URS

January 25, 2001
38-6E06191.03

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

Kenneth M. Armstrong, PE, CHMM
Project Engineer

Attachment

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

URS Corporation
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FINAL REPORT

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

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

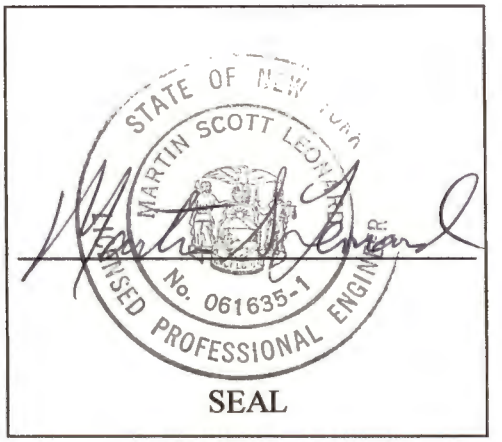
ONTARIO COUNTY, NEW YORK

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: January 19, 2001



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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.

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® "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

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 quality. 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 ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-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
MW-2D	642.37	Monitoring well converted to recovery well RW-4.		

NOTES
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

NOTES
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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

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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

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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

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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

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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

NOTES
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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
		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

NOTES
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

NOTES
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-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

NOTES
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

Notes:

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

Notes:

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

Notes:

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 well converted 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 Well No.	Sample Date	TCE	1,1,1-TCA	CIS-1,2-DCE	XYLENES	1,1-DCE	ACETONE	VINYL CHLORIDE
MW-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

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 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	29	ND	ND	ND	ND	ND	ND
	Well abandoned.							
MW-08D	12/19/94	55	ND	ND	ND	ND	ND	ND
	Well abandoned.							

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 Well No.	Sample Date	TCE	1,1,1-TCA	CIS-1,2-DCE	XYLENES	1,1-DCE	ACETONE	VINYL 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

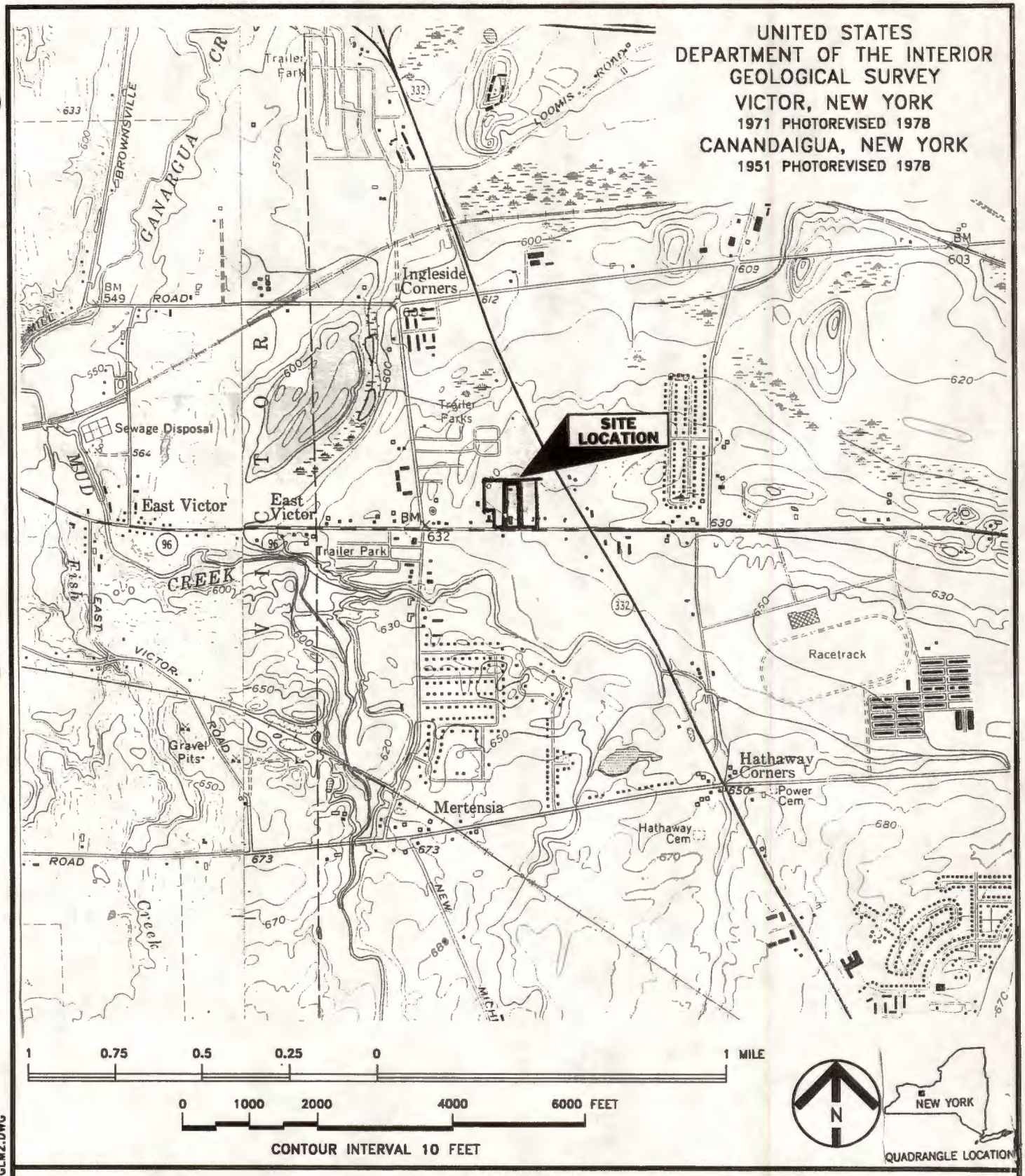
Notes:
1. 12/19/94 data collected by Blasland, Bouck & Lee.
2. All results expressed in micrograms per liter (µg/l).
3. No other VOC compounds detected at method detection limit.
4. ND indicates not detected.
5. NS indicates no sample collected; unable to locate or access well.
6. DRY indicates well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

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

Monitoring 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
	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 discharge.						
RW-3	03/28/00	170	4	ND	ND	ND	ND	ND
	09/08/00	No sample collected due to low discharge.						
RW-4	03/28/00	1,000	22	11	ND	1	5	ND
	09/08/00	760	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.



GENERAL LOCATION MAP

FORMER GRIFFIN TECHOLOGY INC. SITES - ONTARIO COUNTY - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: MTS	PROJECT NUMBER: 6E06191	DATE: 3-28-00	FIGURE NO: 1-1

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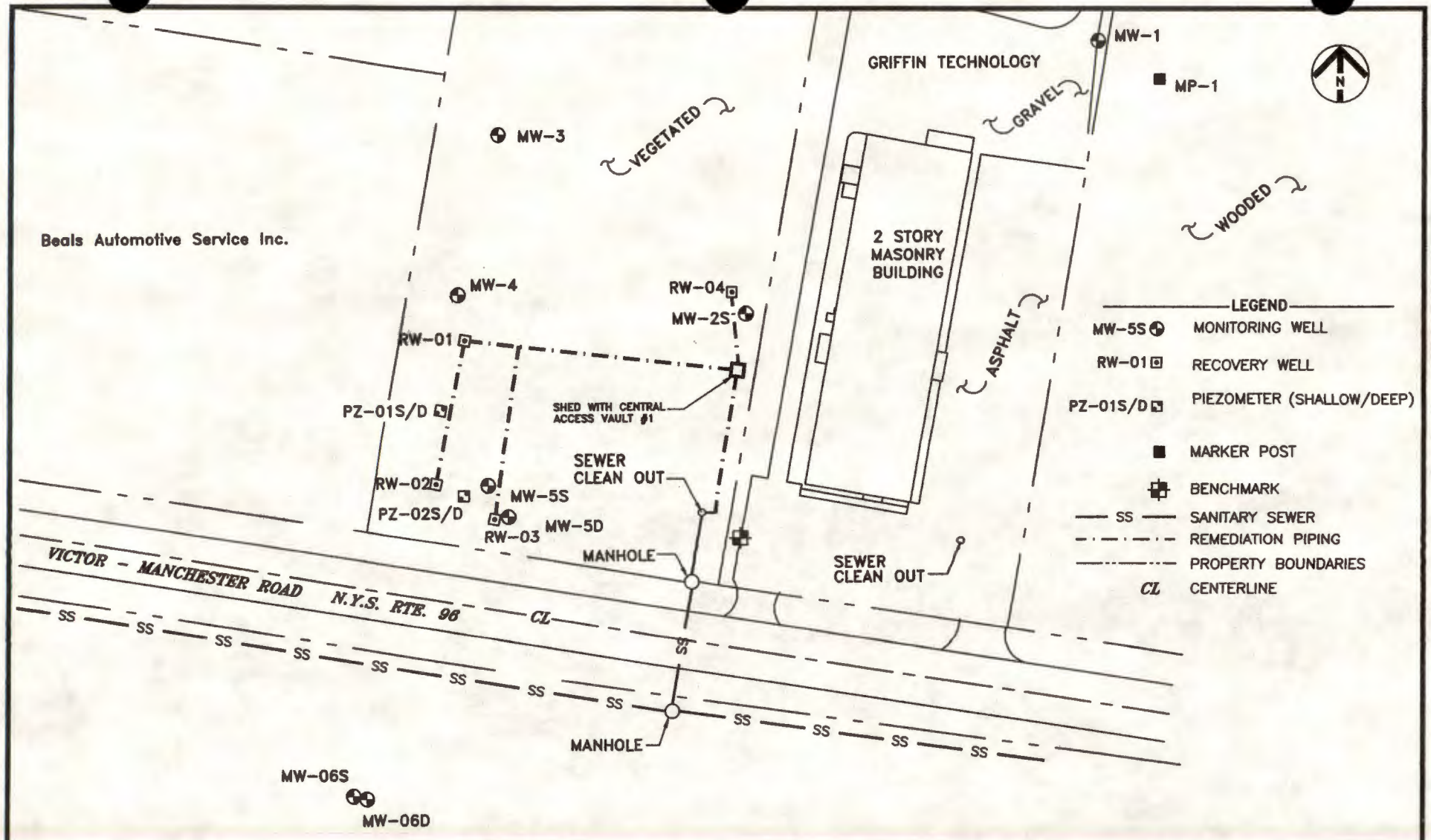
URS



0 40 80 160

SCALE IN FEET

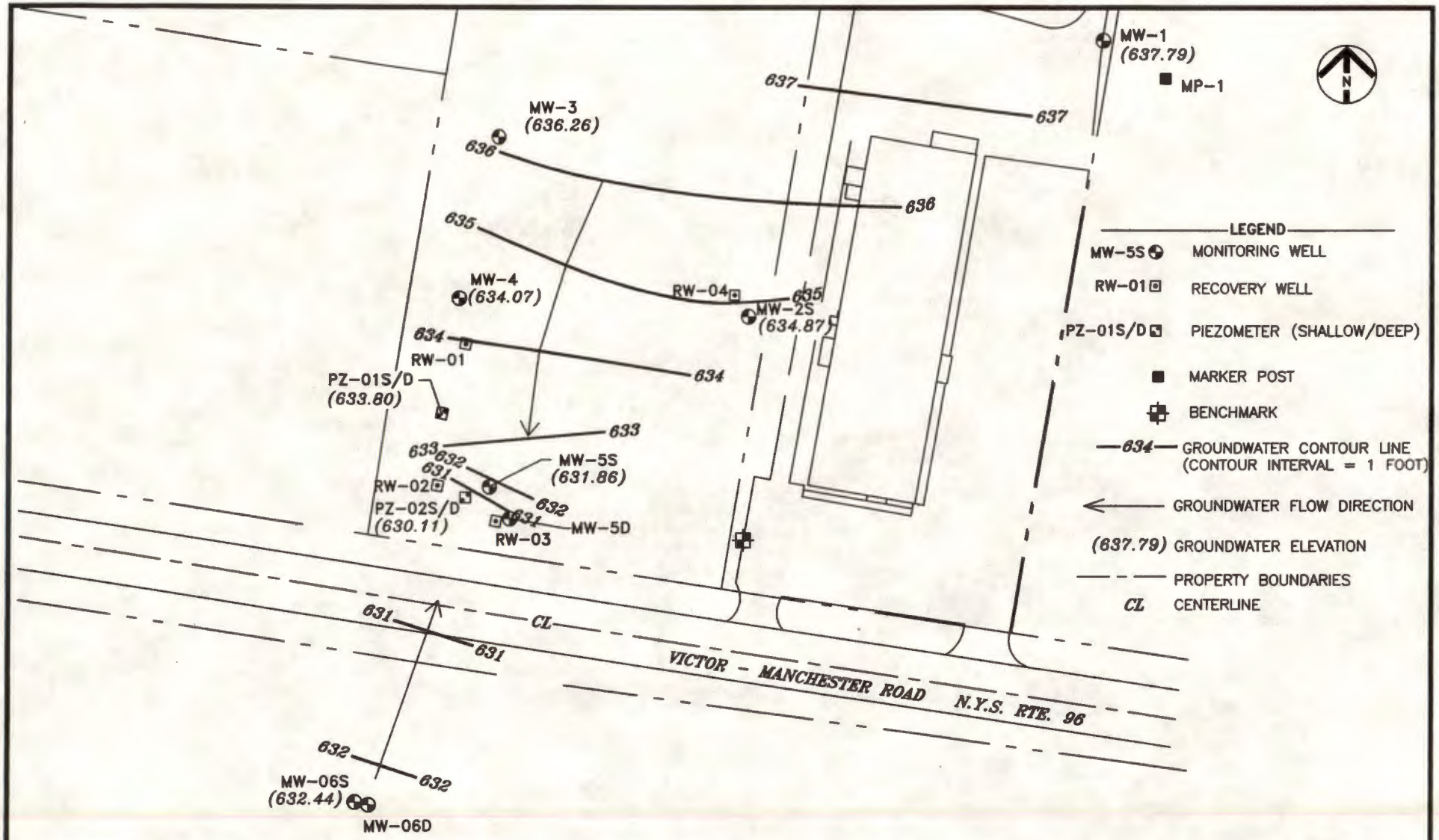
IRM SYSTEM LAYOUT

GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: LMH	PROJECT NUMBER: 6E06191	DATE: 1/15/01	FIGURE NO: 2-1

