

January 25, 2001 38-6E06191.03

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Mr. David G. Pratt Division of Hazardous Waste Remediation NYS Department of Environmental Conservation 6274 East Avon-Lima Road Avon, NY 14414

Subject:

Semi-Annual Interim Remedial Measure Progress Report

April – September 2000

Griffin Technology, Inc. Facility

Farmington, New York

Dear Mr. Pratt:

On behalf of Diebold, Inc., URS Corporation, formerly URS Greiner Woodward Clyde, is pleased to submit the Semi-Annual Interim Remedial Measure Progress Report for April through September 2000 to the New York State Department of Environmental Conservation (NYSDEC). Enclosed please find three copies of the report for your review and consideration. These reports contain the information collected from April through September 2000 at the Griffin Technology, Inc. facility in Farmington, New York.

This document is being submitted in accordance with the Order on Consent (Index No. B8-315-90-01) between the New York State Department of Environmental Conservation and Diebold, Inc. (formerly Griffin Technology, Inc.). Please contact us if you need further information.

Sincerely,

**URS** Corporation

Lisa M. Havemann

Senior Environmental Engineer

Lisa M. Havemann

Kenneth M. Armstrong, PE, CHMM

Kennell M. Cornstrong

Project Engineer

Attachment

Mark C. Tucker - Diebold, Inc. CC. David A. Rinehart - Diebold, Inc.

> **URS** Corporation 800 West St. Clair Avenue, Suite 500 Cleveland, OH 44113-1232 Tel: 216.622.2400

Fax: 216.622.2428

# INTERIM REMEDIAL MEASURE PROGRAM

SEMI-ANNUAL PROGRESS REPORT APRIL – SEPTEMBER 2000

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

Prepared for Diebold, Inc. Canton, Ohio

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January 16, 2001

## **URS Corporation**

800 West St. Clair Avenue Suite 500 Cleveland, Ohio 44113-1232 216-622-2400 Project No. 38-06E06191.03

## INTERIM REMEDIAL MEASURE SEMI-ANNUAL PROGRESS REPORT

# APRIL – SEPTEMBER 2000 GRIFFIN TECHNOLOGY, INC. FACILITY TOWN OF FARMINGTON

ONTARIO COUNTY, NEW YORK

The enclosed 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.

Name:

Martin S. Leonard, P.E.

Title:

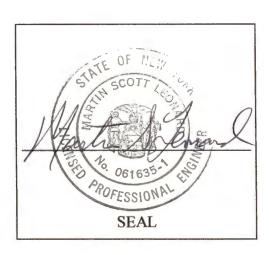
Consulting Professional Engineer

Date:

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This report presents information collected by URS Corporation (URS) between April and September 2000 during the operation of the Interim Remedial Measure (IRM) system at the Griffin Technology, Inc. (GTI) site located at 6132 Victor-Manchester Road in the Farmington, Ontario County, New York. A general location map is included as Figure 1-1.

The IRM system consists of four wells equipped with groundwater extraction pumps, which have been plumbed to discharge groundwater into the local sanitary sewer system. 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), was 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. The components included three recovery wells and one deep monitoring well with the potential to be converted to a recovery well in the future. Following approval by the NYSDEC and the Canandaigua-Farmington Water and Sewer District to discharge recovery water into the sanitary sewer system, the system was placed on line with three recovery wells. The IRM system began operating on February 18, 1997. Between April and June 1999, one deep monitoring well (MW-2D) was converted to a recovery well (RW-4) and brought on line.

In April 1999, a subsurface soil investigation was conducted at the GTI site to evaluate current soil conditions west of the manufacturing building. The scope of work and results are detailed in the Soil Investigation Report, dated June 25, 1999.

Between December 1999 and March 2000, a new sanitary sewer main crossing was installed beneath Victor-Manchester Road to provide separate sanitary sewer service to the undeveloped western parcel of the former GTI site on which the recovery system is located. On April 7, 2000, the recovery system discharge was disconnected from the sanitary sewer on the central parcel of the GTI site and connected to the new sanitary sewer main crossing at the clean out on the western parcel.

The activities performed during this 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.

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.
- Converting the deep bedrock monitoring well into a fourth recovery well.
- Installing a new sewer main crossing to provide sanitary sewer service to the undeveloped western parcel.
- 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 and off site semi-annually beginning six months after initiation of the system. 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 proceeding 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. Modification of the IRM system was performed between April and June 1999. Between December 1999 and March 2000, a new sanitary sewer main crossing was installed beneath Victor-Manchester Road to provide separate service to the IRM system.

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.

SECTIONTWO Scope of Work

#### 2.1.1 IRM System Configuration

The IRM system originally consisted of a network of three groundwater recovery wells (designated as RW-01, RW-02 and RW-03). Between April and June 1999, one deep monitoring well (MW-2D) was converted to a recovery well (RW-4) and brought on line.

The four recovery wells are constructed with 20-foot screened intervals that straddle the contact between the overburden and the bedrock. The well depths 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.

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 sewer where it is travels by gravity to the Canandaigua-Farmington Water and Sewer District for ultimate disposal. Prior to system start-up, it was necessary for the Canandaigua-Farmington Water and Sewer District to receive permission from the NYSDEC to receive this wastewater.

## 2.1.2 Completion of New Sanitary Sewer Connection

On April 7, 2000, the recovery system discharge was disconnected from the sanitary sewer on the central parcel of the GTI site (where the former GTI building is located). The recovery system discharge was then connected to the new sanitary sewer main crossing at the clean out on the western parcel. Operation of the groundwater remediation system was stopped for approximately 3 hours to complete the change over. The 1-inch diameter discharge piping that had been connected to the clean out on the central parcel was removed by pulling.

#### 2.2 IRM SYSTEM MONITORING

During this 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. On September 8, 2000, prior to the collection of groundwater

**SECTION**TWO Scope of Work

samples, the water level in each on-site and off-site groundwater monitoring well was measured and recorded to evaluate groundwater flow conditions. All groundwater measurements were collected using an electronic water level indicator capable of measuring the water elevation to the nearest 0.01 ft.

#### 2.2.2 **Groundwater Sampling and Analysis**

During this 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 to the POTW.

On September 8, 2000, groundwater samples were collected to evaluate regional groundwater Prior to sample collection, the static water level in each well was measured (Section 2.2.1). Using the static water 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 from each groundwater monitoring well and recovery well RW-4. The remaining recovery wells (RW-1 through RW-3) could not be sampled due to low discharge during the sampling event. 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-6D. 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 this six-month period of IRM system operation and the results of the September 2000 semi-annual groundwater sampling event are presented in the following subsections.

#### 3.1 HYDRAULIC HEAD MEASUREMENT RESULTS

Hydraulic head measurements collected during this operating period from on-site and off-site groundwater monitoring wells and piezometers are presented in Table 3-1.

The elevation data were used to construct monthly groundwater contour maps of the site for the overburden water-bearing zone (Figures 3-1 through 3-7) and the bedrock water-bearing zone (Figures 3-8 through 3-14). Figure 3-6 is a contour map illustrating groundwater flow conditions in the vicinity of the site in the overburden water-bearing zone on September 8, 2000. Figure 3-13 is a contour map illustrating groundwater flow conditions in the vicinity of the site in the bedrock water-bearing zone on September 8, 2000.

The groundwater contour maps from the GTI site indicate that groundwater in the overburden water-bearing zone typically flows to the southwest. In the bedrock water-bearing zone, groundwater typically flows toward a groundwater low area near the southwest corner of the site, in the vicinity of RW-3. The September 8, 2000 data showed the presence of a groundwater low in the vicinity of monitoring well MW-7D, which has been observed previously.

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.

#### 3.2 EFFLUENT OPERATING DATA AND ANALYTICAL RESULTS

A summary of the operating data and effluent analysis collected during each month of IRM system operation is presented in Table 3-2. 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) and 1,1,1-trichloroethane (1,1,1-TCA). These COCs are consistent with earlier results. 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 decreased toward the end of the operating period, with the exception of September 2000 in which the concentrations increased. The concentrations remained within the range of historical levels during the entire operating period.

The quantity of water removed by the system decreased during the latter months (July through September 2000) of this operating period. This appears to be related to lower seasonal groundwater elevations during later summer and fall 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.

### 3.3 GROUNDWATER ANALYTICAL RESULTS

A summary of groundwater analytical data from wells sampled on September 8, 2000 is presented in Table 3-3. Table 3-3 also summarizes the data from previous sampling events. The laboratory data sheets from CASI for this semi-annual groundwater sampling event are provided in Appendix B. A data validation report for this data, prepared by a QA/QC reviewer, is provided in Appendix C. Results of the validation indicate that the data are acceptable.

Groundwater analytical results obtained from the September 8, 2000 event showed that concentrations of COCs were generally higher than those reported for the previous (March 28, 2000) groundwater sampling event, but were within historical levels. The COCs detected in groundwater samples collected during September 2000 consisted of TCE, 1,1,1-TCA, and cis-1,2-dichloroethene (cis-1,2-DCE). The COCs are consistent with the results of earlier sampling events. TCE was consistently the compound with the highest reported concentration.

Based on the information collected during this 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 September 8, 2000 bedrock groundwater elevation data indicate the presence of a groundwater low southwest of the site in the vicinity of monitoring well MW-7D, which has been observed previously.
- Groundwater elevations were at high levels at the beginning of the operating period and decreased during the latter part of the operating period (July through September).
- The monthly quantity of groundwater removed by the IRM system decreased during the latter months (July through September) of the operating period. The quantity of groundwater discharged by the system appears to correlate with seasonal changes in groundwater elevations, with lower discharge and groundwater elevations in late summer, fall, and early winter and higher discharge and groundwater elevations in late winter, spring, and early summer.
- The concentrations of COCs in the IRM system effluent were higher in the beginning of this operating period and lower toward the end of the operating period, with the exception of September 2000 in which the concentrations increased. The concentrations of COCs remained within historical levels throughout the operating period. TCE was consistently the COC reported at the highest concentration in the IRM system effluent.
- Groundwater analytical results for samples collected during the September 8, 2000 sampling
  event indicated that concentrations of COCs were generally higher than those reported for the
  previous (March 28, 2000) groundwater sampling event, but were within historical levels.
- The COC concentrations in the IRM system effluent and groundwater monitoring well samples appear to be higher during periods of lower groundwater elevations and lower during periods of higher groundwater elevations.

Data collection activities at the site will be continued in the same manner. Continued monitoring of the site will provide additional data to evaluate the long-term effectiveness of the IRM system.

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
APRIL - SEPTEMBER 2000
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
иW-01	641.79	04/14/00	4.00	637.79
		04/28/00	4.19	637.60
		05/15/00	3.58	638.21
		05/31/00	4.92	636.87
		06/13/00	5.98	635.81
		06/30/00	5.91	635.88
		07/14/00	9.55	632.24
		07/31/00	11.23	630.56
		08/11/00	10.85	630.94
		09/02/00	12.19	629.60
		09/08/00	12.84	628.95
		09/16/00	13.48	628.31
		09/29/00	12.70	629.09
MW-02S	641.28	04/14/00	6.41	634.87
		04/28/00	6.78	634.50
		05/15/00	5.02	636.26
		05/31/00	7.99	633.29
		06/13/00	9.45	631.83
		06/30/00	9.65	631.63
		07/14/00	15.40	625.88
		07/31/00	DRY	DRY
		08/11/00	13.80	627.48
		09/02/00	DRY	DRY
		09/08/00	DRY	DRY
		09/16/00	DRY	DRY
		09/29/00	DRY	DRY

NM indicates water elevation not measured.

DRY indicates well did not contain groundwater.

TABLE 3-1 SUMMARY OF GROUNDWATER ELEVATIONS APRIL - SEPTEMBER 2000 GRIFFIN TECHNOLOGY, INC. FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-03	642.17	04/14/00	5.91	636.26
		04/28/00	6.52	635.65
		05/15/00	4.99	637.18
		05/31/00	7.81	634.36
		06/13/00	11.72	630.45
		06/30/00	10.51	631.66
		07/14/00	14.28	627.89
		07/31/00	15.82	626.35
		08/11/00	15.38	626.79
		09/02/00	16.14	626.03
		09/08/00	16.79	625.38
		09/16/00	17.31	624.86
		09/29/00	16.21	625.96
MW-04	641.75	04/14/00	7.68	634.07
		04/28/00	8.15	633.60
		05/15/00	6.37	635.38
		05/31/00	10.00	631.75
		06/13/00	13.57	628.18
		06/30/00	12.69	629.06
		07/14/00	17.13	624.62
•		07/31/00	18.20	623.55
		08/11/00	17.56	624.19
		09/02/00	18.55	623.20
		09/08/00	19.38	622.37
		09/16/00	18.50	623.25
		09/29/00	17.86	623.89

NM indicates water elevation not measured.

DRY indicates well did not contain groundwater.

TABLE 3-1 SUMMARY OF GROUNDWATER ELEVATIONS APRIL - SEPTEMBER 2000 GRIFFIN TECHNOLOGY, INC. FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-05S	640.85	04/14/00	8.99	631.86
		04/28/00	9.50	631.35
		05/15/00	7.68	633.17
		05/31/00	11.20	629.65
		06/13/00	15.18	625.67
		06/30/00	13.91	626.94
		07/14/00	17.72	623.13
		07/31/00	18.79	622.06
		08/11/00	18.45	622.40
		09/02/00	19.11	621.74
		09/08/00	19.52	621.33
		09/16/00	19.65	621.20
		09/29/00	19.18	621.67
MW-05D	641.01	04/14/00	15.00	626.01
		04/28/00	15.32	625.69
		05/15/00	14.12	626.89
		05/31/00	16.29	624.72
		06/13/00	17.95	623.06
		06/30/00	17.17	623.84
		07/14/00	19.72	621.29
		07/31/00	20.62	620.39
		08/11/00	20.20	620.81
		09/02/00	20.84	620.17
		09/08/00	21.17	619.84
		09/16/00	21.42	619.59
		09/29/00	21.10	619.91

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
APRIL - SEPTEMBER 2000
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-06S	636.61	04/14/00	4.17	632.44
		04/28/00	NM	NM
		05/15/00	3.47	633.14
		05/31/00	NM	NM
		06/13/00	9.98	626.63
		06/30/00	NM	NM
		07/14/00	12.63	623.98
		07/31/00	NM	NM
		08/11/00	13.42	623.19
		09/02/00	NM	NM
		09/08/00	14.55	622.06
		09/16/00	14.78	621.83
		09/29/00	NM	NM
MW-06D	636.83	04/14/00	4.45	632.38
		04/28/00	NM	NM
		05/15/00	3.65	633.18
		05/31/00	NM	NM
		06/13/00	9.92	626.91
		06/30/00	NM	NM
		07/14/00	12.88	623.95
		07/31/00	NM	NM
		08/11/00	13.57	623.26
		09/02/00	NM	NM
		09/08/00	14.73	622.10
		09/16/00	14.98	621.85
		09/29/00	NM	NM

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
APRIL - SEPTEMBER 2000
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-07S	634.29	04/14/00	NM	NM
		04/28/00	NM	NM
		05/15/00	NM	NM
		05/31/00	NM	NM
		06/13/00	NM	NM
		06/30/00	NM	NM
		07/14/00	NM	NM
		07/31/00	NM	NM
		08/11/00	NM	NM
		09/02/00	NM	NM
		09/08/00	14.41	619.88
		09/16/00	NM	NM
		09/29/00	NM	NM
MW-07D	634.16	04/14/00	NM	NM
		04/28/00	NM	NM
		05/15/00	NM	NM
		05/31/00	NM	NM
		06/13/00	NM	NM
		06/30/00	NM	NM
		07/14/00	NM	NM
		07/31/00	NM	NM
		08/11/00	NM	NM
		09/02/00	NM	NM
		09/08/00	36.53	597.63
		09/16/00	NM	NM
		09/29/00	NM	NM
10.15.72				

TABLE 3-1 SUMMARY OF GROUNDWATER ELEVATIONS APRIL - SEPTEMBER 2000 GRIFFIN TECHNOLOGY, INC. FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-09S	630.16	04/14/00	NM	NM
		04/28/00	NM	NM
		05/15/00	NM	NM
		05/31/00	NM	NM
		06/13/00	NM	NM
		06/30/00	NM	NM
		07/14/00	NM	NM
		07/31/00	NM	NM
		08/11/00	NM	NM
		09/02/00	NM	NM
		09/08/00	14.35	615.81
		09/16/00	NM	NM
		09/29/00	NM	NM
MW-09D	630.29	04/14/00	NM	NM
		04/28/00	NM	NM
		05/15/00	NM	NM
		05/31/00	NM	NM
		06/13/00	NM	NM
		06/30/00	NM	NM
		07/14/00	NM	NM
		07/31/00	NM	NM
		08/11/00	NM	NM
		09/02/00	NM	NM
		09/08/00	34.79	595.50
		09/16/00	NM	NM
		09/29/00	NM	NM

NM indicates water elevation not measured.

DRY indicates well did not contain groundwater.

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
APRIL - SEPTEMBER 2000
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-10S	629.00	04/14/00	NM	NM
		04/28/00	NM	NM
		05/15/00	NM	NM
		05/31/00	NM	NM
		06/13/00	NM	NM
		06/30/00	NM	NM
		07/14/00	NM	NM
		07/31/00	NM	NM
		08/11/00	NM	NM
		09/02/00	NM	NM
		09/08/00	16.59	612.41
		09/16/00	NM	NM
		09/29/00	NM	NM
MW-10D	626.80	04/14/00	NM	NM
		04/28/00	NM	NM
		05/15/00	NM	NM
		05/31/00	NM	NM
		06/13/00	NM	NM
		06/30/00	NM	NM
		07/14/00	NM	NM
		07/31/00	NM	NM
		08/11/00	NM	NM
		09/02/00	NM	NM
		09/08/00	17.12	609.68
		09/16/00	NM	NM
		09/29/00	NM	NM

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
APRIL - SEPTEMBER 2000
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-11D	641.89	04/14/00	6.92	634.97
		04/28/00	7.77	634.12
		05/15/00	6.32	635.57
		05/31/00	9.97	631.92
		06/13/00	12.14	629.75
		06/30/00	11.30	630.59
		07/14/00	14.55	627.34
		07/31/00	16.12	625.77
		08/11/00	15.78	626.11
		09/02/00	16.52	625.37
		09/08/00	17.05	624.84
		09/16/00	17.49	624.40
		09/29/00	17.04	624.85
MW-13D	636.58	04/14/00	NM	NM
		04/28/00	NM	NM
		05/15/00	NM	NM
		05/31/00	NM	NM
		06/13/00	NM	NM
		06/30/00	NM	NM
		07/14/00	NM	NM
4		07/31/00	NM	NM
		08/11/00	NM	NM
		09/02/00	NM	NM
		09/08/00	16.22	620.36
		09/16/00	NM	NM
		09/29/00	NM	NM

NM indicates water elevation not measured.

DRY indicates well did not contain groundwater.

TABLE 3-1 SUMMARY OF GROUNDWATER ELEVATIONS APRIL - SEPTEMBER 2000 GRIFFIN TECHNOLOGY, INC. FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
PZ-1S	640.50	04/14/00	6.70	633.80
		04/28/00	7.25	633.25
		05/15/00	5.28	635.22
		05/31/00	9.48	631.02
		06/13/00	DRY	DRY
		06/30/00	DRY	DRY
		07/14/00	DRY	DRY
		07/31/00	DRY	DRY
		08/11/00	DRY	DRY
		09/02/00	DRY	DRY
		09/08/00	DRY	DRY
		09/16/00	DRY	DRY
		09/29/00	DRY	DRY
PZ-1D	640.67	04/14/00	6.86	633.81
		04/28/00	7.41	633.26
		05/15/00	5.44	635.23
		05/31/00	9.62	631.05
		06/13/00	13.08	627.59
		06/30/00	11.98	628.69
		07/14/00	DRY	DRY
		07/31/00	DRY	DRY
		08/11/00	DRY	DRY
		09/02/00	DRY	DRY
		09/08/00	DRY	DRY
		09/16/00	DRY	DRY
		09/29/00	DRY	DRY

TABLE 3-1 SUMMARY OF GROUNDWATER ELEVATIONS APRIL - SEPTEMBER 2000 GRIFFIN TECHNOLOGY, INC. FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
PZ-2S	639.73	04/14/00	9.62	630.11
		04/28/00	9.90	629.83
		05/15/00	8.32	631.41
		05/31/00	11.28	628.45
		06/13/00	14.32	625.41
		06/30/00	13.20	626.53
		07/14/00	17.03	622.70
		07/31/00	DRY	DRY
		08/11/00	DRY	DRY
		09/02/00	DRY	DRY
		09/08/00	DRY	DRY
		09/16/00	DRY	DRY
		09/29/00	DRY	DRY
PZ-2D	640.01	04/14/00	10.92	629.09
		04/28/00	11.12	628.89
		05/15/00	9.62	630.39
		05/31/00	12.38	627.63
		06/13/00	15.10	624.91
		06/30/00	13.99	626.02
		07/14/00	17.51	622.50
		07/31/00	18.88	621.13
		08/11/00	18.52	621.49
		09/02/00	19.19	620.82
		09/08/00	19.62	620.39
		09/16/00	19.79	620.22
		09/29/00	19.39	620.62

NM indicates water elevation not measured.

DRY indicates well did not contain groundwater.

TABLE 3-2 SUMMARY OF EFFLUENT DISCHARGES TO POTW GRIFFIN TECHNOLOGY FACILITY FARMINGTON, NEW YORK

	DISCHARGE			CONCENTRATIONS				
MONTH	(GAL.)	TCE	1,1,1-TCA	Cis-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		
September 1998	44,030	510	14	15	ND	ND		
October 1998	66,160	400	ND	ND	ND	ND		

- 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 EFFLUENT DISCHARGES TO POTW GRIFFIN TECHNOLOGY FACILITY FARMINGTON, NEW YORK

-	DISCHARGE			CONCENTRATIONS				
MONTH	(GAL.)	TCE	1,1,1-TCA	Cis-1,2-DCE	2-BUTANONE	VINYL CHLORIDE		
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	12.0	ND	17		
April 1999	188,610	170	ND	ND	ND	ND		
May 1999	199,541	250	ND	ND	ND	ND		
June 1999	75,780	370	ND	ND	ND	ND		
July 1999	72,359	510	14	ND	ND	ND		
August 1999	55,841	490	15	7.5	ND	ND		
September 1999	64,019	450	ND	ND	ND	ND		
October 1999	64,350	500	ND	ND	ND	ND		
November 1999	58,261	450	ND	ND	ND	ND		
December 1999	75,250	420	ND	ND	ND	ND		
January 2000	107,879	410	10	ND	ND	ND		
February 2000	149,221	460	12	5.6	ND	ND		
March 2000	333,840	310	ND	ND	ND	ND		
April 2000	384,419	350	ND	ND	ND	ND		
May 2000	398,590	250	ND	ND	ND	ND		
June 2000	282,710	360	ND	ND	ND	ND		

- 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 EFFLUENT DISCHARGES TO POTW GRIFFIN TECHNOLOGY FACILITY FARMINGTON, NEW YORK

	DISCHARGE			CONCENTRATIONS					
MONTH	(GAL.)	TCE	1,1,1-TCA	Cis-1,2-DCE	2-BUTANONE	VINYL CHLORIDE			
July 2000	138,231	230	5.1	ND	ND	ND			
August 2000	110,259	200	ND	ND	ND	ND			
September 2000	64,900	430	13	ND	ND	ND			

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

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

Monitoring Well No.	Sample Date	TCE	1,1,1-TCA	CIS- 1,2-DCE	XYLENES	1,1-DCE	ACETONE	VINYL CHLORIDE
MW-01	12/19/94	ND	ND	ND	ND	ND	ND	ND
	05/21/96	ND	ND	ND	ND	ND	ND	ND
	08/13/97	ND	ND	ND	ND	ND	ND	ND
	03/18/98	ND	ND	ND	ND	ND	ND	ND
	09/02/98	ND	ND	ND	ND	ND	ND	ND
	03/18/99	ND	ND	ND	ND	ND	ND	ND
	09/02/99	ND	ND	ND	ND	ND	ND	ND
	03/28/00	ND	ND	ND	ND	ND	ND	ND
	09/08/00	ND	ND	ND	ND	ND	ND	ND
MW-02S	12/19/94	850	ND	ND	ND	ND	ND	ND
	05/21/96	30	ND	1	ND	ND	ND	ND
	08/13/97	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/18/98	17,000	ND	ND	ND	ND	ND	ND
	09/02/98	18,000	210	ND	ND	ND	ND	ND
	03/18/99	28	ND	ND	ND	ND	ND	ND
	09/02/99	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/28/00	6	ND	ND	ND	ND	ND	ND
	09/08/00	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-02D	08/13/97	450	23	42	ND	ND	ND	ND
	03/18/98	740	16	28	ND	ND	ND	ND
	09/02/98	680	25	39	ND	ND	ND	ND
	03/18/99	190	5	6	ND	ND	ND	ND
	Monitoring v	well convert	ed to recovery	well RW-4.				
MW-03	12/19/94	190	ND	ND	ND	ND	ND	ND
	05/21/96	120	ND	2	ND	ND	ND	ND
	08/13/97	150	ND	2	ND	ND	ND	ND
	03/18/98	88	ND	ND	ND	ND	ND	ND
	09/02/98	110	ND	ND	ND	ND	ND	ND
	03/18/99	45	ND	ND	ND	ND	ND	ND
	09/02/99	170	ND	ND	ND	ND	ND	ND
	03/28/00	93	ND	ND	ND	ND	ND	ND
	09/08/00	150	ND	ND	ND	ND	ND	ND

- Notes:
  1. 12/19/94 data collected by Blasland, Bouck & Lee.
- 2. All results expressed in micrograms per liter (µg/l).
- 3. No other VOC compounds detected at method detection limit.
- 4. ND indicates not detected.
- 5. NS indicates no sample collected; unable to locate or access well.
- 6. DRY indicates well not sampled due to lack of water.

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

Monitoring	Sample		-	CIS-	7.			VINYL
Well No.	Date	TCE	1,1,1-TCA	1,2-DCE	XYLENES	1,1-DCE	ACETONE	CHLORIDE
√IW-04	12/19/94	710	6.7	23	ND	ND	ND	ND
	05/21/96	16	ND	2	ND	ND	ND	ND
	08/13/97	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/18/98	59	ND	2	ND	ND	ND	ND
	09/02/98	450	7	20	ND	ND	ND	ND
	03/18/99	58	ND	1	ND	ND	ND	ND
	09/02/99	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/28/00	9	ND	ND	ND	ND	ND	ND
Duplicate	03/28/00	9	ND	ND	ND	ND.	ND	ND
	09/08/00	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-05S	12/19/94	580	15	ND	ND	ND	ND	ND
	05/21/96	350	16	ND	ND	ND	ND	ND
	08/13/97	760	31	4	ND	ND	ND	ND
	03/18/98	120	4	ND	1	ND	ND	ND
	09/02/98	390	14	ND	ND	ND	ND	ND
	03/18/99	95	3	ND	ND	ND	ND	ND
	09/02/99	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/28/00	140	4	ND	ND	ND	ND	ND
	09/08/00	550	22	ND	ND	ND	ND	ND
MW-05D	12/19/94	820	23	ND	ND	ND	ND	ND
	05/21/96	1,000	48	8	ND	ND -	ND	ND
	08/13/97	250	7	2	ND	ND	ND	ND
	03/18/98	250	7	ND	ND	ND	ND	ND
	09/02/98	300	8	2	ND	ND	ND	ND
	03/18/99	200	7	2	ND	ND	ND	ND
	09/02/99	220	6	2	ND	ND	ND	ND
	03/28/00	190	4	ND	ND	ND	ND	ND
	09/08/00	160	3	ND	ND	ND	ND	ND
MW-06S	12/19/94	270	7.8	ND	ND	ND	ND	ND
	05/21/96	ND	2	ND	ND	ND	ND	ND
	08/13/97	140	9	3	ND	ND	ND	ND
	03/18/98	5	ND	ND	ND	ND	ND	ND
	09/02/98	140	8	2	ND	ND	ND	ND
	03/17/99	ND	ND	ND	ND	ND	ND	ND
	09/02/99	110	6	4	ND	ND	ND	ND
	03/28/00	3	ND	ND	ND	ND	ND	ND
	09/08/00	110	5	ND	ND	ND	ND	ND

- 1. 12/19/94 data collected by Blasland, Bouck & Lee.
- 2. All results expressed in micrograms per liter (μg/l).
- 3. No other VOC compounds detected at method detection limit.
- 4. ND indicates not detected.
- 5. NS indicates no sample collected; unable to locate or access well.
- 6. DRY indicates well not sampled due to lack of water.

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

Monitoring Well No.	Sample Date	TCE	1,1,1-TCA	CIS- 1,2-DCE	XYLENES	1,1-DCE	ACETONE	VINYL CHLORIDE
MW-06D	12/19/94	190	7.5	ND	ND	ND	ND	ND
	05/21/96	240	10	ND	ND	ND	ND	ND
	08/13/97	150	10	2	ND	ND	ND	ND
	03/18/98	6	ND	ND	ND	ND	ND	ND
	09/02/98	140	8	2	ND	ND	ND	ND
	03/17/99	ND	ND	ND	ND	ND	ND	ND
	09/02/99	110	7	2	ND	ND	ND	ND
	03/28/00	89	5	1	ND	ND	ND	ND
	09/08/00	110	6	ND	ND	ND	ND	ND
Duplicate	09/08/00	110	6	ND	ND	ND	ND	ND
MW-07S	12/19/94	250	6.6	8	ND	ND	ND	ND
	05/21/96	310	7	6	ND	ND	ND	ND
	08/13/97	250	6	6	ND	ND	ND	ND
	03/18/98	3	ND	ND	ND	ND	ND	ND
	09/02/98	220	5	4	ND	ND	ND	ND
	03/17/99	ND	ND	ND	ND	ND	ND	ND
	09/02/99	220	4	4	ND	ND	ND	ND
	03/28/00	210	4	3	ND	ND	ND	ND
	09/08/00	210	ND	ND	ND	ND	ND	ND
MW-07D	12/19/94	260	ND	7	ND	ND	ND	ND
	05/21/96	290	4	12	ND	ND	ND	ND
	08/13/97	180	- 2	13	ND	ND	ND	ND
	03/18/98	150	2	15	ND	ND	ND	ND
	09/02/98	200	2	15	ND	ND	ND	ND
	03/17/99	100	ND	8	ND	ND	ND	ND
	09/02/99	180	2	14	ND	ND	ND	ND
	03/28/00	130	ND	19	ND	ND	ND	4
	09/08/00	180	ND	13	ND	ND	ND	ND
MW-08S	12/19/94 Well abandor	29 ned.	ND	ND	ND	ND	ND	ND
MW-08D	12/19/94 Well abandor	55 ned.	ND	ND	ND	ND	ND	ND

- 1. 12/19/94 data collected by Blasland, Bouck & Lee.
- 2. All results expressed in micrograms per liter (µg/l).
- 3. No other VOC compounds detected at method detection limit.
- 4. ND indicates not detected.
- 5. NS indicates no sample collected; unable to locate or access well.
- 6. DRY indicates well not sampled due to lack of water.

