FINAL REPORT

INTERIM REMEDIAL MEASURE PROGRAM

SEMI-ANNUAL PROGRESS REPORT
APRIL 2001 – SEPTEMBER 2001

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

Prepared for
Diebold, Inc.
Canton, Ohio

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URS Corporation

600 West St. Clair Avenue
Suite 500
Cleveland, Ohio 44113-1232
216-622-2400
Project No. 38-08E06191.03

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INTERIM REMEDIAL MEASURE SEMI-ANNUAL PROGRESS REPORT

APRIL 2001 – SEPTEMBER 2001

GRIFFIN TECHNOLOGY, INC. FACILITY

TOWN OF FARMINGTON

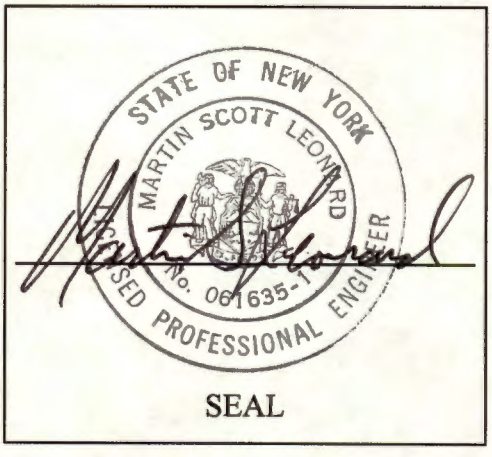
ONTARIO COUNTY, NEW YORK

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: November 1, 2001



SEAL

This report presents information collected by URS Corporation (URS) between April and September 2001 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. In June 1999, an additional recovery well was added to the system. In April 2000, a new sanitary sewer tie-in was connected to the 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 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.

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. 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.

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 13, 2001, 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. Due to the low discharge during September 2001, a sample of the effluent was not collected for laboratory analysis.

On September 13, 2001, 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. Samples were collected in laboratory supplied containers.

In addition, groundwater samples were collected from recovery wells RW-1 and RW-3. These samples were collected in laboratory supplied containers directly from sample ports on the pump discharge line. Samples were not collected from recovery wells RW-2 and RW-4 due to low discharge.

Groundwater samples were placed into a cooler with ice for preservation until delivered to the laboratory for analysis. One duplicate sample was collected from monitoring well MW-5D. 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 2001 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 3-6) and the bedrock water-bearing zone (Figures 3-7 through 3-12). 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 13, 2001. 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 13, 2001.

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 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 IRM system operating data and effluent analysis collected from January – September 2001 is presented in Table 3-2. Due to low monthly discharge, a September composite effluent sample was not collected from the system. Grab samples were collected from two of the four recovery wells, RW-1 and RW-3. The highest resultant concentrations from recovery well RW-1 are shown on Table 3-2 and were used to report estimated loadings to the POTW.

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, mainly TCE, fluctuated during this operating period. 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 2001) 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 13, 2001 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 13, 2001 event showed that concentrations of COCs were generally slightly higher than those reported for the previous (March 8, 2001) groundwater sampling event. The COCs detected in groundwater samples collected during September 2001 consisted of TCE, 1,1,1-TCA, and cis-1,2-dichloroethene (cis-1,2-DCE). These COCs are generally consistent with the results of earlier sampling events. Vinyl chloride (VC), detected at a concentration of 3 micrograms per liter (µg/l) in the sample collected from monitoring well MW-07D during the previous event, was not detected during the September 2001 event. 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 corner of the site. 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 13, 2001 bedrock groundwater elevation data indicate the presence of a groundwater low southwest of the site in the vicinity of monitoring well MW-07S, which has been observed previously.
- Groundwater elevations were at high levels at the beginning of the operating period and decreased steadily throughout the six-month operating period.
- The monthly quantity of groundwater removed by the IRM system decreased over the six-month 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 fluctuated throughout the operating period; concentrations remained within historical levels. TCE was consistently the COC reported at the highest concentration in the IRM system effluent.
- 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 2001
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	04/11/01	3.46	638.33
		04/29/01	5.32	636.47
		05/14/01	7.40	634.39
		05/30/01	8.08	633.71
		06/16/01	11.04	630.75
		06/29/01	12.48	629.31
		07/16/01	13.92	627.87
		07/25/01	14.68	627.11
		08/15/01	16.12	625.67
		08/31/01	16.13	625.66
		09/13/01	15.40	626.39
		09/29/01	12.79	629.00
MW-02S	641.28	04/11/01	5.63	635.65
		04/29/01	8.47	632.81
		05/14/01	13.22	628.06
		05/30/01	13.73	627.55
		06/16/01	DRY	DRY
		06/29/01	DRY	DRY
		07/16/01	DRY	DRY
		07/25/01	DRY	DRY
		08/15/01	DRY	DRY
		08/31/01	DRY	DRY
		09/13/01	DRY	DRY
		09/29/01	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
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APRIL - SEPTEMBER 2001
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	04/11/01	5.51	636.66
		04/29/01	9.93	632.24
		05/14/01	13.50	628.67
		05/30/01	14.12	628.05
		06/16/01	15.87	626.30
		06/29/01	16.88	625.29
		07/16/01	17.72	624.45
		07/25/01	18.50	623.67
		08/15/01	19.72	622.45
		08/31/01	19.59	622.58
		09/13/01	19.26	622.91
		09/29/01	16.68	625.49
MW-04	641.75	04/11/01	6.98	634.77
		04/29/01	11.78	629.97
		05/14/01	16.25	625.50
		05/30/01	16.33	625.42
		06/16/01	18.50	623.25
		06/29/01	19.22	622.53
		07/16/01	18.73	623.02
		07/25/01	19.61	622.14
		08/15/01	19.63	622.12
		08/31/01	19.51	622.24
		09/13/01	19.59	622.16
		09/29/01	16.77	624.98

