no transcription errors or calculation errors were found.

### INITIAL AND CONTINUING CALIBRATION

Initial and continuing calibration criteria are established to ensure the instruments are capable of producing acceptable qualitative and quantitative data for VOCs. All initial and continuing calibrations were performed at the required frequency.

All VOC initial calibration relative response factor (RRF) values and relative standard deviation (%RSD) values met the acceptance criteria presented in the "Guidelines".

All VOC continuing calibration RRF values met the acceptance criterion presented in the "Guidelines". One VOC continuing calibration analysis had percent difference (%D) values between initial and continuing calibration response factors in excess of the "Guidelines" criterion of 25 percent. Per the "Guidelines," detected and non-detected sample results for the affected compounds are qualified as estimated (J for detects UJ for non-detects) based on the outlying %D values. Sample results requiring qualification based on the outlying continuing calibration %D values as shown below:

Instrument	Date	Compound	%D	Qualifier
			1	Detects/Non-detects
1. GCMS#1	3/26/99	acetone	35.1	J/UJ
		2-butanone	29.9	J/UJ
		2-hexanone	28.8	J/UJ

Associated Samples: MW-1, MW-6S, MW-6D, MW-9S, MW-9D, MW-10S, MW-10D, MW-11D, trip blank

J - estimated result for detects

UJ - estimated result for non-detects

Additionally, no errors in calculations or transcriptions were noted during the validation of the calibration data from this data set.

### LABORATORY METHOD BLANKS

Laboratory method blanks evaluate the existence and magnitude of contamination problems resulting from laboratory activities. All laboratory method blanks were analyzed at the prescribed method frequencies.

Two of the VOC method blank samples had low level detections of acetone. Per the "Guidelines," sample results that are not at least 10 times greater than laboratory method blank concentrations require qualification as non-detected (data qualifier U). Sample results requiring qualification as non-detected based on the presence of acetone in laboratory methods blanks are as follows:

	Conc.	Qualified Conc.
acetone	2.02	
acetone	73	10U
acetone	2.32	
acetone	3JB	10U
acetone	5JB	10U
acetone	7JB	10U
acetone	6ЈВ	10U
acetone	3ЈВ	10U
	acetone acetone acetone acetone acetone acetone acetone	acetone 7J  acetone 2.32  acetone 3JB acetone 5JB acetone 7JB acetone 6JB

- B detected in corresponding laboratory blank
- J detected below quantitation limit, result is estimated
- U qualified as non-detected due to potential contamination

### TRIP BLANK SAMPLES

Trip blank samples are used to assess VOC cross-contamination during shipment to the laboratory. One trip blank sample was submitted with the cooler containing aqueous samples for VOC analyses.

Carbon disulfide was the only compound detected in the trip blank sample; its concentration was 1 µg/l. Carbon disulfide was not detected in any site samples and therefore, no data qualification was required based on its detection in the trip blank sample.

### SURROGATE SPIKE RECOVERIES

Samples analyzed for VOCs were spiked with surrogate compounds prior to analysis. Surrogate compounds are used to evaluate overall laboratory performance for sample preparation efficiency on a per sample basis. The "Guidelines" require that all VOC surrogate spike recoveries meet acceptance criteria.

All VOC surrogate spike recoveries were within the laboratory's established control limits, which indicated that the laboratory's preparation procedure was acceptable.

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES

Matrix effects on the analytical results are checked by analyzing matrix spike/matrix spike duplicate (MS/MSD) samples. MW-2S was analyzed as an MS/MSD sample for this sampling event.

All VOC MS/MSD recoveries and relative percent difference (RPD) values for samples MW-2S were within the method established control limits. Therefore, acceptable analytical accuracy and precision were achieved for these analyses.

### INTERNAL STANDARDS

Internal standards (I.S.) performance criteria ensures that the GC/MS sensitivity and response are stable during each analytical run. All VOC I.S. retention times and area responses were within the established control limits.

Validation of the I.S. data also included spot checking the retention times and areas summarized on Form-8 to those on the instrument chromatograms; no anomalies were noted.

### FIELD DUPLICATE RESULTS

Field duplicate results were used to evaluate representativeness. For aqueous samples, when analytes for both duplicate and sample values are greater than five times the quantitation limit, satisfactory representativeness is indicated by an RPD less than or equal to 50 percent. Where one or both of the analytes of a field duplicate pair are reported at less than five times the quantitation limit, satisfactory representativeness is indicated if the field duplicate results agree within 2.5 times the quantitation limit. Field duplicate results that do not meet these criteria may indicate unsatisfactory representativeness of the results.

One field duplicate sample pair, labeled as MW-4 and Dup., was collected with this sampling event. The results reported for the field duplicate sample pair are in agreement with the above criteria, which indicates that the aggregate sampling and analytical precision was acceptable.

### COMPOUND IDENTIFICATION AND QUANTITATION

Data for one or more detected compound/analytes were checked for potential identification errors and were recalculated from the raw data. No anomalies or transcription errors were noted during validation of the reported analyte identifications and quantitations.

### OVERALL DATA ASSESSMENT

Based on the criteria outlined, it is recommended that the results reported for these analyses be accepted for their intended use. Acceptable levels of accuracy and precision (based on the MS/MSD and field duplicate results) were achieved for this data set. In addition, completeness, defined to be the percentage of analytical results which are judged to be valid, including estimated (J or UJ) values, for this data set was 100 percent. Sample results from this investigation required some qualification based on the minor deficiencies summarized below:

Acetone, 2-butanone, and 2-hexanone results for nine samples were qualified as estimated (J for detects, UJ for non-detects) based on outlying continuing calibration %D values which exceeded the "Guidelines" acceptance criterion of 25 percent. Additionally, acetone results for six samples were qualified as non-detected (U) on the basis of potential laboratory contamination. No transcription errors or calculation errors were found during validation of the reported VOC results from this data set.