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

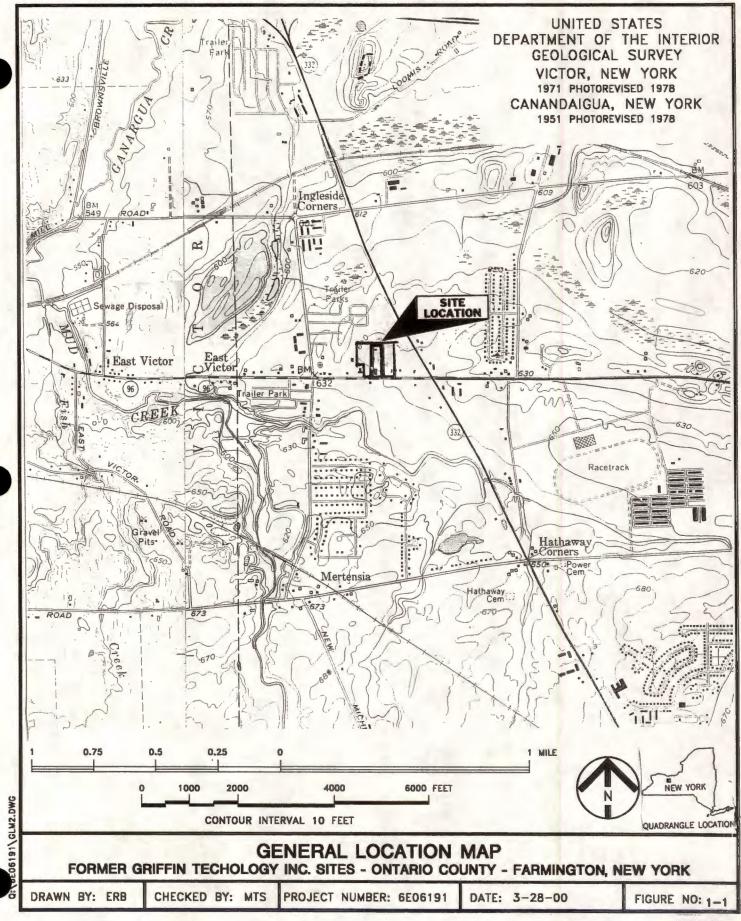
Monitoring	Sample			CIS-	In a course	11000	ACTEMAN	VINYL
Well No.	Date	TCE	1,1,1-TCA	1,2-DCE	XYLENES	1,1-DCE		CHLORIDE
MW-09S	12/19/94	ND	ND	ND	ND	ND	ND	ND
	05/21/96	ND	ND	ND	ND	ND	ND	ND
	08/13/97	2	ND	ND	ND	ND	ND	ND
	03/18/98	3	ND	ND	ND	ND	ND	ND
	09/02/98	NS	NS	NS	NS	NS	NS	NS
	03/18/99	ND	ND	ND	ND	ND	ND	ND
	09/02/99	ND	ND	ND	ND	ND	ND	ND
	03/28/00	ND	ND	ND	ND	ND	ND	ND
	09/08/00	ND	ND	ND	ND	ND	ND	ND
MW-09D	12/19/94	ND	ND	ND	ND	ND	ND	ND
	05/21/96	ND	ND	ND	ND	ND	ND	ND
	08/13/97	ND	ND	ND	ND	ND	ND	ND
	03/18/98	ND	ND	ND	ND	ND	ND	ND
	09/02/98	NS	NS	NS	NS	NS	NS	NS
	03/18/99	ND	ND	ND	ND	ND	ND	ND
	09/02/99	ND	ND	ND	ND	ND	ND	ND
	03/28/00	ND	ND	ND	ND	ND	ND	ND
	09/08/00	ND	ND	ND	ND	ND	ND	ND
MW-10S	12/19/94	7.8	ND	ND	ND	ND	ND	ND
	05/29/96	30	1	ND	ND	ND	ND	ND
	08/13/97	15	ND	ND	ND	ND	ND	ND
	03/18/98	NS	NS	NS	NS	NS	NS	NS
	09/02/98	8	ND	ND	ND	ND	ND	ND
	03/18/99	ND	ND	ND	ND	ND	ND	ND
	09/02/99	7	ND	ND	ND	ND	ND	ND
	03/28/00	1	ND	ND	ND	ND	ND	ND
	09/08/00	3	ND	ND	ND	ND	ND	ND
MW-10D	12/19/94	8.2	ND	ND	ND	ND	ND	ND
	05/29/96	8	ND	ND	ND	ND	ND	ND
	08/13/97	15	ND	ND	ND	ND	ND	ND
	03/18/98	NS	NS	NS	NS	NS	NS	NS
	09/02/98	9	ND	ND	ND	ND	ND	ND
	03/18/99	ND	ND	ND	ND	ND	ND	ND
	09/02/99	7	ND	ND	ND	ND	ND	ND
	03/28/00	3	ND	ND	ND	ND	ND	ND
	09/08/00	6	ND	ND	ND	ND	ND	ND

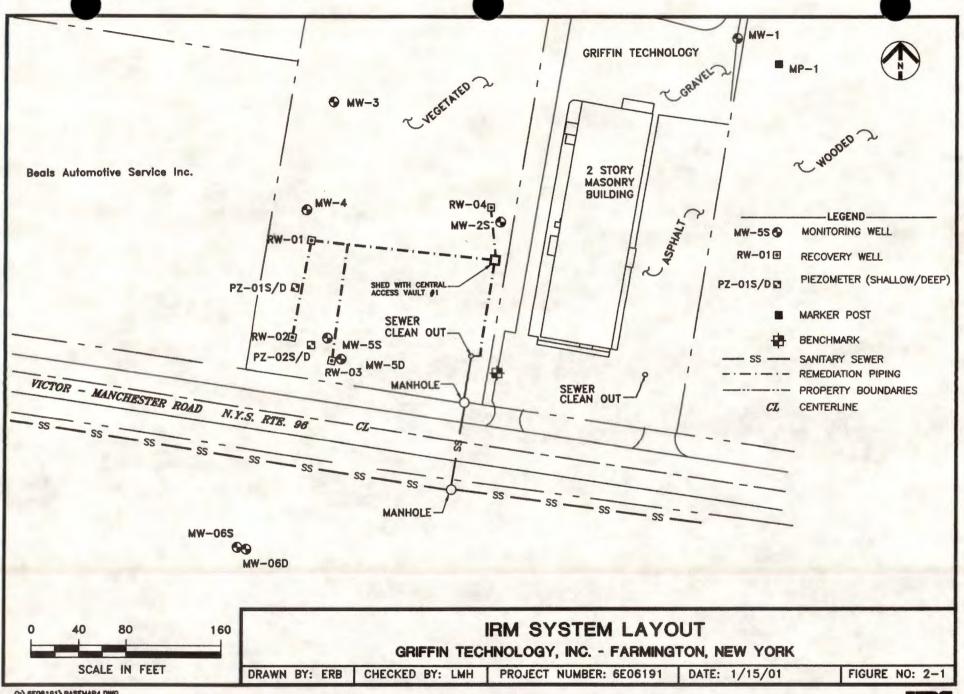
- 1. 12/19/94 data collected by Blasland, Bouck & Lee.
- 2. All results expressed in micrograms per liter (µg/l).
- 3. No other VOC compounds detected at method detection limit.
- 4. ND indicates not detected.
- 5. NS indicates no sample collected; unable to locate or access well.
- 6. DRY indicates well not sampled due to lack of water.

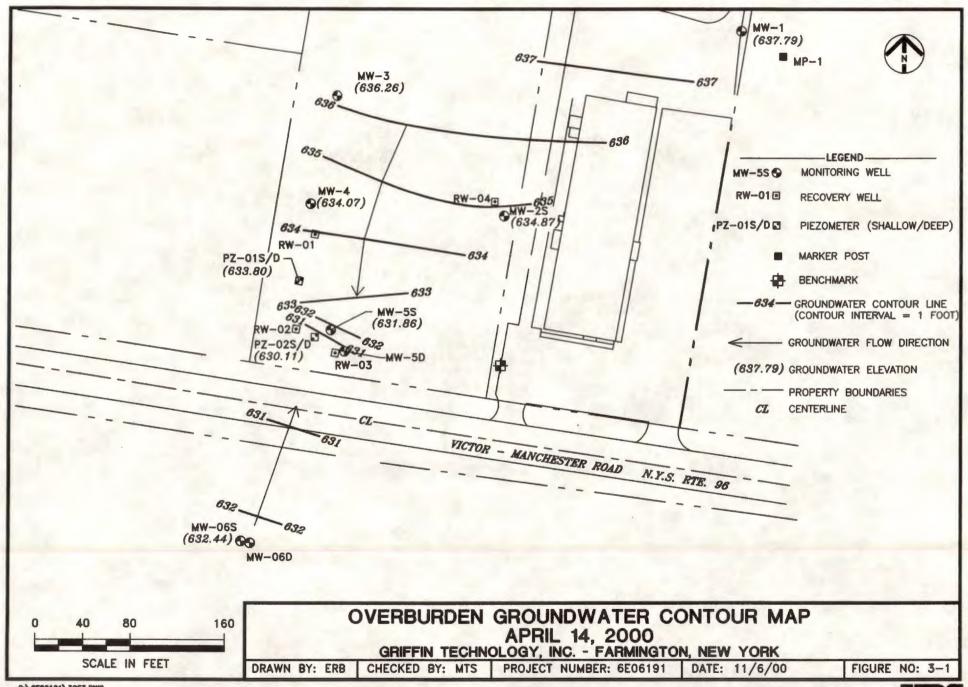
TABLE 3-3
SUMMARY OF MONITORING WELL GROUNDWATER ANALYTICAL RESULTS
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

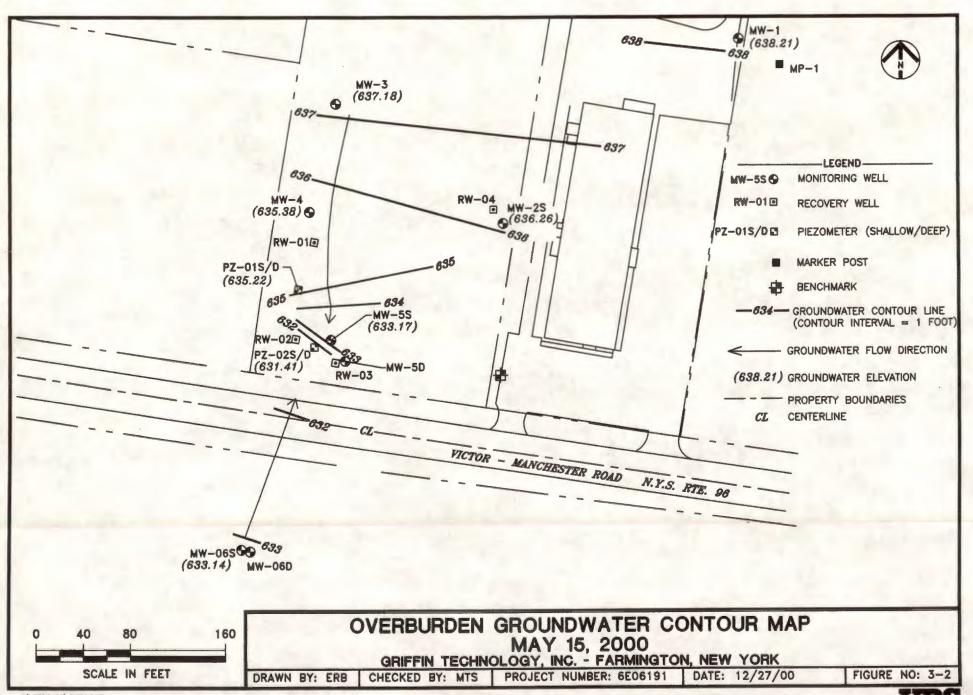
Monitoring Well No.	Sample Date	TCE	1,1,1-TCA	CIS- 1,2-DCE	XYLENES	1,1-DCE	ACETONE	VINYL CHLORIDE		
MW-11D	04/11/96	ND	ND	ND	ND	ND	ND	ND		
	05/21/96	ND	ND	ND	ND	ND	ND	ND		
	08/13/97	ND	ND	ND	ND	ND	ND	ND		
	03/18/98	ND	ND	ND	ND	ND	ND	ND		
	09/02/98	ND	ND	ND	ND	ND	ND	ND		
	03/18/99	ND	ND	ND	ND	ND	ND	ND		
	09/02/99	ND	ND	ND	ND	ND	ND	ND		
	03/28/00	ND	ND	ND	ND	ND	ND	ND		
	09/08/00	ND	ND	ND	ND	ND	ND	ND		
MW-13D	04/11/96	610	5	4	ND	ND	ND	ND		
-01	05/21/96	190	5	4	ND	ND	ND	ND		
	08/13/97	160	4	4	ND	ND	ND	ND		
	03/18/98	110	2	ND	ND	ND	ND ,	ND		
	09/02/98	140	3	2	ND	ND	ND	ND		
	03/17/99	120	2	2	ND	ND	ND	ND		
	09/02/99	140	3	2	ND	ND	ND	ND		
	03/28/00	85	2	ND	ND	ND	ND	ND		
	09/08/00	140	ND	ND	ND	ND	ND	ND		
RW-1	03/28/00	140	3	3	ND	ND	ND	ND		
	09/08/00		No sample collected due to low discharge.							
RW-2	03/28/00	100	2	ND	ND	ND	ND	ND		
	09/08/00			No sample	collected due to	low dischar	ge.			
RW-3	03/28/00	170	4	ND	ND	ND	ND	ND		
	09/08/00			No sample	collected due to	low dischar	ge.			
RW-4	03/28/00	1,000	22	11	ND	1	- 5	ND		
	09/08/00	760	ND	ND	ND	ND	ND	ND		

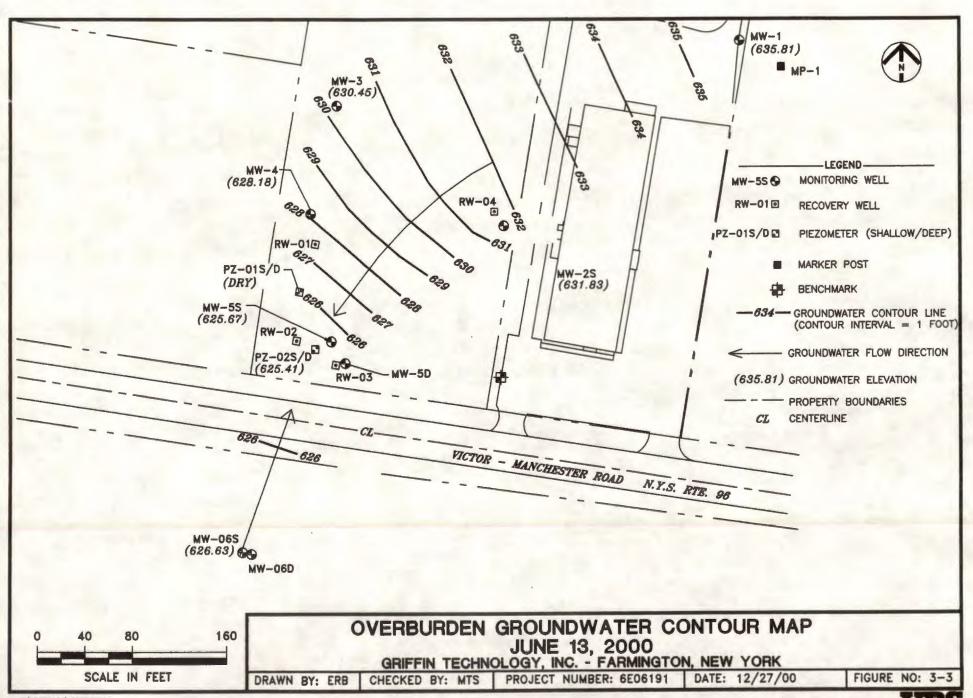
- 1. 12/19/94 data collected by Blasland, Bouck & Lee.
- 2. All results expressed in micrograms per liter (µg/l).
- 3. No other VOC compounds detected at method detection limit.
- 4. ND indicates not detected.
- 5. NS indicates no sample collected; unable to locate or access well.
- 6. DRY indicates well not sampled due to lack of water.