Q:\6E06191\BASEMAP4.DWG

URS

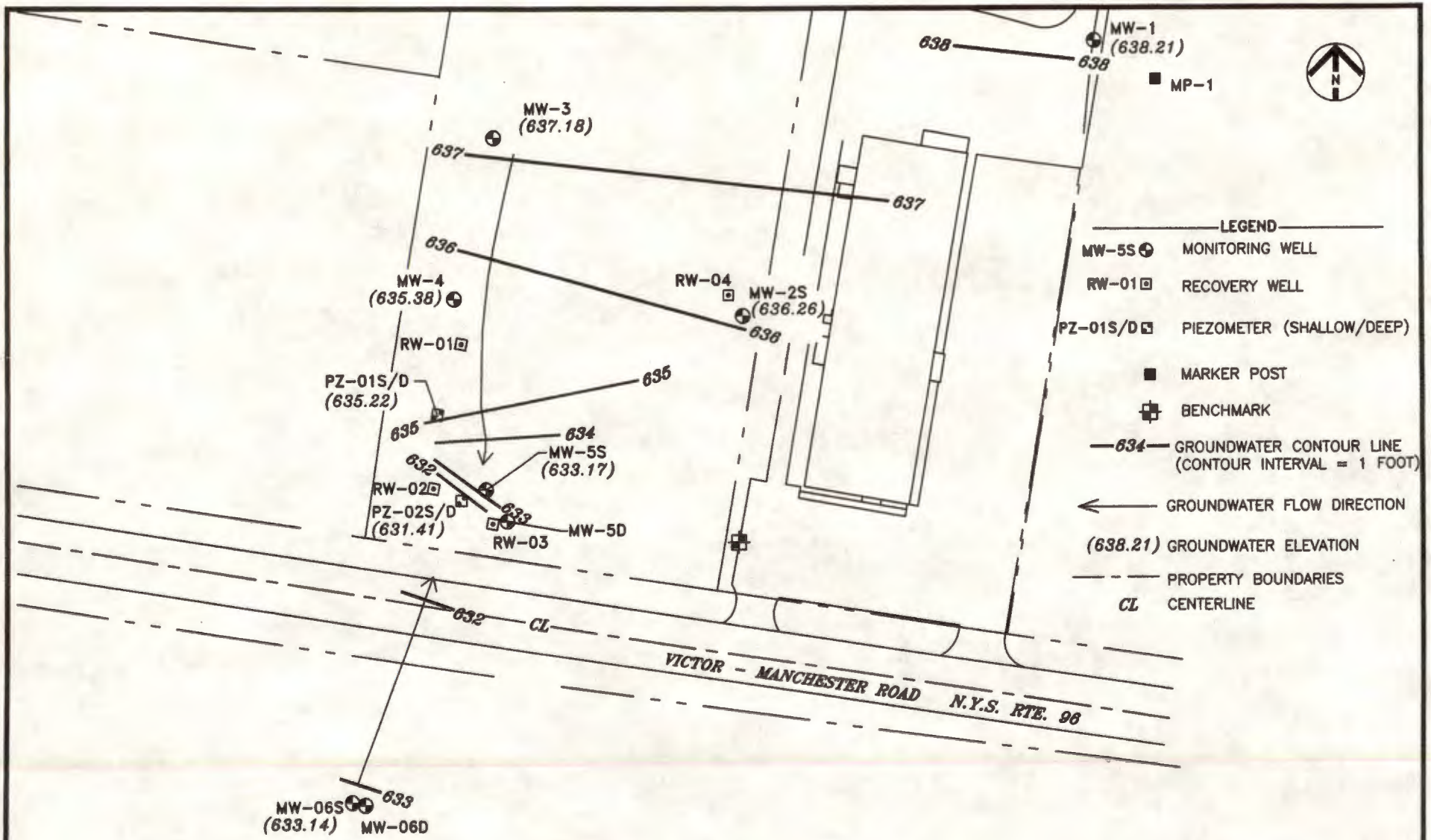


OVERBURDEN GROUNDWATER CONTOUR MAP
APRIL 14, 2000
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: MTS	PROJECT NUMBER: 6E06191	DATE: 11/6/00	FIGURE NO: 3-1

G:\6E06191\3QF3.DWG

URS

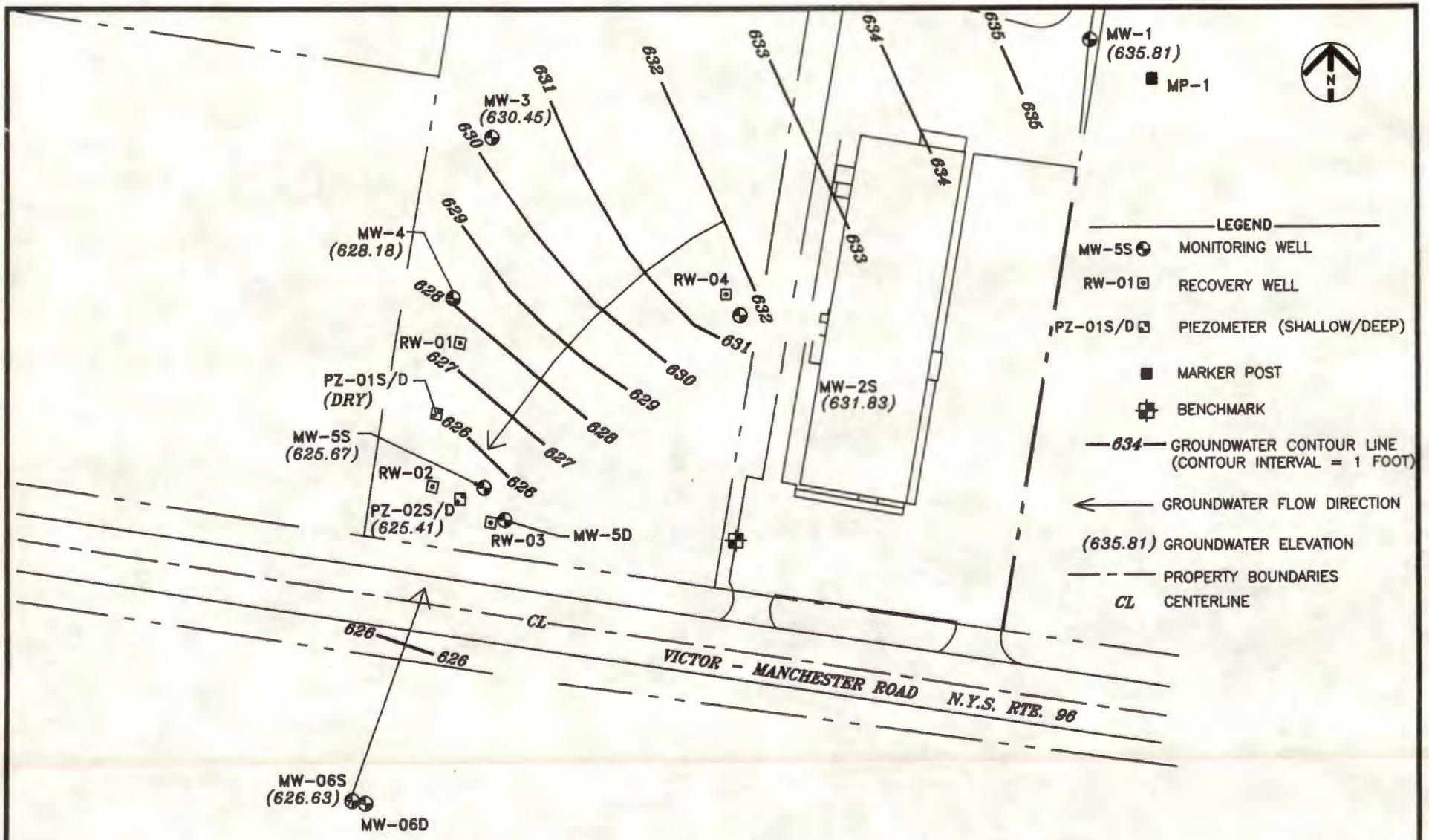


OVERBURDEN GROUNDWATER CONTOUR MAP
MAY 15, 2000
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: MTS	PROJECT NUMBER: 6E06191	DATE: 12/27/00	FIGURE NO: 3-2

Q:\6E06191\3QF4.DWG

URS



0 40 80 160

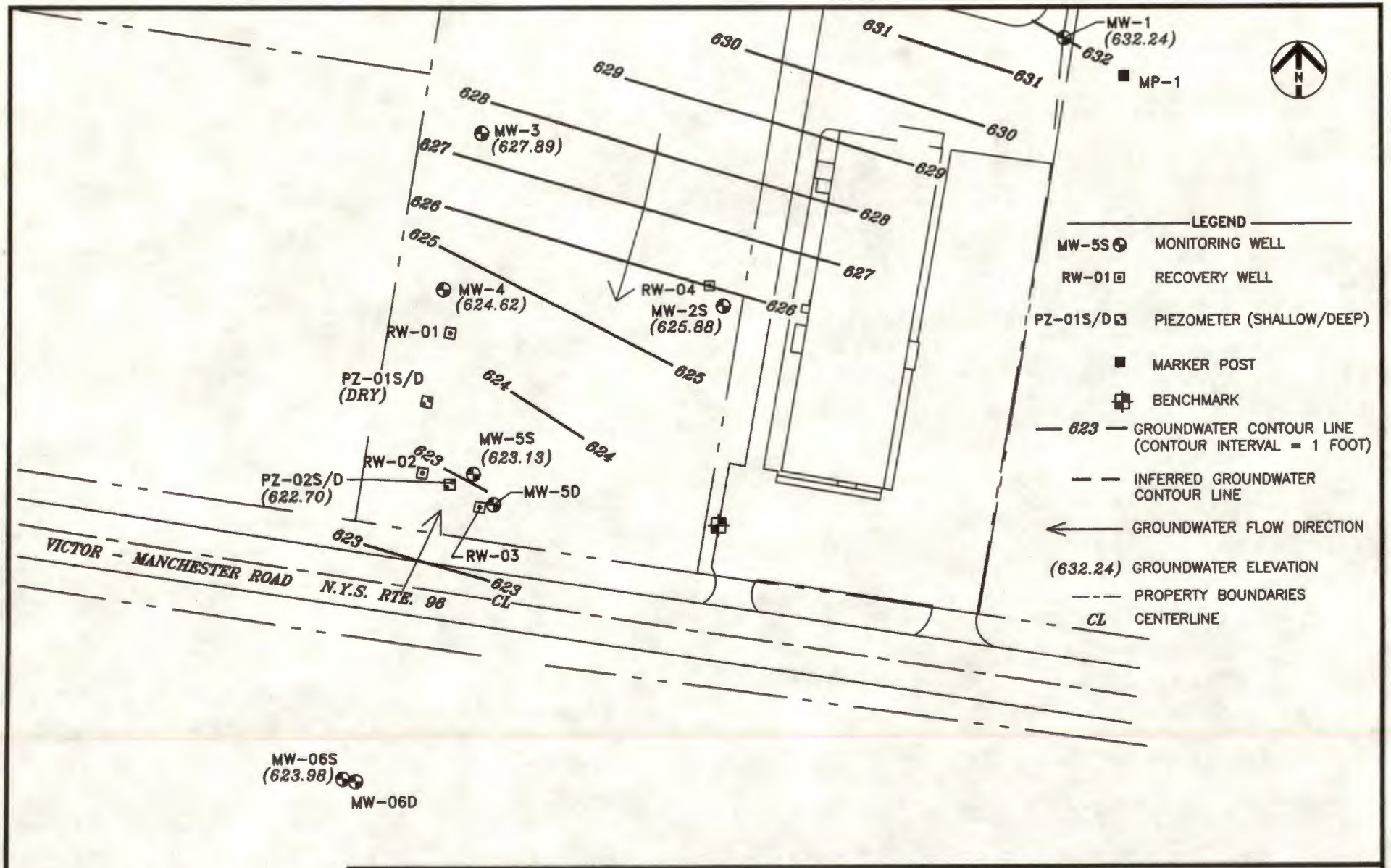
SCALE IN FEET

OVERBURDEN GROUNDWATER CONTOUR MAP
JUNE 13, 2000
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: MTS	PROJECT NUMBER: 6E06191	DATE: 12/27/00	FIGURE NO: 3-3