NOTES
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APRIL - SEPTEMBER 2001
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	04/11/01	8.10	632.75
		04/29/01	12.76	628.09
		05/14/01	16.22	624.63
		05/30/01	17.17	623.68
		06/16/01	18.73	622.12
		06/29/01	19.37	621.48
		07/16/01	19.84	621.01
		07/25/01	20.42	620.43
		08/15/01	DRY	DRY
		08/31/01	DRY	DRY
		09/13/01	DRY	DRY
		09/29/01	19.65	621.20
MW-05D	641.01	04/11/01	10.97	630.04
		04/29/01	17.11	623.90
		05/14/01	18.48	622.53
		05/30/01	19.34	621.67
		06/16/01	19.91	621.10
		06/29/01	21.14	619.87
		07/16/01	21.46	619.55
		07/25/01	22.05	618.96
		08/15/01	22.62	618.39
		08/31/01	22.80	618.21
		09/13/01	22.99	618.02
		09/29/01	21.60	619.41

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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	04/11/01	3.49	633.12
		04/29/01	NM	NM
		05/14/01	11.95	624.66
		05/30/01	NM	NM
		06/16/01	13.80	622.81
		06/29/01	NM	NM
		07/16/01	15.12	621.49
		07/25/01	NM	NM
		08/15/01	16.29	620.32
		08/31/01	NM	NM
		09/13/01	16.52	620.09
		09/29/01	NM	NM
MW-06D	636.83	04/11/01	3.74	633.09
		04/29/01	NM	NM
		05/14/01	12.19	624.64
		05/30/01	NM	NM
		06/16/01	14.01	622.82
		06/29/01	NM	NM
		07/16/01	15.39	621.44
		07/25/01	NM	NM
		08/15/01	16.55	620.28
		08/31/01	NM	NM
		09/13/01	16.76	620.07
		09/29/01	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-07S	634.29	04/11/01	NM	NM
		04/29/01	NM	NM
		05/14/01	NM	NM
		05/30/01	NM	NM
		06/16/01	NM	NM
		06/29/01	NM	NM
		07/16/01	NM	NM
		07/25/01	NM	NM
		08/15/01	NM	NM
		08/31/01	NM	NM
		09/13/01	16.67	617.62
		09/29/01	NM	NM
MW-07D	634.16	04/11/01	NM	NM
		04/29/01	NM	NM
		05/14/01	NM	NM
		05/30/01	NM	NM
		06/16/01	NM	NM
		06/29/01	NM	NM
		07/16/01	NM	NM
		07/25/01	NM	NM
		08/15/01	NM	NM
		08/31/01	NM	NM
		09/13/01	37.60	596.56
		09/29/01	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-09S	630.16	04/11/01	NM	NM
		04/29/01	NM	NM
		05/14/01	NM	NM
		05/30/01	NM	NM
		06/16/01	NM	NM
		06/29/01	NM	NM
		07/16/01	NM	NM
		07/25/01	NM	NM
		08/15/01	NM	NM
		08/31/01	NM	NM
		09/13/01	15.81	614.35
		09/29/01	NM	NM
MW-09D	630.29	04/11/01	NM	NM
		04/29/01	NM	NM
		05/14/01	NM	NM
		05/30/01	NM	NM
		06/16/01	NM	NM
		06/29/01	NM	NM
		07/16/01	NM	NM
		07/25/01	NM	NM
		08/15/01	NM	NM
		08/31/01	NM	NM
		09/13/01	35.95	594.34
		09/29/01	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-10S	629.00	04/11/01	NM	NM
		04/29/01	NM	NM
		05/14/01	NM	NM
		05/30/01	NM	NM
		06/16/01	NM	NM
		06/29/01	NM	NM
		07/16/01	NM	NM
		07/25/01	NM	NM
		08/15/01	NM	NM
		08/31/01	NM	NM
		09/13/01	16.66	612.34
		09/29/01	NM	NM
MW-10D	626.80	04/11/01	NM	NM
		04/29/01	NM	NM
		05/14/01	NM	NM
		05/30/01	NM	NM
		06/16/01	NM	NM
		06/29/01	NM	NM
		07/16/01	NM	NM
		07/25/01	NM	NM
		08/15/01	NM	NM
		08/31/01	NM	NM
		09/13/01	17.81	608.99
		09/29/01	NM	NM