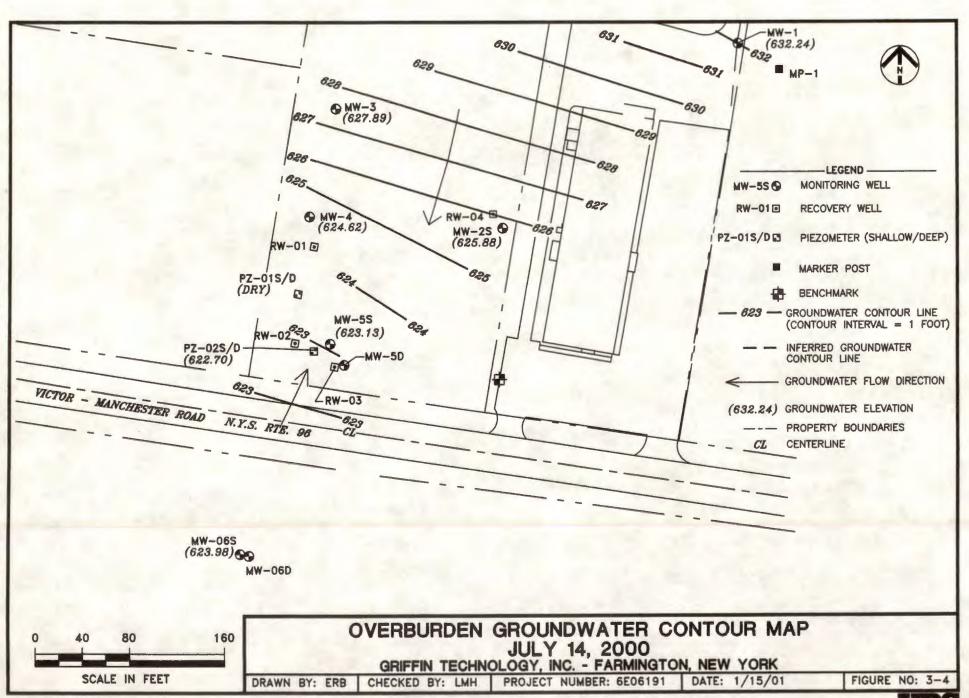


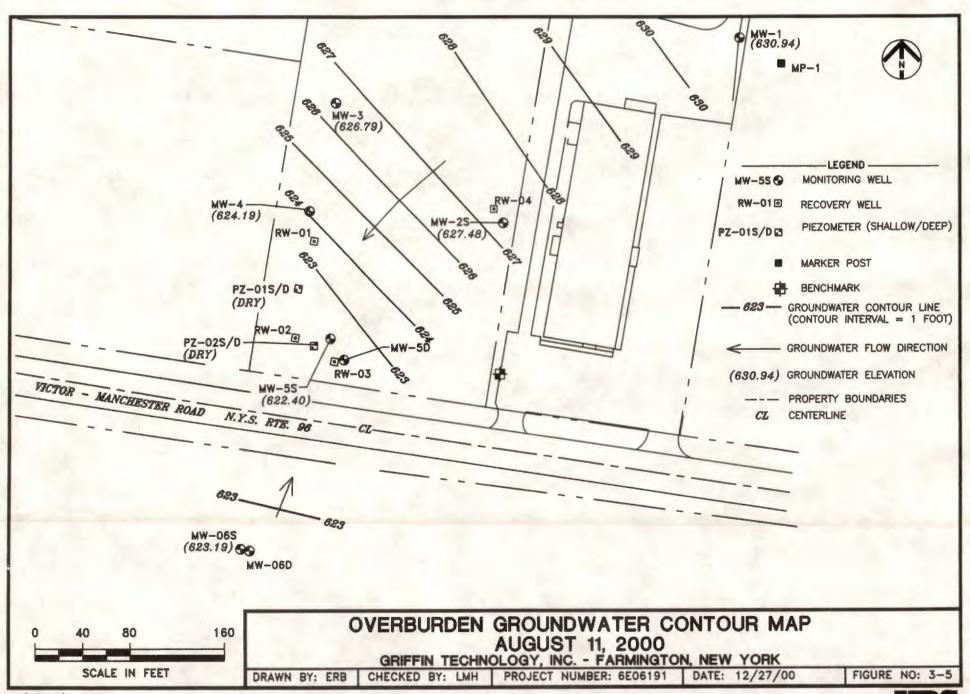


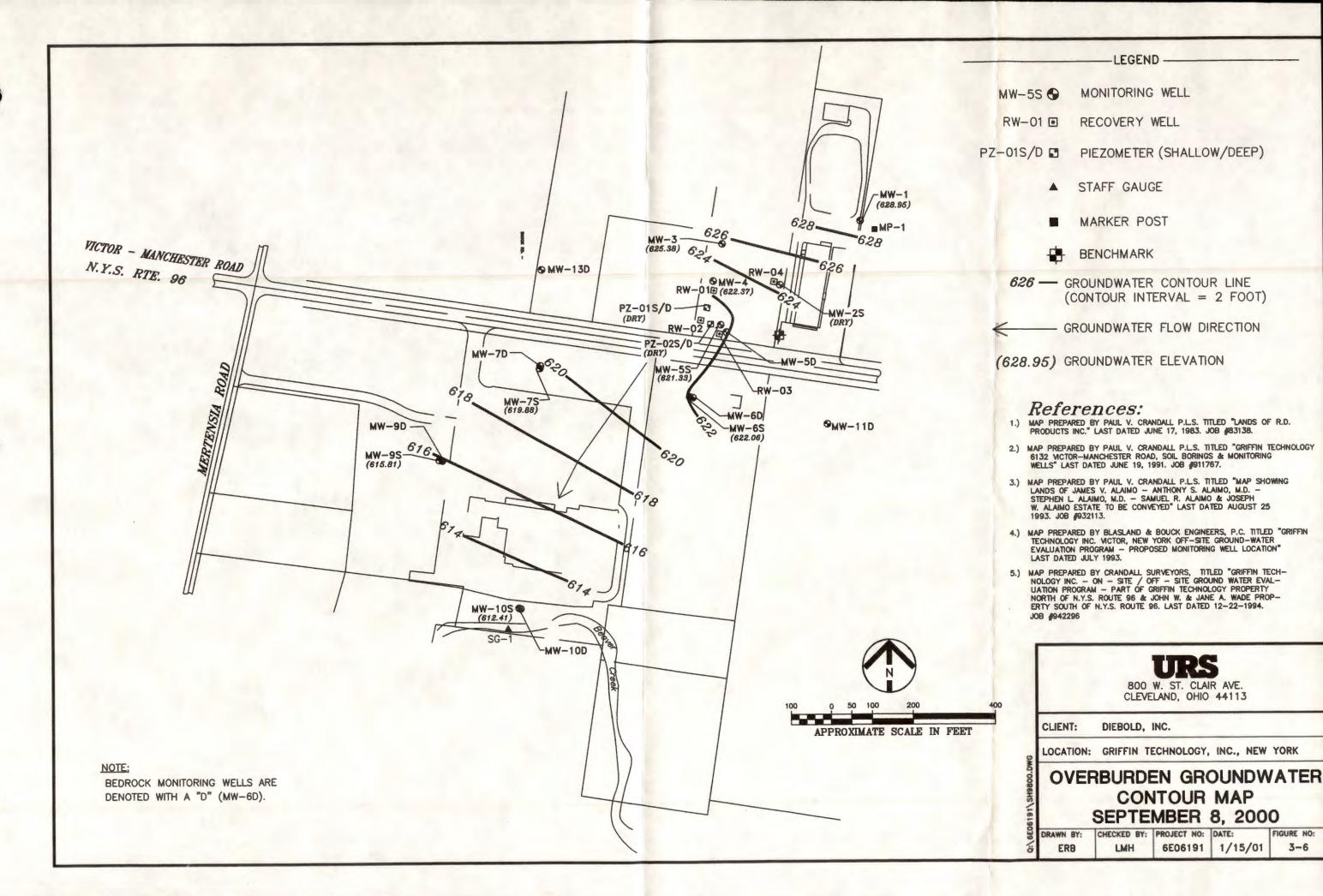


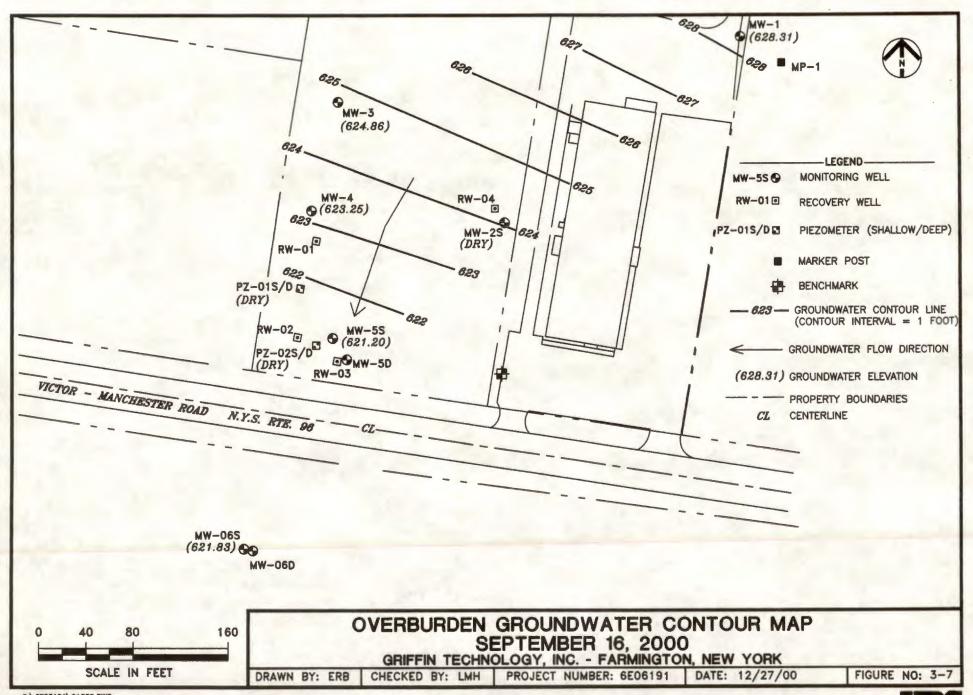


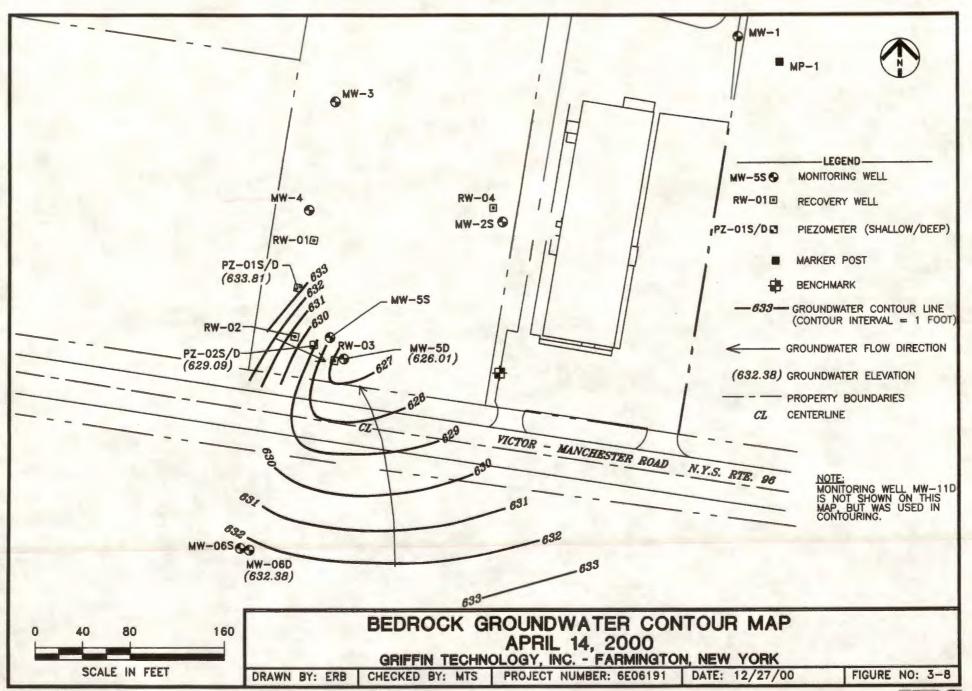


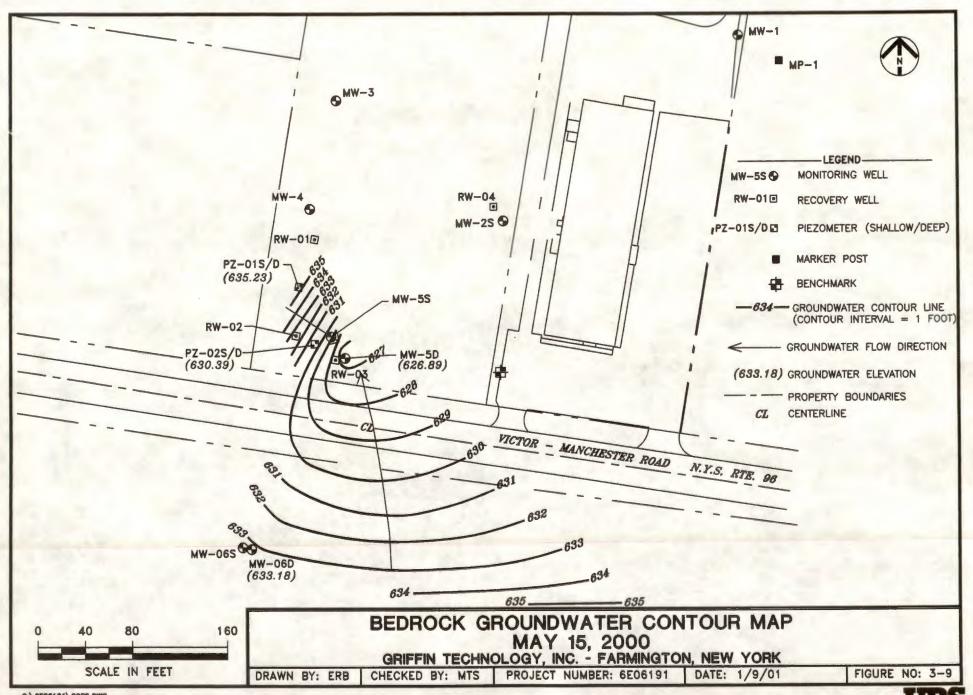


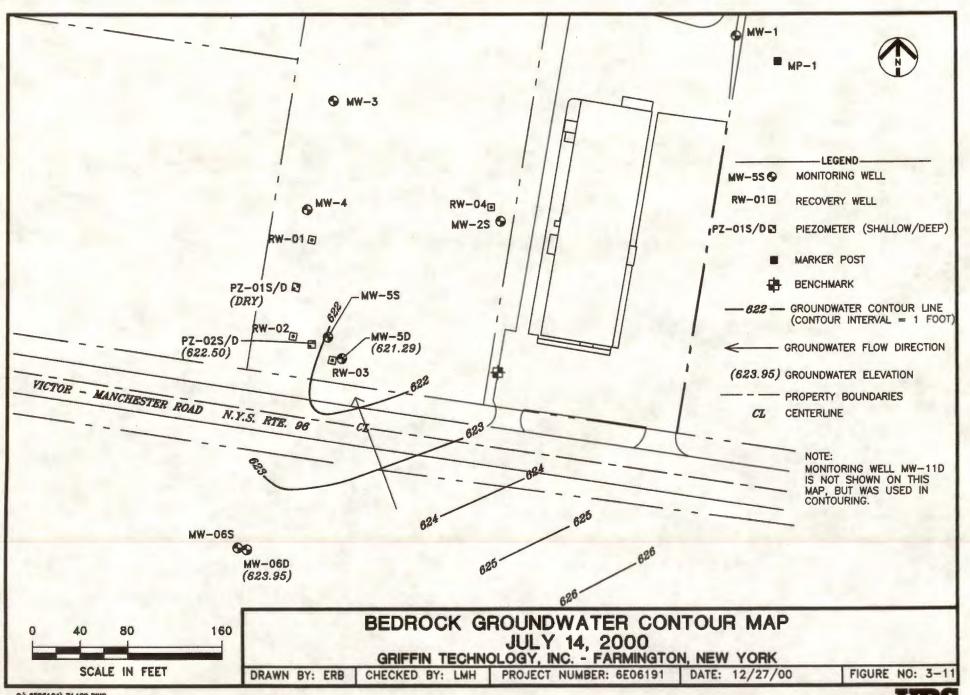


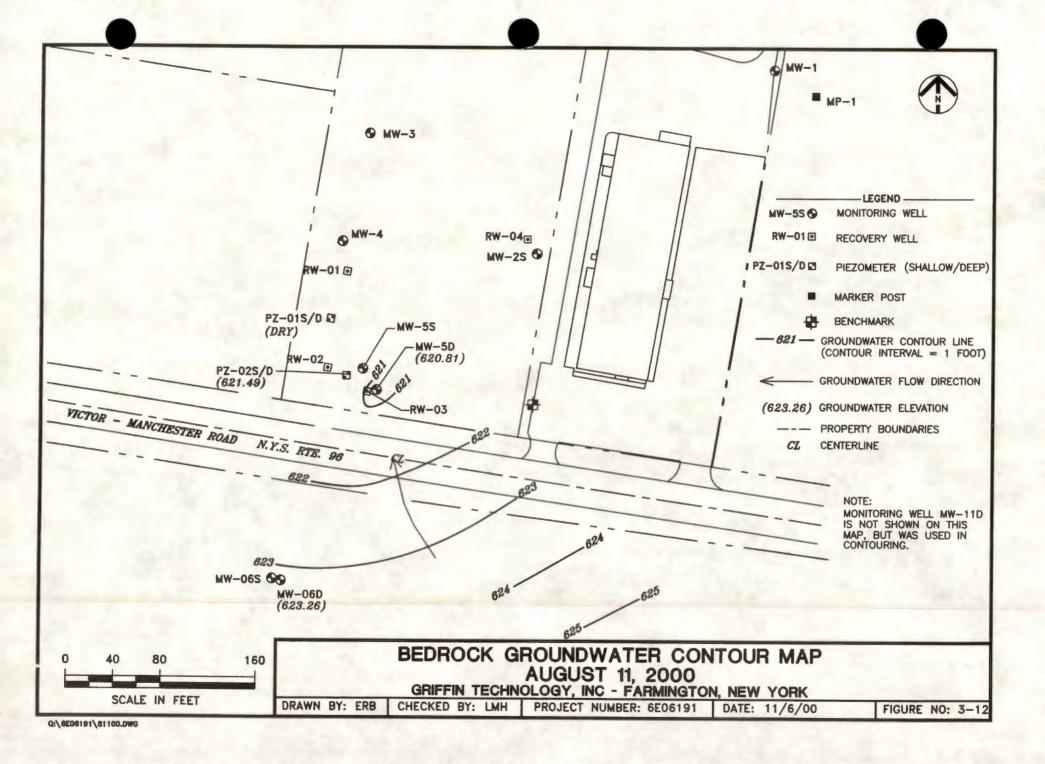




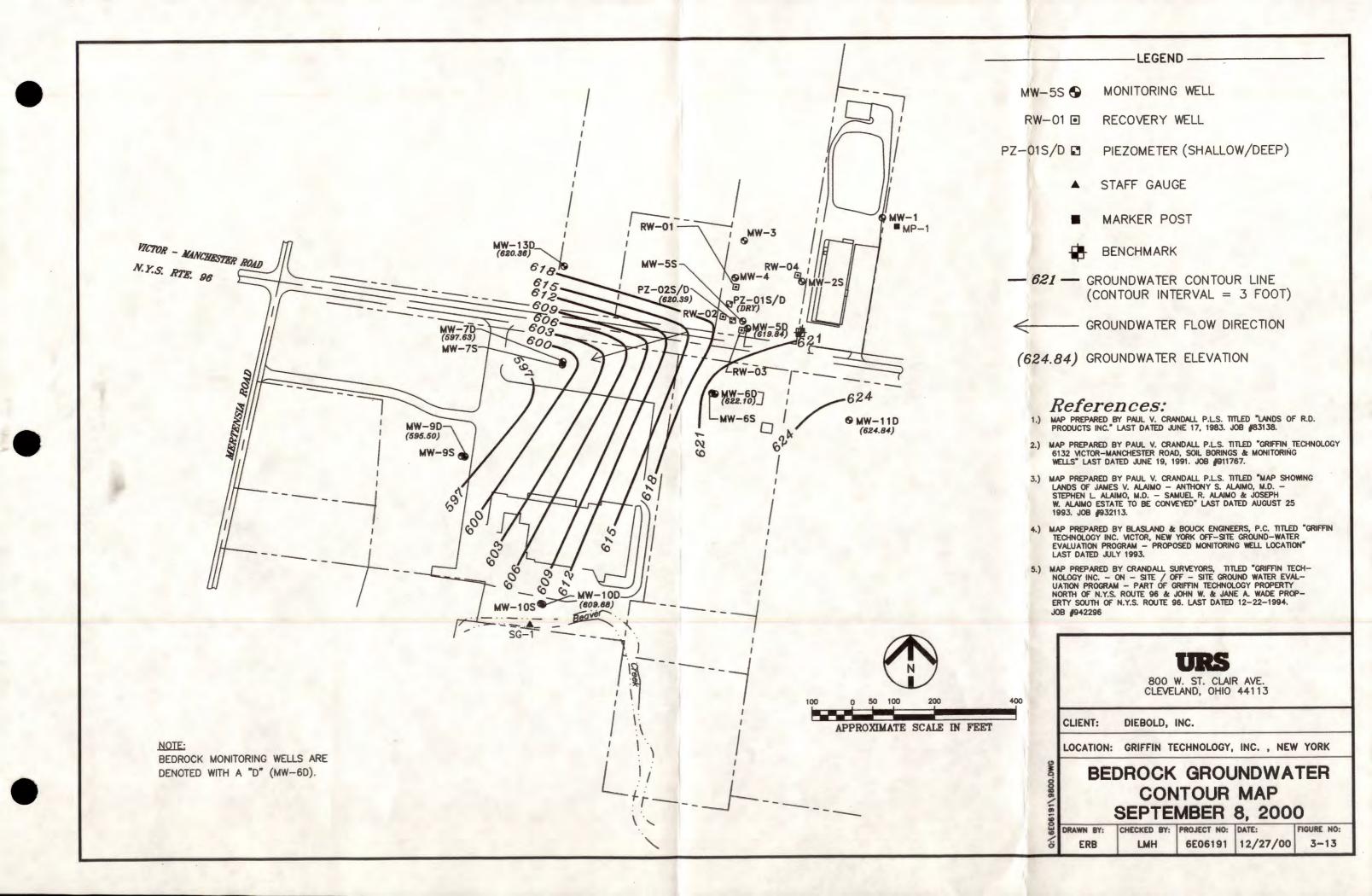


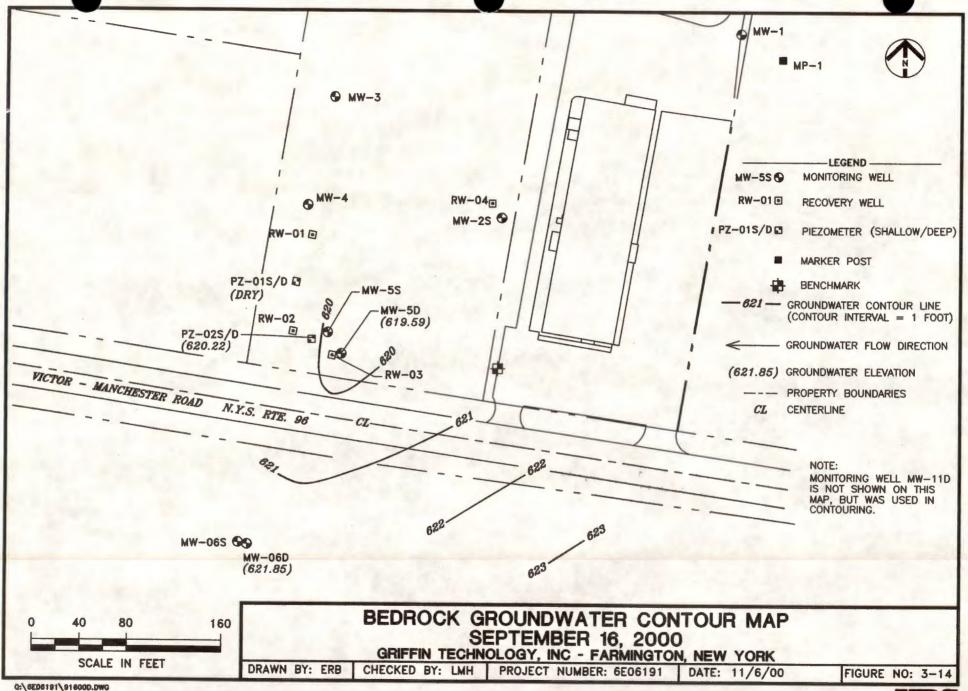














## A FULL SERVICE ENVIRONMENTAL LABORATORY

May 2, 2000

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

PROJECT:GRIFFIN IRM Submission #:R2001655

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.



1 Mustard ST. Suite 250 Rochester, NY 14609

#### THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Greiner Woodward Clyde

Project Reference: GRIFFIN IRM

Lab Submission # : R2001655 Reported : 05/02/00

Report Contains a total of \_\_\_\_\_ pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal.



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2001655

Lab ID

371915

Client ID

EFF-4-14-00

All samples were received in good condition.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.



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

NJ ID # in Rochester: RI ID # in Rochester: NH ID # in Rochester: AIHA # in Rochester:

73004 158 294198-A 7889

VOLATILE ORGANICS METHOD 8260B TCL Reported: 05/02/00

URS Greiner Woodward Clyde Project Reference: GRIFFIN IRM Client Sample ID: EFF-4-14-00

Date Sampled: 04/14/00 11:55 Order # Date Received: 04/14/00 Submission #		Sample Matrix: Analytical Run	
ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 04/24/00			
ANALYTICAL DILUTION: 2.00			
ACETONE	20	40 U	UG/L
BENZENE	5.0		
BROMODICHLOROMETHANE		10 U	UG/L
BROMOFORM	5.0	10 U	UG/L
	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	UG/L
CHLOROMETHANE	5.0	10 U	UG/L
DIBROMOCHLOROMETHANE	5.0	10 U	UG/L
L,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
FRANS-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
FRANS-1,3-DICHLOROPROPENE	5.0	10 U	UG/L
ETHYLBENZENE	5.0		
2-HEXANONE		10 U	UG/L
METHYLENE CHLORIDE	10	20 U	UG/L
	5.0	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	20 U	UG/L
STYRENE	5.0	10 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	10 U	UG/L
TETRACHLOROETHENE	5.0	10 U	UG/L
TOLUENE	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	350	UG/L
VINYL CHLORIDE	5.0	10 U	UG/L
O-XYLENE	5.0	10 U	UG/L
M+P-XYLENE	5.0	10 U	UG/L
SURROGATE RECOVERIES QC LI	MITS		
4-BROMOFLUOROBENZENE (86 -	115 %)	105	8
·	110 %)	99	8
	118 %)	109	8

VOLATILE ORGANICS METHOD 8260B TCL Reported: 05/02/00

Project Reference: Client Sample ID : METHOD BLANK

ANALYTE		#:	AL	nalytical Run	50036
ANALITE	-,	PQ	L	RESULT	UNITS
	04/24/00				
ANALYTICAL DILUTION:	1.00				
ACETONE			20	20 U	UG/L
BENZENE			5.0	5.0 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)			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
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	
1,1-DICHLOROETHENE			5.0		UG/L
CIS-1,2-DICHLOROETHENE				·5.0 U	UG/L
TRANS-1,2-DICHLOROETHE	AT 127		5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	NE		5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPEN	E.		5.0	5.0 U	UG/L
			5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROP	FINE		5.0	5.0 U	UG/L
ETHYLBENZENE			5.0	5.0 U	UG/L
2-HEXANONE			10	10 U	UG/L
METHYLENE CHLORIDE	KTDT/		5.0	5.0 U	UG/L
· · · · · · · · · · · · · · · · · · ·	MIBK)		10	10 U	UG/L
STYRENE			5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETH	ANE		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 I	LIMITS			
4-BROMOFLUOROBENZENE	(86	- 115 %)		103	ofo
TOLUENE-D8	(88)	- 110 %)		97	of the state of th
DIBROMOFLUOROMETHANE	(86	- 118 %)		114	8



Mustard St., Suite 250, Rochester, NY 14609-69245 (716) 288-5380 • FAX (716) 288-8475

# CHAIN OF USTODY/LABORATORY ANALYSIS REQUEST FORM

An Employee-Ownert George any			(,												D	ATE.	21.	14	-0	0	PAGI	E		OF L	e produktyva sięki
PROJECT NAMEG	riffin	IRM	1									A	NAL	YSIS	RE	QU	EST	ED						,	
PROJECT MANAGER/C	ONTACT_	Mark	Schmidt	0.1		7	2		95-3	l's	A's	Н/Р	ATION Ignit.										PRES	SERVA	TION
TEL (440) 349-2	5010n	, Ohi	oblige R	d .	INERS	4 🗆 95-1	5 🗆 95-2	1/602	CB's	321 VO/	270 SVC	NLS VOA's	CTERIZ L		OLVED										
TEL (440 ) 349 - 2 SAMPLER'S SIGNATURE		FAX ( 4	140) 349-1	514	F CONTAINERS	MS VOA's	MS SVOA'S	/OA's	PESTICIDES/PCB's	R'S LIST 8	STAR'S LIST 8270 SVOA'S	DA'S   SV	TE CHARA	ALS, TOTA	ALS, DISS F BELOW)	240							2.0	12	_
SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE	# OF	GC/N	GCA B2	00 00 00 00 00 00 00 00 00 00 00 00 00	PES 0 80	STA	STAF	157	WAS	MET,	MET.	00							» Hd	PH V	Other
EFF-4-14-00	4-14-00	11:55		Weter	2											X									
1							-																		
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RELINQUISHED B Signalus Labrah Fabrah Printed Name URS GIUC Firm 4-14-00 1: Date/Time	2:34	Signature V Printed Nam	4/00/00/12		hr ndard (1 vide Ver	ID REQ 48 hr. 0-15 wo bat Prelin	5 orking day	day ys) Results	1. 2. 3.	Routine Routine Narrative EPA Lev	Rep. w/ e /el III ble Pack	CASE	VTS	P.O. # Bill To:			ORMA	TION:		Shinnin	ng Via: _	Cl	10	nt	
RELINQUISHED B	Y:	Tack	PECETVED BY:  PICHELLE SEC	et Reques	ted Rep	ort Date			5.	NY ASP	bles Lev /CLP De cific QC	eliverabl	es							Submis	sion No	5	200	16	
Signature Printed Name Firm Date/Time		Printed Name Firm 4 14 Date/Time	Achelle Star	SPE		NSTR	UCTIC	ONS/C				•								l					
RELINQUISHED B	Y:		RECEIVED BY:	ORG	ANIC	S: 🗆	TCL	□ PI	PL [	AE (	Only	□ BI	V Only		Specia	al List									
Signature		Signature																							-
Printed Name		Printed Name	9																						
Firm Date/Firms		Firm Date/Time																							

# Cooler Receipt And Preservation Check Form

Did all bottle Were VOA Were Ice of Where did th	y seals on outside y papers properly s arrive in good co rials checked for a le bottles originate of cooler(s) upon	of cooler filled out ondition (to bsence of ?	? (ink, signe unbroken)	YES NO: I	Date: S	DEX CDA Signature (ES) NO (ES) NO (ES) NO (ES) NO (ES) NO (ES) NO (ES) NO (ES) NO	
-	ure within 0° - 6° C?:	_	Yes D	Yes 🗆	Yes □	Yes □	Yes 🗆
If No, Explain			, No E	•	No 🗆	No 🗆	No 🗆
	emperatures Take	n: 4/19	1001	@ 1236	-		
Thermomete			np Blank		e Cooler	Гетр. (IF	R. Gun
				•			
. Did all bottle	tle labels complete labels and tags ag t bottles used for t	gree with	custody p			YES NO	
2. Did all bottle	labels and tags at t bottles used for t	gree with the tests in	custody p	apers?		YES NO	
<ul><li>Did all bottle</li><li>Were correct</li></ul>	e labels and tags at t bottles used for t ncies:	gree with	custody p		Reagent	YES NO	ol. Added
2. Did all bottle 3. Were correct Explain any discrepa	e labels and tags ag t bottles used for t ncies:	gree with the tests in	custody p	apers?	Reagent	YES NO	ol. Added
2. Did all bottle 3. Were correct Explain any discrepa	e labels and tags at t bottles used for t ncies:	gree with the tests in	custody p	apers?	Reagent	YES NO	'ol. Added
2. Did all bottle 3. Were correct Explain any discrepa	e labels and tags ag t bottles used for t ncies:	gree with the tests in	custody p	apers?	Reagent	YES NO	ol. Added
2. Did all bottle 3. Were correct Explain any discrepa  pH  12	e labels and tags ag t bottles used for to ncies:  Reagent NaOH	gree with the tests in	custody p	apers?	Reagent	YES NO	ol. Added
2. Did all bottle 3. Were correct Explain any discrepa  pH  12  2	Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> P/PCBs	gree with the tests in	custody p	apers?	Reagent	YES NO	ol. Added
2. Did all bottle 3. Were correct Explain any discrepa  pH  12  2  2  5-9*  YES = All samples OK	Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> P/PCBs (608 only) NO = Sa	YES Property of the tests in the test in the	custody p ndicated?	apers?	Reagent  PC OK to adj	VES NO	ol. Added
2. Did all bottle 3. Were correct Explain any discrepa  pH  12  2  2  5-9*  YES = All samples OK *If pH adjustment is requ	Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> P/PCBs (608 only) NO = Sa	YES  When the tests in the test in the te	custody p ndicated?	Sample LD.		VES NO	'ol. Added

Other Comments:



A FULL SERVICE ENVIRONMENTAL LABORATORY

June 6, 2000

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

PROJECT:GRIFFIN IRM Submission #:R2002051

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.



1 Mustard ST. Suite 250 Rochester, NY 14609

#### THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Greiner Woodward Clyde

Project Reference: GRIFFIN IRM
Lab Submission # : R2002051
Reported : 06/06/00

Report Contains a total of \_\_\_\_ pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA

Department/Laboratory Director to comply with NELAC standards prior
to report submittal. Make 12 10001



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2002051

Lab ID

379517

Client ID

EFF-5-15-00

All samples were received in good condition.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.



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: 06/06/00

URS Greiner Woodward Clyde
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-5-15-00

Date Sampled: 05/15/00 11:45 Ordo Date Received: 05/15/00 Submission	er #:	379517 R2002051	Sample Matrix: Analytical Run	
ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 05/25/00 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	
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		10	20 U	UG/L
METHYLENE CHLORIDE		5.0	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)		10	20 U	
STYRENE		5.0	10 U	UG/L
1,1,2,2-TETRACHLOROETHANE		5.0	10 U	UG/L
TETRACHLOROETHENE		5.0	10 U	UG/L
TOLUENE		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	250	UG/L
VINYL CHLORIDE		5.0	10 U	UG/L
O-XYLENE .		5.0	10 U	UG/L
M+P-XYLENE		5.0	10 U	UG/L
SURROGATE RECOVERIES Q	C LIMI	ITS		
4-BROMOFLUOROBENZENE (8	6 - 1	115 %)	96	8
TOLUENE-D8 (8		L10 %)	100	8
DIBROMOFLUOROMETHANE (8	6 - 1	L18 %)	110	8

VOLATILE ORGANICS METHOD 8260B TCL Reported: 06/06/00

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order #: Submission #:		Sample Matrix: analytical Run	
ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED	: 05/25/00	And the second s		
ANALYTICAL DILUTION	1.00			
ACETONE		20	20 U	UG/L
BENZENE		5.0	5.0 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)		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
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
CIS-1,2-DICHLOROETHE	NTC'	5.0	5.0 U	UG/L
TRANS-1, 2-DICHLOROET		5.0	5.0 U	_ UG/L
1,2-DICHLOROPROPANE	HENE	5.0	5.0 U	UG/L
· ·	ENTE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROP				UG/L
TRANS-1,3-DICHLOROPRO	OPENE	5.0	5.0 U	•
ETHYLBENZENE		5.0	5.0 U	UG/L
2-HEXANONE		10	10 U	UG/L
METHYLENE CHLORIDE	(NET DAY)	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-TETRACHLOROE	THANE	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-TRICHLOROETHAN		5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHAN	E	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 RECOVERIE	S QC LIM	ITS		
4-BROMOFLUOROBENZENE	(86 -	115 %)	94	ક
TOLUENE-D8		110 %)	97	8
DIBROMOFLUOROMETHANE	-	118 %)	106	ક



1 Mustard St., Suite 250, Rochester, NY 14609-6925 (716) 288-5380 • FAX (716) 288-8475

# CHAIN OF USTODY/LABORATORY ANALYSIS REQUET. FORM

PAGE

An Employee-Owned Company															D	ATE_					PAG	E		)F	′
PROJECT NAME 6	iffin	IN	2m									Al	NAL'	YSIS	RE	QUE	ST	ED						,	
PROJECT MANAGER/C	ONTACT_	Mark	Schmidt	2/			-2		ę	S	A's	H/P	Ignit.										PRES	ERVA	ΓΙΟΙ
COMPANY/ADDRESS _	30775 Solon,	Bain	bridge 8	d.	INERS	4 🗆 95-1	5 0 95	1/602	CB's 8 🗆 95	021 VOA	270 SVO	ALS VOA's	CTERIZA	7	OLVED										
TEL (440) 349-22 SAMPLER'S SIGNATURE	708 Bot	FAX (4	40 349-1:	514	F CONTAINERS	GC/MS VOA's	MS SVOA'S	GC VOA's	TICIDES/F	R'S LIST 8	R'S LIST 8	P   MET	TE CHARA	ALS, TOTA	METALS, DISSOLVED (LIST BELOW)	240							2.0	12	<u></u>
SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB 1.D.	SAMPLE MATRIX	# OF	GC/N	GC/8	GC   80	PES D	STAI	STAI	고 >	WAS	MET (LIS	MET (LIS	00							> Hd	v Hq	Other
EFF-5-15-00	5-15-00	11:45		WATER	2											Х									
=																									
																			-					-	
						+-																			
RELINQUISHED B Signature Bob Fabian Printed Name URS GWC Firm 5-15-00 Date/Time	12:30	Printed Nam	RECEDED BY:  PROMING  MEGORY D. ESME  LAS  15-00 1213	24	hr ndard (' wide Ve	48 hr. 10-15 wo	5 orking da iminary F inary Re	day ys) Results sults	1234	Routine Routine Narrativ EPA Lev Validata N.J. Rec	Rep. w/ e /el III ble Pacl	/CASE	VTS	P.O. #	INVOI					Shippi			en La	t	
RELINQUISHED B	Y:		RECEIVED BY:	Reques	ited Rep	port Date		_	5.	NY ASP	CLP De	eliverabl	es							Submi	ission N	o: <u>{</u> } {	40	LUI	1
Signature Printed Name		Signature Printed Nam	8	SPE	CIAL	IŅSTR	UCTIO	ONS/C				-													ny Ghina Gaire
Firm		Firm		MET	ALC	1													•						
Date/Time		Date/Time																							
O RELINQUISHED B	Y:		RECEIVED BY:	ORG	ANIC	S: 🗍	TCL	□ PI	PL [	] AE (	Only	□ Bi	V Only		Specia	d List			·						
Signature		Signature														_				-					and representations
Printed Name		Printed Name	9																						
Firm		Firm																							

# Columbia Analytical Services Inc. Cooler Receipt And Preservation Check Form

Project/0	Client				Submis	sion Num	ber	
Cooler r	received on 5	15-00 by:	38	cou	RIER: CAS	UPS FE	EDEX CD	&L CLIE
2. 3. 4. 5. 6.	Were custody point all bottles a Were VOA via Were Ice or Ice Where did the	seals on outside papers properly arrive in good of dis checked for e packs present bottles originate f cooler(s) upon	r filled out condition ( absence of t? e?	(ink, signo (unbroken) f air bubblo	ed, etc.)?	Oate:	Signature YES NO YES NO YES NO YES NO CAS/ROC,	CLIENT
- 3	Is the temperature	within 0° - 6° C	?:	Yes E	Yes □	Yes 🗆	Yes □	Yes 🗆
	If No, Explain E Date/Time Ten	nperatures Tak		No 15-00	No □ 12:32	No 🗆	No 🗆	No 🗆
		D: IR-60			Sample Bottle	Cooler	Temp. IR	Gun
If out of	Temperature, C	Client Approval	to Run Sai	mples	-		*	
2. I	Did all bottle la	labels complete abels and tags a pottles used for ites:	gree with	custody p		Alex	YES NO YES NO YES NO	
			YES	NO	Sample I.D.	Reagent	V	ol. Added
	pН	Reagent			2			
	12	NaOH						
	2	HNO <sub>3</sub>						
	2	H <sub>2</sub> SO <sub>4</sub>						
	5-9*	P/PCBs (608 only)						
	ll samples OK	$NO = S_0$ I, use NaOH and/or		preserved at	lab as listed	PC OK to ac	djust pH_	
i pri au	VOC (Tex Fo	Vial pH Verifications of the Vial pH Verification of the Verificat	on.					

Other Comments:



A FULL SERVICE ENVIRONMENTAL LABORATORY

June 29, 2000

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

PROJECT:GRIFFIN IRM Submission #:R2002438

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

Markehile

Mark Wilson

Client Service Manager

Enc.



1 Mustard ST. Suite 250 Rochester, NY 14609

#### THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Greiner Woodward Clyde

Project Reference: GRIFFIN IRM Lab Submission # : R2002438

Reported : 06/29/00

Report Contains a total of \_\_\_\_\_ pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2002438

Lab ID

385823

Client ID

EFF-6-13-00

All samples were received in good condition.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.