Q:\6E06191\3QF5.DWG

URS

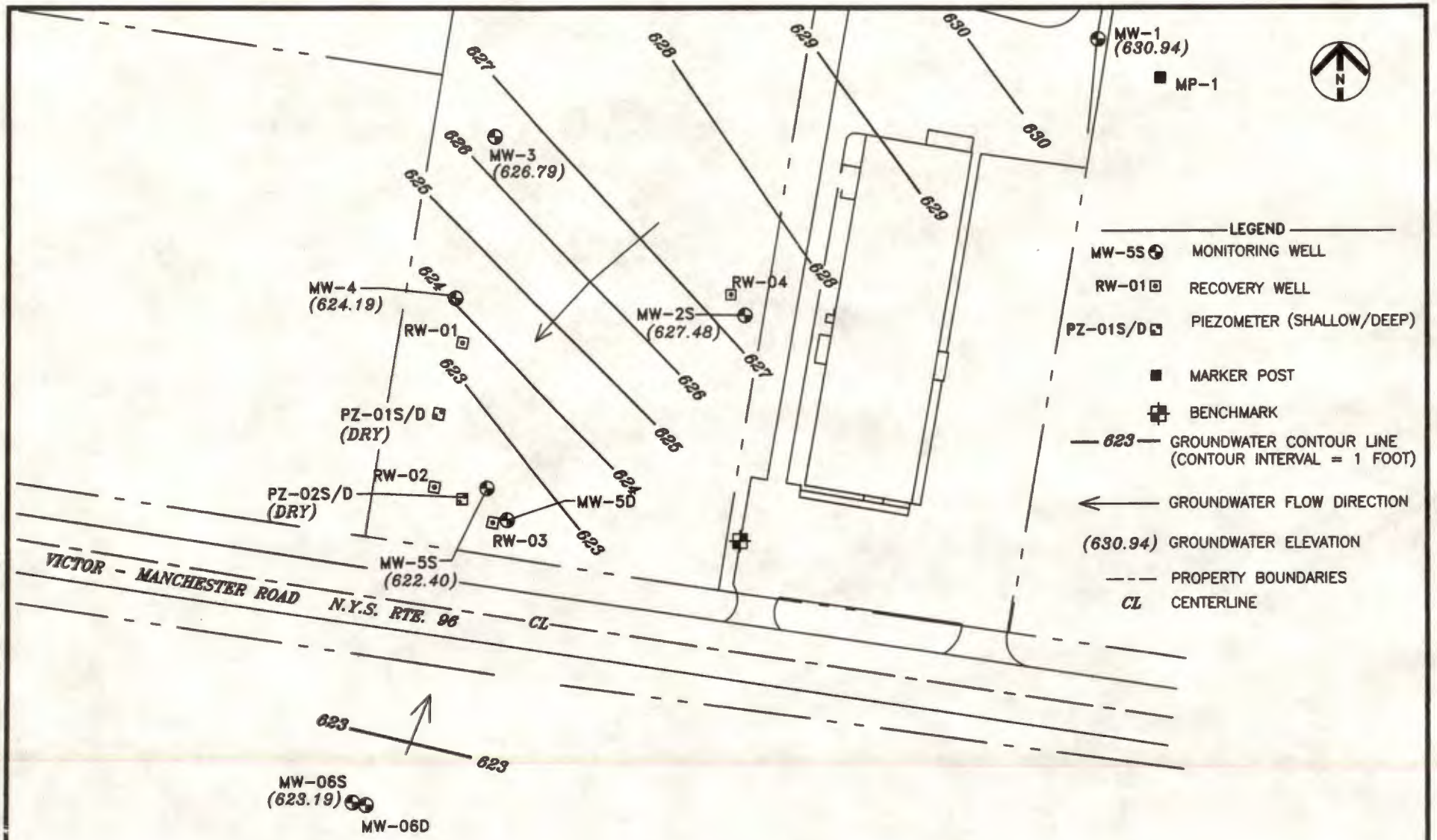


OVERBURDEN GROUNDWATER CONTOUR MAP
JULY 14, 2000
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: LMH	PROJECT NUMBER: 6E06191	DATE: 1/15/01	FIGURE NO: 3-4

G:\6E06191\714000F4.DWG

URS

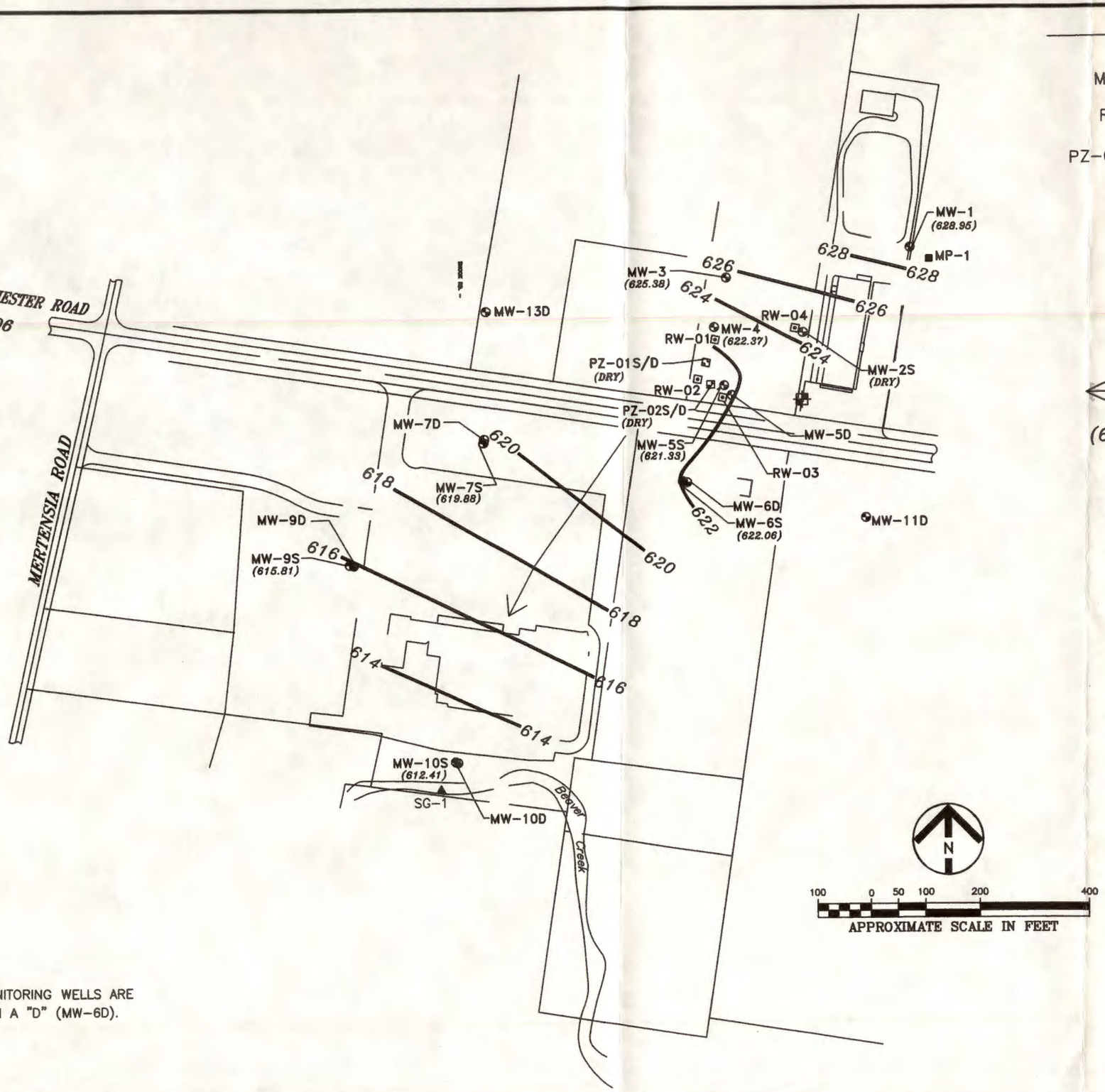


OVERBURDEN GROUNDWATER CONTOUR MAP
AUGUST 11, 2000
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: LMH	PROJECT NUMBER: 6E06191	DATE: 12/27/00	FIGURE NO: 3-5

Q:\6E06191\811005.DWG

URS



NOTE:
BEDROCK MONITORING WELLS ARE DENOTED WITH A "D" (MW-6D).

LEGEND

- MW-5S — MONITORING WELL
- RW-01 — RECOVERY WELL
- PZ-01S/D — PIEZOMETER (SHALLOW/DEEP)
- ▲ STAFF GAUGE
- ■ MARKER POST
- BENCHMARK
- 626 — GROUNDWATER CONTOUR LINE (CONTOUR INTERVAL = 2 FOOT)
- ← GROUNDWATER FLOW DIRECTION
- (628.95) GROUNDWATER ELEVATION

References:

1.) MAP PREPARED BY PAUL V. CRANDALL P.L.S. TITLED "LANDS OF R.D. PRODUCTS INC." LAST DATED JUNE 17, 1983. JOB #83138.

2.) MAP PREPARED BY PAUL V. CRANDALL P.L.S. TITLED "GRIFFIN TECHNOLOGY 6132 VICTOR-MANCHESTER ROAD, SOIL BORINGS & MONITORING WELLS" LAST DATED JUNE 19, 1991. JOB #911767.

3.) MAP PREPARED BY PAUL V. CRANDALL P.L.S. TITLED "MAP SHOWING LANDS OF JAMES V. ALAIMO – ANTHONY S. ALAIMO, M.D. – STEPHEN L. ALAIMO, M.D. – SAMUEL R. ALAIMO & JOSEPH W. ALAIMO ESTATE TO BE CONVEYED" LAST DATED AUGUST 25 1993. JOB #932113.

4.) MAP PREPARED BY BLASLAND & BOUCK ENGINEERS, P.C. TITLED "GRIFFIN TECHNOLOGY INC. VICTOR, NEW YORK OFF-SITE GROUND-WATER EVALUATION PROGRAM – PROPOSED MONITORING WELL LOCATION" LAST DATED JULY 1993.