NOTES
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FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-11D	641.89	04/11/01	6.49	635.40
		04/29/01	11.03	630.86
		05/14/01	13.34	628.55
		05/30/01	13.40	628.49
		06/16/01	15.50	626.39
		06/29/01	16.43	625.46
		07/16/01	17.43	624.46
		07/25/01	17.83	624.06
		08/15/01	18.60	623.29
		08/31/01	18.88	623.01
		09/13/01	18.94	622.95
		09/29/01	18.93	622.96
MW-13D	636.58	04/11/01	NM	NM
		04/29/01	NM	NM
		05/14/01	NM	NM
		05/30/01	NM	NM
		06/16/01	NM	NM
		06/29/01	NM	NM
		07/16/01	NM	NM
		07/25/01	NM	NM
		08/15/01	NM	NM
		08/31/01	NM	NM
		09/13/01	18.38	618.20
		09/29/01	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)
PZ-1S	640.50	04/11/01	5.92	634.58
		04/29/01	DRY	DRY
		05/14/01	DRY	DRY
		05/30/01	DRY	DRY
		06/16/01	DRY	DRY
		06/29/01	DRY	DRY
		07/16/01	DRY	DRY
		07/25/01	DRY	DRY
		08/15/01	DRY	DRY
		08/31/01	DRY	DRY
		09/13/01	DRY	DRY
		09/29/01	10.39	630.11
PZ-1D	640.67	04/11/01	6.10	634.57
		04/29/01	11.25	629.42
		05/14/01	DRY	DRY
		05/30/01	DRY	DRY
		06/16/01	DRY	DRY
		06/29/01	DRY	DRY
		07/16/01	DRY	DRY
		07/25/01	DRY	DRY
		08/15/01	DRY	DRY
		08/31/01	DRY	DRY
		09/13/01	DRY	DRY
		09/29/01	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 2001
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	04/11/01	8.77	630.96
		04/29/01	12.68	627.05
		05/14/01	16.22	623.51
		05/30/01	16.55	623.18
		06/16/01	DRY	DRY
		06/29/01	DRY	DRY
		07/16/01	DRY	DRY
		07/25/01	DRY	DRY
		08/15/01	DRY	DRY
		08/31/01	DRY	DRY
		09/13/01	DRY	DRY
		09/29/01	DRY	DRY
PZ-2D	640.01	04/11/01	10.21	629.80
		04/29/01	13.75	626.26
		05/14/01	16.91	623.10
		05/30/01	17.17	622.84
		06/16/01	18.89	621.12
		06/29/01	19.60	620.41
		07/16/01	19.98	620.03
		07/25/01	20.22	619.79
		08/15/01	20.60	619.41
		08/31/01	20.15	619.86
		09/13/01	20.39	619.62
		09/29/01	19.49	620.52

NOTES
NM indicates water elevation not measured.
DRY indicates well did not contain groundwater.