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

VOLATILE ORGANICS METHOD 8260B TCL Reported: 06/29/00

URS Greiner Woodward Clyde
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-6-13-00

Date Sampled: 06/13/00 13:25 Date Received: 06/14/00 Subm			Sample Matrix: Analytical Run	
ANALYTE	1	PQL	RESULT	UNITS
DATE ANALYZED : 06/23/0	0			
ANALYTICAL DILUTION: 2	.50			
ACETONE		20	50 U	UG/L
BENZENE		5.0	13 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	25 U	UG/L
CARBON DISULFIDE		10	25 U	UG/L
CARBON TETRACHLORIDE		5.0	13 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		5.0	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		10	25 U	UG/L
METHYLENE CHLORIDE		5.0	13 U	UG/L
4-METHYL-2-PENTANONE (MIBK)		10	25 U	UG/L
STYRENE		5.0	13 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
TRICHLOROETHENE		5.0	360	UG/L
VINYL CHLORIDE		5.0	13 U	UG/L
O-XYLENE		5.0	13 U	UG/L
M+P-XYLENE		5.0	13 U	UG/L
SURROGATE RECOVERIES	QC LIMITS			
4-BROMOFLUOROBENZENE	(86 - 115	k)	102	96
TOLUENE-D8	(88 - 110		104	8.
DIBROMOFLUOROMETHANE	(86 - 118 5		98	8

VOLATILE ORGANICS METHOD 8260B TCL Reported: 06/29/00

00005

Project Reference: Client Sample ID : METHOD BLANK

	Sampled : Received:	Order Submission	#: 38914! #:		Sample Matrix: Analytical Run	
ANA	LYTE	-	P(	ΣΓ	RESULT	UNITS
DAT	E ANALYZED :	06/23/00				
ANA	LYTICAL DILUTION:	1.00				
ACET	ONE			20	20 U	UG/L
BENZ				5.0	5.0 U	UG/L
	ODICHLOROMETHANE			5.0	5.0 U	UG/L
BROM	OFORM			5.0	5.0 U	UG/L
BROM	OMETHANE			5.0	5.0 U	UG/L
	TANONE (MEK)			10	10 U	UG/L
CARB	ON DISULFIDE			10	10 U	UG/L
CARB	ON TETRACHLORIDE			5.0	5.0 U	UG/L
CHLO	ROBENZENE			5.0	5.0 U	UG/L
CHLO	ROETHANE			5.0	5.0 U	UG/L
CHLO	ROFORM			5.0	5.0 U	.UG/L
CHLO	ROMETHANE			5.0	5.0 U	UG/L
DIBR	OMOCHLOROMETHANE			5.0	5.0 U	UG/L
	DICHLOROETHANE			5.0	5.0 U	UG/L
	DICHLOROETHANE			5.0	5.0 U	UG/L
	DICHLOROETHENE			5.0	5.0 U	UG/L
CIS-	1,2-DICHLOROETHENE			5.0	5.0 U	UG/L
	S-1,2-DICHLOROETHE			5.0	5.0 U	UG/L
	DICHLOROPROPANE			5.0	5.0 U	UG/L
	1,3-DICHLOROPROPEN	IE		5.0	5.0 U	UG/L
	S-1,3-DICHLOROPROF			5.0	5.0 U	UG/L
	LBENZENE			5.0	5.0 U	UG/L
	XANONE			10	10 U	UG/L
	YLENE CHLORIDE			5.0	5.0 U	UG/L
		(MIBK)		10	10 U	UG/L
STYR				5.0	5.0 U	UG/L
	2,2-TETRACHLOROETH	IANE		5.0	5.0 U	UG/L
	ACHLOROETHENE			5.0	5.0 U	UG/L
TOLU				5.0	5.0 U	UG/L
	1-TRICHLOROETHANE			5.0	5.0 U	UG/L
	2-TRICHLOROETHANE			5.0	5.0 U	UG/L
	HLOROETHENE			5.0	5.0 U	UG/L
	L CHLORIDE			5.0	5.0 U	UG/L
O-XY				5.0	5.0 U	UG/L
	XYLENE			5.0	5.0 U	UG/L
SUR	ROGATE RECOVERIES	QC	LIMITS			
4-BR	OMOFLUOROBENZENE	(86	- 115 %)		102	%
TOLU	ENE-D8	(88)	- 110 %)		103	ક
DIBRO	OMOFLUOROMETHANE	(86	- 118 %)		98	8



1 Mustard St., Suite 250, Rochester, NY 14609-6925 (716) 288-5380 • FAX (716) 288-8475

Date/Time

# CHAIN OF USTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 6-13-00 PAGE OF

PROJECT NAME	Griff	in :	IRM									Al	NAL	YSIS	RE	QUE	STI	ED						3
PROJECT MANAGER/C												و	it O									PRES	ERVA	TION
COMPANY/ADDRESS _ TEL (440) 349-29	30775 Solar	Baine	dridge Rd		NERS	1 95-1	1	1/602	CB's	221 VOA'S	270 SVOA'S	ALS YOA's □ H/P	CTERIZATIC	ıl.	OLVED									
TEL (440) 349-29 SAMPLER'S SIGNATURE	708 Bob	FAX 14	40, 349-15	74	OF CONTAINERS	GC/MS VOA's	GC/MS SVOA's	VOA's 021 □ 601	PESTICIDES/PCB's	STAR'S LIST 8021 VOA'S	AR'S LIST 82 OTAL DI	TCLP   METALS   VOA'S   SVOA'S   H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	240						< 2.0	> 12	er
SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	#	00 □	GC 8	000	PES	STA	STA	걸	NA □	ME (LIS	ME (LIS	82						Ha	F	Other
EFF-6-13-00	6.13-00	13:25	Mary Transport Control of the Contro	WATER	2											X								
							-													-				
						+	-																	
RELINQUISHED E Bob Fabrian Signature Bob Fabrian Printed Name URS GWC Firm 6-13-00 Date/Time		Printed Nam	ne CAS	Star	hr ndard ( vide Ve	ND REC _ 48 hr. 10-15 wo erbal Prei	5 orking da liminary	day ays) Results	1. 2. 3.	Routine Routine Narrativ EPA Lev Validata N.J. Rev	Report Rep. w. e vel III ble Pac duced	/CASE	NTS	P.O. 4	:	CE INF	ORMA	TION:	Shippi	ng Via:	<u>C</u>	lie r	,}	7.8
RELINQUISHED E	Y:		RECEIVED BY:	Reques	ited Re	port Date				Delivera NY ASF Sile spe	/CLP D	eliverab	les					-	Submi	ssion No	o: N C	-4 0	-1	
Signature Printed Name		Signature Printed Nam	ne	SPEC	CIAL	INSTR	RUCTI	ONS/C																
Firm		Firm		META	ALS																			
Date/Lime		Date/Time							DI 5	7.45	0.1.		N.O.		0	-1.1.1-4			,					
RELINQUISHED E	IY:		RECEIVED BY:	ORG	ANIC	S: L	TCL	ЦΡ	PL L	J AE	Only	ПВ	N Only	у Ц	Specia	al List								_
Signature		Signature								*****											-			
Printed Name		Printed Nam	ne .																					
Firm		Firm																						

# Columbia Analytical Services Inc. Cooler Receipt And Preservation Check Form

roject/Client	12 05	1 1		Subm	nission Numb	C1	
ooler received on	-15-() by	de	$\mathcal{V}_{co}$	URIER: CAS	UPS FE	DEX (	CD&L CL
Were custody s Were custody p Did all bottles a Did any VOA v Were Ice or Ice Where did the b Temperature of	papers properly arrive in good vials have sign packs preser pottles origina	y filled or condition nificant ai nt? tte?	ut (ink, si n (unbrok r bubbles	en)?	YE YE	S NO	I/A )CLIENT
Is the temperature			Yes	□ Yes □	Yes 🗆	Yes [	Yes □
If No, Explain Be	low		No 1	No 🗆	No 🗆	No □	No □
Date/Time Tem	peratures Tak	cen:	1-13	-00	14:0'	7	
Thermometer II	D:	To	emp Blan	k Sample Bo	ttle Cooler	Temp.	IR. Gun
out of Temperature, Cli							
					?	ESNO	
Did all bottle la Were correct co Air Samples:	bels and tags intainers used Cassettes / Tu	agree with	h custody sts indica	papers?	(I	ES NO ES NO B Bags I	nflated N
Did all bottle la Were correct co	bels and tags intainers used Cassettes / Tu	agree with	h custody sts indica	papers?	(I	ES NO	nflated N/
Did all bottle la Were correct co Air Samples:	bels and tags intainers used Cassettes / Tu	agree with for the teaches Intac	h custody ests indica t Can	y papers? ated? isters Pressurize	ed Tedlar	ES NO	
Did all bottle la Were correct co Air Samples: xplain any discrepanc	bels and tags ontainers used Cassettes / Tu ies:	agree with for the teaches Intac	h custody ests indica t Can	y papers? ated? isters Pressurize	ed Tedlar	ES NO	
Did all bottle la Were correct co Air Samples: xplain any discrepanc	bels and tags ontainers used Cassettes / Tu ies: Reagent	agree with for the teaches Intac	h custody ests indica t Can	y papers? ated? isters Pressurize	ed Tedlar	ES NO	
Did all bottle la Were correct co Air Samples: xplain any discrepanc  pH  12	bels and tags ontainers used Cassettes / Tu ies: Reagent NaOH	agree with for the teaches Intac	h custody ests indica t Can	y papers? ated? isters Pressurize	ed Tedlar	ES NO	
Did all bottle la Were correct co Air Samples: xplain any discrepanc  pH  12  2	bels and tags ontainers used Cassettes / Tu ies:  Reagent NaOH HNO,	agree with for the teaches Intac	h custody ests indica t Can	y papers? ated? isters Pressurize	ed Tedlar	ES NO	
Did all bottle la Were correct co Air Samples:  xplain any discrepanc  pH  12  2  2  5-9*  ES = All samples OK	bels and tags ontainers used Cassettes / Tu ies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> P/PCBs (608 only) NO = Sar	agree with for the teabes Intac	h custody ests indica t Can	y papers? ated? isters Pressurize	ed Tedlar	ES NO ES NO B Bags I	
Did all bottle la Were correct co Air Samples:  xplain any discrepanc  pH  12  2  2  5-9*  ES = All samples OK f pH adjustment is required,  VOC Vi (Teste Folke	bels and tags ontainers used Cassettes / Tu ies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> P/PCBs (608 only) NO = Sar	yes  mples were or H,SO4	h custody ests indica t Can	y papers? ated? isters Pressurize  Sample I.D.	Reagent	ES NO ES NO B Bags I	
Did all bottle la Were correct co Air Samples:  xplain any discrepanc  pH  12  2  2  5-9*  ES = All samples OK f pH adjustment is required,  VOC Vi (Teste Folke	Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> P/PCBs (608 only) NO = Sar use NaOH and/o dafter Analysis) owing Samples	yes  mples were or H,SO4	h custody ests indica t Can	y papers? ated? isters Pressurize  Sample I.D.	Reagent	ES NO ES NO B Bags I	
Did all bottle la Were correct co Air Samples:  xplain any discrepanc  pH  12  2  2  5-9*  ES = All samples OK f pH adjustment is required,  VOC Vi (Teste Folke	Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> P/PCBs (608 only) NO = Sar use NaOH and/o dafter Analysis) owing Samples	yes  mples were or H,SO4	h custody ests indica t Can	y papers? ated? isters Pressurize  Sample I.D.	Reagent	ES NO ES NO B Bags I	
Did all bottle la Were correct co Air Samples:  xplain any discrepanc  pH  12  2  2  5-9*  ES = All samples OK f pH adjustment is required,  VOC Vi (Teste Folke	Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> P/PCBs (608 only) NO = Sar use NaOH and/o dafter Analysis) owing Samples	yes  mples were or H,SO4	h custody ests indica t Can	y papers? ated? isters Pressurize  Sample I.D.	Reagent	ES NO ES NO B Bags I	



## A FULL SERVICE ENVIRONMENTAL LABORATORY

August 3, 2000

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

PROJECT: GRIFFIN IRM Submission #:R2002905

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.



1 Mustard ST. Suite 250 Rochester, NY 14609

#### THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Greiner Woodward Clyde

Project Reference: GRIFFIN IRM

Lab Submission # : R2002905 Reported : 08/03/00

Report Contains a total of \_\_\_\_ pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal.



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2002905

10 393185

Client ID

EFF-7-14-00

All samples were received in good condition.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.



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: 08/03/00

URS Greiner Woodward Clyde Project Reference: GRIFFIN IRM Client Sample ID : EFF-7-14-00

Date Sampled: 07/14/00 12:20 Order #: 393185 Sample Matrix: WATER Date Received: 07/14/00 Submission #: R2002905 Analytical Run 53417

ANALYTE	Pζ	ĴΓ	RESULT	UNITS
DATE ANALYZED : 07/18/00				
ANALYTICAL DILUTION: 1.0	00			
ACETONE		20	20 U	UG/L
BENZENE		5.0	5.0 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)		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
CHLOROMETHANE		5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE		5.0	5.0 U	UG/L
,1-DICHLOROETHANE		5.0	5.0 U	UG/L
,2-DICHLOROETHANE	v	5.0	5.0 U	UG/L
,1-DICHLOROETHENE		5.0	5.0 U	UG/L
IS-1,2-DICHLOROETHENE		5.0	5.0 U	UG/L
RANS-1,2-DICHLOROETHENE		5.0	5.0 U	UG/L
,2-DICHLOROPROPANE		5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE		5.0		
RANS-1,3-DICHLOROPROPENE		5.0	5.0 U	UG/L
THYLBENZENE		5.0	5.0 U	UG/L
-HEXANONE			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
COLUENE		5.0	5.0 U	UG/L
.,1,1-TRICHLOROETHANE		5.0	5.0 U	UG/L
.,1,1°TRICHLOROETHANE		5.0	5.1	UG/L
RICHLOROETHENE		5.0	5.0 U	UG/L
INYL CHLORIDE		5.0	220 E	UG/L
-XYLENE		5.0	5.0 U	UG/L
		5.0	5.0 U	UG/L
I+P-XYLENE		5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC LIMITS			
-BROMOFLUOROBENZENE	(86 - 115 %)		101	ક્ર
COLUENE-D8	(88 - 110 %)		98	8
DIBROMOFLUOROMETHANE	(86 - 118 %)		97	8

VOLATILE ORGANICS METHOD 8260B TCL Reported: 08/03/00

URS Greiner Woodward Clyde Project Reference: GRIFFIN IRM Client Sample ID : EFF-7-14-00

STYRENE

TOLUENE

1,1,2,2-TETRACHLOROETHANE

TETRACHLOROETHENE

1,1,1-TRICHLOROETHANE

Date Sampled: 07/14/00 12:20 Orde Date Received: 07/14/00 Submissio		Sample Matrix: Analytical Run	
ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 07/19/00			
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	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	10	20 U	UG/L
METHYLENE CHLORIDE	5.0	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	20 U	UG/L

TRICHLOROETHENE		10	
VINYL CHLORIDE		230	UG/L
O-XYLENE		5.0 10	
M+P-XYLENE		5.0 10	
SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	92	*
TOLUENE-D8	(88 - 110 %)	101	8
DIBROMOFLUOROMETHANE	(86 - 118 %)	99	ક

5.0

5.0

5.0

5.0

5.0

10 U

10 U

10 U

10 U

10 U

UG/L

UG/L

UG/L

UG/L

UG/L

VOLATILE ORGANICS METHOD 8260B TCL Reported: 08/03/00

Project Reference:

Client Sample ID : METHOD BLANK

Date Sampled : Order #: 397513 Sample Matrix: WATER Submission #: Date Received: Analytical Run 53417 ANALYTE POL RESULT UNITS DATE ANALYZED 07/19/00 ANALYTICAL DILUTION: 1.00 ACETONE 20 20 U UG/L BENZENE 5.0 5.0 U UG/L 5.0 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) 10 U 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 CHLOROETHANE 5.0 5.0 U UG/L 5.0 CHLOROFORM 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 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 U 10 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 OC LIMITS 4-BROMOFLUOROBENZENE (86 115 %) 102 8 TOLUENE-D8 (88) 110 %) 99 8 DIBROMOFLUOROMETHANE (86 118 %) 98 8

VOLATILE ORGANICS METHOD 8260B TCL Reported: 08/03/00

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received: Subs	Order mission		7511	Sample Matrix: Analytical Run	
ANALYTE			PQL	RESULT	UNITS
DATE ANALYZED : 07/18/0	00				
ANALYTICAL DILUTION:	1.00				
ACETONE			20	20 U	UG/L
BENZENE			5.0	5.0 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)			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
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	4,00		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	
STYRENE			5.0	5.0 U	UG/L 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	
O-XYLENE			5.0	5.0 U	UG/L
M+P-XYLENE			5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC L	IMITS			
4-BROMOFLUOROBENZENE	(86	- 115	%)	99	8
TOLUENE-D8		- 110		99	eg.
DIBROMOFLUOROMETHANE		- 118		100	20



Mustard St., Suite 250, Rochester, NY 14609-6925 (716) 288-5380 • FAX (716) 288-8475

## CHAIN CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 7-14-00 PAGE OF OF

PROJECT NAME 6	riffin	IRI	n			ANALYSIS REQUESTED							į												
PROJECT MANAGER/C COMPANY/ADDRESS TEL (440) 349-2	CONTACT	Mich	Schmids	ed.	VERS	□ 95-1	0 95-2	GC VOA's	.B's □ 95-3	21 VOA's SLP	70 SVOA's	S OH/P	TERIZATION Tos.   Ignit.		LVED								PRES	SERVA	TION
SAMPLER'S SIGNATUR					# OF CONTAINERS	MS VOA's 2560   624	MS SVOA's	VOA's	STICIDES/PC	AR'S LIST 80; TOTAL TO	AR'S LIST 82.	LP   METAI	STE CHARAC	TALS, TOTAL ST BELOW)	TALS, DISSO ST BELOW)	8240							< 2.0	> 12	er
SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB 1.D.	SAMPLE MATRIX	#	000	000	000	PE D	ST	ST	50	NA C	ME CLIS	ME (LIS	O							Hd	Hd	Other
EFF-7-14-00	7-14-00	12:20		WATER	2											X									
			East, Committee																						
Signature Bab Fabian Printed Name UPS 6 WC Firm 7-14-co Date/Time	A .	Printed Nan	helle Ro	ART Stall	nr ndard (1 vide Ver	48 hr. 0-15 wo bal Prelimi	5 rking da minary F	day ys) Results	1. 2. 3.	PORT I Routine Routine Narrative EPA Lev Validatai N.J. Rec	Report Rep. wate e vel III ble Pac	/CASE	NTS	P.O. # Bill To:			ORMA	TION:		Shippin Tempe	ing Via:	Cli-			
RELINQUISHED I	BY:		BECEIVED BY:		ted Rep	ort Date			5.	Delivera NY ASP Site spe	/CLP De	eliverabl	es							Submi	ssion No	. B	2-2	905	
Printed Name Firm Date/Time		Printed Nam	Les Cation	SPEC META		NSTR	UCTIO	ONS/C	ОММ	ENTS	:														
RELINQUISHED I	BY:		RECEIVED BY:	ORG	ANIC	S: 🗆	TCL	□ PI	PL [	] AE (	Only	□ BI	N Only		Specia	al List									
Printed Name		Signature Printed Nam	ne																						_
Firm		Firm						-				7													

### Columbia Analytical Services Inc. Cooler Receipt And Preservation Check Form

Project/Client	Fin 1em				Submi	ssion N	umber_	2-2905
Cooler received on_	7/14/00 by:	RIB	co	URIER:	CAS	UPS	FEDEX	CD&L CLIE
<ol> <li>Were custod</li> <li>Did all bottle</li> <li>Did any VO</li> <li>Were Ice or</li> <li>Where did the</li> <li>Temperature</li> <li>Is the temperat</li> <li>If No, Explain</li> <li>Date/Time T</li> </ol>	Temperatures Tak	condition ifficant aint? (CE) tte? on receipt	Yes	sen)? s?  you	es 0	Yes C		O O N/A
Cooler Breakdown:  Were all bot Did all bottle Were correct		Run Sam Z/Z/ Me (i.e. an agree with for the te	ples	o me a  l reservation y papers? ated?	by:	Lelve	YES YES YES	NO NO
Explain any discrepa		YES	NO	Sample I		Reag	tent	Vol. Added
pH	Reagent							
12	NaOH							
2	HNO,					-0-		
2	H <sub>2</sub> SO <sub>4</sub>							
5-9*	P/PCBs (608 only)							
YES = All samples OK *If pH adjustment is requi	NO = Sar ired, use NaOH and/o C Vial pH Verification	r H <sub>2</sub> SO <sub>4</sub>	preserved a	at lab as liste	ed	PCOK	o adjust pH	

Other Comments:



A FULL SERVICE ENVIRONMENTAL LABORATORY

September 7, 2000

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

PROJECT:GRIFFIN IRM Submission #:R2003333

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 Phids

Enc.



1 Mustard ST. Suite 250 Rochester, NY 14609

#### THIS IS AN ANALYTICAL TEST REPORT FOR:

Client

: URS Greiner Woodward Clyde

Project Reference: GRIFFIN IRM

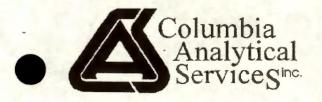
Lab Submission # : R2003333 Reported : 09/07/00

Report Contains a total of 7 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal.

00001



#### CASE NARRATIVE

This report contains analytical results for the following samples: Submission #: R2003333

Lab ID 400929

Client ID

EFF-8-11-00

All samples were received in good condition.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.



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 # i

 CT ID # in Rochester:
 PH0556
 RI ID # i

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

 OH EPA # in Rochester:
 VAP
 AIHA #

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: 09/07/00

URS Greiner Woodward Clyde Project Reference: GRIFFIN IRM Client Sample ID: EFF-8-11-00

Date Sampled: 08/11/00 12:45 Order #: 400929 Sample Matrix: WATER Date Received: 08/11/00 Submission #: R2003333 Analytical Run 54721

ANALYTE	1	PQL	RESULT	UNITS
DATE ANALYZED : 08/17/0	0			
	.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
-BUTANONE (MEK)		10	20 U	UG/L
ARBON DISULFIDE		10	20 U	UG/L
ARBON TETRACHLORIDE				
		5.0	10 U	UG/L
CHLOROBENZENE		5.0	10 U	UG/L
HLOROETHANE		5.0	10 U	UG/L
HLOROFORM		5.0	10 U	UG/L
CHLOROMETHANE		5.0	10 U	UG/L
IBROMOCHLOROMETHANE		5.0	10 U	UG/L
,1-DICHLOROETHANE		5.0	10 U	UG/L
,2-DICHLOROETHANE		5.0	10 U	UG/L
,1-DICHLOROETHENE		5.0	10 U	UG/L
IS-1,2-DICHLOROETHENE		5.0	10 U	UG/L
RANS-1,2-DICHLOROETHENE		5.0	10 U	UG/L
,2-DICHLOROPROPANE				
		5.0	10 U	UG/L
CIS-1,3-DICHLOROPROPENE		5.0	10 U	UG/L
RANS-1,3-DICHLOROPROPENE		5.0	10 U	UG/L
THYLBENZENE		5.0	10 U	UG/L
-HEXANONE		10	20 U	UG/L
ETHYLENE CHLORIDE		5.0	10 U	UG/L
-METHYL-2-PENTANONE (MIBK)		10	20 U	UG/L
TYRENE		5.0	10 U	UG/L
,1,2,2-TETRACHLOROETHANE		5.0	10 U	UG/L
ETRACHLOROETHENE		5.0	10 U	UG/L
OLUENE		5.0	10 U	UG/L
,1,1-TRICHLOROETHANE		5.0	10 U	UG/L
,1,2-TRICHLOROETHANE		5.0	10 U	UG/L
RICHLOROETHENE		5.0		
INYL CHLORIDE			200	UG/L
		5.0	10 U	UG/L
-XYLENE		5.0	10 U	UG/L
+P-XYLENE		5.0	10 U	UG/L
SURROGATE RECOVERIES	QC LIMITS			
-BROMOFLUOROBENZENE	(86 - 115 %)		100	%
OLUENE-D8	(88 - 110 %)		101	96
DIBROMOFLUOROMETHANE	(86 - 118 %)			
TEMOROFICETONOLIET	(00 - 118 %)		98	8

VOLATILE ORGANICS METHOD 8260B TCL Reported: 09/07/00

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order Submission	#:	40533	37	Sample Analyti		: WATER n 54721
ANALYTE			I	PQL	R	ESULT	UNITS
	/17/00					-	
ANALYTICAL DILUTION:	1.00						
ACETONE				20		20 U	UG/L
BENZENE				5.0	5	.0 U	UG/L
BROMODICHLOROMETHANE				5.0		. O U	UG/L
BROMOFORM				5.0		.0 U	UG/L
BROMOMETHANE				5.0		.0 U	UG/L
2-BUTANONE (MEK)				10		10 U	UG/L
CARBON DISULFIDE				10		10 U	
CARBON TETRACHLORIDE				5.0	-	.0 U	UG/L
CHLOROBENZENE				5.0			UG/L
CHLOROETHANE						. 0 U	UG/L
CHLOROFORM				5.0		. O U	UG/L
CHLOROMETHANE				5.0		.0 U	UG/L
DIBROMOCHLOROMETHANE				5.0		.0 U	UG/L
1,1-DICHLOROETHANE				5.0		. O U	UG/L
1,2-DICHLOROETHANE				5.0		.0 U	UG/L
1,1-DICHLOROETHENE				5.0		. O U	UG/L
CIS-1,2-DICHLOROETHENE				5.0		.0 U	UG/L
TRANS-1,2-DICHLOROETHENE				5.0		.0 U	UG/L
1,2-DICHLOROPROPANE				5.0		.0 U	UG/L
				5.0		.0 U	UG/L
CIS-1,3-DICHLOROPROPENE				5.0		.0 U	UG/L
TRANS-1,3-DICHLOROPROPENI	5			5.0		.0 U	UG/L
ETHYLBENZENE				5.0		.0 U	UG/L
2 - HEXANONE				10		10 U	UG/L
METHYLENE CHLORIDE				5.0		.0 U	UG/L
4-METHYL-2-PENTANONE (MI	BK)			10		10 U	UG/L
STYRENE				5.0		.0 U	UG/L
1,1,2,2-TETRACHLOROETHAN	3			5.0		.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		.0 U	UG/L
1,1,2-TRICHLOROETHANE				5.0		.0 U	UG/L
TRICHLOROETHENE				5.0		.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 1	LIMI	rs				
4-BROMOFLUOROBENZENE	(86	- 1	15 %)			96	<b>ે</b>
FOLUENE-D8	(88		10 %)			00	8
DIBROMOFLUOROMETHANE	(86		18 %)			04	9



#### 1 Mustard St., Suite 250, Rochester, NY 14609-6925 (716) 288-5380 • FAX (716) 288-8475

## CHAIN COUSTODY/LABORATORY ANALYSIS REQUEST FORM

An Employee-Owned Company					_										L	AIE_	×-	11-0	70		PAGE			)F	
PROJECT NAME G	iffin:	IRM											NAL			QUI	EST	ED							
PROJECT MANAGER/				r								۵	Z :										PRES	SERVA	ATIO
- COLOR MARKAGETTA	2.000	- D	11.1 0	1		1 7	27		65	A's	)A's	主	ATIO												
COMPANY/ADDRESS	30173	Bun	bridge Rd	1	RS	0 95-1	□ 95-2	2	1 6	9	SKC	S	RIZ		8										
COMPANY/ADDRESS	Solon	Oh	O's		里			09/	CB's	22	52	LS	TOS.		N N	3									
TEL (440) 349-2 SAMPLER'S SIGNATUR	2708	FAX (4	140) 349-13	514	OF CONTAINERS	GC/MS VOA's	GC/MS SVOA's	GC VOA's	FICIDES/P(	A'S LIST 80	TAL DT	A'S   SV	TE CHARA(	ALS, TOTAL BELOW)	METALS, DISSOLVED (LIST BELOW)	8							< 2.0	12	
SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB 1.D.	SAMPLE MATRIX	# 0	GCA B2	GC/A	GC \	PES 1	STAF	STAF	55	WAS	MET/	MET/	82	1						PH.	PH >	Other
EFF-8-11-00	8-11-00	1245														K									
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	1																								
RELINQUISHED I By Fabian Signature Bob Fabian Printed Name UPS	BY:	Signature	RECEIVED BY:		nr.	ND REQ 48 hr.	5	day	1	PORT F Routine Routine Narrative	Report Rep. w/		ITS	P.O. #:		CE INF	ORMA	TION:		Shippin	SAM		RECEIP		,
Printed Name URS		Printed Nam	1e, 1 CA3	Pro		bal Preli			3.1	EPA Lev	el III			Bill To:						Shinning	in #				
Firm 8-11-80 /=	3:35	Firm Date/firme	11/00 13	35		X Prelimi				Validatat N.J. Rec		age							_	Tempera	ature: _	12	16 1.2	0.1	0 ,
RELINQUISHED E	3Y:		RECEIVED BY:			ort Date	•	-	5. I	Deliveral NY ASP	bles Lev CLP De	liverable	es						_	Submis	rature:	0	45	33	3
Signature		Signature							6. 5	Site spe	cific QC.											4.		-	
Printed Name		Printed Nam	00	SPEC	CIALI	NSTR	UCTIO	NS/C	OMME	ENTS:															
Firm		Firm		META	MS										٠										
Date/Time		Date/Time						-																	
Pate/Time  RELINQUISHED E Signature	BY:		RECEIVED BY:	ORG	ANICS	S: 🗆	TCL	☐ PF	PL [	AEC	Only	□ BN	N Only		Specia	l List			_						
Signature		Signature																							
Printed Name		Printed Nam	e																						
Firm		Firm						-																	
Date/Time		Date/Time		1																					1

### Columbia Analytical Services Inc. Cooler Receipt And Preservation Check Form

_	uc	24		Subm	ission Number_	130 333
Cooler received	d on Spilos by	Bo	co	URIER: CAS	UPS FEDE	X CD&L CLIEN
<ol> <li>Were control</li> <li>Were control</li> <li>Did all</li> <li>Did any</li> <li>Were Icon</li> <li>Were Icon</li> <li>Where Icon</li> </ol>	ustody seals on outsidustody papers properlibottles arrive in good VOA vials have signed or Ice packs presended the bottles original rature of cooler(s) upon	le of coole y filled or condition nificant ai nt? tte?	er? ut (ink, sin (unbrok r bubbles	(en)?	YESI	10 10 10 N/A
Is the ten	pperature within 0° - 6° C	?:	Yes	□ Yes □	Yes 🗆	Yes 🗆 Yes 🗅
	rplain Below		No	No D	No 🗆	No 🗆 No 🗆
	me Temperatures Tal	cen:	8/11	100	1.335	
	meter ID:		/ /	nk Sample Bot	ttle Cooler Ter	mp. IR. Gun
Cooler Breakdo  1. Were al  2. Did all  3. Were co  4. Air San	own: Date: 2000  D	te (i.e. an agree with for the te	alysis, prohicitors indicate the Can	by:	YES	NO NO NO ags Inflated N/A
Explain any dis	crepancies:			•		
Explain any dis	crepancies:	YES	NO	Sample I.D.	Reagent	Vol. Added
Explain any dis	Reagent			Sample I.D.	Reagent	Vol. Added
				Sample I.D.	Reagent	Vol. Added
рН	Reagent			Sample I.D.	Reagent	Vol. Added
рН 12	Reagent NaOH			Sample I.D.	Reagent	Vol. Added
pH 12 2	Reagent NaOH HNO3			Sample I.D.	Reagent	Vol. Added
pH 12 2 2 5-9*	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> P/PCBs (608 only)	YES	NO	Sample I.D.	Reagent  PC OK to adjust pl	



that we see an analysis to the contract of the

A FULL SERVICE ENVIRONMENTAL LABORATORY

October 5, 2000

Mr. Mark Schmidt URS Greiner Woodward Clyde 800 West St. Clair Ave Cleveland, OH 44143

PROJECT:GRIFFIN IRM Submission #:R2003834

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.

man to the same with the terminal

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

yarlel. Wis

Mark Wilson

Client Service Manager

Enc.