5.) MAP PREPARED BY CRANDALL SURVEYORS, TITLED "GRIFFIN TECHNOLOGY INC. – ON – SITE / OFF – SITE GROUND WATER EVALUATION PROGRAM – PART OF GRIFFIN TECHNOLOGY PROPERTY NORTH OF N.Y.S. ROUTE 96 & JOHN W. & JANE A. WADE PROPERTY SOUTH OF N.Y.S. ROUTE 96. LAST DATED 12-22-1994. JOB #942296

URS
800 W. ST. CLAIR AVE.
CLEVELAND, OHIO 44113

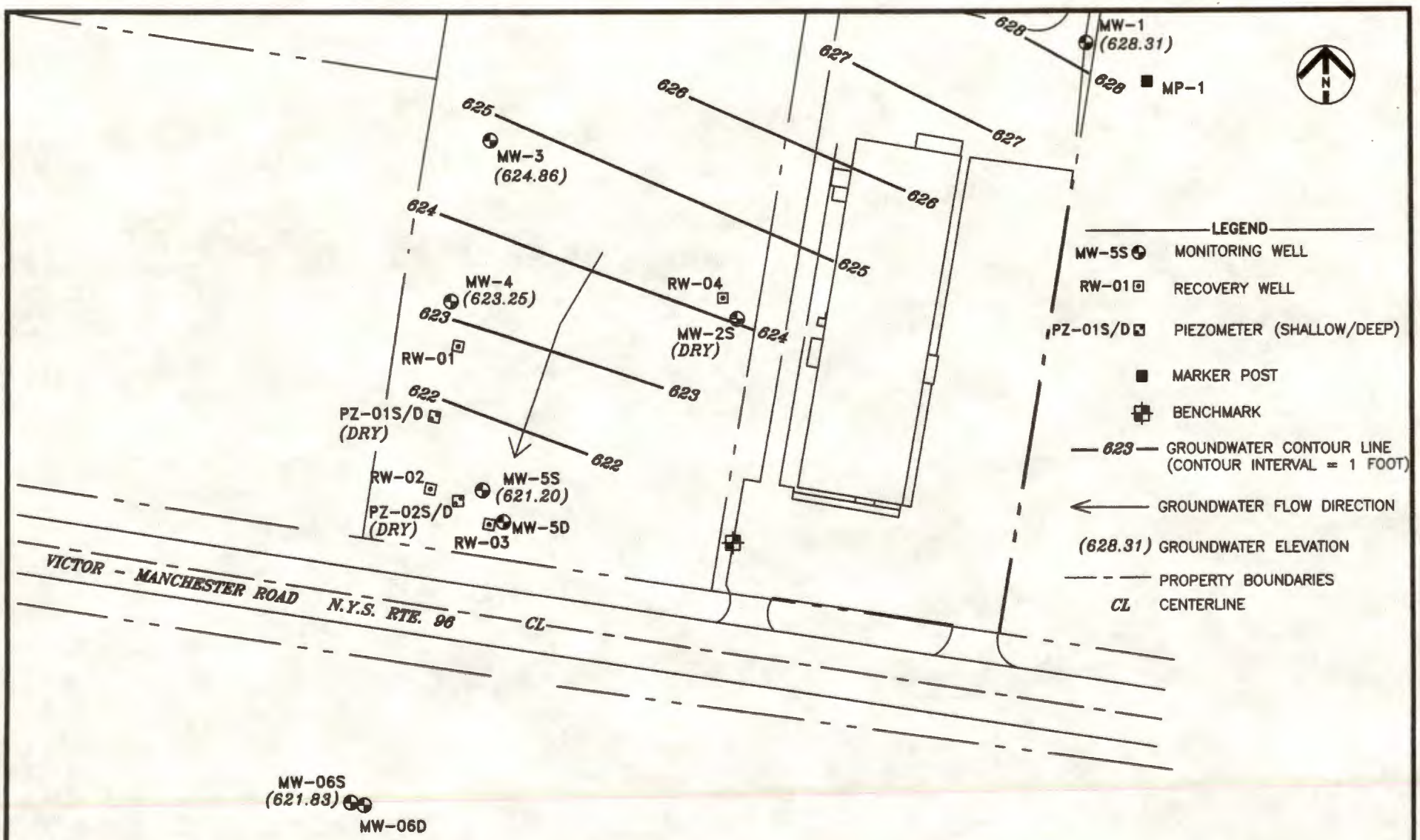
CLIENT: DIEBOLD, INC.

LOCATION: GRIFFIN TECHNOLOGY, INC., NEW YORK

OVERBURDEN GROUNDWATER CONTOUR MAP SEPTEMBER 8, 2000

DRAWN BY:	CHECKED BY:	PROJECT NO:	DATE:	FIGURE NO:
ERB	LMH	6E06191	1/15/01	3-6

Q:\6E06191\SH9800.DWG

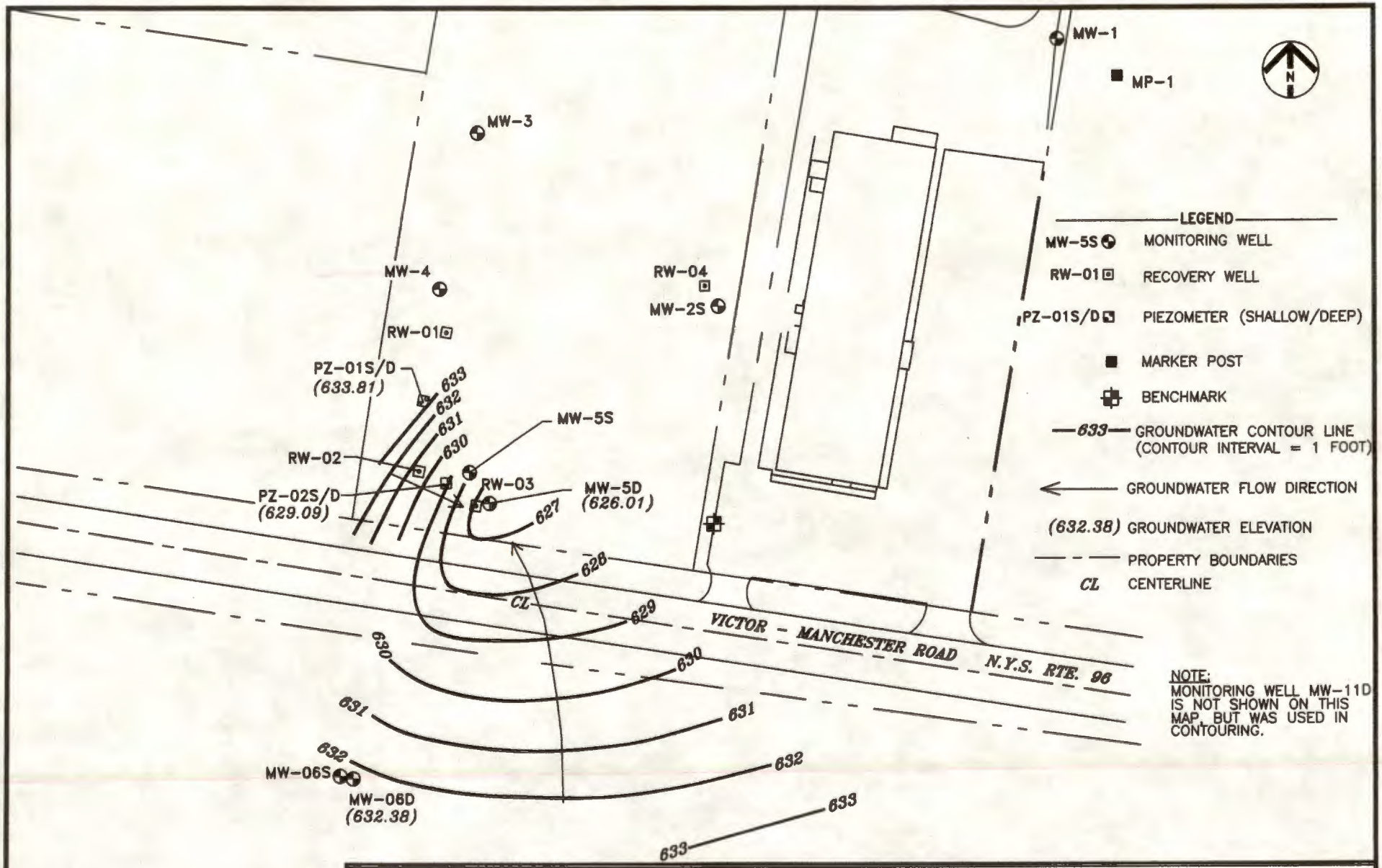


OVERBURDEN GROUNDWATER CONTOUR MAP
SEPTEMBER 16, 2000
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: LMH	PROJECT NUMBER: 6E06191	DATE: 12/27/00	FIGURE NO: 3-7

Q:\6E06191\91600.DWG

URS

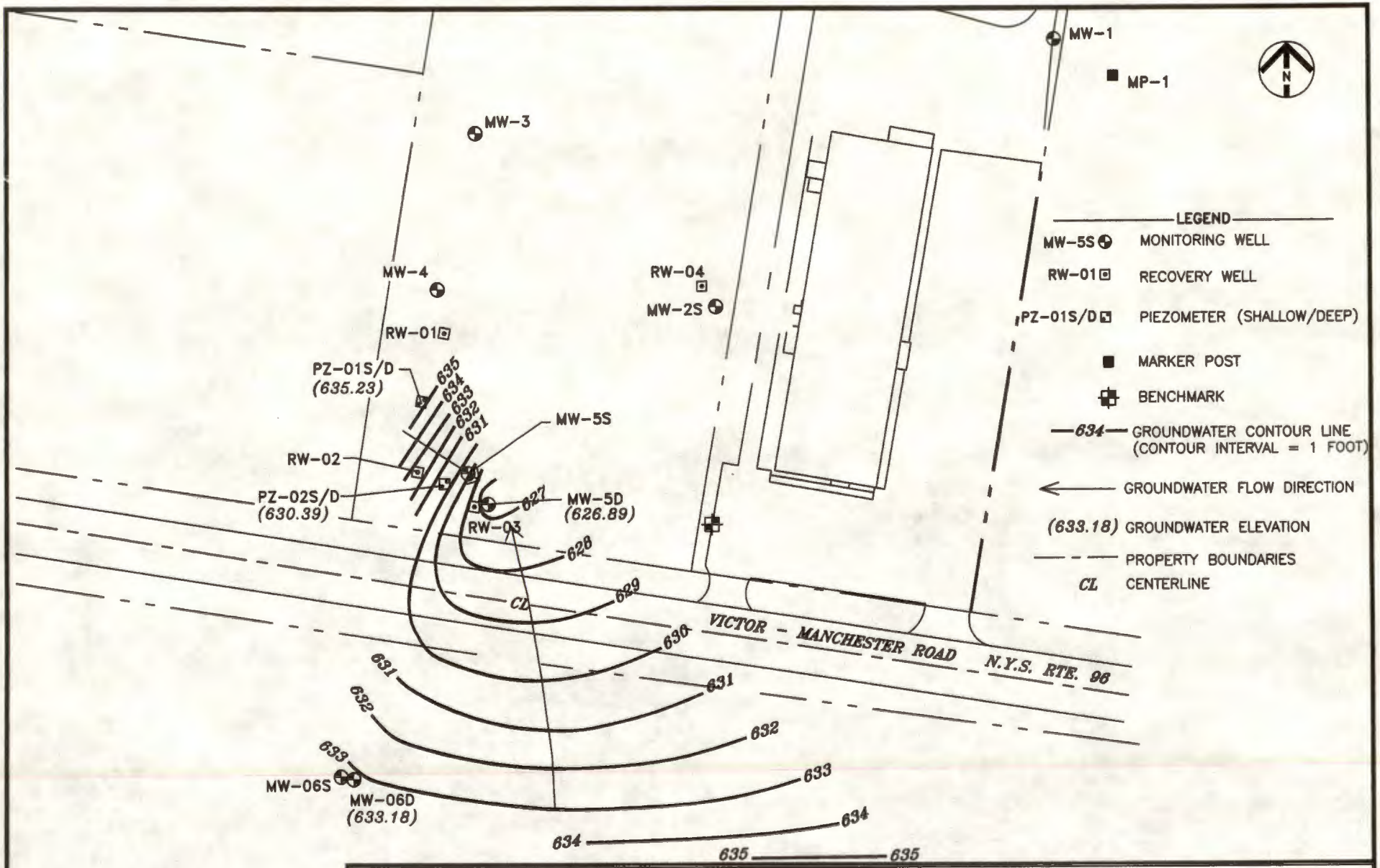


BEDROCK GROUNDWATER CONTOUR MAP
APRIL 14, 2000
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: MTS	PROJECT NUMBER: 6E06191	DATE: 12/27/00	FIGURE NO: 3-8