TABLE 3-2
SUMMARY OF EFFLUENT DISCHARGES TO POTW - 2001
GRIFFIN TECHNOLOGY FACILITY
FARMINGTON, NEW YORK

	DISCHARGE	CONCENTRATIONS					
MONTH	(GAL.)	TCE	1,1,1-TCA	cis-1,2-DCE	2-BUTANONE	VINYL CHLORIDE	ACETONE
January 2001	93,400	410	ND	ND	ND	ND	ND
February 2001	245,630	340	ND	ND	ND	ND	ND
March 2001	360,490	220	ND	ND	ND	ND	ND
April 2001	412,099	210	ND	ND	ND	ND	ND
May 2001	164,831	390	ND	ND	ND	ND	ND
June 2001	97,349	380	10	ND	ND	ND	ND
July 2001	52,690	340	ND	ND	ND	ND	ND
August 2001	48,101	360	ND	ND	ND	ND	ND
September 2001	42,290	440*	8*	9*	ND	ND	ND

Notes:

* Result from September 13, 2001 grab sample of RW-1. Sample of effluent not collected due to low flow.

1. All results expressed in micrograms per liter (µg/l).
2. No other VOC compounds detected.
3. ND indicates not detected.
4. NS indicates no sample was detected due to low discharge.

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
	5/21/96	ND	ND	ND	ND	ND	ND	ND
	8/13/97	ND	ND	ND	ND	ND	ND	ND
	3/18/98	ND	ND	ND	ND	ND	ND	ND
	9/2/98	ND	ND	ND	ND	ND	ND	ND
	3/18/99	ND	ND	ND	ND	ND	ND	ND
	9/2/99	ND	ND	ND	ND	ND	ND	ND
	3/28/00	ND	ND	ND	ND	ND	ND	ND
	9/8/00	ND	ND	ND	ND	ND	ND	ND
	3/8/01	ND	ND	ND	ND	ND	ND	ND
	9/13/01	ND	ND	ND	ND	ND	ND	ND
MW-02S	12/19/94	850	ND	ND	ND	ND	ND	ND
	5/21/96	30	ND	1	ND	ND	ND	ND
	8/13/97	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	3/18/98	17,000	ND	ND	ND	ND	ND	ND
	9/2/98	18,000	210	ND	ND	ND	ND	ND
	3/18/99	28	ND	ND	ND	ND	ND	ND
	9/2/99	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	3/28/00	6	ND	ND	ND	ND	ND	ND
	9/8/00	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	3/8/01	9	ND	ND	ND	ND	ND	ND
	9/13/01	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-02D	8/13/97	450	23	42	ND	ND	ND	ND
	3/18/98	740	16	28	ND	ND	ND	ND
	9/2/98	680	25	39	ND	ND	ND	ND
	3/18/99	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
	5/21/96	120	ND	2	ND	ND	ND	ND
	8/13/97	150	ND	2	ND	ND	ND	ND
	3/18/98	88	ND	ND	ND	ND	ND	ND
	9/2/98	110	ND	ND	ND	ND	ND	ND
	3/18/99	45	ND	ND	ND	ND	ND	ND
	9/2/99	170	ND	ND	ND	ND	ND	ND
	3/28/00	93	ND	ND	ND	ND	ND	ND
	9/8/00	150	ND	ND	ND	ND	ND	ND
	3/8/01	96	ND	ND	ND	ND	ND	ND
	9/13/01	120	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.
7. Data presented includes actual and estimated concentrations based on Level IV Data Validation Procedures. Refer to analyt data and data validation report for additional descriptions.

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
	5/21/96	16	ND	2	ND	ND	ND	ND
	8/13/97	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	3/18/98	59	ND	2	ND	ND	ND	ND
	9/2/98	450	7	20	ND	ND	ND	ND
	3/18/99	58	ND	1	ND	ND	ND	ND
	9/2/99	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	3/28/00	9	ND	ND	ND	ND	ND	ND
Duplicate	3/28/00	9	ND	ND	ND	ND	ND	ND
	9/8/00	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	3/8/01	130	ND	2	ND	ND	ND	ND
Duplicate	3/8/01	130	ND	2	ND	ND	ND	ND
	9/13/01	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-05S	12/19/94	580	15	ND	ND	ND	ND	ND
	5/21/96	350	16	ND	ND	ND	ND	ND
	8/13/97	760	31	4	ND	ND	ND	ND
	3/18/98	120	4	ND	1	ND	ND	ND
	9/2/98	390	14	ND	ND	ND	ND	ND
	3/18/99	95	3	ND	ND	ND	ND	ND
	9/2/99	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	3/28/00	140	4	ND	ND	ND	ND	ND
	9/8/00	550	22	ND	ND	ND	ND	ND
	3/8/01	330	9	ND	ND	ND	ND	ND
	9/13/01	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-05D	12/19/94	820	23	ND	ND	ND	ND	ND
	5/21/96	1,000	48	8	ND	ND	ND	ND
	8/13/97	250	7	2	ND	ND	ND	ND
	3/18/98	250	7	ND	ND	ND	ND	ND
	9/2/98	300	8	2	ND	ND	ND	ND
	3/18/99	200	7	2	ND	ND	ND	ND
	9/2/99	220	6	2	ND	ND	ND	ND
	3/28/00	190	4	ND	ND	ND	ND	ND
	9/8/00	160	3	ND	ND	ND	ND	ND
	3/8/01	160	3	ND	ND	ND	ND	ND
	9/13/01	120	3	ND	ND	ND	ND	ND
Duplicate	9/13/01	110	2	ND	ND	ND	3	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.
7. Data presented includes actual and estimated concentrations based on Level IV Data Validation Procedures. Refer to analyt data and data validation report for additional descriptions.