1 Mustard ST. Suite 250 Rochester, NY 14609

#### THIS IS AN ANALYTICAL TEST REPORT FOR:

· Man It

Client

: URS Greiner Woodward Clyde

Project Reference: GRIFFIN IRM

Lab Submission # : R2003834 Reported : 10/05/00

Report Contains a total of 9 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA

Department/Laboratory Director to comply with NELAC standards prior
to report submittal.



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2003834

Lab ID 409563

Client ID EFF-9-16-00

All samples were received in good condition.

All samples have been analyzed by the approved methods cited on the analytical results pages.

All holding times and associated QC were within limits.

No analytical or QC problems were encountered.

001102



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: 10/05/00

URS Greiner Woodward Clyde Project Reference: GRIFFIN IRM Client Sample ID: EFF-9-16-00

ANALYTE				P	QL	R	ESULT	UNITS
DATE ANALYZED : 09/27/00								
	00							
ACETONE					20		40 U	UG/L
BENZENE					5.0			
BROMODICHLOROMETHANE							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
					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-DICHLOROETHANE					5.0		10 U	UG/L
, 2-DICHLOROETHANE					5.0		10 U	UG/L
,1-DICHLOROETHENE					5.0		10 U	UG/L
IS-1,2-DICHLOROETHENE					5.0		10 U	UG/L
'RANS-1,2-DICHLOROETHENE					5.0		10 U	UG/L
,2-DICHLOROPROPANE					5.0		10 U	UG/L
IS-1,3-DICHLOROPROPENE					5.0		10 U	UG/L
RANS-1,3-DICHLOROPROPENE					5.0		10 U	UG/L
THYLBENZENE					5.0		10 U	UG/L
-HEXANONE					10		20 U	UG/L
ETHYLENE CHLORIDE					5.0		10 U	UG/L
-METHYL-2-PENTANONE (MIBK)					10		20 U	UG/L
TYRENE					5.0		10 U	UG/L
,1,2,2-TETRACHLOROETHANE					5.0		10 U	UG/L
TETRACHLOROETHENE	•				5.0		10 U	UG/L
OLUENE					5.0		10 U	UG/L
,1,1-TRICHLOROETHANE					5.0		13	UG/L
,1,2-TRICHLOROETHANE					5.0		10 U	UG/L
RICHLOROETHENE					5.0	4	10 E	UG/L
INYL CHLORIDE					5.0		10 U	UG/L
-XYLENE					5.0		10 U	UG/L
+P-XYLENE					5.0		10 U	UG/L
SURROGATE RECOVERIES	QC	LIN	MITS					
-BROMOFLUOROBENZENE	(86	_	115	왕)		1	05	%
OLUENE-D8	(88)		110				97	96
DIBROMOFLUOROMETHANE	(86		118	-		1	08	%
								0.004

VOLATILE ORGANICS METHOD 8260B TCL Reported: 10/05/00

URS Greiner Woodward Clyde Project Reference: GRIFFIN IRM Client Sample ID: EFF-9-16-00

DIBROMOFLUOROMETHANE

Date Sampled: 09/16/00 09:15 Date Received: 09/16/00 Subm	Order #: 409563 ission #: R2003834	Sample Matrix: Analytical Run	
ANALYTE	PQL	RESULT	UNIT
DATE ANALYZED : 09/29/0 ANALYTICAL DILUTION: 5	0 .00		
ACETONE	20	100 U	UG/L
BENZENE	5.0	25 U	UG/L
BROMODICHLOROMETHANE	5.0	25 U	UG/L
BROMOFORM	5.0	25 U	UG/L
BROMOMETHANE	5.0	25 U	UG/L
2-BUTANONE (MEK)	10	50 U	UG/L
CARBON DISULFIDE	10	50 U	UG/L
CARBON TETRACHLORIDE	5.0	25 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
DIBROMOCHLOROMETHANE	5.0	25 U	UG/L
1,1-DICHLOROETHANE	5.0	25 U	
1,2-DICHLOROETHANE	5.0	25 U	UG/L
1,1-DICHLOROETHENE	5.0	25 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0		UG/L
FRANS-1,2-DICHLOROETHENE	5.0	25 U	UG/L
1,2-DICHLOROPROPANE		25 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	25 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	25 U	UG/L
ETHYLBENZENE	5.0	25 U	UG/L
2-HEXANONE	5.0	25 U	UG/L
METHYLENE CHLORIDE	10	50 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	5.0	25 U	UG/L
STYRENE	10	50 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	25 U	UG/L
TETRACHLOROETHENE	5.0	25 U	UG/L
COLUENE	5.0	25 U	UG/L
L,1,1-TRICHLOROETHANE	5.0	25 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	25 U	UG/L
TRICHLOROETHENE	5.0	25 U	UG/L
/INYL CHLORIDE	5.0	430	UG/L
O-XYLENE	5.0	25 U	UG/L
M+P-XYLENE	5.0 5.0	25 U 25 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
BROMOFLUOROBENZENE	(86 - 115 %)	100	%
TOLUENE-D8	(88 - 110 %)	99	96
DIRPOMORIJODOMERIJAME	(06 110 %)		.0

(86 - 118 %)

99

VOLATILE ORGANICS METHOD 8260B TCL Reported: 10/05/00

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order Submission		13754		ample Matrix: nalytical Run	
ANALYTE			PQL		RESULT	UNITS
DATE ANALYZED : 0 ANALYTICAL DILUTION:	9/27/00					
ACETONE				20	20 U	UG/L
BENZENE				. 0	5.0 U	UG/L
BROMODICHLOROMETHANE				. 0	5.0 U	UG/L
BROMOFORM				. 0	5.0 U	UG/L
BROMOMETHANE				. 0	5.0 U	UG/L
2-BUTANONE (MEK)				10	10 U	UG/L
CARBON DISULFIDE				10	10 U	UG/L
CARBON TETRACHLORIDE				. 0	5.0 U	UG/L
CHLOROBENZENE				. 0	5.0 U	UG/L
CHLOROETHANE				. 0	5.0 U	UG/L
CHLOROFORM				. 0	5.0 U	UG/L
CHLOROMETHANE				. 0	5.0 U	UG/L
DIBROMOCHLOROMETHANE				. 0	5.0 U	UG/L
1,1-DICHLOROETHANE				. 0	5.0 U	UG/L
1,2-DICHLOROETHANE				. 0	5.0 U	UG/L
1,1-DICHLOROETHENE				. 0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE				. 0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHEN	E			. 0	5.0 U	UG/L
1,2-DICHLOROPROPANE				. 0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE				. 0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPE	NE			. 0	5.0 U	UG/L
ETHYLBENZENE			5	. 0	5.0 U	UG/L
2-HEXANONE				10	10 U	UG/L
METHYLENE CHLORIDE				. 0	5.0 U	UG/L
	IBK)			10	10 U	UG/L
STYRENE				. 0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHA	NE			. 0	5.0 U	UG/L
TETRACHLOROETHENE				. 0	5.0 U	UG/L
COLUENE				. 0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE				. 0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE				. 0	5.0 U	UG/L
TRICHLOROETHENE				. 0	5.0 U	UG/L
/INYL CHLORIDE				. 0	5.0 U	UG/L
O-XYLENE				. 0	5.0 U	UG/L
M+P-XYLENE			5 .	. 0	5.0 U	UG/L
SURROGATE RECOVERIES	QC I	LIMIT	S			
-BROMOFLUOROBENZENE	(86	- 11			99	ક
COLUENE-D8	(88)	- 11			94	8
DIBROMOFLUOROMETHANE	(86	- 11	8 %)		107	8

VOLATILE ORGANICS METHOD 8260B TCL

Reported: 10/05/00

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled: Or Date Received: Submiss		Sample Matrix: Analytical Run	
ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 09/29/00			
ANALYTICAL DILUTION: 1.00			
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 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)	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
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
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 %)	105	8
	(88 - 110 %)	100	%
	86 - 118 %)	100	ક



1 Mustard St., Suite 250, Rochester, NY 14609-6925 (716) 288-5380 • FAX (716) 288-8475

## CHAIN O USTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 9-16-00 PAGE 1 OF 7

										-					_	-	_			TTOIL .		_ 0,	1
PROJECT NAME	Griff:	n 1	Rm												RE	QUE	STED						,
PROJECT MANAGER/C	ONTACT V	nark	Schnid	+							6	9	S i								PR	ESEF	VATION
COMPANY/ADDRESS TEL (140) 349-2 SAMPLER'S SIGNATURE	30775	Bainlo	ridge K	d	S	95-1	0 95-2		95-3	DA's	VOA:	H	ZATI		0								
<	Solan	oh:	7		CONTAINERS			802	B's	N N	OS ON	S.Y.S	TERIOS.		METALS, DISSOLVED (LIST BELOW)								
TEL 11/1 2/16 - 2	200	5.1.11	ula 2119	mil	AN	524	A's 625	109	3/PC 608	802 TC	827 TC	SVC	RAC	A P	SSO V)								
IEL (140) 347-2	108	_ FAX (47	3777	514	NO	Q D	180	S	E C	LIST	LIST	N D	동미	25	O O	a							
SAMPLER'S SIGNATURE	E	or r	alrean			MS V	NS S	20A	12 84 12 12 13 14 14 14 14 14 14 14 14 14 14 14 14 14	R'S TAI	R'S TAI	P C	TE (	ALS	ALS F BE	240					00		4 _
SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY		# 04	GC/MS VOA's	GC/MS SVOA's	GC VOA's	PESTICIDES/PCB's	STA TC	STA	로 질	WAS	METALS, TOTAL (LIST BELOW)	MET (LIS	82					H H		Other
EFF-9-16-00	9-16-00	29:11			2											X						+	
EFF- 1-76-00	716-00	07.15		WHITER	12	-	-	-								1		-	-		-	+	+
																							+
						+-													-	_		+	-
			77.5													-		-	-		-	+	-
						-												-				+	
Bub Fabran Signature Bab Fabrian	IY:	Signature 9	RECEIVED BY:	TURN/	hr	_ 48 hr.	UIREM	day	1. 2.	PORT I Routine Routine	Report Rep. w/		VTS	P.O. #:		E INF	ORMATION		Shinnin	SAMP	LE RECI		
Signature Polo Fabrian Printed Name		Printed Name	CAS	Star			orking da			Narrativi EPA Lev				Bill To:					Shippin			•	
Firm 9-16-60 Date/Time	10:04	Firm 9	16-00 10104				iminary F			Validatal		kage			- des					rature:	30	900	
		Date/Time		Pro	vide FA	X Prelimi	inary Re	sults		N.J. Red Deliveral		val IV			-						0-1	77 -	21/-
RELINQUISHED B	Υ:		RECEIVED BY:	Reques	ted Rep	ort Date		_	5. 1	NY ASP	/CLP De	eliverabl	es						Submis	sion No:	14	38	1
Signature		Signature							6.	Site spe	cific QC												,
Prictar Name		Printed Name	9	SPE	CIAL	INSTR	UCTIO	ONS/C	OMMI	ENTS:	:												
Firm-		Firm		META	ALS																		
DateTime		Date/Time				c. $\Box$	TOL		JI [	1456	2-1-		101										
O RELINQUISHED B	Y:	1	RECEIVED BY:	OHG	ANIC	S: L	TCL	☐ PF	L L	J AE (	Jnly		V Only		Specia	List							
Signature		Signature																					
Printed Name		Printed Name	9																				
Firm		Firm																					
Date/Time		Date/Time						4-															

## Columbia Analytical Services Inc. Cooler Receipt And Preservation Check Form

Project/Client					Submi			
Cooler received on_	7-16-00 by:_	16	C	OURIER:	CAS	UPS FEI	DEX CI	O&L CLIE
Were custod Did all bottle Did any VOA Were Ice or I Where did th	y seals on outside of y papers properly it is arrive in good con a vials have significated packs present? The bottles originated of cooler(s) upon	filled out ondition cant air	t (ink,	oken)?		(YI	ES NO ES NO ES NO ES NO AS/ROC,	
Is the temperate	re within 0° - 6° C?:				res 🗆	Yes □	Yes 🗆	Yes 🗆
If No, Explain			1	No VA	10 D	No 🗆	No 🗆	No 🗆
Date/Time T	emperatures Taker	n:	9-16	-00 Q	10:0	)5		
Thermometer	ID: Il Gun	T	emp B	lank Samp	ole Bottl	e Cooler	Гетр. (1	R. Gun
f out of Temperature,	Client Approval to	Run Sa	amples			BC		
Were all bottle . Did all bottle . Were correct	Date:  le labels completé labels and tags ag containers used fo	ree with	h custo ests ind	preservation ody papers? dicated?		4 6	YES NO YES NO YES NO	01
Were all bottle Did all bottle Were correct Air Samples:	le labels completé labels and tags ag containers used fo Cassettes / Tub	ree with	h custo ests ind	preservation ody papers? dicated?	, etc.)?	4 6	YES NO	uflated N
Were all bottle Did all bottle Were correct Air Samples:	le labels completé labels and tags ag containers used fo Cassettes / Tub	ree with	h custo ests ind	preservation ody papers? dicated?	, etc.)?	4 6	YES NO YES NO r® Bags In	uflated N
Were all bottle Did all bottle Were correct Air Samples:	le labels completé labels and tags ag containers used fo Cassettes / Tub	ree with	h custo ests ind	preservation ody papers? dicated? Canisters Pre	, etc.)?	i Tedlar	YES NO YES NO r® Bags In	
Were all bottle Did all bottle Were correct Air Samples: Explain any discrepan	le labels completé labels and tags ag containers used fo Cassettes / Tub ncies:	ree with	h custo ests ind	preservation ody papers? dicated? Canisters Pre	, etc.)?	i Tedlar	YES NO YES NO r® Bags In	
Were all bottle Did all bottle Were correct Air Samples: Explain any discrepan	le labels completé labels and tags ag containers used fo Cassettes / Tub ncies: Reagent	ree with	h custo ests ind	preservation ody papers? dicated? Canisters Pre	, etc.)?	i Tedlar	YES NO YES NO r® Bags In	
Were all bottle Did all bottle Were correct Air Samples: Explain any discrepan	le labels completé labels and tags ag containers used fo Cassettes / Tub ncies:  Reagent NaOH	ree with	h custo ests ind	preservation ody papers? dicated? Canisters Pre	, etc.)?	i Tedlar	YES NO YES NO r® Bags In	
Were all bottle Did all bottle Were correct Air Samples: Explain any discrepant	le labels completé labels and tags ag containers used fo Cassettes / Tub ncies:  Reagent NaOH HNO3	ree with	h custo ests ind	preservation ody papers? dicated? Canisters Pre	, etc.)?	i Tedlar	YES NO YES NO r® Bags In	
Were all bott Did all bottle Were correct A. Air Samples: Explain any discrepant	le labels completé labels and tags ag containers used fo Cassettes / Tub ncies:  Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub>	ree with	h custo ests ind	preservation ody papers? dicated? Canisters Pre	, etc.)?	i Tedlar	YES NO YES NO r® Bags In	
Did all bottle Did all bottle Were correct A. Air Samples: Explain any discrepant  PH  12  2  2  Residual Chlorine (+/-) 5-9*  YES = All samples OK  If pH adjustment is require  VC	le labels completé labels and tags ag containers used fo Cassettes / Tub ncies:  Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol P/PCBs (608 only) NO = Sam	YES  Piples were H2SO4	h custo ests ind ct NO	preservation ody papers? dicated? Canisters Pre	essurized	i Tedlar	YES NO YES NO ® Bags In	

Other Comments:



#### A FULL SERVICE ENVIRONMENTAL LABORATORY

October 3, 2000

Mr. Mark Schmidt URS Greiner Woodward Clyde 800 West St. Clair Ave Cleveland, OH 44143

PROJECT: GRIFFIN IRM Submission #:R2003733

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

marks. Who

Mark Wilson

Client Service Manager

Enc.



1 Mustard St., Suite 250, Rochester, NY 14609-6925 (716) 288-5380 • FAX (716) 288-8475

## CHAIN COUSTODY/LABORATORY ANALYSIS REQUEST FORM

Services NC. An Employee-Owned Company	(//-	, 200 0000	7 - TAX (7 10) 250 C										-		D	ATE	9-	8-0	0	PAGE _		OF	2
PROJECT NAME	Griff	in IR	m													QUES	STED						
PROJECT MANAGER/CO												۵	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.								PRE	SERVA	ATION
PROJECT MANAGER/CC	NIACI_I	DIETR	Sc.nmia.T			-	95-2		95-3	A's	)A's	O H/P	ATIC										
TEL (440) 349 - 2	30775 1	Sainbh	age St., S	ite.200	- RS	□ 95-1	6	20	80	Sol	SV	s,	ERIZ S. [		METALS, DISSOLVED (LIST BELOW)								
	Solon,	Ohio			- N		1	100	SCB.	257	127 177	ALS VOA	ACTI	4	SOL	11							
TEL (440) 349 - 2	2708	FAX (4	40) 349-13	514	1 A	A's	0A	s □ 601/602	ES/F	ST	ST	MET	AA C	10 V	OW	8							
SAMPLER'S SIGNATURE	Res	L Val			00	\ \ \ \ \ \ \ \	SS	A's	8-	SLI	SLI	o s	5	S. BEL	S, I						< 2.0	12	
SAMPLER'S SIGNATURE		1 400-			OF CONTAINERS	GC/MS VOA's	GC/MS SVOA's	GC VOA's	PESTICIDES/PCB's	APTOT	AR	TCLP   METALS   VOA'S   SVOA'S	AST Rea	ETA	ETA	ASP						Λ	Other
SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB 1.D.	SAMPLE MATRIX	#	000	00	o 🗆	20	S	STAR'S LIST 8270 SVOA'S	Po	\$□	SE	ΣJ	A					표	F.	ō
mw-1	9-8-00	09:30	407738	WATER	3											X							
mw-3	1	09:45	39		3											X							
mw-55		10:05	40		3											X							
mw-50		10:20	41		3											X							
mw-50(ms)		1			3											X							
		V			3											X							
mw-50 (msb)		10:45	42		3											X							
mw-65			43		3											X							
mw -6D		10:50	44		3	-										X			1				
mw-75	V	11:20	111		-	-										~	-	-	-		-		
mw-75	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	11:30	45	· ·	3 NAROU	ND DEC	LUDEI	AENTO	DE	DORT	REQUI	DEME	NTC		INVO	ICE INFO	AOITAMO	1.		SAMD	LE RECE	DT.	
	/	Printed Man Firm 9/0 Date/Time	RECEIVED BY:		4 hr tandard ( rovide Ve	_ 48 hr. 10-15 wo	5 orking da iminary	day ays) Results	1. 2. 3.	Routine Routine Narrativ EPA Le	Report Rep. w ve vel III able Pac	/CASE	NIS	P.O. 4 Bill To	:	TO INFO			Shipp	ing Via:			
RELINQUISHED B	Y:	1	RECEIVED BY	Requ	ested Re				5.	Deliver	ables Le P/CLP D ecific Q0	eliverab	ies	_					Subm	ission No: _	N2/3	573	5
Signature Printed Name		Signature (	Veregoryo,	Esmentos SP	ECIAL	INSTE	RUCTI	ONS/	COMM	ENTS	:												
Firm			18-00 1411		TALS																		
Date/Time		Date/Time					TOI		וחו ו	7.45	Oak		N Onl		Speci	al Liet							
RELINQUISHED B	Y:		RECEIVED BY:	OF	GANIC	3: L	TUL		PL L	_ AE	Only		IA OUI	у	Shaci	ai List							
Signature		Signature								-				-									
Printed Name		Printed Nan	ne																				
Firm		Firm																					
Date/Time		Date/Time																				History	



a 1 Mustard St., Suite 250, Rochester, NY 14609-6925 (716) 288-5380 • FAX (716) 288-8475

### CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

An Employee-Owned Company															D.	ATE	7-	8-0	0		PAGE	_6	0	F_	_
PROJECT NAME	Gruffin	IR	2m									A	VAL	YSIS	RE	QUE	STE	D							
PROJECT MANAGER/CO											S	d/i	nit.										PRES	ERVA	TION
COMPANY/ADDRESS _	30775 Solon	Bainb	ridge St.,	Ste 200	NERS	1 -95-1		1/602	CB's 3 🗆 95-3	021 VOA's	270 SVOA	ALS VOA'S □ H/P	CTERIZATI	Į.	OLVED	1									
TEL (440) 349 -	2708	FAX (4)	40) 349-15	514	OF CONTAINERS	GC/MS VOA's	GC/MS SVOA's	VOA's 021 □ 60	PESTICIDES/PCB's	STAR'S LIST 8021 VOA'S	AR'S LIST 8 OTAL	TCLP   METALS   VOA'S   N/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	95P 25							< 2.0	> 12	ler.
SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB 1.D.	SAMPLE MATRIX	#	000	000	ဗ္ဗင္ဗ	PE9	STA	STA	IPA	WA	CLIS ME	ME (LIS								H	표	Other
mw-95	9-8-00	11:40	407746	WATER	3											X									
mw-90		11:50	47		3											X						•			
MW-105		11:58	48		3											X						,			
mw-10D		12:05	50		3											X				1					
mw-13D		12:35	52		3											X	_								
mw-11D		12:50	53		3											X		_							
Dup			58		3											X									
Rw-04	V	13:10	60	V	1											X		_							
Cooler BIK			62					-																	
													-								0.4	MOL P	RECEIF	)T.	
Signature Bob Fabia Printed Name URS Firm 9-8-00	14:0g	Signature Printed Name	RECEIVED BY:	24 h	nr ndard (1 vide Ve	ND REC _ 48 hr. 10-15 wo rbal Preli X Prelim	5 orking da ominary	day lys) Results	1. 2. 3. 4.	PORT I Routine Routine Narrativ EPA Lev Validata N.J. Rev Delivera	Report Rep. w/e e /el III ble Pac duced	/CASE	NTS	P.O. 6	):	CE INF	ORMAT	ION:	_	Shippi	ng Via:		ten		
RELINQUISHED B	IY:	111/1/	RECEIVED BY:	Reques	ted Rep	port Date			5.		/CLP D	eliverab	les							Submi	ssion N	): <u>N</u>	-15	15	<u>&gt;</u>
Printed Name Firm Date/Timp		Printed Nam Firm	e CAS	MET/	ALS	INSTR					-			<del></del>											
RELINQUISHED B	Y:		RECEIVED BY:	ORG	ANIC	S: 🗆	TCL	□ P	PL [	AE	Only	□В	N Only	/ 🗆	Specia	al List									
Signature Printed Name		Signature Printed Nam	le e														-								
Firm		Firm																							

## Cooler Receipt And Preservation Check Form

ect/Client & CIFT	WIRM			Sul	omission Number	R2-3733
Cooler received on 9-	8-00 by:	a.	C(	OURIER: CAS	UPS FED	EX CD&L CLIENT
<ol> <li>Were custody</li> <li>Did all bottles</li> <li>Did any VOA</li> <li>Were Ice or Ic</li> <li>Where did the</li> </ol>	seals on outside of papers properly fit arrive in good convials have significate packs present?  bottles originate? of cooler(s) upon the	lled our ndition ant air	t (ink, s (unbro bubbles	ken)?	YE YE	S MO S NO S NO N/A S NO S/ROC, CLIENT
Is the temperature	re within 0° - 6° C?:		Y	es 🗆 Yes 🗆	Yes □	Yes □ Yes □
If No, Explain				No D	No 🗆	No 🗆 No 🗆
	mperatures Taken	: 9-	8-00	144		-
	ID: <u>/39</u>				ottle Cooler T	emp. IR. Gun
						*
If out of Temperature,	_				10.0	
Cooler Breakdown:	Date: 7-8	-00	)	by:	SHE	ŒS NO
2 Did all bottle Were correct	e labels complete labels and tags agreement containers used for Cassettes / Tubelcies:	ree with or the te es Intac	custo ests ind	dy papers? licated?	8	TES NO TES NO B Bags Inflated N/A
		YES	NO	Sample LD.	Reagent	Vol. Added
рН	Reagent					
12	NaOH					
2	HNO <sub>3</sub>					
2	H <sub>2</sub> SO <sub>4</sub>					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9*	P/PCBs (608 only)					
YES = All samples OK			e preserv	ved at lab as listed	PC OK to adj	ust pH
	C Vial pH Verification Tested after Analysis) Following Samples Exhibited pH > 2					
Other Comments:						0009



1 Mustard ST. Suite 250 Rochester, NY 14609

#### THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Greiner Woodward Clyde

Project Reference: GRIFFIN IRM

Lab Submission # : R2003733

Reported : 10/03/00

Report Contains a total of 89 pages

The results reported herein relate only to the samples received by the laboratory. This report may not be reproduced except in full, without the approval of Columbia Analytical Services.

This package has been reviewed by Columbia Analytical Services' QA

Department/Laboratory Director to comply with NELAC standards prior to report submittal.

#### CASE NARRATIVE

COMPANY: URS Greiner WCC Griffin IRM SUBMISSION #: R2003733

URS water samples were collected on 09/08/00 and received at CAS on 09/08/00 in good condition. See the CLP Batching Form for sample ID cross references.

#### **VOLATILE ORGANICS**

Water samples were analyzed for the Target Compound List (TCL) of Volatile Organics by Method 95-1 from the NYSASP 1995.

Sample MW-5D was analyzed for site specific QC. All matrix spike recoveries were within QC limits. All RPD were within limits except Trichloroethene.

All initial and continuing calibrations were compliant.

All blank spike recoveries were within QC limits.

All surrogate standard recoveries were within QC limits.

All Internal standard areas were within QC limits.

All samples were analyzed within the required holding times.

No additional analytical or QC problems were encountered with these analyses.

#### CAS ASP/CLP BATCHING FORM / LOGIN SHEET

SDG #: MW-1

SUBMISSIO R2003733

CLIENT: URS Greiner Woodward Clyde

CLIENT REP: Mark Wilson

BATCH COMPLETE: \_\_yes\_\_\_\_ DATE REVISED:

DISKETTE REQUESTED: Y \_\_ N \_ x \_\_ DATE DUE: 10/08/00

PROTOCOL: ASP-B

CUSTODY SEAL: PRESENT/ABSENT: SHIPPING No.:

CLIENT REP:			Y SEAL: PRESENT/ABSENT:		SHIPPING	No.:		
PROJECT:	GRIFFIN IRM		CUSTODY: PRESENT/ABSEN		_			
CAS JOB#	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE	DATE RECEIVE	pH (SOLIDS)	% SOLIDS	REMARKS AMPLE CONDITI
407738	MW-1	WATER	95-1	9/8/00	9/8/00			
407739	MW-3	WATER	95-1	9/8/00	9/8/00			
407740	MW-5S	WATER	95-1	9/8/00	9/8/00			
407741	MW-5D	WATER	QC 95-1	9/8/00	9/8/00			
407742	MW-6S	WATER	95-1	9/8/00	9/8/00			
407743	MW-6D	WATER	95-1	9/8/00	9/8/00			
407744	MW-7S	WATER	95-1	9/8/00	9/8/00			
407745	MW-7D	WATER	95-1	9/8/00	9/8/00			
407746	MW-9S	WATER	95-1	9/8/00	9/8/00			
407747	MW-9D	WATER	95-1	9/8/00	9/8/00			
407748	MW-10S	WATER	95-1	9/8/00	9/8/00			
407750	MW-10D	WATER	95-1	9/8/00	9/8/00			
407752	MW-13D	WATER	95-1	9/8/00	9/8/00			
407753	MW-11D	WATER	95-1	9/8/00	9/8/00			
407758	DUP	WATER	95-1	9/8/00	9/8/00			
407760	RW-04	WATER	95-1	9/8/00	9/8/00			
407762	COOLER BLANK	WATER	95-1	9/8/00	9/8/00			
3								

w

BATCHIN1.XLS 9/11/00

#### **ORGANIC QUALIFIERS**

- U Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.
- J Indicates an estimated value. The flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- N Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search.
- P This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form I and flagged with a "P".
- C This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- 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 of the GC/MS instrument for that specific analysis.
- D This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and ALL concentration values reported on that Form I are flagged with the "D" flag.
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- X As specified in Case Narrative.