G:\6E06191\2QF8.DWG

URS

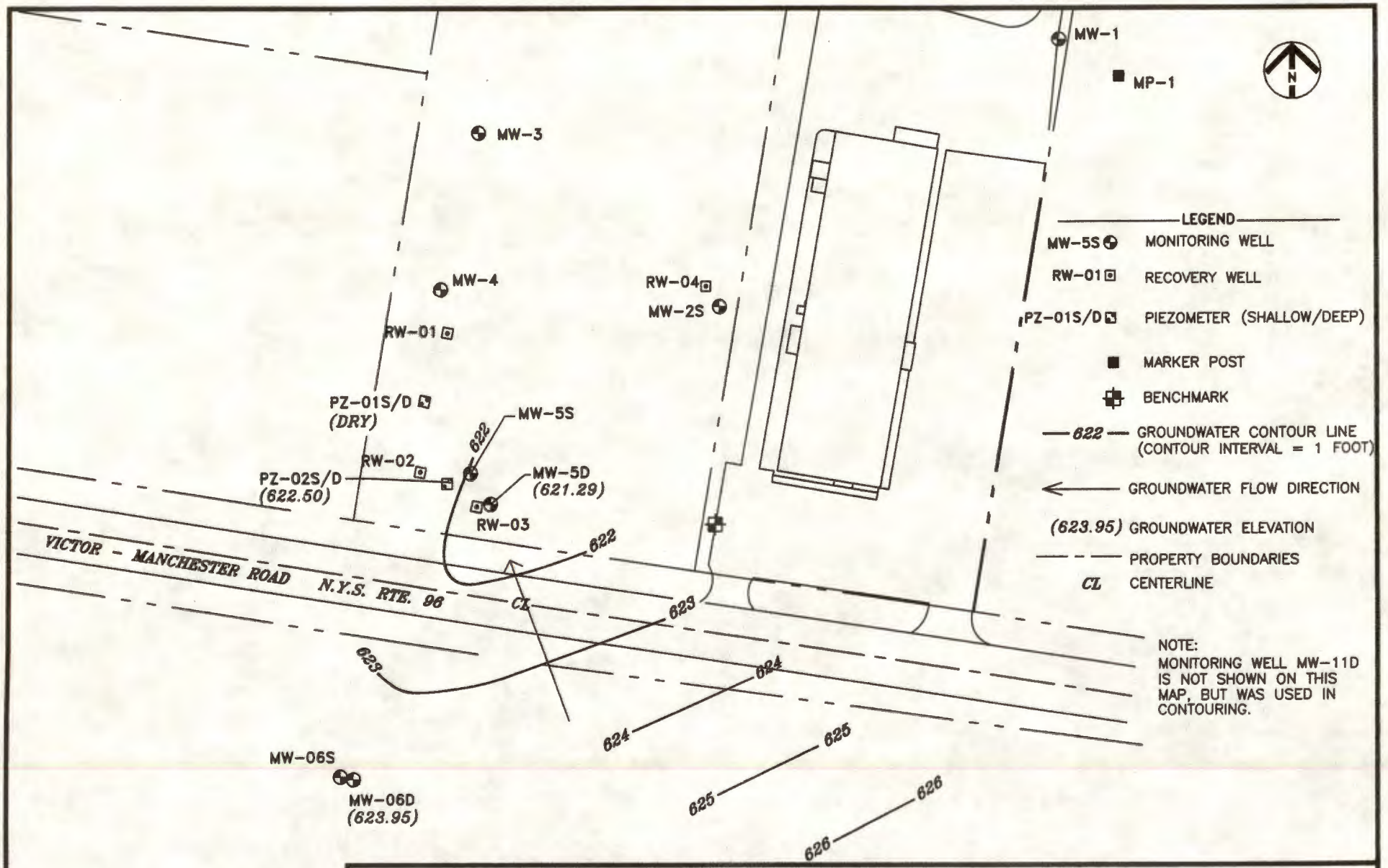


BEDROCK GROUNDWATER CONTOUR MAP
MAY 15, 2000
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: MTS	PROJECT NUMBER: 6E06191	DATE: 1/9/01	FIGURE NO: 3-9

Q:\6E06191\2QF9.DWG

URS

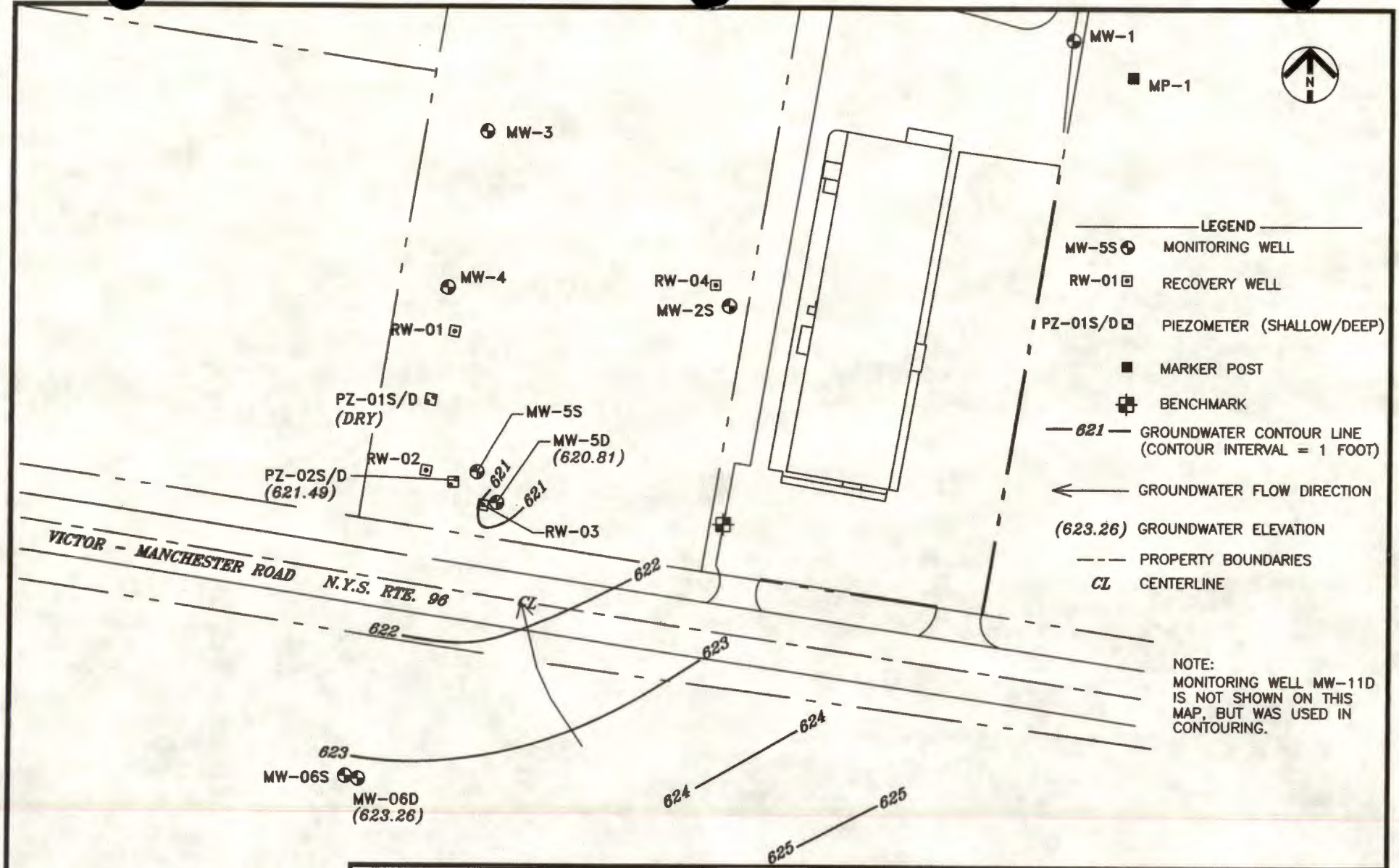


BEDROCK GROUNDWATER CONTOUR MAP
JULY 14, 2000
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: LMH	PROJECT NUMBER: 6E06191	DATE: 12/27/00	FIGURE NO: 3-11

Q:\6E06191\71400.DWG

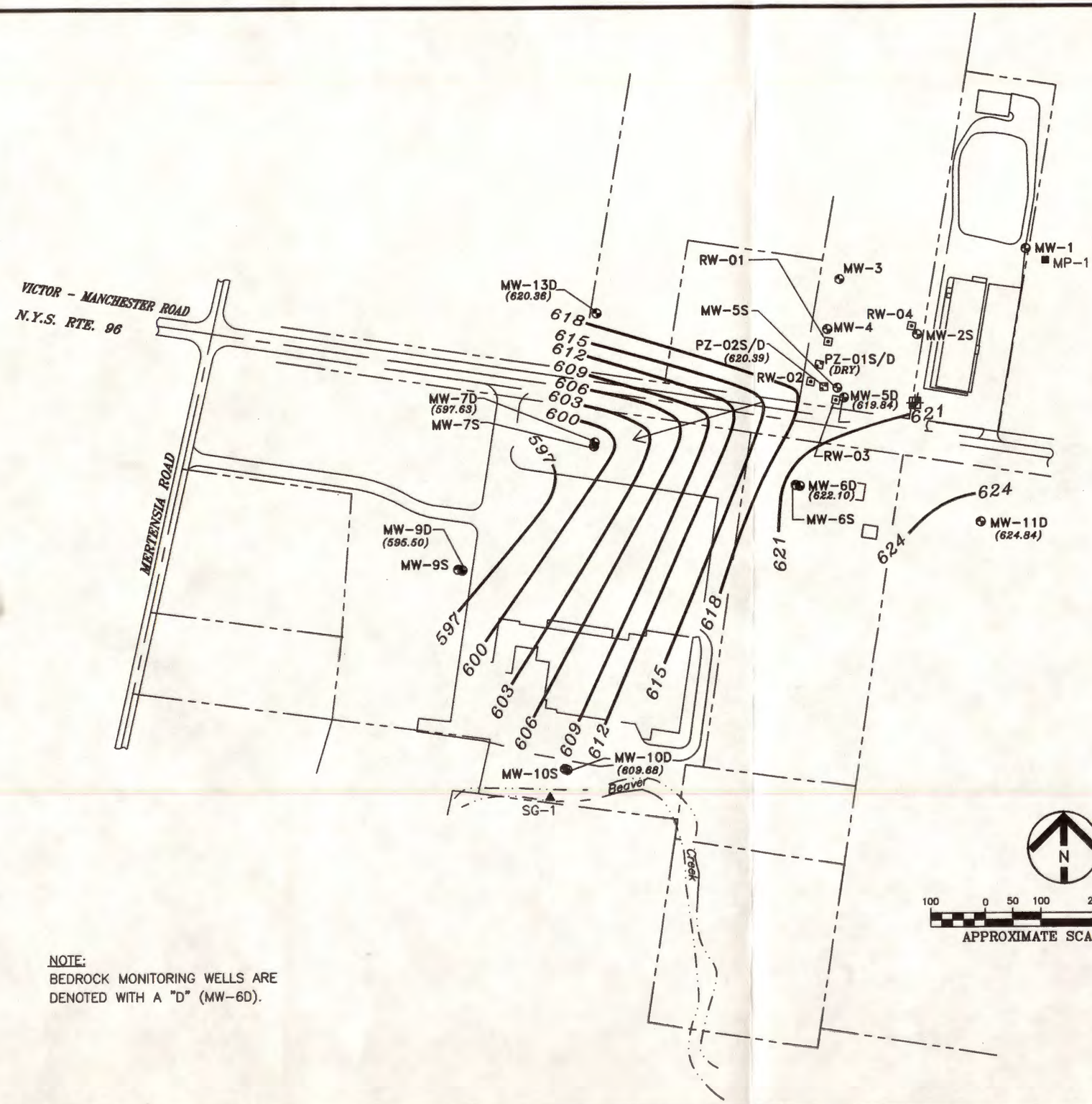
URS



BEDROCK GROUNDWATER CONTOUR MAP
AUGUST 11, 2000
GRIFFIN TECHNOLOGY, INC - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: LMH	PROJECT NUMBER: 6E06191	DATE: 11/6/00	FIGURE NO: 3-12

Q:\6E06191\61100.DWG



LEGEND

- MW-5S — MONITORING WELL
- RW-01 — RECOVERY WELL
- PZ-01S/D — PIEZOMETER (SHALLOW/DEEP)
- ▲ STAFF GAUGE
- ■ MARKER POST
- BENCHMARK
- — 621 — GROUNDWATER CONTOUR LINE (CONTOUR INTERVAL = 3 FOOT)
- ← GROUNDWATER FLOW DIRECTION
- (624.84) GROUNDWATER ELEVATION

References:

1.) MAP PREPARED BY PAUL V. CRANDALL P.L.S. TITLED "LANDS OF R.D. PRODUCTS INC." LAST DATED JUNE 17, 1983. JOB #83138.

2.) MAP PREPARED BY PAUL V. CRANDALL P.L.S. TITLED "GRIFFIN TECHNOLOGY 6132 VICTOR-MANCHESTER ROAD, SOIL BORINGS & MONITORING WELLS" LAST DATED JUNE 19, 1991. JOB #911767.

3.) MAP PREPARED BY PAUL V. CRANDALL P.L.S. TITLED "MAP SHOWING LANDS OF JAMES V. ALAIMO – ANTHONY S. ALAIMO, M.D. – STEPHEN L. ALAIMO, M.D. – SAMUEL R. ALAIMO & JOSEPH W. ALAIMO ESTATE TO BE CONVEYED" LAST DATED AUGUST 25 1993. JOB #932113.

4.) MAP PREPARED BY BLASLAND & BOUCK ENGINEERS, P.C. TITLED "GRIFFIN TECHNOLOGY INC. VICTOR, NEW YORK OFF-SITE GROUND-WATER EVALUATION PROGRAM – PROPOSED MONITORING WELL LOCATION" LAST DATED JULY 1993.

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N

100 0 50 100 200 400

APPROXIMATE SCALE IN FEET

NOTE:
BEDROCK MONITORING WELLS ARE DENOTED WITH A "D" (MW-6D).