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-06S	12/19/94	270	7.8	ND	ND	ND	ND	ND
	5/21/96	ND	2	ND	ND	ND	ND	ND
	8/13/97	140	9	3	ND	ND	ND	ND
	3/18/98	5	ND	ND	ND	ND	ND	ND
	9/2/98	140	8	2	ND	ND	ND	ND
	3/17/99	ND	ND	ND	ND	ND	ND	ND
	9/2/99	110	6	4	ND	ND	ND	ND
	3/28/00	3	ND	ND	ND	ND	ND	ND
	9/8/00	110	5	ND	ND	ND	ND	ND
	3/8/01	ND	ND	ND	ND	ND	ND	ND
	9/13/01	72	4	4	ND	ND	ND	ND
MW-06D	12/19/94	190	7.5	ND	ND	ND	ND	ND
	5/21/96	240	10	ND	ND	ND	ND	ND
	8/13/97	150	10	2	ND	ND	ND	ND
	3/18/98	6	ND	ND	ND	ND	ND	ND
	9/2/98	140	8	2	ND	ND	ND	ND
	3/17/99	ND	ND	ND	ND	ND	ND	ND
	9/2/99	110	7	2	ND	ND	ND	ND
	3/28/00	89	5	1	ND	ND	ND	ND
	9/8/00	110	6	ND	ND	ND	ND	ND
Duplicate	9/8/00	110	6	ND	ND	ND	ND	ND
	3/8/01	95	5	ND	ND	ND	ND	ND
	9/13/01	80	4	3	ND	ND	3	ND
MW-07S	12/19/94	250	6.6	8	ND	ND	ND	ND
	5/21/96	310	7	6	ND	ND	ND	ND
	8/13/97	250	6	6	ND	ND	ND	ND
	3/18/98	3	ND	ND	ND	ND	ND	ND
	9/2/98	220	5	4	ND	ND	ND	ND
	3/17/99	ND	ND	ND	ND	ND	ND	ND
	9/2/99	220	4	4	ND	ND	ND	ND
	3/28/00	210	4	3	ND	ND	ND	ND
	9/8/00	210	ND	ND	ND	ND	ND	ND
	3/8/01	200	4	3	ND	ND	ND	ND
	9/13/01	190	3	4	ND	ND	ND	ND
MW-07D	12/19/94	260	ND	7	ND	ND	ND	ND
	5/21/96	290	4	12	ND	ND	ND	ND
	8/13/97	180	2	13	ND	ND	ND	ND
	3/18/98	150	2	15	ND	ND	ND	ND
	9/2/98	200	2	15	ND	ND	ND	ND
	3/17/99	100	ND	8	ND	ND	ND	ND
	9/2/99	180	2	14	ND	ND	ND	ND
	3/28/00	130	ND	19	ND	ND	ND	4
	9/8/00	180	ND	13	ND	ND	ND	ND
	3/8/01	140	ND	20	ND	ND	ND	3
	9/13/01	150	1	14	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.
7. Data presented includes actual and estimated concentrations based on Level IV Data Validation Procedures. Refer to analyt data and data validation report for additional descriptions.