10/95

## 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-1	407738	X													
MW-3	407739	X													
MW-5S	407740	X													
MW-5D	407741	Х					-1-								
MW-6S	407742	X													
MW-6D	407743	X													
MW-7S	407744	X					-								
MW-7D	407745	X													
MW-9S	407746	X													
MW-9D	407747	X													
MW-10S	407748	X													
MW-10D	407750	X													
MW-13D	407752	X													
MW-11D	407753	X													
DUP	407758	X	4												
RW-04	407760	Х			-										
						-									

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

NCF1

<sup>\*</sup>CLP, Non-CLP

<sup>\*</sup>HSL, Priority Pollutant

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

LABORATORY	MATRIX	DATE	DATE REC'D	LOW LEVEL	DATE
SAMPLE ID		COLLECTED	AT LAB	MED LEVEL	ANALYZED
407738	WATER	09/08/00	09/08/00	LOW	09/11/00
407739	WATER	09/08/00	09/08/00	LOW	09/11/00
407740	WATER	09/08/00	09/08/00	LOW	09/11, 18/00
407741	WATER	09/08/00	09/08/00	LOW	09/11/00
407742	WATER	09/08/00	09/08/00	LOW	09/11/00
407743	WATER	09/08/00	09/08/00	LOW	09/12/00
407744	WATER	09/08/00	09/08/00	LOW	09/12/00
407745	WATER	09/08/00	09/08/00	LOW	09/12/00
407746	WATER	09/08/00	09/08/00	LOW	09/12/00
407747	WATER	09/08/00	09/08/00	LOW	09/12/00
407748	WATER	09/08/00	09/08/00	LOW	09/12/00
407750	WATER	09/08/00	09/08/00	LOW	09/15/00
407752	WATER	09/08/00	09/08/00	LOW	09/15/00
407753	WATER	09/08/00	09/08/00	LOW	09/18/00
407758	WATER	09/08/00	09/08/00	LOW	09/18/00
407760	WATER	09/08/00	09/08/00	LOW	09/18/00
•					
			-		
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			1		1

NCF5 5/91

### NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

### SAMPLE PREPARATION AND ANALYSIS SUMMARY

### ORGANIC ANALYSES

SAMPLE ID	MATRIX	ANALYTICAL PROTOCOL	EXTRACTION METHOD	AUXILARY CLEAN UP	DIL/CONC FACTOR
407738	WATER	95-1			1.0
407739	WATER	95-1			1.0
407740	WATER	95-1			1.0, 5.0
407741	WATER	95-1			1.0
407742	WATER	95-1			1.0
407743	WATER	95-1			1.0
407744	WATER	95-1			2.0
407745	WATER	95-1			1.0
407746	WATER	95-1			1.0
407747	WATER	95-1			1.0
407748	WATER	95-1	To the second		1.0
407750	WATER	95-1			1.0
407752	WATER	95-1			1.0
407753	WATER	95-1			1.0
407758	WATER	95-1			1.0
407760	WATER	95-1			10.0
			7,4		
	6				
				0	
14.					

NCF2 9/89

#### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407738

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9848

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (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 74-83-9-----Bromomethane 10 U 75-00-3-----Chloroethane 10 U 75-35-4----1,1-Dichloroethene 10 U 67-64-1-----Acetone 10 U 75-15-0-----Carbon Disulfide 10 U 75-09-2-----Methylene Chloride 10 U 156-60-5----trans-1,2-Dichlorothene 10 U 75-34-3-----1,1-Dichloroethane 10 U 156-59-4----cis-1,2-Dichloroethene 10 U 78-93-3----2-Butanone (MEK) 10 U 67-66-3-----Chloroform 10 U 71-55-6----1,1,1-Trichloroethane 10 U 56-23-5-----Carbon Tetrachloride 10 U 71-43-2-----Benzene 10 U 107-06-2----1,2-Dichloroethane 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 108-10-1----4-Methyl-2-Pentonone 10 U 108-88-3-----Toluene 10 U 10061-02-6----trans-1, 3-Dichloropropene 10 U 79-00-5-----1,1,2-Trichloroethane 10 U 127-18-4-----Tetrachloroethene 10 U 591-78-6----2-Hexanone 10 U 124-48-1-----Dibromochloromethane 10 U 108-90-7-----Chlorobenzene\_ 10 U 100-41-4-----Ethylbenzene 10 U 1330-20-7---- (m+p) Xylene 10 U 1330-20-7----o-Xylene 10 U 100-42-5-----Styrene 10 U

### VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1

Lab Name: CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407738

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9848

Level:

(low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (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

79-34-5----1,1,2,2-Tetrachloroethane

75-25-2-----Bromoform

10 U 10 -U

EPA SAMPLE NO.

MW-1
------

Lab	Name:	CAS-ROC	Contract:	WCC-URS
Law	Manie:	CAS-RUC	Contract:	WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407738

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9848

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

(ug/L or ug/Kg) ug/L

CONCENTRATION UNITS: Number TICs found: 1 210

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q		
1.	UNKNOWN	2.53	6		R	B
2.						
4.		-			-	
5. 6.					-	
9. 10.				3		
11.						
13.						
14		-  -				
14. 15.						
17.			1			
LO.						
19.						
20.						
22.						
23.						
24.						
25.						
26. 27.			-			
40.						
30.						

MW-3 Lab Name: CAS-ROC Contract: WCC-URS Matrix: (soil/water) WATER Lab Sample ID: 407739 Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 09849 Level: (low/med) Date Received: 09/08/00 % Moisture: not dec. Date Analyzed: 09/11/00 GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0 Soil Extract Volume: (uL) Soil Aliquot Volume: (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 74-83-9-----Bromomethane 10 U 75-00-3-----Chloroethane 10 U 75-35-4-----1,1-Dichloroethene 10 U 67-64-1-----Acetone 10 U 75-15-0-----Carbon Disulfide 10 U 75-09-2-----Methylene Chloride 10 U 156-60-5-----trans-1,2-Dichlorothene 10 U 75-34-3----1,1-Dichloroethane 10 U 156-59-4----cis-1,2-Dichloroethene 10 U 78-93-3----2-Butanone (MEK) 10 U 67-66-3-----Chloroform 10 U 71-55-6----1,1,1-Trichloroethane 10 U 56-23-5-----Carbon Tetrachloride 10 U 71-43-2----Benzene 10 U 107-06-2----1,2-Dichloroethane 10 U 79-01-6-----Trichloroethene 150 78-87-5----1,2-Dichloropropane 10 U 75-27-4-----Bromodichloromethane 10 U 10061-01-5----cis-1,3-Dichloropropene 10 U 108-10-1----4-Methyl-2-Pentonone 10 U 108-88-3-----Toluene 10 U 10061-02-6----trans-1,3-Dichloropropene 10 U 79-00-5----1,1,2-Trichloroethane 10 U 127-18-4-----Tetrachloroethene 10 U 591-78-6----2-Hexanone 10 U 124-48-1-----Dibromochloromethane 10 U 108-90-7-----Chlorobenzene 10 U 100-41-4-----Ethylbenzene 10 U 1330-20-7---- (m+p) Xylene 10 U 1330-20-7----o-Xylene 10 U

100-42-5-----Styrene

10 U

# VOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO.

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Lab Name: CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407739

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 09849

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 U

MW-3	
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Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407739

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9849

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

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MW-5S

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407740

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9850

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_ Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO.		ATION UNITS: ug/Kg) UG/L	Q	Q	10
75-01-4 74-83-9 75-00-3 75-35-4 75-15-0 75-09-2 156-60-5 75-34-3 156-59-4 78-93-3 71-55-6 71-55-6 71-43-2 107-06-2 79-01-6 79-01-6 79-01-6 108-10-1 108-88-3 10061-01-5 108-88-3 10061-02-6 79-00-5 127-18-4 591-78-6 124-48-1 108-90-7 100-41-4	Carbon DisulfideMethylene Chloridetrans-1,2-Dichlorothene1,1-Dichloroethanecis-1,2-Dichloroethene2-Butanone (MEK)Chloroform1,1,1-TrichloroethaneCarbon TetrachlorideBenzene1,2-DichloroethaneTrichloroethane1,2-DichloropropaneBromodichloromethanecis-1,3-Dichloropropene4-Methyl-2-PentononeToluenetrans-1,3-Dichloropropene1,1,2-TrichloroethaneTetrachloroethene2-HexanoneDibromochloromethaneChlorobenzeneEthylbenzene(m+p)XyleneXylene	10 10 10 10 10 10 10 10 10 10 22 10 10 10 10 10 10 10 10 10 10 10 10 10	מממממממממממממממ מממממממממ	7	E,M

### VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5S

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407740

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9850

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 U

MW-5S

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407740

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9850

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

Date Analyzed: 09/11/00

Soil Aliquot Volume: (uL)

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	14.1	EST. CONC.	Q
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MW-5SDL

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407740DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 09955

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 5.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

74-87-3-----Chloromethane 50 U 75-01-4-----Vinyl Chloride 50 TU 74-83-9-----Bromomethane 50 U 75-00-3-----Chloroethane 50 U 75-35-4-----1,1-Dichloroethene 50 U 67-64-1-----Acetone 50 U 75-15-0-----Carbon Disulfide 50 U 75-09-2-----Methylene Chloride 50 U 156-60-5----trans-1,2-Dichlorothene 50 U 75-34-3----1,1-Dichloroethane 50 U 156-59-4-----cis-1,2-Dichloroethene 50 U 78-93-3----2-Butanone (MEK) 50 U 67-66-3-----Chloroform 50 U 71-55-6----1,1,1-Trichloroethane 17 DJ 56-23-5-----Carbon Tetrachloride 50 U 71-43-2----Benzene 50 U 107-06-2----1, 2-Dichloroethane only 50 U result 79-01-6-----Trichloroethene 550 D used 78-87-5----1,2-Dichloropropane 50 U 75-27-4-----Bromodichloromethane 50 U 10061-01-5----cis-1,3-Dichloropropene 50 U 108-10-1----4-Methyl-2-Pentonone 50 U 108-88-3-----Toluene 50 U 10061-02-6----trans-1,3-Dichloropropene 50 U 79-00-5-----1,1,2-Trichloroethane 50 U 127-18-4-----Tetrachloroethene 50 U 591-78-6----2-Hexanone 50 U 124-48-1-----Dibromochloromethane 50 U 108-90-7-----Chlorobenzene 50 U 100-41-4-----Ethylbenzene 50 U 1330-20-7---- (m+p) Xylene 50 U 1330-20-7----o-Xylene 50 U 100-42-5-----Styrene 50 U

### VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

50 U

MW-5SDL Lab Name: CAS-ROC Contract: WCC-URS SDG No.: MW-1 Matrix: (soil/water) WATER Lab Sample ID: 407740DL Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 09955 Level: (low/med) LOW Date Received: 09/08/00 % Moisture: not dec. Date Analyzed: 09/18/00 GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 5.0 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL) CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q 75-25-2-----Bromoform 50 U 79-34-5----1,1,2,2-Tetrachloroethane

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

EPA SAMPLE NO.

MW-5SDL

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Lab	Name:	CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407740DL

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9955

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 5.0

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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### VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: CAS-ROC Contract: WCC-URS MW-5D

Matrix: (soil/water) WATER Lab Sample ID: 407741

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9851

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/	Kg) UG/L Q	Olc
	Chloromethane	10 U	
	Vinyl Chloride	10 U	
74-83-9	Bromomethane	10 U	
	Chloroethane	10 U	
	1,1-Dichloroethene	10 U	
67-64-1		10 U	
75-15-0	Carbon Disulfide	10 U	
75-09-2	Methylene Chloride	10 U	
156-60-5	trans-1,2-Dichlorothene	10 U	
75-34-3	1,1-Dichloroethane	10 U	
156-59-4	cis-1,2-Dichloroethene	10 U	
78-93-3	2-Butanone (MEK)	10 U	
67-66-3	Chloroform	10 U	
71-55-6	1,1,1-Trichloroethane	3 J	
56-23-5	Carbon Tetrachloride	10 U	
71-43-2	Benzene	10 U	
107-06-2	1,2-Dichloroethane	10 U	_
79-01-6	Trichloroethene	160	JM
78-87-5	1,2-Dichloropropane	10 U	
75-27-4	Bromodichloromethane	10 U	7.00
10061-01-5	cis-1,3-Dichloropropene	10 U	
108-10-1	4-Methyl-2-Pentonone	10 U	
108-88-3	Toluene	10 U	
10061-02-6	trans-1,3-Dichloropropene	10 U	
79-00-5	1,1,2-Trichloroethane	10 U	
127-18-4	Tetrachloroethene	10 U	
591-78-6	2-Hexanone	10 U	
124-48-1	Dibromochloromethane	10 U	
108-90-7	Chlorobenzene	10 0	
100-41-4	Ethylbenzene	10 U	
1330-20-7	(m+p) Xylene	10 U	
1330-20-7	o-Xylene	10 0	
100-42-5	Styrene	10 U	

### VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5D

Lab Name: CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407741

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9851

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L CAS NO. COMPOUND

75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 TU

EPA SAMPLE NO.

MW-5D

Lab Name: CAS-RO	C
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Contract: WCC-URS

SDG No.: MW-1

Matrix: (soil/water) WATER

Lab Sample ID: 407741

Sample wt/vol:

5.000 (g/mL) ML

Lab File ID: 09851

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (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

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MW-6S

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407742

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 09854

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q QIC 74-87-3-----Chloromethane 10 U 75-01-4-----Vinyl Chloride 10 -U 74-83-9-----Bromomethane 10 U 75-00-3-----Chloroethane 10 U 75-35-4----1, 1-Dichloroethene 10 U 67-64-1-----Acetone 10 U 75-15-0-----Carbon Disulfide 10 U 75-09-2-----Methylene Chloride 10 U 156-60-5----trans-1,2-Dichlorothene 10 U 75-34-3-----1, 1-Dichloroethane 10 U 156-59-4----cis-1,2-Dichloroethene 10 U 78-93-3----2-Butanone (MEK) 10 U 67-66-3-----Chloroform 10 U 71-55-6----1,1,1-Trichloroethane 5 J 56-23-5-----Carbon Tetrachloride 10 U 71-43-2-----Benzene 10 U 107-06-2----1, 2-Dichloroethane 10 U 79-01-6-----Trichloroethene JIM 110 78-87-5----1,2-Dichloropropane 10 U 75-27-4-----Bromodichloromethane 10 U 10061-01-5----cis-1, 3-Dichloropropene 10 U 108-10-1-----4-Methyl-2-Pentonone 10 U 108-88-3-----Toluene 10 U 10061-02-6----trans-1, 3-Dichloropropene 10 U 79-00-5-----1,1,2-Trichloroethane 10 U 127-18-4-----Tetrachloroethene 10 U 591-78-6----2-Hexanone 10 U 124-48-1-----Dibromochloromethane 10 U 108-90-7-----Chlorobenzene 10 U 100-41-4-----Ethylbenzene 10 U 1330-20-7---- (m+p) Xylene 10 U 1330-20-7----o-Xylene 10 U 100-42-5-----Styrene 10 U

### VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6S

Lab Name: CAS-ROC Contract: WCC-URS

SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 407742

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9854

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

75-25-2-----Bromoform 10 U 79-34-5-----1,1,2,2-Tetrachloroethane 10 U

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

EPA SAMPLE NO.

MW-6S

Lab	Name:	CAS-ROC			Contract:	WCC-URS	

Number TICs found: 0

Matrix: (soil/water) WATER Lab Sample ID: 407742

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9854

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

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 Lab Name: CAS-ROC
 Contract: WCC-URS
 MW-6D

 Lab Code: 10145
 Case No.: R20-3733 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 407743

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9855

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_ Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Qc
74-87-3 75-01-4 74-83-9 75-00-3 75-35-4 67-64-1 75-15-0 75-09-2 156-60-5 75-34-3 156-59-4 78-93-3 71-55-6 71-43-2 107-06-2 79-01-6 79-01-6 78-87-5 10061-01-5 108-88-3 10061-02-6 108-88-3 10061-02-6 127-18-4 591-78-6 124-48-1	ChloromethaneVinyl ChlorideBromomethaneChloroethane1,1-DichloroetheAcetoneCarbon DisulfideMethylene ChlorideI,1-DichloroetheCis-1,2-DichloroetheCis-1,2-DichloroetheCarbon TetrachloroetheCarbon TetrachloroetheI,2-DichloroetheI,2-DichloroetheI,2-DichloroetheI,2-DichloroetheI,2-DichloropropBromodichlorometCis-1,3-DichloroetheCis-1,3-DichloroetheI,1,2-Trichloroethe	ene eide prothene ethane pane chane propene propene chane propropene chane	10 U U U U U U U U U U U U U U U U U U U	OC JM

#### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6D

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER

Level: (low/med) LOW

Lab Sample ID: 407743

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 09855

% Moisture: not dec.

Date Received: 09/08/00 Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

75-25-2----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 U

TENTATIVELY IDENTIFIED COMPOUNDS

MW-6D

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407743

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9855

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (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 CAS NUMBER RT COMPOUND NAME EST. CONC. \_\_\_\_\_\_ 3. 9.\_ 10.\_\_ 11.\_\_\_ 12. 13. 16. 17. 18. 19. 20. 21.\_ 22.\_ 23. 25. 26.\_\_ 27.\_\_ 28. 29. 30.

MW-7S Lab Name: CAS-ROC Contract: WCC-URS Matrix: (soil/water) WATER Lab Sample ID: 407744 Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9856 Level: (low/med) LOW Date Received: 09/08/00 % Moisture: not dec. Date Analyzed: 09/12/00 GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 2.0 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL) CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or u	g/Kg) UG/L		Q	Q	C
75-01-4	Chloromethane		20 20			
74-83-9	Bromomethane	_	20			
75-00-3	Chloroethane	-	20			
75-35-4	1,1-Dichloroethene		20			
67-64-1	Acetone	_	20			
75-15-0	Carbon Disulfide		20	1		
75-09-2	Methylene Chloride			U		
156-60-5	trans-1,2-Dichlorothene		20	-		
75-34-3	1,1-Dichloroethane	_	20			,
156-59-4	cis-1,2-Dichloroethene	-	20			~
78-93-3	2-Butanone (MEK)		20			
67-66-3	Chloroform	-	20			
71-55-6	1,1,1-Trichloroethane	-	20			
56-23-5	Carbon Tetrachloride	-	20	-		
71-43-2	Benzene	-	20			
107-06-2	1,2-Dichloroethane	-	20			1
79-01-6	Trichloroethene	-	210	0	J	IM
78-87-5	1,2-Dichloropropane	-	20	II	-	
75-27-4	Bromodichloromethane		20			
10061-01-5	cis-1,3-Dichloropropene		20			
108-10-1	4-Methyl-2-Pentonone		20			
108-88-3	Toluene	-	20			
10061-02-6	trans-1.3-Dichloropropene	-	20			
79-00-5	1,1,2-Trichloroethane	-	20			
127-18-4	Tetrachloroethene	-	20		1	
591-78-6	2-Hexanone	-	20			
124-48-1	Dibromochloromethane	-	20			
108-90-7	Chlorobenzene	-	20			
100-41-4	Ethylbenzene	-	20			
1330-20-7	(m+p) Xylene	-	20			
1330-20-7	o-Xylene		20			
100-42-5	Styrene		20	U		
			20	0		

MW-7S

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407744

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9856

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 2.0

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

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q CAS NO. COMPOUND

75-25-2-----Bromoform 20 U 79-34-5----1,1,2,2-Tetrachloroethane 20 -U

EPA SAMPLE NO.

,	MW-79
 WCC_IDC	

Lab Name: CAS-ROC

Contract: WCC-URS

SDG No.: MW-1

Matrix: (soil/water) WATER

Lab Sample ID: 407744

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9856

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/12/00

Number TICs found: 0

Dilution Factor: 2.0

GC Column: HP624 ID: 2.00 (mm) Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	0
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MW-7D

Lab Name: CAS-ROC Contract: WCC-URS 

Matrix: (soil/water) WATER Lab Sample ID: 407745

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9857

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO.	CONCENTRAT  COMPOUND (ug/L or u	ION UNITS: g/Kg) UG/L	Q	QIC
75-01-4 74-83-9 75-00-3 75-35-4 75-15-0 75-15-0 75-34-3 156-59-4 78-93-3 71-55-6 71-55-6 71-43-2 107-06-2 79-01-6 78-87-5 108-10-1 108-88-3 10061-02-6 79-00-5 127-18-4 591-78-6 124-48-1 108-90-7 100-41-4	Carbon DisulfideMethylene Chloridetrans-1,2-Dichlorothene1,1-Dichloroethane2-Butanone (MEK)Chloroform1,1,1-TrichloroethaneCarbon TetrachlorideBenzene1,2-DichloroethaneTrichloroethene1,2-DichloropropaneBromodichloromethaneCis-1,3-Dichloropropene4-Methyl-2-PentononeToluenetrans-1,3-Dichloropropene1,1,2-TrichloroethaneTetrachloroethene2-HexanoneDibromochloromethaneChlorobenzeneChlorobenzeneChlorobenzene	10 10 10 10 10 10 10 10 10 10 10 10 10 1	ממממממממ ממממממ מממממממ מממממממ	JM

#### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7D Lab Name: CAS-ROC Contract: WCC-URS Matrix: (soil/water) WATER Lab Sample ID: 407745 Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9857 Level: (low/med) LOW Date Received: 09/08/00 % Moisture: not dec. Date Analyzed: 09/12/00 GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0 Soil Extract Volume: (uL) Soil Aliquot Volume: \_\_\_\_(uL) CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/L 75-25-2----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 -U

P	W-7D	

Lab	Name:	CAS-ROC	
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Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407745

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9857

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (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 NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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MW-9S

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407746

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9858

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

74-87-3	Chloromethane	10 U
75-01-4	Vinvl Chloride	10 -U
74-83-9	Bromomethane	10 U
75-00-3	Chloroethane	10 U
75-35-4	1,1-Dichloroethene	10 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	10 U
75-09-2	Methylene Chloride	10 U
156-60-5	trans-1.2-Dichlorothene	10 U
75-34-3	1,1-Dichloroethane	10 U
156-59-4	cis-1,2-Dichloroethene	10 U
78-93-3	2-Butanone (MEK)	10 U
67-66-3	Chloroform	10 U
71-55-6	1,1,1-Trichloroethane	10 U
56-23-5	Carbon Tetrachloride	10 U
71-43-2	Benzene	10 U
107-06-2	1,2-Dichloroethane	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
108-10-1	4-Methyl-2-Pentonone	10 U
108-88-3	Toluene	10 U
10061-02-6	trans-1,3-Dichloropropene	10 U
79-00-5	1,1,2-Trichloroethane	10 U
127-18-4	Tetrachloroethene	10 U
591-78-6	2-Hexanone	10 U
124-48-1	Dibromochloromethane	10 U
108-90-7	Chlorobenzene	10 U
100-41-4	Ethylbenzene	10 U
1330-20-7	(m+p) Xylene	10 U
1330-20-7	o-Xylene	10 U
100-42-5	Styrene	10 U

EPA SAMPLE NO.

Lab Name: CAS-ROC Contract: WCC-URS MW-9S

Lab Code: 10145 Case No.: R20-3733 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 407746

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9858

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 -U

MW-95

Lab Name: C	AS-RO	C
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Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407746

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9858

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

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

Number TICs found: 0

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COLIT COMP MATTE	RT	EST. CONC.	Q
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MW-9D

Contract: WCC-URS Lab Name: CAS-ROC

Matrix: (soil/water) WATER Lab Sample ID: 407747

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9859

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: \_\_\_\_(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
74-83-9	Bromomethane	10 U
75-00-3	Chloroethane	10 U
75-35-4	1,1-Dichloroethene	10 U
67-64-1	Acetone	10 U
75-15-0	Carbon Disulfide	10 U
75-09-2	Methylene Chloride	10 U
156-60-5	trans-1.2-Dichlorothene	10 U
75-34-3	1,1-Dichloroethane	10 U
156-59-4	cis-1.2-Dichloroethene	10 U
78-93-3	2-Butanone (MEK)	10 U
67-66-3	Chloroform	10 U
71-55-6	1,1,1-Trichloroethane	10 U
56-23-5	Carbon Tetrachloride	10 U
71-43-2	Benzene	10 U
107-06-2	1,2-Dichloroethane	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
108-10-1	4-Methvl-2-Pentonone	10 U
108-88-3	Toluene	10 U
10061-02-6-	trans-1,3-Dichloropropene	10 U
79-00-5	1,1,2-Trichloroethane	10 U
127-18-4	Tetrachloroethene	10 U
591-78-6	2-Hexanone	10 U
124-48-1	Dibromochloromethane	10 U
108-90-7	Chlorobenzene	10 U
100-41-4	Ethylbenzene	10 U
1330-20-7	(m+p) Xylene	10 U
1330-20-7	o-Xylene	10 U
100-42-5	Styrene	10 U

#### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9D

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407747

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 09859

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

COMPOUND (ug/L or ug/Kg) UG/L Q CAS NO.

75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 U

Contract: WCC-URS

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407747

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9859

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (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 NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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MW-10S

Lab Name: CAS-ROC Contract: WCC-URS 

Matrix: (soil/water) WATER Lab Sample ID: 407748

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9860

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO.	CONCENTRATION (ug/L or ug/Kg		Q/C
74-87-3	Chloromethane	10 U	
	Vinyl Chloride	10 U	
	Bromomethane	10 U	
	Chloroethane	10 U	
75-35-4	1,1-Dichloroethene	10 U	
67-64-1	Acetone	10 U	
75-15-0	Carbon Disulfide	10 U	
	Methylene Chloride	10 U	
	trans-1,2-Dichlorothene	10 U	A-31
75-34-3	1,1-Dichloroethane	10 U	
156-59-4	cis-1,2-Dichloroethene	10 U	
78-93-3	2-Butanone (MEK)	10 U	
67-66-3	Chloroform	10 U	
	1,1,1-Trichloroethane	10 U	
56-23-5	Carbon Tetrachloride	10 U	
71-43-2	Benzene	10 U	
	1,2-Dichloroethane	10 U	_1
79-01-6	Trichloroethene	3 J	JIN
78-87-5	1,2-Dichloropropane	10 U	
75-27-4	Bromodichloromethane	10 U	
10061-01-5	cis-1,3-Dichloropropene	10 U	
108-10-1	4-Methyl-2-Pentonone	10 U	
108-88-3	Toluene	10 U	
10061-02-6	trans-1,3-Dichloropropene	10 U	
79-00-5	1,1,2-Trichloroethane	10 U	
127-18-4	Tetrachloroethene	10 U	
591-78-6	2-Hexanone	10 U	
124-48-1	Dibromochloromethane	10 U	
108-90-7	Chlorobenzene	10 U	
	Ethylbenzene	10 U	
	(m+p)Xylene	10 U	
1330-20-7	o-Xylene	10 0	
100-42-5	Styrene	10 U	

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-10S

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407748

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9860

Level: (low/med) LOW

% Moisture: not dec.

Date Received: 09/08/00 Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL)

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

CAS NO. COMPOUND CONCENTRATION UNITS:

(ug/L or ug/kg) UG/L Q

75-25-2Bromoform 79-34-51,1,2,2-Tetrachloroethane	10	_
79-34-51,1,2,2-Tetrachioroethane	10	-U .

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

EPA SAMPLE NO.

MW-10S

Lab Name: CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407748

Sample wt/vol:

5.000 (g/mL) ML

Lab File ID: Q9860

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_

Date Analyzed: 09/12/00

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Number TICs found: 1

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME		EST. CONC.	Q
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MW-10D

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407750

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9932

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_ Date Analyzed: 09/15/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO.	CONCENTRATION UI (ug/L or ug/Kg)		QC
74-87-3	Chloromethane	10 U	
	Vinyl Chloride	10 U	
	Bromomethane	10 U	
75-00-3	Chloroethane	10 U	
75-35-4	1,1-Dichloroethene	10 U	
67-64-1		10 U	
75-15-0	Carbon Disulfide	10 U	
75-09-2	Methylene Chloride	10 U	
156-60-5	trans-1,2-Dichlorothene	10 U	
75-34-3	1,1-Dichloroethane	10 U	
156-59-4	cis-1,2-Dichloroethene	10 U	
	2-Butanone (MEK)	10 U	74
	Chloroform	10 U	
71-55-6	1,1,1-Trichloroethane	10 U	
	Carbon Tetrachloride	10 U	-
71-43-2	Benzene	10 U	
107-06-2	1,2-Dichloroethane	10 U	TIM
	Trichloroethene	6 J	2 11
78-87-5	1,2-Dichloropropane	10 U	
75-27-4	Bromodichloromethane	10 U	
10061-01-5	cis-1,3-Dichloropropene	10 U	
108-10-1	4-Methyl-2-Pentonone	10 U	
108-88-3		10 U	
10061-02-6	trans-1,3-Dichloropropene	10 U	
79-00-5	1,1,2-Trichloroethane	10 U	
127-18-4	Tetrachloroethene	10 U	
591-78-6	2-Hexanone	10 U	
	Dibromochloromethane	10 U	
108-90-7	Chlorobenzene	10 U	
100-41-4	Ethylbenzene	10 U	
	(m+p) Xylene	10 U	
1330-20-7	o-Xylene	10 U	
100-42-5		10 U	

EPA SAMPLE NO.

MW-10D

Lab Name: CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407750

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9932

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/15/00

GC Column: HP624 ID: 2.00 (mm)

COMPOUND

Dilution Factor: 1.0

Soil Extract Volume: (uL)

CAS NO.

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 U

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

MW-10D

Lab Name: CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407750

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9932

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/15/00

GC Column: HP624 ID: 2.00 (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

CAS NUMBER	COMPOUND NAME		EST. CONC.	Q
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MW-13D

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407752

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9933

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/15/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO.		NTRATION UNITS: or ug/Kg) UG/L		Q	Q	C
74-87-3	Chloromethane		10	U		1
	Vinyl Chloride		10			
74-83-9	Bromomethane		10			
75-00-3	Chloroethane		10			
75-35-4	1,1-Dichloroethene		10			
67-64-1	Acetone		10	1		
	Carbon Disulfide		10	1 -		
75-09-2	Methylene Chloride		10			
156-60-5	trans-1,2-Dichlorothen	9	10			
75-34-3	1,1-Dichloroethane		10			
156-59-4	cis-1,2-Dichloroethene		10			
78-93-3	2-Butanone (MEK)		10			
67-66-3	Chloroform		10	U		
71-55-6	1,1,1-Trichloroethane		10	U		
56-23-5	Carbon Tetrachloride			-		
71-43-2	Benzene		10			
107-06-2	1,2-Dichloroethane		10			1
79-01-6	Trichloroethene		10	U	7	IM
78-87-5	1,2-Dichloropropane		140	**	1	11
75-27-4	Bromodichloromethane			U		
10061-01-5-	cis-1,3-Dichloropropen		10	U		
108-10-1	4-Methyl-2-Pentonone	e	10			
108-88-3	Toluene		10	-		
10061-02-6	trans-1,3-Dichloroprop	one		U		
79-00-5	1,1,2-Trichloroethane	ene		U		
127-18-4	Tetrachloroethene			U		
591-78-6	2-Hexanone			U		٠
124-48-1	Dibromochloromethane			U		
108-90-7	Chlorobenzene	•	- 1	U		
100-41-4	Ethylbenzene		1	U		
1330-20-7	(m+p) Xylene			_		
1330-20-7	o-Xylene			U		
100-42-5	Styrene			U		
	ocyrenc_		10	U		

EPA SAMPLE NO.