URS
800 W. ST. CLAIR AVE.
CLEVELAND, OHIO 44113

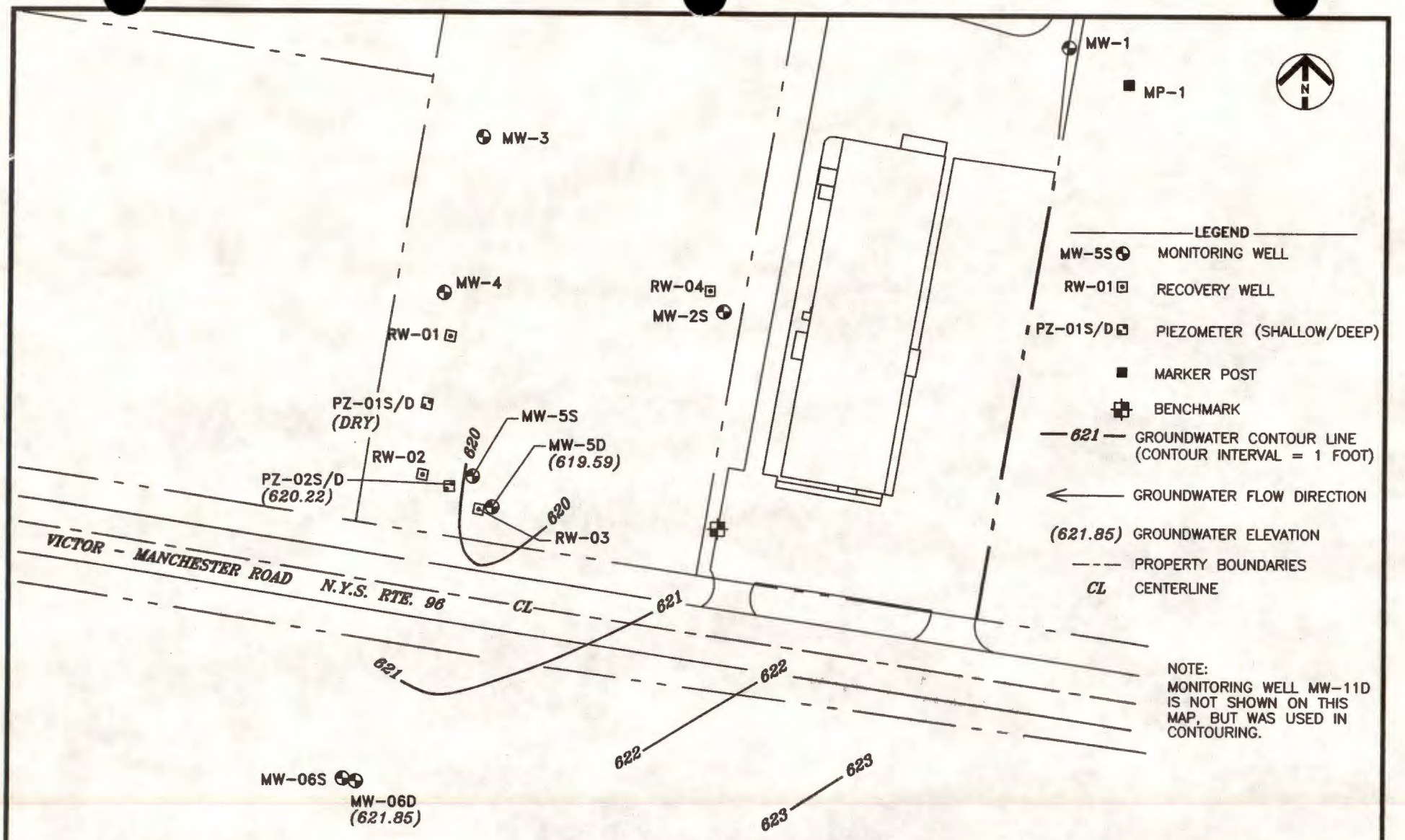
CLIENT: DIEBOLD, INC.

LOCATION: GRIFFIN TECHNOLOGY, INC. , NEW YORK

BEDROCK GROUNDWATER CONTOUR MAP SEPTEMBER 8, 2000

DRAWN BY:	CHECKED BY:	PROJECT NO:	DATE:	FIGURE NO:
ERB	LMH	6E06191	12/27/00	3-13

Q:\6E06191\9800.DWG



BEDROCK GROUNDWATER CONTOUR MAP
SEPTEMBER 16, 2000
GRIFFIN TECHNOLOGY, INC - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: LMH	PROJECT NUMBER: 6E06191	DATE: 11/6/00	FIGURE NO: 3-14

Q:\6E06191\91600D.DWG

URS

Columbia Analytical Services inc.

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.

Columbia Analytical Services, Inc.
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 7 pages

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

Columbia Analytical Services, Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2001655

Lab ID	Client ID
371915	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.

Columbia Analytical Services Inc.

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

COLUMBIA ANALYTICAL SERVICES

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 #:** 371915 **Sample Matrix:** WATER
Date Received: 04/14/00 **Submission #:** R2001655 **Analytical Run** 50036

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 04/24/00			
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
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 LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	105	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	109	%

COLUMBIA ANALYTICAL SERVICES

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

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 375931 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 50036

DATE ANALYZED : 04/24/00
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
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 %)	103	%
TOLUENE-D8	(88 - 110 %)	97	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	114	%

Columbia Analytical Services, Inc.
An Employee-Owned Company
Mustard St., Suite 250, Rochester, NY 14609-69245
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 4-14-00 PAGE 1 OF 1

PROJECT NAME Griffin IRM

PROJECT MANAGER/CONTACT Mark Schmidt

COMPANY/ADDRESS 30775 Bainbridge Rd.
Solon, Ohio

TEL (440) 349-2708 FAX (440) 349-1514

SAMPLER'S SIGNATURE

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	8240							PRESERVATION pH < 2.0	pH > 12	Other
EFF-4-14-00	4/14-00	11:55		Water	2											X								

RELINQUISHED BY:
Signature Bob Fabian
Printed Name Bob Fabian
Firm URSGWC
Date/Time 4-14-00 12:34

RECEIVED BY:
Signature VGardner
Printed Name VGardner
Firm CAS
Date/Time 4/14/00 @ 1234

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature Rachelle Padgett
Printed Name Rachelle Padgett
Firm CAS
Date/Time 4/14/00 1234

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
__ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
__ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 4°
Submission No: R2001651

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client URS GWC Submission Number R2-1655

Cooler received on 4/14/00 by: [illegible] COURIER: CAS UPS FEDEX CD&L (CLIENT)

1. Were custody seals on outside of cooler? YES (NO): Date___ : Signature
2. Were custody papers properly filled out (ink, signed, etc.)? (YES) NO
3. Did all bottles arrive in good condition (unbroken)? (YES) NO
4. Were VOA vials checked for absence of air bubbles, and noted if so? (YES) NO
5. Were Ice or Ice packs present? (YES) NO
6. Where did the bottles originate? (CAS/ROC, CLIENT)
7. Temperature of cooler(s) upon receipt: 4°C

Is the temperature within 0° - 6° C?:	Yes ☒	Yes ☐	Yes ☐	Yes ☐	Yes ☐
If No, Explain Below	No ☐	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 4/14/00 @ 1236

Thermometer ID:_____ Temp Blank Sample Bottle Cooler Temp. (IR Gun)

If out of Temperature, Client Approval to Run Samples_____

Cooler Breakdown: Date : 4/17/00 by: [illegible]

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct bottles used for the tests indicated? (YES) NO

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
5-9*	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH_____

*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:

Columbia Analytical Services inc.

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.

Columbia Analytical Services inc.

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 7 pages

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

Columbia Analytical Services inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2002051

Lab ID	Client ID
379517	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.

Columbia Analytical Services Inc.

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

COLUMBIA ANALYTICAL SERVICES

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 **Order #:** 379517 **Sample Matrix:** WATER
Date Received: 05/15/00 **Submission #:** R2002051 **Analytical Run** 51299

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	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
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	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	96	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	110	%

COLUMBIA ANALYTICAL SERVICES

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

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 383694 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 51299

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 05/25/00			
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 %)	94	%
TOLUENE-D8	(88 - 110 %)	97	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	106	%

Columbia Analytical Services, INC.
An Employee-Owned Company
1 Mustard St., Suite 250, Rochester, NY 14609-6925
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE _____ PAGE _____ OF _____

PROJECT NAME Griffin IRM
PROJECT MANAGER/CONTACT Mark Schmidt
COMPANY/ADDRESS 30775 Bainbridge Rd. Solon, Ohio
TEL (440) 349-2708 FAX (440) 349-1514
SAMPLER'S SIGNATURE Bob Fabian

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	8240							PRESERVATION pH < 2.0	pH > 12	Other
EFF-5-15-00	5-15-00	11:45		WATER	2											X								

RELINQUISHED BY:
Signature Bob Fabian
Printed Name Bob Fabian
Firm URSGWC
Date/Time 5-15-00 12:30

RECEIVED BY:
Signature Gregory D. Emerian
Printed Name Gregory D. Emerian
Firm CAS
Date/Time 5-15-00 12130

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm

RECEIVED BY:
Signature
Printed Name
Firm

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
__ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
__ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 7.°
Submission No: A2002051

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client_____ Submission Number_____.

Cooler received on 5-15-00 by: ME COURIER: CAS UPS FEDEX CD&L (CLIENT)

1.	Were custody seals on outside of cooler?	YES (NO) Date___ : Signature				
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES) NO				
3.	Did all bottles arrive in good condition (unbroken)?	(YES) NO				
4.	Were VOA vials checked for absence of air bubbles, and noted if so?	(YES) NO				
5.	Were **Ice** or **Ice packs** present?	(YES) NO				
6.	Where did the bottles originate?	4hour Rule (CAS/ROC.) CLIENT				
7.	Temperature of cooler(s) upon receipt:	7°				
	Is the temperature within 0° - 6° C?:	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
	If No, Explain Below	No ☒	No ☐	No ☐	No ☐	No ☐
	Date/Time Temperatures Taken:	5-15-00 12:32				
	Thermometer ID: IR-Gun	Temp Blank	Sample Bottle	Cooler Temp.	(IR. Gun)	

If out of Temperature, Client Approval to Run Samples_____

Cooler Breakdown: Date :_____ by:_____

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	YES NO
2.	Did all bottle labels and tags agree with custody papers?	YES NO
3.	Were correct bottles used for the tests indicated?	YES NO

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
5-9*	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH_____

*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:

00007

Columbia Analytical Services inc.

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

Mark Wilson
Client Service Manager

Enc.

Columbia Analytical Services, Inc.
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 7 pages

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

Columbia Analytical Services inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2002438

Lab ID	Client ID
385823	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.

Columbia Analytical Services Inc.

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

COLUMBIA ANALYTICAL SERVICES

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 **Order #:** 385823 **Sample Matrix:** WATER
Date Received: 06/14/00 **Submission #:** R2002438 **Analytical Run** 52171

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 06/23/00			
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 %)	102	%
TOLUENE-D8	(88 - 110 %)	104	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	98	%

COLUMBIA ANALYTICAL SERVICES

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

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 389145 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 52171

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 06/23/00			
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 %)	102	%
TOLUENE-D8	(88 - 110 %)	103	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	98	%

Columbia Analytical Services, Inc.
An Employee-Owned Company

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

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 6-13-00 PAGE 1 OF 1

PROJECT NAME Griffin IRM
PROJECT MANAGER/CONTACT Mark Schmidt
COMPANY/ADDRESS 30775 Bainbridge Rd
Solon, Ohio
TEL (440) 349-2708 FAX (440) 349-1514
SAMPLER'S SIGNATURE Bob Fabian

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	8240							PRESERVATION pH < 2.0	pH > 12	Other
EFF-6-13-00	6-13-00	13:25	345923	WATER	2											X									

RELINQUISHED BY:
Signature Bob Fabian
Printed Name Bob Fabian
Firm URSGWC
Date/Time 6-13-00 14:06

RECEIVED BY:
Signature Heather Michaels
Printed Name CAS
Firm
Date/Time 6-13-00 14:06

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
__ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
__ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 10
Submission No: R602438

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client ORS Submission Number 8 R2-2438

Cooler received on 6-13-00 by: AM **COURIER:** CAS UPS FEDEX CD&L (CLIENT)

1.	Were custody seals on outside of cooler?					YES / NO
2.	Were custody papers properly filled out (ink, signed, etc.)?					(YES) NO
3.	Did all bottles arrive in good condition (unbroken)?					(YES) NO
4.	Did any VOA vials have significant air bubbles?					YES (NO) N/A
5.	Were Ice or Ice packs present?					(YES) NO
6.	Where did the bottles originate?					(CAS/ROC,) CLIENT
7.	Temperature of cooler(s) upon receipt:	10				
	Is the temperature within 0° - 6° C?:	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
	If No, Explain Below	No ☑	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 6-13-00 14:07

Thermometer ID: _____ Temp Blank Sample Bottle Cooler Temp. (IR. Gun)

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date : 6/14/00 by: BC

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO
3.	Were correct containers used for the tests indicated?	(YES)	NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated		(N/A)

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
5-9*	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH _____

*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:

Columbia Analytical Services inc.

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.

Columbia Analytical Services, Inc.
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 9 pages

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

Columbia Analytical Services inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2002905

Lab ID	Client ID
393185	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.

Columbia Analytical Services Inc.

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

COLUMBIA ANALYTICAL SERVICES

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	PQL	RESULT	UNITS
DATE ANALYZED : 07/18/00			
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	5.1	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	220 E	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 %)	101	%
TOLUENE-D8	(88 - 110 %)	98	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	97	%

COLUMBIA ANALYTICAL SERVICES

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	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
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	230	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 LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	92	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	99	%

COLUMBIA ANALYTICAL SERVICES

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

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 397513 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 53417

ANALYTE	PQL	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
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 %)	102	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	98	%

COLUMBIA ANALYTICAL SERVICES

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

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 397511 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 53417

DATE ANALYZED : 07/18/00
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
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 %)	99	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	100	%

Columbia Analytical Services, INC.
An Employee-Owned Company
1 Mustard St., Suite 250, Rochester, NY 14609-6925
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 7-14-00 PAGE 1 OF 1

PROJECT NAME Griffin IRM
PROJECT MANAGER/CONTACT Mark Schmidt
COMPANY/ADDRESS 30775 Bainbridge Rd. Solon, Ohio
TEL (440) 349-2708 FAX (440) 349-1514
SAMPLER'S SIGNATURE

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	8240							PRESERVATION pH < 2.0	pH > 12	Other
EFF-7-14-00	7-14-00	12:20		WATER	2											X								

RELINQUISHED BY:
Signature: Bob Fabian
Printed Name: Bob Fabian
Firm: URSG WC
Date/Time: 7-14-00 13:05

RECEIVED BY:
Signature: Rachelle Bogart
Printed Name: RACHELLE BOGART
Firm: CAS
Date/Time: 7/14/00 1305

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature: Brian Collen
Printed Name: Brian Collen
Firm: CAS
Date/Time: 7/14/00 1305

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
__ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
__ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 11°
Submission No: R2-2905

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client Griffin IRM Submission Number R2-2905

Cooler received on 7/14/06 by: RB **COURIER:** CAS UPS FEDEX CD&L (CLIENT)

1.	Were custody seals on outside of cooler? NO cooler (N/A)	YES / NO
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES) NO
3.	Did all bottles arrive in good condition (unbroken)?	(YES) NO
4.	Did any VOA vials have significant air bubbles?	YES (NO) N/A
5.	Were **Ice or Ice packs** present? ICED	(YES) NO
6.	Where did the bottles originate?	(CAS/ROC) CLIENT
7.	Temperature of cooler(s) upon receipt: 11°	

Is the temperature within 0° - 6° C?:	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
If No, Explain Below	No ☒	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 7/14/06 1307

Thermometer ID: IR Gun Temp Blank Sample Bottle Cooler Temp. (IR. Gun)

If out of Temperature, Client Approval to Run Samples Same day delivery ok (7/14)

Cooler Breakdown: Date: 7/17/06 by: BC

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES) NO
2.	Did all bottle labels and tags agree with custody papers?	(YES) NO
3.	Were correct containers used for the tests indicated?	(YES) NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated	(N/A)

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
5-9*	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH_____

*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:

01009

Columbia Analytical Services inc.

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

Enc.

Columbia Analytical Services inc.

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

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

Columbia Analytical Services inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2003333

Lab ID	Client ID
400929	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.

Columbia Analytical Services Inc.

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

COLUMBIA ANALYTICAL SERVICES

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	PQL	RESULT	UNITS
DATE ANALYZED : 08/17/00			
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
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	200	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 LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	100	%
TOLUENE-D8	(88 - 110 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	98	%

COLUMBIA ANALYTICAL SERVICES

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

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 405337 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 54721

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/17/00			
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 %)	96	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	104	%

Columbia Analytical Services, Inc.
An Employee-Owned Company
1 Mustard St., Suite 250, Rochester, NY 14609-6925
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 8-11-00 PAGE 1 OF 1

PROJECT NAME Griffin IRM
PROJECT MANAGER/CONTACT Mark Schmidt
COMPANY/ADDRESS 30775 Bainbridge Rd.
Solon, Ohio
TEL (440) 349-2708 FAX (440) 349-1514
SAMPLER'S SIGNATURE

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	8240							PRESERVATION pH < 2.0	pH > 12	Other
EFF-8-11-00	8-11-00	1245	400929	WATER												X									

RELINQUISHED BY:
Signature Bob Fabian
Printed Name Bob Fabian
Firm URS
Date/Time 8-11-00 13:35

RECEIVED BY:
Signature Brian Callon
Printed Name Brian Callon
Firm CAS
Date/Time 8/11/00 1335

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
__ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
__ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 12°
4 hr Rule
Submission No: 12/3333

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client WRCA Submission Number B2-3333

Cooler received on 8/11/00 by: BZ COURIER: CAS UPS FEDEX CD&L (CLIENT)

1. Were custody seals on outside of cooler? YES (NO)
2. Were custody papers properly filled out (ink, signed, etc.)? (YES) NO
3. Did all bottles arrive in good condition (unbroken)? (YES) NO
4. Did any VOA vials have significant air bubbles? YES (NO) N/A
5. Were **Ice** or **Ice packs** present? (YES) NO
6. Where did the bottles originate? (CAS/ROC) CLIENT
7. Temperature of cooler(s) upon receipt: 12 ____ ____ ____ ____

Is the temperature within 0° - 6° C?:	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
If No, Explain Below	No ☐	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 8/11/00 1335

Thermometer ID: ____ Temp Blank Sample Bottle Cooler Temp. (IR. Gun)

If out of Temperature, Client Approval to Run Samples Temp Ok 4 hr Rule.

Cooler Breakdown: Date: 8/14/00 by: BZ

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies: ____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
5-9*	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH ____

*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:

Columbia Analytical Services inc.

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.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson
Client Service Manager

Enc.

Columbia Analytical Services inc.
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 # : R2003834
Reported : 10/05/00

Report Contains a total of 9 pages

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

Columbia Analytical Services inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2003834

Lab ID	Client ID
409563	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.

Columbia Analytical Services Inc.

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

COLUMBIA ANALYTICAL SERVICES

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

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

Date Sampled : 09/16/00 09:15 **Order #:** 409563 **Sample Matrix:** WATER
Date Received: 09/16/00 **Submission #:** R2003834 **Analytical Run** 56032

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 09/27/00			
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
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	13	UG/L
1,1,2-TRICHLOROETHANE	5.0	10 U	UG/L
TRICHLOROETHENE	5.0	410 E	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 LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	105	%
TOLUENE-D8	(88 - 110 %)	97	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	108	%

COLUMBIA ANALYTICAL SERVICES

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

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

Date Sampled : 09/16/00 09:15 **Order #:** 409563 **Sample Matrix:** WATER
Date Received: 09/16/00 **Submission #:** R2003834 **Analytical Run** 0

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 09/29/00			
ANALYTICAL DILUTION: 5.00			
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	UG/L
1,2-DICHLOROETHANE	5.0	25 U	UG/L
1,1-DICHLOROETHENE	5.0	25 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	25 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	25 U	UG/L
1,2-DICHLOROPROPANE	5.0	25 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	25 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	25 U	UG/L
ETHYLBENZENE	5.0	25 U	UG/L
2-HEXANONE	10	50 U	UG/L
METHYLENE CHLORIDE	5.0	25 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	50 U	UG/L
STYRENE	5.0	25 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	25 U	UG/L
TETRACHLOROETHENE	5.0	25 U	UG/L
TOLUENE	5.0	25 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	25 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	25 U	UG/L
TRICHLOROETHENE	5.0	430	UG/L
VINYL CHLORIDE	5.0	25 U	UG/L
O-XYLENE	5.0	25 U	UG/L
M+P-XYLENE	5.0	25 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115 %)	100	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	99	%

COLUMBIA ANALYTICAL SERVICES

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

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 413754 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 56032

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 09/27/00			
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 %)	99	%
TOLUENE-D8	(88 - 110 %)	94	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	107	%

COLUMBIA ANALYTICAL SERVICES

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

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 413755 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 56032

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	%
TOLUENE-D8	(88 - 110 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	100	%

Columbia Analytical Services, Inc.
An Employee-Owned Company

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

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 9-16-00 PAGE 1 OF 1

PROJECT NAME Griffin IRM
PROJECT MANAGER/CONTACT Mark Schmidt
COMPANY/ADDRESS 30775 Bainbridge Rd
Solon, Ohio
TEL (440) 349-2708 FAX (440) 349-1514
SAMPLER'S SIGNATURE Bob Fabian

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	8240							PRESERVATION pH < 2.0	pH > 12	Other
EFF-9-16-00	9-16-00	09:15		WATER	2											X									

RELINQUISHED BY:
Signature Bob Fabian
Printed Name Bob Fabian
Firm URS
Date/Time 9-16-00 10:04

RECEIVED BY:
Signature Gregory D. Gmeiner
Printed Name Gregory D. Gmeiner
Firm CAS
Date/Time 9-16-00 10:04

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
__ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
__ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: ~~9°~~ 9°C
Submission No: A2/3834

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client WCC4 Submission Number R2-3834

Cooler received on 9-16-00 by: HE COURIER: CAS UPS FEDEX CD&L (CLIENT)

1.	Were custody seals on outside of cooler?					YES / (NO)
2.	Were custody papers properly filled out (ink, signed, etc.)?					(YES) NO
3.	Did all bottles arrive in good condition (unbroken)?					(YES) NO
4.	Did any VOA vials have significant air bubbles?					YES (NO) N/A
5.	Were **Ice** or **Ice packs** present?					YES NO
6.	Where did the bottles originate?	9°-4hourRule				(CAS/ROC,) CLIENT
7.	Temperature of cooler(s) upon receipt:					
	Is the temperature within 0° - 6° C?:	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
	If No, Explain Below	No ☒	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 9-16-00 @ 10:05

Thermometer ID: IR Gun Temp Blank Sample Bottle Cooler Temp. (IR Gun)

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 9/18/00 by: BC

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES) NO
2.	Did all bottle labels and tags agree with custody papers?	(YES) NO
3.	Were correct containers used for the tests indicated?	(YES) NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated	(N/A)

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9*	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH _____

*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:

Columbia Analytical Services inc.

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

Mark Wilson
Client Service Manager

Enc.

1 Mustard St.• Suite 250 • Rochester, NY 14609 • Tele:(716)288-5380 • Fax:(716)288-8475

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1 Mustard St., Suite 250, Rochester, NY 14609-6925
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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 9-8-00 PAGE 1 OF 2

PROJECT NAME Griffin IRM
PROJECT MANAGER/CONTACT Mark Schmidt
COMPANY/ADDRESS 30775 Bainbridge St., Ste. 200
Solon, Ohio
TEL (440) 349-2708 FAX (440) 349-1514
SAMPLER'S SIGNATURE Bob Fabian

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	ASP 95-1							PRESERVATION pH < 2.0	PRESERVATION pH > 12	PRESERVATION Other
mw-1	9-8-00	09:30	40738	WATER	3											X									
mw-3		09:45	39		3											X									
mw-5S		10:05	40		3											X									
mw-5D		10:20	41		3											X									
mw-5D (MS)					3											X									
mw-5D (MSD)					3											X									
mw-6S		10:45	42		3											X									
mw-6D		10:50	43		3											X									
mw-7S		11:20	44		3											X									
mw-7D		11:30	45		3											X									

RELINQUISHED BY:
Signature Bob Fabian
Printed Name Bob Fabian
Firm URS
Date/Time 9-8-00 14:08

RECEIVED BY:
Signature
Printed Name Pete Lidzy
Firm CAS
Date/Time 9/8/00 1410

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature Gregory O. Esmerian
Printed Name Gregory O. Esmerian
Firm CAS
Date/Time 9-8-00 14:10

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
__ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
__ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 30
Submission No: R2/3733

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 9-8-00 PAGE 2 OF 2

PROJECT NAME Griffin IRM
PROJECT MANAGER/CONTACT Mark Schmidt
COMPANY/ADDRESS 30775 Bainbridge St., Ste 200 Solon, Ohio
TEL (440) 349-2708 FAX (440) 349-1514
SAMPLER'S SIGNATURE Bob Fabian

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	FOR OFFICE USE ONLY LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624 ☐ 95-1	GC/MS SVOA's ☐ 8270 ☐ 625 ☐ 95-2	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES/PCB's ☐ 8081 ☐ 608 ☐ 95-3	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	ASP 97-1							PRESERVATION pH < 2.0	pH > 12	Other
MW-9S	9-8-00	11:40	40774	WATER	3											X									
MW-9D		11:50	47		3											X									
MW-10S		11:58	48		3											X									
MW-10D		12:05	50		3											X									
MW-13D		12:35	52		3											X									
MW-11D		12:50	53		3											X									
Dup			58		3											X									
RW-04		13:10	60		1											X									
Cooler Blk			62																						

RELINQUISHED BY:
Signature: Bob Fabian
Printed Name: Bob Fabian
Firm: URS
Date/Time: 9-8-00 14:02