MW-13D

Lab Name: CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407752

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9933

LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/15/00

Level: (low/med)

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

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

CAS NO.

COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q

10 U 75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane

#### 1E

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

EPA SAMPLE NO.

Lab Name: CAS-ROC

Contract: WCC-URS

MW-13D	
**	

Matrix: (soil/water) WATER

Lab Sample ID: 407752

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9933

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/15/00

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume:

(uL)

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

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MW-11D

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407753

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9956

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (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
74-83-9	Bromomethane	10 U
75-00-3	Chloroethane	10 U
75-35-4	1,1-Dichloroethene	10 U
67-64-1		10 U
75-15-0	Carbon Disulfide	10 U
75-09-2	Methylene Chloride	10 U
156-60-5	trans-1,2-Dichlorothene	10 U
75-34-3	1,1-Dichloroethane	10 U
156-59-4	cis-1,2-Dichloroethene	10 U
78-93-3	2-Butanone (MEK)	10 U
67-66-3	Chloroform	10 U
71-55-6	1,1,1-Trichloroethane	10 U
56-23-5	Carbon Tetrachloride	10 U
71-43-2	Benzene	10 U
107-06-2	1,2-Dichloroethane	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
108-10-1	4-Methyl-2-Pentonone	10 U
108-88-3	Toluene	10 U
10061-02-6	trans-1,3-Dichloropropene	10 U
79-00-5	1,1,2-Trichloroethane	10 U
127-18-4	Tetrachloroethene	10 U
591-78-6	2-Hexanone	10 U
124-48-1	Dibromochloromethane	10 U
108-90-7	Chlorobenzene	10 U
100-41-4	Ethylbenzene	10 U
1330-20-7	(m+p) Xylene	10 U
1330-20-7	o-Xylene	10 U
100-42-5	Styrene	10 U

EPA SAMPLE NO.

MW-11D

Lab Name: CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407753

Sample wt/vol:

5.000 (g/mL) ML

Lab File ID: Q9956

Level: (low/med) LOW

CAS NO. COMPOUND

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q

75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 U

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

EPA SAMPLE NO.

MW-11D

Lab Name	: (	CAS-	ROC
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Number TICs found: 1

Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407753

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: 09956

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

> CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER COMPOUND NAME RT EST. CONC. UNKNOWN RB 2.54 8 J

9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30.

DUP

SDG No.: MW-1

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407758

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9953

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_ Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q QC 74-87-3-----Chloromethane 10 U 75-01-4-----Vinyl Chloride 10 U 74-83-9-----Bromomethane 10 U 75-00-3-----Chloroethane 10 U 75-35-4----1,1-Dichloroethene 10 U 67-64-1-----Acetone 10 U 75-15-0-----Carbon Disulfide 10 U 75-09-2-----Methylene Chloride 10 U 156-60-5----trans-1,2-Dichlorothene 10 U 75-34-3----1,1-Dichloroethane 10 U 156-59-4----cis-1,2-Dichloroethene 10 U 78-93-3----2-Butanone (MEK) 10 U 67-66-3-----Chloroform 10 U 71-55-6----1,1,1-Trichloroethane 6 J 56-23-5-----Carbon Tetrachloride 10 U 71-43-2----Benzene 10 U 107-06-2----1,2-Dichloroethane 10 U 79-01-6----Trichloroethene 110 78-87-5----1, 2-Dichloropropane 10 U 75-27-4-----Bromodichloromethane 10 U 10061-01-5----cis-1,3-Dichloropropene 10 U 108-10-1----4-Methyl-2-Pentonone 10 U 108-88-3-----Toluene 10 U 10061-02-6----trans-1,3-Dichloropropene 10 U 79-00-5----1,1,2-Trichloroethane 10 U 127-18-4-----Tetrachloroethene 10 U 591-78-6----2-Hexanone 10 U 124-48-1-----Dibromochloromethane 10 U 108-90-7-----Chlorobenzene 10 U 100-41-4----Ethylbenzene 10 U 1330-20-7----- (m+p) Xylene 10 U 1330-20-7----o-Xylene 10 U 100-42-5-----Styrene 10 U

EPA SAMPLE NO.

|     | 75.19 |
|-----|-------|
| DUP |       |
|     |       |

Lab Name: CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407758

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9953

Level: (low/med)

LOW

Date Received: 09/08/00

Date Analyzed: 09/18/00

% Moisture: not dec.

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

75-25-2-----Bromoform 79-34-5-----1,1,2,2-Tetrachloroethane

10 U 10 -U

EPA SAMPLE NO.

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

| - | DUP |
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| Lab | Name: | CAS-ROC |
|-----|-------|---------|
|-----|-------|---------|

Contract: WCC-URS

| DUP |    |  |  |   |  |   |
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|     | 46 |  |  |   |  |   |
|     |    |  |  | - |  | _ |

Matrix: (soil/water) WATER

Lab Sample ID: 407758

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9953

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

| CAS NUMBER | COMPOUND NAME                          | RT   | EST. CONC.     | Q  |
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| 3.         |  |      |                |    |
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RW-04

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q 74-87-3-----Chloromethane 100 U 75-01-4-----Vinyl Chloride 100 U 74-83-9-----Bromomethane 100 U 75-00-3-----Chloroethane 100 U 75-35-4----1,1-Dichloroethene 100 U 67-64-1-----Acetone 100 U 75-15-0-----Carbon Disulfide 100 U 75-09-2-----Methylene Chloride 100 U 156-60-5----trans-1,2-Dichlorothene 100 U 75-34-3----1,1-Dichloroethane 100 U 156-59-4----cis-1,2-Dichloroethene 100 U 78-93-3----2-Butanone (MEK) 100 U 67-66-3-----Chloroform 100 U 71-55-6----1,1,1-Trichloroethane 100 U 56-23-5-----Carbon Tetrachloride 100 U 71-43-2-----Benzene 100 U 107-06-2----1,2-Dichloroethane 100 U 79-01-6----Trichloroethene 760 78-87-5-----1,2-Dichloropropane 100 U 75-27-4-----Bromodichloromethane 100 U 10061-01-5----cis-1,3-Dichloropropene 100 U 108-10-1----4-Methyl-2-Pentonone 100 U 108-88-3----Toluene 100 U 10061-02-6----trans-1,3-Dichloropropene 100 U 79-00-5-----1,1,2-Trichloroethane 100 U 127-18-4-----Tetrachloroethene 100 U 591-78-6----2-Hexanone 100 U 124-48-1-----Dibromochloromethane 100 U 108-90-7-----Chlorobenzene 100 U 100-41-4----Ethylbenzene 100 U 1330-20-7---- (m+p) Xylene 100 U 1330-20-7----o-Xylene 100 U 100-42-5----Styrene 100 U

EPA SAMPLE NO.

RW-04

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407760

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9954

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 10.0

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

75-25-2-----Bromoform 100 U 79-34-5----1,1,2,2-Tetrachloroethane 100 U

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

| Lab | Name: | CAS-ROC |
|-----|-------|---------|
|-----|-------|---------|

Contract: WCC-URS

RW-04

Lab Code: 10145 Case No.: R20-3733 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER

Lab Sample ID: 407760

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9954

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 10.0

Soil Extract Volume: (uL)

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

Number TICs found: 0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

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| 7.           |  | -         |            |      |
| 8.           |  |           |            |      |
| 9.           |  |           |            |      |
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COOLER BLANK

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407762

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9965

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/19/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

|            | (ug/L of ug/kg)           | 2     |
|------------|---------------------------|-------|
| 74-87-3    | Chloromethane             | 10 U  |
| 75-01-4    | Vinvl Chloride            | 10 -U |
| 74-83-9    | Bromomethane              | 10 U  |
| 75-00-3    | Chloroethane              | 10 U  |
| 75-35-4    | 1,1-Dichloroethene        | 10 U  |
| 67-64-1    | Acetone                   | 10 U  |
| 75-15-0    | Carbon Disulfide          | 10 U  |
| 75-09-2    | Methylene Chloride        | 10 U  |
| 156-60-5   | trans-1,2-Dichlorothene   | 10 U  |
| 75-34-3    | 1,1-Dichloroethane        | 10 U  |
| 156-59-4   | cis-1,2-Dichloroethene    | 10 U  |
| 78-93-3    | 2-Butanone (MEK)          | 10 U  |
| 67-66-3    | Chloroform                | 10 U  |
| 71-55-6    | 1,1,1-Trichloroethane     | 10 U  |
| 56-23-5    | Carbon Tetrachloride      | 10 U  |
| 71-43-2    | Benzene                   | 10 U  |
| 107-06-2   | 1,2-Dichloroethane        | 10 U  |
| 79-01-6    | Trichloroethene           | 10 U  |
| 78-87-5    | 1,2-Dichloropropane       |       |
| 75-27-4    | Bromodichloromethane      | 10 U  |
| 10061-01-5 | cis-1,3-Dichloropropene   |       |
| 108-10-1   | 4-Methyl-2-Pentonone      | 10 U  |
| 108-88-3   | Toluene                   |       |
| 10061-02-6 | trans-1,3-Dichloropropene |       |
| 79-00-5    | 1,1,2-Trichloroethane     |       |
| 127-18-4   | Tetrachloroethene         |       |
| 591-78-6   | 2-Hexanone                | 10 U  |
| 124-48-1   | Dibromochloromethane      | 10 U  |
| 108-90-7   | Chlorobenzene             | 10 U  |
| 100-41-4   | Ethylbenzene              | 10 U  |
| 1330-20-7  | (m+p) Xylene              | 10 U  |
| 1330-20-7  | o-Xylene                  | 10 U  |
| 100 10 7   | Styrene                   | 10 U  |

EPA SAMPLE NO.

COOLER BLANK

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407762

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: 09965

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/19/00

Dilution Factor: 1.0

GC Column: HP624 ID: 2.00 (mm)

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CAS NO.

CONCENTRATION UNITS:

COMPOUND (ug/L or ug/Kg) UG/L

75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 -U

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

COOLER BLANK

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407762

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9965

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/19/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

Number TICs found: 0

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

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

| CAS NUMBER | COMPOUND NAME | RT         | EST. CONC. | Q    |
|------------|---------------|------------|------------|------|
| 1          |               | == ======= |            | ==== |
| 2.         |               |            |            | -    |
| 3.         |               |            |            |      |
| 4          |               |            |            |      |
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| 9.         |               |            |            |      |
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| 7.         |               |            |            |      |
| 0.         |               |            |            | -    |
| 9.         |               |            |            |      |
| 0.         |               |            |            |      |

### WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CAS-ROC Contract: WCC-URS

|    | EPA          | SMC1   | SMC2   | SMC3   | OTHER | TOT |
|----|--------------|--------|--------|--------|-------|-----|
|    | SAMPLE NO.   | (TOL)# | (BFB)# | (DCE)# |       | OUT |
|    |              | ====== | =====  | ====== | ===== | === |
| 01 | VBLK01       | 98     | 92     | 100    |       | 0   |
| 02 | VBLK01MS     | 100    | 92     | 100    |       | 0   |
| 03 | MW-1         | 100    | 92     | 100    |       | 0   |
| 04 | MW-3         | 100    | 92     | 100    |       | 0   |
| 05 | MW-5S        | 100    | 92     | 106    |       | 0   |
| 06 | MW-5D        | 102    | 88     | 100    |       | 0   |
| 07 | MW-5DMS      | 100    | 90     | 100    |       | 0   |
| 08 | MW-5DMSD     | 100    | 90     | 100    |       | 0   |
| 09 | MW-6S        | 100    | 90     | 98     |       | 0   |
| 10 | MW-6D        | 100    | 90     | 100    | -     | 0   |
| 11 | MW-7S        | 100    | 88     | 100    |       | 0   |
| 12 | MW-7D        | 100    | 92     | 100    |       | 0   |
| 13 | MW-9S        | 100    | 90     | 100    |       | 0   |
| 14 | MW-9D        | 100    | 88     | 102    |       | 0   |
| 15 | MW-10S       | 102    | 88     | 100    |       | 0   |
| 16 | VBLK02       | 100    | 96     | 102    |       | 0   |
| 17 | VBLK02MS     | 100    | 98     | 102    |       | 0   |
| 18 | MW-10D       | 100    | 96     | 104    |       | 0   |
| 19 | MW-13D       | 102    | 96     | 102    |       | 0   |
| 20 | VBLK03       | 100    | 96     | 100    |       | 0   |
| 21 | VBLK03MS     | 100    | 98     | 102    |       | 0   |
| 22 | DUP          | 100    | 98     | 102    |       | 0   |
| 23 | RW-04        | 98     | 96     | 102    |       | 0   |
| 24 | MW-5SDL      | 100    | 96     | 102    |       | 0   |
| 25 | MW-11D       | 100    | 96     | 100    |       | 0   |
| 26 | COOLER BLANK | 100    | 96     | 104    |       | 0   |
| 27 |              |        |        |        |       |     |
| 28 |              |        |        |        |       |     |
| 29 |              |        |        |        |       |     |
| 30 |              |        |        |        | -     |     |

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

- # Column to be used to flag recovery values
- \* Values outside of contract required QC limits
- D System Monitoring Compound diluted out

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

Lab Name: CAS-ROC Contract: WCC-URS

Matrix Spike - EPA Sample No.: MW-5D

| COMPOUND           | SPIKE<br>ADDED<br>(ug/L) | SAMPLE<br>CONCENTRATION<br>(ug/L) | MS<br>CONCENTRATION<br>(ug/L)           | MS<br>%<br>REC # | QC.<br>LIMITS<br>REC. |
|--------------------|--------------------------|-----------------------------------|---|------------------|-----------------------|
|                    |                          | ==========                        | ======================================= |                  | =====                 |
| 1,1-Dichloroethene | 50                       | 0.0                               | 51                                      | 102              | 61-145                |
| Benzene            | 50                       | 0.0                               | 49                                      | 98               | 76-127                |
| Trichloroethene    | 50                       | 160                               | 200                                     | 80               | 71-120                |
| Toluene            | 50                       | 0.0                               | 49                                      | 98               | 76-125                |
| Chlorobenzene      | 50                       | 0.0                               | 49                                      | 98               | 75-130                |
|                    |                          |                                   |   |                  |                       |

| COMPOUND           | SPIKE<br>ADDED<br>(ug/L) | MSD<br>CONCENTRATION<br>(ug/L) | MSD<br>%<br>REC # | %<br>RPD # | QC L:  | IMITS REC. |
|--------------------|--------------------------|--------------------------------|-------------------|------------|--------|------------|
|                    | ========                 | ==========                     | =====             | ======     | ====== | ======     |
| 1,1-Dichloroethene | 50                       | 53                             | 106               | 4          | 14     | 61-145     |
| Benzene            | 50                       | 51                             | 102               | 4          | 11     | 76-127     |
| Trichloroethene    | 50                       | 210                            | 100               | 22*        | 14     | 71-120     |
| Toluene            | 50                       | 51                             | 102               | 4          | 13     | 76-125     |
| Chlorobenzene      | 50                       | 51                             | 102               | 4          | 13     | 75-130     |
|                    |                          |                                |                   |            |        |            |

<sup>#</sup> Column to be used to flag recovery and RPD values with an asterisk

RPD: 1 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

| COMMENTS: |  |
|-----------|--|
|           |  |
|           |  |
|           |  |
|           |  |

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

MW-5DMS

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407741MS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9852

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

| 74-87-3     | Chloromethane             | 10   | U    |
|-------------|---------------------------|------|------|
| 75-01-4     | Vinyl Chloride            | 10   |      |
| 74-83-9     | Bromomethane              | 10   |      |
|             | Chloroethane              | 10   |      |
| 75-35-4     | 1,1-Dichloroethene        | 51   |      |
| 67-64-1     | Acetone                   |      | IJ   |
| 75-15-0     | Carbon Disulfide          | 10   | _    |
| 75-09-2     | Methylene Chloride        | 10   |      |
| 156-60-5    | trans-1,2-Dichlorothene   | 10   |      |
| 75-34-3     | 1.1-Dichloroethane        | 10   |      |
| 156-59-4    | cis-1.2-Dichloroethene    | 10   |      |
| 78-93-3     | 2-Butanone (MEK)          | 10   |      |
|             | Chloroform                | 10   | U    |
| 71-55-6     | 1,1,1-Trichloroethane     | 3    | J    |
| 56-23-5     | Carbon Tetrachloride      | 10   | U    |
|             | Benzene                   | 49   |      |
| 107-06-2    | 1,2-Dichloroethane        | 10   | U    |
| 79-01-6     | Trichloroethene           | 200  | E    |
| 78-87-5     | 1,2-Dichloropropane       | 10   | U    |
| 75-27-4     | Bromodichloromethane      | 10   | U    |
| 10061-01-5- | cis-1,3-Dichloropropene   | 10   | U    |
| 108-10-1    | 4-Methyl-2-Pentonone      | 10   | U    |
| 108-88-3    | Toluene                   | 49   |      |
| 10061-02-6- | trans-1,3-Dichloropropene |      | - 50 |
| 79-00-5     | 1,1,2-Trichloroethane     | 10   |      |
| L27-18-4    | Tetrachloroethene         | 10   |      |
| 591-78-6    | 2-Hexanone                | 10   |      |
| 124-48-1    | Dibromochloromethane      | . 10 | U    |
| 108-90-7    | Chlorobenzene             | . 49 |      |
| 100-41-4    | Ethylbenzene              | 10   | U    |
| 1330-20-7   | (m+p) Xylene              | 10   | U    |
| 1330-20-7   | o-Xylene                  |      | U    |
| 100-42-5    | Styrene                   | 10   | U    |

EPA SAMPLE NO.

MW-5DMS

Lab Name: CAS-ROC

Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407741MS

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9852

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q

75-25-2-----Bromoform 10 U 79-34-5-----1,1,2,2-Tetrachloroethane 10 U

MW-5DMSD

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: 407741MSD

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9853

Level: (low/med) LOW Date Received: 09/08/00

% Moisture: not dec. Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO COMPOLIND

| CAS NO.    | COMPOUND (ug/L o         | or ug/Kg) UG/L | Q  |
|------------|--------------------------|----------------|----|
| 74-87-3    | Chloromethane            | 10             | П  |
| 75-01-4    | Vinvl Chloride           | 10             |    |
| 74-83-9    | Bromomethane             | 10             |    |
| 75-00-3    | Chloroethane             | 10             |    |
| 75-35-4    | 1,1-Dichloroethene       | 53             |    |
| 67-64-1    | Acetone                  | 10             | II |
| 75-15-0    | Carbon Disulfide         | 10             | 1  |
| 75-09-2    | Methylene Chloride       | 10             | 1  |
| 156-60-5   | trans-1,2-Dichlorothene  | 10             |    |
| 75-34-3    | 1,1-Dichloroethane       | 10             |    |
| 156-59-4   | cis-1,2-Dichloroethene   | 10             |    |
| 78-93-3    | 2-Butanone (MEK)         | 10             |    |
| 67-66-3    | Chloroform               | 10             |    |
| 71-55-6    | 1,1,1-Trichloroethane    | 4              | J  |
| 56-23-5    | Carbon Tetrachloride     | 10             |    |
| 71-43-2    | Benzene                  | 51             | 0  |
| 107-06-2   | 1.2-Dichloroethane       | 10             | TT |
| 79-01-6    | Trichloroethene          | 210            |    |
| 78-87-5    | 1,2-Dichloropropane      | 10             |    |
| 75-27-4    | Bromodichloromethane     | 10             |    |
| 10061-01-5 | cis-1.3-Dichloropropene  | 10             |    |
| 108-10-1   | 4-Methyl-2-Pentonone     | 10             |    |
| 108-88-3   | Toluene                  | 51             | 0  |
| 10061-02-6 | trans-1.3-Dichloropropen | e 10           | U  |
| 79-00-5    | 1,1,2-Trichloroethane    | 10             | -  |
| 127-18-4   | Tetrachloroethene        | 10             |    |
| 591-78-6   | 2-Hexanone               | 10             |    |
| 124-48-1   | Dibromochloromethane     | 10             |    |
| 108-90-7   | Chlorobenzene            | 51             |    |
| 100-41-4   | Ethylbenzene             | 10             | Ū  |
| 1330-20-7  | (m+p) Xvlene             | 10             |    |
| 1330-20-7  | o-Xylene                 | 10             |    |
| 100-42-5   | Styrene                  | 10             |    |

EPA SAMPLE NO.

MW-5DMSD

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER

Lab Sample ID: 407741MSD

Sample wt/vol: 5.000 (g/mL) ML

Lab File ID: Q9853

Level: (low/med) LOW

Date Received: 09/08/00

% Moisture: not dec.

Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

75-25-2-----Bromoform 79-34-5-----1,1,2,2-Tetrachloroethane

10 U 10 U

FORM I VOA

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

Contract: WCC-URS Lab Name: CAS-ROC

Matrix Spike - EPA Sample No.: VBLK01

| COMPOUND           | SPIKE<br>ADDED<br>(ug/L) | SAMPLE<br>CONCENTRATION<br>(ug/L) | MS<br>CONCENTRATION<br>(ug/L) | MS<br>%<br>REC # | QC.<br>LIMITS<br>REC. |
|--------------------|--------------------------|-----------------------------------|-------------------------------|------------------|-----------------------|
| 1,1-Dichloroethene | 50                       | 0 0                               |                               | 100              | C1 145                |
|                    |                          | 0.0                               | 50                            | 100              | 61-145                |
| Benzene            | 50                       | 0.0                               | 49                            | 98               | 76-127                |
| Trichloroethene .  | 50                       | 0.0                               | 48                            | 96               | 71-120                |
| Toluene            | 50                       | 0.0                               | 49                            | 98               | 76-125                |
| Chlorobenzene      | 50                       | 0.0                               | 49                            | 98               | 75-130                |

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

\* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 5 outside limits

| COMMENTS: |  |                                       |  |
|-----------|--|---------------------------------------|--|
|           |  | · · · · · · · · · · · · · · · · · · · |  |
|           |  |                                       |  |

VBLK01MS

Lab Name: CAS-ROC Contract: WCC-URS

Lab Code: 10145 Case No.: R20-3733 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: VBLK01MS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9847

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

| 74-87-3    | Chloromethane             | 10 U  |
|------------|---------------------------|-------|
| 75-01-4    | Vinyl Chloride            | 10 -U |
| 74-83-9    | Bromomethane              | 10 U  |
| 75-00-3    | Chloroethane              | 10 U  |
| 75-35-4    | 1,1-Dichloroethene        | 50    |
| 67-64-1    | Acetone                   | 10 U  |
| 75-15-0    | Carbon Disulfide          | 10 U  |
| 75-09-2    | Methylene Chloride        | 10 U  |
| 156-60-5   | trans-1.2-Dichlorothene   | 10 U  |
| 75-34-3    | 1.1-Dichloroethane        | 10 U  |
| 156-59-4   | cis-1.2-Dichloroethene    | 10 U  |
| 78-93-3    | 2-Butanone (MEK)          | 10 U  |
| 67-66-3    | Chloroform                | 10 U  |
| 71-55-6    | 1,1,1-Trichloroethane     | 10 U  |
| 56-23-5    | Carbon Tetrachloride      | 10 U  |
| 71-43-2    | Benzene                   | 49    |
| 107-06-2   | 1,2-Dichloroethane        | 10 U  |
| 79-01-6    | Trichloroethene           | 48    |
| 78-87-5    | 1.2-Dichloropropane       | 10 U  |
| 75-27-4    | Bromodichloromethane      | 10 U  |
| 10061-01-5 | cis-1.3-Dichloropropene   | 10 U  |
| 108-10-1   | 4-Methyl-2-Pentonone      | 10 U  |
| 108-88-3   | Toluene                   | 49    |
| 10061-02-6 | trans-1,3-Dichloropropene | 10 U  |
| 79-00-5    | 1,1,2-Trichloroethane     | 10 U  |
| 127-18-4   | Tetrachloroethene         | 10 U  |
| 591-78-6   | 2-Hexanone                | 10 U  |
| 124-48-1   | Dibromochloromethane      | 10 U  |
| 108-90-7   | Chlorobenzene             | 49    |
| 100-41-4   | Ethylbenzene              | 10 U  |
| 1330-20-7  | (m+p) Xylene              | 10 U  |
| 1330-20-7  | o-Xvlene                  | 10 U  |
| 100-42-5   | Styrene                   | 10 U  |

75-25-2-----Bromoform

79-34-5----1,1,2,2-Tetrachloroethane

EPA SAMPLE NO.

VBLK01MS

10 U

10 -U

Lab Name: CAS-ROC Contract: WCC-URS

Lab Code: 10145 Case No.: R20-3733 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: VBLK01MS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9847

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q

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

Lab Name: CAS-ROC Contract: WCC-URS

Matrix Spike - EPA Sample No.: VBLK02

| COMPOUND   | SPIKE                            | SAMPLE                          | MS                         | MS                              | QC.  |
|--|----------------------------------|---------------------------------|----------------------------|---------------------------------|--|
|  | ADDED                            | CONCENTRATION                   | CONCENTRATION              | %                               | LIMITS   |
|  | (ug/L)                           | (ug/L)                          | (ug/L)                     | REC #                           | REC.   |
| 1,1-Dichloroethene Benzene Trichloroethene Toluene Chlorobenzene | 50<br>50<br>50<br>50<br>50<br>50 | 0.0<br>0.0<br>0.0<br>0.0<br>0.0 | 55<br>53<br>53<br>53<br>53 | 110<br>106<br>106<br>106<br>106 | 61-145<br>76-127<br>71-120<br>76-125<br>75-130 |

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

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 5 outside limits

| COMMENTS: |  |  |
|-----------|--|--|
|           |  |  |

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

VBLK02MS

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: VBLK02MS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9926

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/15/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q

74-87-3-----Chloromethane 10 U 75-01-4-----Vinyl Chloride 10 U 74-83-9-----Bromomethane 10 U 75-00-3-----Chloroethane 10 U 75-35-4----1,1-Dichloroethene 55 10 U 67-64-1-----Acetone 75-15-0-----Carbon Disulfide 10 U 75-09-2-----Methylene Chloride 10 U 156-60-5----trans-1,2-Dichlorothene 10 U 75-34-3-----1,1-Dichloroethane 10 U 156-59-4----cis-1,2-Dichloroethene 10 U 78-93-3----2-Butanone (MEK) 10 U 67-66-3-----Chloroform 10 U 71-55-6----1,1,1-Trichloroethane 10 U 56-23-5-----Carbon Tetrachloride 10 U 71-43-2----Benzene 53 107-06-2----1,2-Dichloroethane 10 U 79-01-6----Trichloroethene 53 78-87-5----1,2-Dichloropropane 10 U 75-27-4-----Bromodichloromethane 10 U 10061-01-5----cis-1, 3-Dichloropropene 10 U 108-10-1----4-Methyl-2-Pentonone 10 U 108-88-3-----Toluene 53 10061-02-6----trans-1,3-Dichloropropene 10 U 79-00-5-----1,1,2-Trichloroethane 10 U 127-18-4-----Tetrachloroethene 10 U 591-78-6----2-Hexanone 10 U 124-48-1-----Dibromochloromethane 10 U 108-90-7-----Chlorobenzene 53 100-41-4-----Ethylbenzene 10 U 1330-20-7----- (m+p) Xylene 10 U 1330-20-7----o-Xylene 10 U 100-42-5-----Styrene 10 U

Lab Name: CAS-ROC

CAS NO.

EPA SAMPLE NO.

VBLK02MS

Date Analyzed: 09/15/00

Contract: WCC-URS Matrix: (soil/water) WATER Lab Sample ID: VBLK02MS Lab File ID: Q9926 Sample wt/vol: 5.000 (g/mL) ML Level: (low/med) LOW Date Received: % Moisture: not dec.