RECEIVED BY:
Signature: Peter Liddy
Printed Name: Peter Liddy
Firm: CAS
Date/Time: 9/8/00 1408

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RECEIVED BY:
Signature: Gregory D. Simonton
Printed Name: Gregory D. Simonton
Firm: CAS
Date/Time: 9-8-00 14:10

RELINQUISHED BY:
Signature:
Printed Name:
Firm:
Date/Time:

RECEIVED BY:
Signature:
Printed Name:
Firm:
Date/Time:

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
__ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
__ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 3°
Submission No: RL3733

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client GRIFFIN IRM Submission Number R2-3733

Cooler received on 9-8-00 by: M. COURIER: (CAS) UPS FEDEX CD&L CLIENT

1.	Were custody seals on outside of cooler?	YES (NO)
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES) NO
3.	Did all bottles arrive in good condition (unbroken)?	(YES) NO
4.	Did any VOA vials have significant air bubbles?	YES (NO) N/A
5.	Were **Ice** or **Ice packs** present?	(YES) NO
6.	Where did the bottles originate?	(CAS/ROC) CLIENT
7.	Temperature of cooler(s) upon receipt:	3

Is the temperature within 0° - 6° C?:	Yes ☒	Yes ☐	Yes ☐	Yes ☐	Yes ☐
If No, Explain Below	No ☐	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 9-8-00 1411

Thermometer ID: 139 ~~Temp Blank~~ Sample Bottle Cooler Temp. IR Gun

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 9-8-00 by: ME

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	YES NO
2.	Did all bottle labels and tags agree with custody papers?	YES NO
3.	Were correct containers used for the tests indicated?	YES NO
4.	Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated	(N/A)

Explain any discrepancies: _____

		YES	NO	Sample I.D.	Reagent	Vol. Added
pH	Reagent					
12	NaOH					
2	HNO_3					
2	H_2SO_4					
Residual Chlorine (+/-)	for TCN & Phenol					
5-9*	P/PCBs (608 only)					

YES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH _____

*If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				

Other Comments:

Columbia Analytical Services, Inc.
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.

0002

CAS ASP/CLP BATCHING FORM / LOGIN SHEET

SDG #: MW-1
SUBMISSIO R2003733
CLIENT: URS Greiner Woodward Clyde
CLIENT REP: Mark Wilson
PROJECT: GRIFFIN IRM

BATCH COMPLETE: __yes_____
DISKETTE REQUESTED: Y___ N__x__
DATE: 09/11/00
CUSTODY SEAL: PRESENT/ABSENT:
CHAIN OF CUSTODY: PRESENT/ABSENT:

DATE REVISED:
DATE DUE: 10/08/00
PROTOCOL: ASP-B
SHIPPING No.:

CAS JOB #	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE SAMPLE	DATE RECEIVE	pH (SOLIDS)	% SOLIDS	REMARKS AMPLE CONDITIO
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			

C003

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 Code	Laboratory Sample Code	Analytical Requirements* 95ASP PROTOCOL					
		*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	X					
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					
RW-04	407760	X					

*Check Appropriate Boxes
*CLP, Non-CLP
*HSL, Priority Pollutant
NCF1

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

LABORATORY SAMPLE ID	MATRIX	DATE COLLECTED	DATE REC'D AT LAB	LOW LEVEL MED LEVEL	DATE 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

NCF5 5/91

0006

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			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

NCF2 9/89

0007

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1

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: 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)

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

MW-1

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: 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)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-1

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: 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)

Number TICs found: 1

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

Q | C

R | B

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.53	6	JB
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3

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: 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)

Q | C

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	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	J | M
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.

MW-3

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: 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)

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

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-3

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: 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)

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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1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-5S

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: 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.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	Q	C
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-Dichloroethene	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	22			
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	550 ~~650~~	~~E~~	J	E,M
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.

MW-5S

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: 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.	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

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW-5S

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: 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)

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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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5SDL

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: 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)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q	
74-87-3	Chloromethane	50	U	
75-01-4	Vinyl Chloride	50	U	
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	50	U	
79-01-6	Trichloroethene	550	D	only result 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	

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5SDL

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: 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)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-5SDL

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: 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)

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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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5D

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: 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)

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	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	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	J | M
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

Q/C

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5D

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: 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)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-5D

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: 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)

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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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6S

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: 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)

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	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	110	J | M
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

Q | C

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6S

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: 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)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-6S

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: 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)

Number TICs found: 0

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

Q|C

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

EPA SAMPLE NO.

MW-6D

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: 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	Q | C
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		J | M
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	

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6D

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: 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
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-6D

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: 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)

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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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7S

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: 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)

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7S

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: 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)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-7S

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: 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)

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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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7D

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: 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)

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	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-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
156-59-4	cis-1,2-Dichloroethene	13	
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	180	
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

Q|C

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7D

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: 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)

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-7D

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: 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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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9S

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: 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	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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9S

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: 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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-9S

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: 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)

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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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9D

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: 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)

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	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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9D

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: 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)

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-9D

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: 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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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-10S

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: 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.	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	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	3	J
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

Q/C

J/M

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-10S

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: 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.	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-10S

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: 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)

Number TICs found: 1

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

Q | C
R | B

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.53	9	JB
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-10D

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: 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.	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	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	6	J
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

Q | C

J | M

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-10D

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: 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.	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-10D

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: 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)

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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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-13D

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: 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.	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	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	140	
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

Q | C

J | M

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-13D

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: 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.	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-13D

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: 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

Q|C

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1634-04-4	PROPANE, 2-METHOXY-2-METHYL-	5.28	5	NJ
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-11D

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: 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)

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	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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-11D

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: 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)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-11D

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: 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)

Number TICs found: 1

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

Q | C
R | B

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.54	8	J
2.					
3.					
4.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP

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: 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)

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	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

Q | C

J | M

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP

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: 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)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DUP

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: 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

Q | C
R | B

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.55	8	J
2.					
3.					
4.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RW-04

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: 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)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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

Q | C

J | M

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RW-04

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: 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)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-25-2	Bromoform	100	U
79-34-5	1,1,2,2-Tetrachloroethane	100	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

RW-04

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: 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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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30.					

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

COOLER BLANK

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: 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
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.

COOLER BLANK

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

COOLER BLANK

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: 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)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
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2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CAS-ROC Contract: WCC-URS

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

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT 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						

		QC LIMITS
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

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

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

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS 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 ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS 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

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

* Values outside of QC limits

RPD: 1 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5DMS

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: 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
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	51	
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	3	J
56-23-5	Carbon Tetrachloride	10	U
71-43-2	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	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-Xylene	10	U
100-42-5	Styrene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5DMS

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: 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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5DMSD

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: 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)

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	53	
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	4	J
56-23-5	Carbon Tetrachloride	10	U
71-43-2	Benzene	51	
107-06-2	1,2-Dichloroethane	10	U
79-01-6	Trichloroethene	210	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	51	
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	51	
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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5DMSD

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: 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)

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

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CAS-ROC Contract: WCC-URS

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

Matrix Spike - EPA Sample No.: VBLK01

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0.0	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: _____

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

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)

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	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-Xylene	10	U
100-42-5	Styrene	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

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)

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

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CAS-ROC Contract: WCC-URS

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

Matrix Spike - EPA Sample No.: VBLK02

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK02MS

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: 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	
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	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

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK02MS

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

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CAS-ROC Contract: WCC-URS

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

Matrix Spike - EPA Sample No.: VBLK03

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS 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: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

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	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	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-Dichloroethene	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-Xylene	10	U
100-42-5	Styrene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

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

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: CAS-ROC Contract: WCC-URS

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

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 SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK01MS	VBLK01MS	Q9847	1939
02	MW-1	407738	Q9848	2013
03	MW-3	407739	Q9849	2047
04	MW-5S	407740	Q9850	2121
05	MW-5D	407741	Q9851	2155
06	MW-5DMS	407741MS	Q9852	2228
07	MW-5DMSD	407741MSD	Q9853	2302
08	MW-6S	407742	Q9854	2336
09	MW-6D	407743	Q9855	0009
10	MW-7S	407744	Q9856	0043
11	MW-7D	407745	Q9857	0117
12	MW-9S	407746	Q9858	0150
13	MW-9D	407747	Q9859	0224
14	MW-10S	407748	Q9860	0258
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COMMENTS:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01

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: 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: (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

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK01

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: 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)

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.53	7	J
2.					
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4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK02

Lab Name: CAS-ROC Contract: WCC-URS

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

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 SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK02MS	VBLK02MS	Q9926	1302
02	MW-10D	407750	Q9932	1624
03	MW-13D	407752	Q9933	1658
04				
05				
06				
07				
08				
09				
10				
11				
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COMMENTS:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK02

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: 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)

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	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.

VBLK02

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: 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)

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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK02

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: 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.					
2.					
3.					
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4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK03

Lab Name: CAS-ROC Contract: WCC-URS

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

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 SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK03MS	VBLK03MS	Q9951	1933
02	DUP	407758	Q9953	2040
03	RW-04	407760	Q9954	2113
04	MW-5SDL	407740DL	Q9955	2147
05	MW-11D	407753	Q9956	2220
06	COOLER BLANK	407762	Q9965	0321
07				
08				
09				
10				
11				
12				
13				
14				
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COMMENTS:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03

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: 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	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	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-Dichloroethene	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.

VBLK03

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: 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	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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK03

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: 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)

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROC Contract: WCC-URS

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

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) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	123078	7.31	821951	9.02	698240	13.86
	UPPER LIMIT	246156	7.81	1643902	9.52	1396480	14.36
	LOWER LIMIT	61539	6.81	410976	8.52	349120	13.36
	EPA SAMPLE NO.						
01	VBLK01	114823	7.33	744235	9.03	649576	13.87
02	VBLK01MS	122837	7.32	801296	9.03	673800	13.86
03	MW-1	106805	7.33	691842	9.03	589143	13.86
04	MW-3	121639	7.32	796004	9.03	672589	13.87
05	MW-5S	96710	7.34	578511	9.04	498784	13.87
06	MW-5D	116605	7.33	765371	9.03	618373	13.86
07	MW-5DMS	116791	7.32	769590	9.03	651096	13.86
08	MW-5DMSD	113271	7.32	742368	9.03	621040	13.86
09	MW-6S	117283	7.33	747513	9.03	632818	13.86
10	MW-6D	111398	7.32	705246	9.03	606275	13.86
11	MW-7S	112136	7.32	717584	9.03	611428	13.86
12	MW-7D	115315	7.33	734463	9.03	631152	13.86
13	MW-9S	116024	7.33	742152	9.03	632253	13.86
14	MW-9D	108731	7.33	701636	9.03	597370	13.86
15	MW-10S	113387	7.32	726112	9.03	600767	13.86
16							
17							
18							
19							
20							
21							
22							

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.

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROC Contract: WCC-URS

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

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) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
	12 HOUR STD	207911	7.32	1401904	9.03	1174030	13.86
	UPPER LIMIT	415822	7.82	2803808	9.53	2348060	14.36
	LOWER LIMIT	103956	6.82	700952	8.53	587015	13.36
	EPA SAMPLE NO.						
01	VBLK02	206493	7.32	1418879	9.03	1177296	13.86
02	VBLK02MS	190524	7.32	1295531	9.03	1075970	13.86
03	MW-10D	192744	7.33	1352771	9.03	1109282	13.86
04	MW-13D	195506	7.32	1346121	9.03	1097642	13.86
05							
06							
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21							
22							

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.

089A

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS-ROC Contract: WCC-URS

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

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) AREA #	RT #	IS2(DFB) AREA #	RT #	IS3(CBZ) AREA #	RT #
	12 HOUR STD	175911	7.33	1206180	9.03	1001414	13.87
	UPPER LIMIT	351822	7.83	2412360	9.53	2002828	14.37
	LOWER LIMIT	87956	6.83	603090	8.53	500707	13.37
	EPA SAMPLE NO.						
01	VBLK03	175934	7.32	1170646	9.02	972601	13.86
02	VBLK03MS	166100	7.33	1129672	9.03	935965	13.87
03	DUP	156177	7.33	1035904	9.03	870188	13.86
04	RW-04	160437	7.33	1058392	9.03	895520	13.86
05	MW-5SDL	160185	7.32	1074280	9.03	900543	13.86
06	MW-11D	151182	7.33	995027	9.03	835414	13.86
07	COOLER BLANK	153980	7.33	1029339	9.03	815136	13.87
08							
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21							
22							

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.

FORM VIII VOA

089B

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:

1. Interim Remedial Measure Program Appendix B: Quality Assurance Project Plan (QAPP). July 1996. Prepared by Woodward-Clyde Consultants.

2. 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	7J	
Associated Samples:			
MW-01	unknown RT 2.53	6JB	R
MW-10S	unknown RT 2.53	9JB	R
MW-11D	unknown RT 2.54	8J	R
DUP.	unknown RT 2.55	8J	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 ∀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.