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0 Soil Extract Volume: \_\_\_\_(uL) Soil Aliquot Volume: \_\_\_\_(uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L Q 75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 U

## WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CAS-ROC Contract: WCC-URS

Matrix Spike - EPA Sample No.: VBLK03

| COMPOUND           | SPIKE<br>ADDED<br>(ug/L) | SAMPLE<br>CONCENTRATION<br>(ug/L) | MS<br>CONCENTRATION<br>(ug/L) | MS<br>%<br>REC # | QC.<br>LIMITS<br>REC. |
|--------------------|--------------------------|-----------------------------------|-------------------------------|------------------|-----------------------|
|                    | =======                  |                                   | ==========                    | ======           | =====                 |
| 1,1-Dichloroethene | 50                       | 0.0                               | 50                            | 100              | 61-145                |
| Benzene            | 50                       | 0.0                               | 49                            | 98               | 76-127                |
| Trichloroethene    | 50                       | 0.0                               | 48                            | 96               | 71-120                |
| Toluene            | 50                       | 0.0                               | 48                            | 96               | 76-125                |
| Chlorobenzene      | 50                       | 0.0                               | 49                            | 98               | 75-130                |

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

\* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 5 outside limits

| COMMENTS: |  |
|-----------|--|
|           |  |
|           |  |

VBLK03MS

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: VBLK03MS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9951

Level: (low/med) LOW Date Received:

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

| CID NO.    | (ug/II of ug/kg           | 7 03/11 |
|------------|---------------------------|---------|
| 74-87-3    | Chloromethane             | 10 U    |
| 75-01-4    | Vinvl Chloride            | 10 -U   |
| 74-83-9    | Bromomethane              | 10 U    |
| 75-00-3    | Chloroethane              | 10 U    |
| 75-35-4    | 1,1-Dichloroethene        | 50      |
| 67-64-1    | Acetone                   | 10 U    |
| 75-15-0    | Carbon Disulfide          | 10 U    |
| 75-09-2    | Methylene Chloride        | 10 U    |
| 156-60-5   | trans-1.2-Dichlorothene   | 10 U    |
| 75-34-3    | 1,1-Dichloroethane        | 10 U    |
| 156-59-4   | cis-1.2-Dichloroethene    | 10 U    |
| 78-93-3    | 2-Butanone (MEK)          | 10 U    |
| 67-66-3    | Chloroform                | 10 U    |
| 71-55-6    | 1,1,1-Trichloroethane     | 10 U    |
| 56-23-5    | Carbon Tetrachloride      | 10 U    |
| 71-43-2    | Benzene                   | 49      |
| 107-06-2   | 1,2-Dichloroethane        | 10 U    |
| 79-01-6    | Trichloroethene           | 48      |
| 78-87-5    | 1,2-Dichloropropane       | 10 U    |
| 75-27-4    | Bromodichloromethane      | 10 U    |
| 10061-01-5 | cis-1,3-Dichloropropene   | 10 U    |
| 108-10-1   | 4-Methyl-2-Pentonone      | 10 U    |
| 108-88-3   | Toluene                   | 48      |
| 10061-02-6 | trans-1,3-Dichloropropene | 10 U    |
| 79-00-5    | 1,1,2-Trichloroethane     | 10 U    |
| 127-18-4   | Tetrachloroethene         | 10 U    |
| 591-78-6   | 2-Hexanone                | 10 U    |
| 124-48-1   | Dibromochloromethane      | 10 U    |
| 108-90-7   | Chlorobenzene             | 49      |
| 100-41-4   | Ethylbenzene              | 10 U    |
| 1330-20-7  | (m+p) Xylene              | 10 U    |
| 1330-20-7  | o-Xvlene                  | 10 U    |
| 100-42-5   | Styrene                   | 10 U    |

EPA SAMPLE NO.

VBLK03MS

Lab Name: CAS-ROC Contract: WCC-URS

Lab Code: 10145 Case No.: R20-3733 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER

Lab Sample ID: VBLK03MS

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9951

Level: (low/med) LOW

Date Received:

% Moisture: not dec.

Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm)

Dilution Factor: 1.0

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

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

75-25-2----Bromoform 79-34-5----1,1,2,2-Tetrachloroethane

10 U 10 U

FORM I VOA

### VOLATILE METHOD BLANK SUMMARY

VBLK01

Lab Name: CAS-ROC Contract: WCC-URS

Lab File ID: Q9846 Lab Sample ID: VBLK01

Date Analyzed: 09/11/00 Time Analyzed: 1905

GC Column: HP624 ID: 2 (mm) Heated Purge: (Y/N) N

Instrument ID: MS6

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

|    | EPA   | LAB  | LAB  | TIME  |
|----|---|--|--|---|
|    | SAMPLE NO.                                      | SAMPLE ID                                      | FILE ID                                      | ANALYZED                                      |
|    | SAMPLE NO. ==================================== | SAMPLE ID ==================================== | FILE ID ==================================== | ANALYZED ==================================== |
| 30 |   |  |  |   |

| COMMENTS: |  |
|-----------|--|
|           |  |
|           |  |

VBLK01

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: VBLK01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9846

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:

| 74-87-3    | Chloromethane             | 10 U |
|------------|---------------------------|------|
| 75-01-4    | Vinyl Chloride            | 10 U |
| 74-83-9    | Bromomethane              | 10 U |
| 75-00-3    | Chloroethane              | 10 U |
| 75-35-4    | 1,1-Dichloroethene        | 10 U |
| 67-64-1    | Acetone                   | 10 U |
| 75-15-0    | Carbon Disulfide          | 10 U |
| 75-09-2    | Methylene Chloride        | 10 U |
| 156-60-5   | trans-1,2-Dichlorothene   | 10 U |
| 75-34-3    | 1,1-Dichloroethane        | 10 U |
| 156-59-4   | cis-1,2-Dichloroethene    | 10 U |
| 78-93-3    | 2-Butanone (MEK)          | 10 U |
| 67-66-3    | Chloroform                | 10 U |
| 71-55-6    | 1,1,1-Trichloroethane     | 10 U |
| 56-23-5    | Carbon Tetrachloride      | 10 U |
| 71-43-2    | Benzene                   | 10 U |
| 107-06-2   | 1,2-Dichloroethane        | 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 |
| 108-10-1   | 4-Methyl-2-Pentonone      | 10 U |
| 108-88-3   | Toluene                   | 10 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 10 U |
| 79-00-5    | 1,1,2-Trichloroethane     | 10 U |
| 127-18-4   | Tetrachloroethene         | 10 U |
| 591-78-6   | 2-Hexanone                | 10 U |
| 124-48-1   | Dibromochloromethane      | 10 U |
| 108-90-7   | Chlorobenzene             | 10 U |
| 100-41-4   | Ethylbenzene              | 10 U |
| 1330-20-7  | (m+p) Xylene              | 10 U |
| 1330-20-7  | o-Xylene                  | 10 U |
| 100-42-5   | Styrene                   | 10 U |

#### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01 Lab Name: CAS-ROC Contract: WCC-URS Matrix: (soil/water) WATER Lab Sample ID: VBLK01 5.000 (g/mL) ML Sample wt/vol: Lab File ID: Q9846 Level: (low/med) LOW Date Received: % Moisture: not dec. Date Analyzed: 09/11/00 GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0 Soil Extract Volume: (uL) Soil Aliquot Volume: (uL) CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q CAS NO. COMPOUND 75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

|           | TENTATIVELY | IDENTIFIED | COMPOUNDS        |        |
|-----------|-------------|------------|------------------|--------|
|           |             |            |                  | VBLK01 |
| Lab Name: | CAS-ROC     | Co         | ontract: WCC-URS |        |

| Lab Code: 10145 | MW-1 |
|-----------------|------|
|-----------------|------|

Matrix: (soil/water) WATER Lab Sample ID: VBLK01

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9846

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/11/00

GC Column: HP624 ID: 2.00 (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: 1 COMPOUND NAME CAS NUMBER RT EST. CONC. \_\_\_\_\_ UNKNOWN 2.53 7 J 10. 11.\_\_ 12.\_\_\_ 13.\_\_ 14.\_ 15. 16. 17. 18. 19. 20. 21.\_ 22.\_ 23.\_ 24.\_ 25.\_\_ 26. 27. 28. 29. 30.

VBLK02

Lab Name: CAS-ROC Contract: WCC-URS

Lab File ID: Q9924

Lab Sample ID: VBLK02

Date Analyzed: 09/15/00

Time Analyzed: 1155

GC Column: HP624 ID: 2 (mm)

Heated Purge: (Y/N) N

Instrument ID: MS6

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

|                | EPA<br>SAMPLE NO.  | LAB<br>SAMPLE ID   | LAB<br>FILE ID | TIME         |
|----------------|--------------------|--------------------|----------------|--------------|
|                | SAMPLE NO.         | SAMPLE ID          | ============   | ANALIZED     |
| 01<br>02       | VBLK02MS<br>MW-10D | VBLK02MS<br>407750 | Q9926<br>Q9932 | 1302<br>1624 |
| 03             | MW-13D             | 407752             | Q9933          | 1658         |
| 04             | 1.11 1.32          | 107752             | 00000          | 1030         |
| 05             |                    | 3-                 |                |              |
| 06             |                    |                    |                |              |
| 07             |                    |                    |                |              |
| 08             |                    |                    |                |              |
| 10             |                    |                    |                |              |
| 11             |                    |                    |                |              |
| 12             |                    |                    |                |              |
| 13             |                    |                    |                |              |
| 14             |                    |                    |                |              |
| 15             |                    |                    |                | 1            |
| 16             |                    |                    |                |              |
| 18             |                    |                    |                | -            |
| 19             |                    |                    |                |              |
| 20             |                    |                    |                |              |
| 21<br>22<br>23 |                    |                    | `              | # 1          |
| 22             |                    |                    |                |              |
| 24             |                    |                    |                |              |
| 25             |                    |                    |                |              |
| 26             |                    |                    |                |              |
| 27             |                    |                    |                |              |
| 28             |                    |                    |                |              |
| 29             |                    |                    |                |              |
| 30             |                    |                    |                |              |

| COMMENTS: | 114 |  |  |
|-----------|-----|--|--|
|           |     |  |  |

VBLK02

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: VBLK02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9924

Level: (low/med) LOW Date Received:

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/15/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (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 |
| 74-83-9    | Bromomethane              | 10 U  |
|            | Chloroethane              | 10 U  |
| 75-35-4    | 1,1-Dichloroethene        | 10 U  |
| 67-64-1    |                           | 10 U  |
| 75-15-0    | Carbon Disulfide          | 10 U  |
| 75-09-2    | Methylene Chloride        | 10 U  |
| 156-60-5   | trans-1,2-Dichlorothene   | 10 U  |
| 75-34-3    | 1,1-Dichloroethane        | 10 U  |
| 156-59-4   | cis-1,2-Dichloroethene    | 10 U  |
| 78-93-3    | 2-Butanone (MEK)          | 10 U  |
| 67-66-3    | Chloroform                | 10 U  |
|            | 1,1,1-Trichloroethane     | 10 U  |
| 56-23-5    | Carbon Tetrachloride      | 10 U  |
| 71-43-2    | Benzene                   | 10 U  |
|            | 1,2-Dichloroethane        | 10 U  |
|            | Trichloroethene           | 10 U  |
|            | 1,2-Dichloropropane       | 10 U  |
| 75-27-4    | Bromodichloromethane      | 10 U  |
| 10061-01-5 | cis-1,3-Dichloropropene   | 10 U  |
| 108-10-1   | 4-Methyl-2-Pentonone      | 10 U  |
| 108-88-3   | Toluene                   | 10 U  |
|            | trans-1,3-Dichloropropene | 10 U  |
| 79-00-5    | 1,1,2-Trichloroethane     | 10 U  |
| 127-18-4   | Tetrachloroethene         | 10 U  |
| 591-78-6   | 2-Hexanone                | 10 U  |
| 124-48-1   | Dibromochloromethane      | 10 U  |
| 108-90-7   | Chlorobenzene             | 10 U  |
|            | Ethylbenzene              | 10 U  |
| 1330-20-7  | (m+p) Xylene              | 10 U  |
| 1330-20-7  | o-Xylene                  | 10 U  |
|            | Styrene                   | 10 U  |

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK02 Lab Name: CAS-ROC Contract: WCC-URS Matrix: (soil/water) WATER Lab Sample ID: VBLK02 Lab File ID: Q9924 Sample wt/vol: 5.000 (g/mL) ML Level: (low/med) LOW Date Received: % Moisture: not dec. Date Analyzed: 09/15/00 GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0 Soil Extract Volume: \_\_\_\_(uL) Soil Aliquot Volume: \_\_\_\_(uL) CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L Q CAS NO. COMPOUND 75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 -U

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

|               | IDI KOO |
|---------------|---------|
| was ima       | VBLK02  |
| ract: WCC-URS | -       |

| Lab | Name: | CAS-ROC |  | Contract: | WCC-UI |
|-----|-------|---------|--|-----------|--------|
| Lab | Name: | CAS-ROC |  | Contract: | WCC    |

Matrix: (soil/water) WATER Lab Sample ID: VBLK02

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9924

Level: (low/med) LOW Date Received: \_\_\_\_

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/15/00

GC Column: HP624 ID: 2.00 (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 NUMBER | COMPOUND NAME | RT        | EST. CONC. | Q    |
|------------|---------------|-----------|------------|------|
| 1.         |               | = ======= |            | ===: |
| 1          |               |           |            |      |
| 2.         |               |           |            |      |
| 3          |               |           |            |      |
| 4.         |               |           |            |      |
| 5.         |               |           |            |      |
| 6.         |               |           |            |      |
| 7.         |               |           |            |      |
| 8.         |               |           |            | 1.   |
| 9.         |               |           |            |      |
|            |               |           |            |      |
|            |               | _         |            |      |
| 2.         |               |           |            |      |
| 3.         |               | _         |            |      |
| 14.        |               | _         |            |      |
|            |               | _         |            |      |
| 16.        |               |           |            |      |
| 8          |               |           |            |      |
| .8.        |               | _         |            |      |
| 9.         |               |           |            |      |
| 1          |               |           |            |      |
| 1          |               |           |            |      |
|            |               | _         |            |      |
|            |               |           |            |      |
| 4          |               |           |            |      |
| 5          |               |           |            |      |
| 6.         |               |           |            | 1    |
| 7          |               |           |            |      |
| 8.         |               | _         |            |      |
| 0.         |               |           |            |      |
| ·          |               |           |            |      |

VBLK03

Lab Name: CAS-ROC Contract: WCC-URS

Lab File ID: Q9949 Lab Sample ID: VBLK03

Date Analyzed: 09/18/00 Time Analyzed: 1826

GC Column: HP624 ID: 2 (mm) Heated Purge: (Y/N) N

Instrument ID: MS6

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

|                                  | EPA<br>SAMPLE NO.                              | LAB<br>SAMPLE ID   | LAB<br>FILE ID                                     | TIME<br>ANALYZED                             |
|----------------------------------|--|--|--|--|
| 01<br>02<br>03<br>04<br>05<br>06 | VBLK03MS DUP RW-04 MW-5SDL MW-11D COOLER BLANK | VBLK03MS<br>407758<br>407760<br>407740DL<br>407753<br>407762 | Q9951<br>Q9953<br>Q9954<br>Q9955<br>Q9956<br>Q9965 | 1933<br>2040<br>2113<br>2147<br>2220<br>0321 |
| 07<br>08<br>09<br>10             |  |  | 4  |  |
| 12<br>13<br>14<br>15<br>16       |  |  |  |  |
| 17<br>18<br>19<br>20<br>21<br>22 |  |  |  |  |
| 23<br>24<br>25<br>26             |  |  |  |  |
| 27<br>28<br>29<br>30             |  |  |  |  |

| COMMENTS: |  | 1 1 |  |
|-----------|--|-----|--|
|           |  |     |  |
|           |  |     |  |

#### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03

Lab Name: CAS-ROC Contract: WCC-URS

Matrix: (soil/water) WATER Lab Sample ID: VBLK03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9949

Level: (low/med) LOW Date Received:

% Moisture: not dec. \_\_\_\_ Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L

| 74-87-3    | Chloromethane             | 10 | U   |
|------------|---------------------------|----|-----|
| 75-01-4    | Vinyl Chloride            | 10 | -U  |
| 74-83-9    | Bromomethane              | 10 | U   |
| 75-00-3    | Chloroethane              | 10 | U   |
| 75-35-4    | 1,1-Dichloroethene        | 10 | U   |
| 67-64-1    | Acetone                   | 10 | U   |
| 75-15-0    | Carbon Disulfide          | 10 | U   |
| 75-09-2    | Methylene Chloride        | 10 | U   |
| 156-60-5   | trans-1.2-Dichlorothene   | 10 | 1 - |
| 75-34-3    | 1,1-Dichloroethane        | 10 | -   |
| 156-59-4   | cis-1.2-Dichloroethene    | 10 | -   |
| 78-93-3    | 2-Butanone (MEK)          | 10 | -   |
| 67-66-3    | Chloroform                | 10 |     |
| 71-55-6    | 1.1.1-Trichloroethane     | 10 |     |
| 56-23-5    | Carbon Tetrachloride      | 10 |     |
| 71-43-2    | Benzene                   | 10 |     |
| 107-06-2   | 1,2-Dichloroethane        | 10 |     |
| 79-01-6    | Trichloroethene           | 10 |     |
| 78-87-5    | 1,2-Dichloropropane       | 10 | _   |
| 75-27-4    | Bromodichloromethane      | 10 |     |
| 10061-01-5 | cis-1,3-Dichloropropene   | 10 | -   |
| 108-10-1   | 4-Methyl-2-Pentonone      | 10 |     |
| 108-88-3   | Toluene                   | 10 |     |
| 10061-02-6 | trans-1.3-Dichloropropene | 10 | _   |
| 79-00-5    | 1,1,2-Trichloroethane     | 10 | -   |
| 127-18-4   | Tetrachloroethene         | 10 | _   |
| 591-78-6   | 2-Hexanone                | 10 | _   |
| 124-48-1   | Dibromochloromethane      | 10 |     |
| 108-90-7   | Chlorobenzene             | 10 | _   |
| 100-41-4   | Ethylbenzene              | 10 |     |
| 1330-20-7  | (m+p) Xvlene              | 10 |     |
| 1330-20-7  | o-Xylene                  | 10 |     |
| 100-42-5   | Styrene                   | 10 |     |

## VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03 Contract: WCC-URS Lab Name: CAS-ROC Matrix: (soil/water) WATER Lab Sample ID: VBLK03 Lab File ID: Q9949 Sample wt/vol: 5.000 (g/mL) ML Level: (low/med) LOW Date Received: % Moisture: not dec. Date Analyzed: 09/18/00 GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0 Soil Aliquot Volume: \_\_\_\_(uL) Soil Extract Volume: (uL) CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q 75-25-2-----Bromoform 10 U 79-34-5----1,1,2,2-Tetrachloroethane 10 -U

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

TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CAS-ROC Contract: WCC-URS

VBLK03

| Lab | Code: | 10145 | Case No.: | R20-3733 | SAS No .: |  | SDG No.: MW | -1 |
|-----|-------|-------|-----------|----------|-----------|--|-------------|----|
|-----|-------|-------|-----------|----------|-----------|--|-------------|----|

Matrix: (soil/water) WATER Lab Sample ID: VBLK03

Sample wt/vol: 5.000 (g/mL) ML Lab File ID: Q9949

Level: (low/med) LOW Date Received:

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 09/18/00

GC Column: HP624 ID: 2.00 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) ug/L CAS NUMBER COMPOUND NAME RT EST. CONC. 9.\_\_ 10.\_\_\_\_ 11.\_ 12. 13. 14.\_\_\_\_ 15.\_\_ 16.\_\_\_ 17.\_\_\_\_ 18. 19. 20. 21. 22. 23.\_\_

24. 25. 26. 27. 28. 29.

#### 8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROC Contract: WCC-URS

Lab File ID (Standard): Q9844 Date Analyzed: 09/11/00

Instrument ID: MS6 Time Analyzed: 1756

GC Column: HP624 ID: 2.00 (mm) Heated Purge: (Y/N) N

|  | IS1 (BCM)<br>AREA #   | RT #   | IS2 (DFB)<br>AREA #  | RT #   | IS3 (CBZ)<br>AREA #  | RT #                    |
|--|---|--|--|--|--|-------------------------|
| 12 HOUR STD UPPER LIMIT LOWER LIMIT ======== EPA SAMPLE NO.  | 123078<br>246156<br>61539   | 7.31<br>7.81<br>6.81   | 821951<br>1643902<br>410976  | 9.02<br>9.52<br>8.52   | 698240<br>1396480<br>349120  | 13.86<br>14.36<br>13.36 |
| VBLK01 VBLK01MS  MW-1 4 MW-3 5 MW-5S 6 MW-5D 7 MW-5DMS 8 MW-5DMSD 9 MW-6S 0 MW-6D 1 MW-7S 2 MW-7D 3 MW-9S 4 MW-9D 5 MW-10S | 114823<br>122837<br>106805<br>121639<br>96710<br>116605<br>116791<br>113271<br>117283<br>111398<br>112136<br>115315<br>116024<br>108731<br>113387 | 7.33<br>7.32<br>7.33<br>7.32<br>7.34<br>7.33<br>7.32<br>7.32<br>7.32<br>7.32<br>7.33<br>7.32<br>7.33<br>7.33 | 744235<br>801296<br>691842<br>796004<br>578511<br>765371<br>769590<br>742368<br>747513<br>705246<br>717584<br>734463<br>742152<br>701636<br>726112 | 9.03<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03 | 649576<br>673800<br>589143<br>672589<br>498784<br>618373<br>651096<br>621040<br>632818<br>606275<br>611428<br>631152<br>632253<br>597370<br>600767 |                         |

IS1 (BCM) = Bromochloromethane IS2 (DFB) = 1,4-Difluorobenzene IS3 (CBZ) = 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

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<sup>#</sup> Column used to flag values outside QC limits with an asterisk.
\* Values outside of QC limits.

#### 8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROC Contract: WCC-URS

Lab File ID (Standard): Q9923 Date Analyzed: 09/15/00

Instrument ID: MS6 Time Analyzed: 1002

GC Column: HP624 ID: 2.00 (mm) Heated Purge: (Y/N) N

|  | IS1 (BCM)<br>AREA # | RT #                | IS2 (DFB)<br>AREA # | RT # | IS3 (CBZ)<br>AREA # | RT #  |
|--|---------------------|---------------------|---------------------|------|---------------------|-------|
| 12 HOUR STD UPPER LIMIT LOWER LIMIT EPA SAMPLE NO. | 207911              | 7.32                | 1401904             | 9.03 | 1174030             | 13.86 |
|  | 415822              | 7.82                | 2803808             | 9.53 | 2348060             | 14.36 |
|  | 103956              | 6.82                | 700952              | 8.53 | 587015              | 13.36 |
| VBLK02   | 206493              | 7.32 7.32 7.33 7.32 | 1418879             | 9.03 | 1177296             | 13.86 |
| VBLK02MS   | 190524              |                     | 1295531             | 9.03 | 1075970             | 13.86 |
| MW-10D   | 192744              |                     | 1352771             | 9.03 | 1109282             | 13.86 |
| MW-13D   | 195506              |                     | 1346121             | 9.03 | 1097642             | 13.86 |

IS1 (BCM) = Bromochloromethane IS2 (DFB) = 1,4-Difluorobenzene IS3 (CBZ) = 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 used to flag values outside QC limits with an asterisk.
\* Values outside of QC limits.

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### VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROC Contract: WCC-URS

Lab File ID (Standard): Q9948 Date Analyzed: 09/18/00

Instrument ID: MS6 Time Analyzed: 1735

GC Column: HP624 ID: 2.00 (mm) Heated Purge: (Y/N) N

|   | IS1 (BCM)<br>AREA #  | RT #   | IS2 (DFB)<br>AREA #  | RT #   | IS3 (CBZ)<br>AREA #  | RT #                    |
|---|--|--|--|--|--|-------------------------|
| 12 HOUR STD UPPER LIMIT LOWER LIMIT EPA SAMPLE NO.  | 175911<br>351822<br>87956  | 7.33<br>7.83<br>6.83                                 | 1206180<br>2412360<br>603090   | 9.03<br>9.53<br>8.53                                 | 1001414<br>2002828<br>500707                                       | 13.87<br>14.37<br>13.37 |
| VBLK03 VBLK03MS DUP RW-04 MW-5SDL MW-11D COOLER BLANK BB DO D D D D D D D D D D D D D D D D D | 175934<br>166100<br>156177<br>160437<br>160185<br>151182<br>153980 | 7.32<br>7.33<br>7.33<br>7.33<br>7.32<br>7.33<br>7.33 | 1170646<br>1129672<br>1035904<br>1058392<br>1074280<br>995027<br>1029339 | 9.02<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03<br>9.03 | 972601<br>935965<br>870188<br>895520<br>900543<br>835414<br>815136 |                         |

IS1 (BCM) = Bromochloromethane IS2 (DFB) = 1,4-Difluorobenzene IS3 (CBZ) = 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 used to flag values outside QC limits with an asterisk.

\* Values outside of QC limits.

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FORM VIII VOA

ANALYTICAL DATA VALIDATION
GRIFFIN TECHNOLOGY SITE
SYSTEM OPERATION
SEMI-ANNUAL GROUNDWATER SAMPLING
SECOND ROUND, 2000

#### INTRODUCTION

This appendix presents the findings of a validation of analytical data for samples collected in September 2000 at the Griffin Technology Inc. (GTI) Site. Sampling was conducted by URS Corporation (URS) and analytical services were provided by Columbia Analytical Services, Inc. (CASI) of Rochester, New York. Fifteen groundwater samples and associated QC samples were collected and 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, Revision 11, June 1996. Prepared by USEPA Region II.

The above "Guidelines" provided the criteria to review. Additional acceptance 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
Laboratory control sample recoveries

Matrix spike/Matrix spike duplicate (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

The MS/MSD analysis of sample MW-5D yielded one outlying relative percent difference (RDP) value. Further discussion is provided in the section entitled, "Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses".

#### 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 most representative of the sample matrix. For this data set, two samples were analyzed at dilutions for VOCs.

- All VOC results for sample RW-04 were reported at dilution factor of 1:10 since screening prior to final analysis indicated a TCE concentration above the instrument's linear calibration range. For this sample, the laboratory did not report results of an undiluted analysis.
- For the initial VOC analysis of sample MW-5S 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 1:5. For this sample, the TCE concentration reported from the diluted analysis (550 μg/l) is considered to be most 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. Five of the samples were analyzed between ten and eleven days from sample receipt. Data qualification was not considered necessary since the samples were

preserved with hydrochloric acid and 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 noted during validation of the instrument performance data from this data set.

#### 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 all relative standard deviation (RSD) values between response factors met the acceptance criteria presented in the "Guidelines".

All VOC continuing calibration RRF values met the acceptance criterion presented in the "Guidelines". Two VOC continuing calibration analyses yielded a percent difference (%D) value for chloromethane above the "Guidelines" acceptance criterion of 25 percent. A review of the raw data associated with the outlying %D values indicated an increased instrument response for chloromethane. Since an increased instrument response indicates an overall increase in chloromethane sensitivity (i.e., a high bias in sample results), and the associated samples were reported as non-detected for chloromethane, no qualification of sample data was considered necessary.

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. VOC laboratory method blanks were analyzed at the prescribed method frequency.

All three VOC method blank samples were reported as non-detected for TCL-VOCs but one method blank had a low-level detection of an unknown tentatively identified compound (TIC). Per the "Guidelines", TICs detected at concentrations less than five times associated method blank concentrations are rejected as unusable (data qualifier R). Presented as follows are the affected samples and appropriate qualifiers:

| Fraction       | Analyte         | Conc.      | Qualified Conc. |  |
|----------------|-----------------|------------|-----------------|--|
|                |                 |            |                 |  |
| VOCs (µg/l)    |                 |            |                 |  |
| 1. VBLK01      | unknown RT 2.53 | 7ј         |                 |  |
| Associated Sam | ples:           |            |                 |  |
| MW-01          | unknown RT 2.53 | 6ЈВ        | R               |  |
| MW-10S         | unknown RT 2.53 | 9ЈВ        | R               |  |
| MW-11D         | unknown RT 2.54 | 8J         | R               |  |
| DUP.           | unknown RT 2.55 | <b>8</b> J | R               |  |
|                |                 |            |                 |  |

RT retention time

J estimated concentration for TICs

R result is unusable

It should be noted that samples MW-11D and DUP were not associated with the above method blank but were associated with method blank VBLK02, for which no TICs were reported as detected. However, the TIC mass spectra associated with samples MW-11D and DUP were comparable to that of the TIC detected in blank VBLK01. As such, the associated TIC reported as detected in samples MW-11D and DUP were rejected as unusable (R) as shown above.

No other sample results required qualification based on detections in the laboratory method blank samples.

#### TRIP BLANK SAMPLES

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

The trip blank sample was VOC-free, indicating that the potential for cross contamination of samples during shipping was minimal.

It should also be noted that the TIC at RT 2.53, which was detected in the laboratory method blank sample, was not detected in this trip blank. This further substantiated that this unknown compound is a laboratory artifact.

#### SURROGATE SPIKE RECOVERIES

Samples analyzed for VOCs are 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. Additionally, no errors in calculations or transcriptions were noted during the validation of the surrogate spike recoveries from this data set.

#### LABORATORY CONTROL SAMPLES

Laboratory control samples (LCS) are analyzed for VOCs and serve to monitor the overall performance of the steps in an analysis, including sample preparation.

All VOC LCS recoveries were within the laboratory's established control limits; this indicated that the method was in control.

#### 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-5D was analyzed as an MS/MSD sample for this data set.

All VOC MS/MSD recoveries were within the method established control limits; this indicated that acceptable analytical accuracy was achieved for these analyses. All relative percent difference (RPD) values between MS/MSD recoveries were within control limits with the exception of one; this indicated satisfactory analytical precision was achieved. The TCE RPD value reported was 22 percent, which is above the method RPD control limit of 14 percent. As such, detected TCE results reported from this data set were qualified as estimated (data qualifier J) based on the low precision exhibited from the MS/MSD analyses. TCE sample results requiring qualification as estimated (J) included:

Associated Groundwater Samples: MW-3, MW-5S, MW-5D, MW-6S, MW-6D, MW-7S, MW-7D, MW-10S, MW-10D, MW-13D, DUP, and RW-04.

Additionally, no errors in calculations or transcriptions were noted during validation of the MS/MSD results from this data set.

#### INTERNAL STANDARDS

Internal standard (I.S.) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. Internal standard area counts may not vary by more than a factor of two (-50 percent to +100 percent) from the associated continuing calibration standard area counts. The retention times of the internal standards may not vary by more than  $\forall 30$  seconds from the associated continuing calibration standard retention times.

All VOC analyses reported for the groundwater samples had acceptable internal standard area counts and retention times. Validation of the I.S. data also included verification of retention times and areas summarized on the Form-8s to those on the instrument chromatograms on a 10 percent basis; 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-6D and DUP, was collected with this sampling event. The results reported for the field duplicate sample pair are in agreement with the above criteria, thus indicating that the aggregate sampling and analytical precision was acceptable for this data set.

#### 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 results 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, was 100 percent for this data set. Sample results from this investigation required some qualification based on the minor deficiencies summarized below:

 Four tentatively identified compound (TIC) results were rejected as unusable (R) based on the results of laboratory method blank samples. The affected samples included MW-01, MW-10S, MW-11D, and DUP.  TCE results for twelve samples were qualified as estimated (J) based on low precision exhibited from the MS/MSD analyses. The affected samples included: MW-3, MW-5S, MW-5D, MW-6S, MW-6D, MW-7S, MW-7D, MW-10S, MW-10D, MW-13D, DUP, and RW-04.

No transcription errors or calculation errors were found during validation of the reported VOC results from this data set.