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-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.							
MW-09S	12/19/94	ND	ND	ND	ND	ND	ND	ND
	5/21/96	ND	ND	ND	ND	ND	ND	ND
	8/13/97	2	ND	ND	ND	ND	ND	ND
	3/18/98	3	ND	ND	ND	ND	ND	ND
	9/2/98	NS	NS	NS	NS	NS	NS	NS
	3/18/99	ND	ND	ND	ND	ND	ND	ND
	9/2/99	ND	ND	ND	ND	ND	ND	ND
	3/28/00	ND	ND	ND	ND	ND	ND	ND
	9/8/00	ND	ND	ND	ND	ND	ND	ND
	3/8/01	ND	ND	ND	ND	ND	ND	ND
	9/13/01	ND	ND	ND	ND	ND	3	ND
MW-09D	12/19/94	ND	ND	ND	ND	ND	ND	ND
	5/21/96	ND	ND	ND	ND	ND	ND	ND
	8/13/97	ND	ND	ND	ND	ND	ND	ND
	3/18/98	ND	ND	ND	ND	ND	ND	ND
	9/2/98	NS	NS	NS	NS	NS	NS	NS
	3/18/99	ND	ND	ND	ND	ND	ND	ND
	9/2/99	ND	ND	ND	ND	ND	ND	ND
	3/28/00	ND	ND	ND	ND	ND	ND	ND
	9/8/00	ND	ND	ND	ND	ND	ND	ND
	3/8/01	ND	ND	ND	ND	ND	ND	ND
	9/13/01	ND	ND	ND	ND	ND	3	ND
MW-10S	12/19/94	7.8	ND	ND	ND	ND	ND	ND
	5/29/96	30	1	ND	ND	ND	ND	ND
	8/13/97	15	ND	ND	ND	ND	ND	ND
	3/18/98	NS	NS	NS	NS	NS	NS	NS
	9/2/98	8	ND	ND	ND	ND	ND	ND
	3/18/99	ND	ND	ND	ND	ND	ND	ND
	9/2/99	7	ND	ND	ND	ND	ND	ND
	3/28/00	1	ND	ND	ND	ND	ND	ND
	9/8/00	3	ND	ND	ND	ND	ND	ND
	3/8/01	ND	ND	ND	ND	ND	ND	ND
	9/13/01	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.
7. Data presented includes actual and estimated concentrations based on Level IV Data Validation Procedures. Refer to analyt data and data validation report for additional descriptions.

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-10D	12/19/94	8.2	ND	ND	ND	ND	ND	ND
	5/29/96	8	ND	ND	ND	ND	ND	ND
	8/13/97	15	ND	ND	ND	ND	ND	ND
	3/18/98	NS	NS	NS	NS	NS	NS	NS
	9/2/98	9	ND	ND	ND	ND	ND	ND
	3/18/99	ND	ND	ND	ND	ND	ND	ND
	9/2/99	7	ND	ND	ND	ND	ND	ND
	3/28/00	3	ND	ND	ND	ND	ND	ND
	9/8/00	6	ND	ND	ND	ND	ND	ND
	3/8/01	5	ND	ND	ND	ND	ND	ND
	9/13/01	6	ND	ND	ND	ND	ND	ND
MW-11D	4/11/96	ND	ND	ND	ND	ND	ND	ND
	5/21/96	ND	ND	ND	ND	ND	ND	ND
	8/13/97	ND	ND	ND	ND	ND	ND	ND
	3/18/98	ND	ND	ND	ND	ND	ND	ND
	9/2/98	ND	ND	ND	ND	ND	ND	ND
	3/18/99	ND	ND	ND	ND	ND	ND	ND
	9/2/99	ND	ND	ND	ND	ND	ND	ND
	3/28/00	ND	ND	ND	ND	ND	ND	ND
	9/8/00	ND	ND	ND	ND	ND	ND	ND
	3/8/01	ND	ND	ND	ND	ND	ND	ND
	9/13/01	ND	ND	ND	ND	ND	ND	ND
MW-13D	4/11/96	610	5	4	ND	ND	ND	ND
	5/21/96	190	5	4	ND	ND	ND	ND
	8/13/97	160	4	4	ND	ND	ND	ND
	3/18/98	110	2	ND	ND	ND	ND	ND
	9/2/98	140	3	2	ND	ND	ND	ND
	3/17/99	120	2	2	ND	ND	ND	ND
	9/2/99	140	3	2	ND	ND	ND	ND
	3/28/00	85	2	ND	ND	ND	ND	ND
	9/8/00	140	ND	ND	ND	ND	ND	ND
	3/8/01	88	2	ND	ND	ND	ND	ND
	9/13/01	120	2	ND	ND	ND	ND	ND

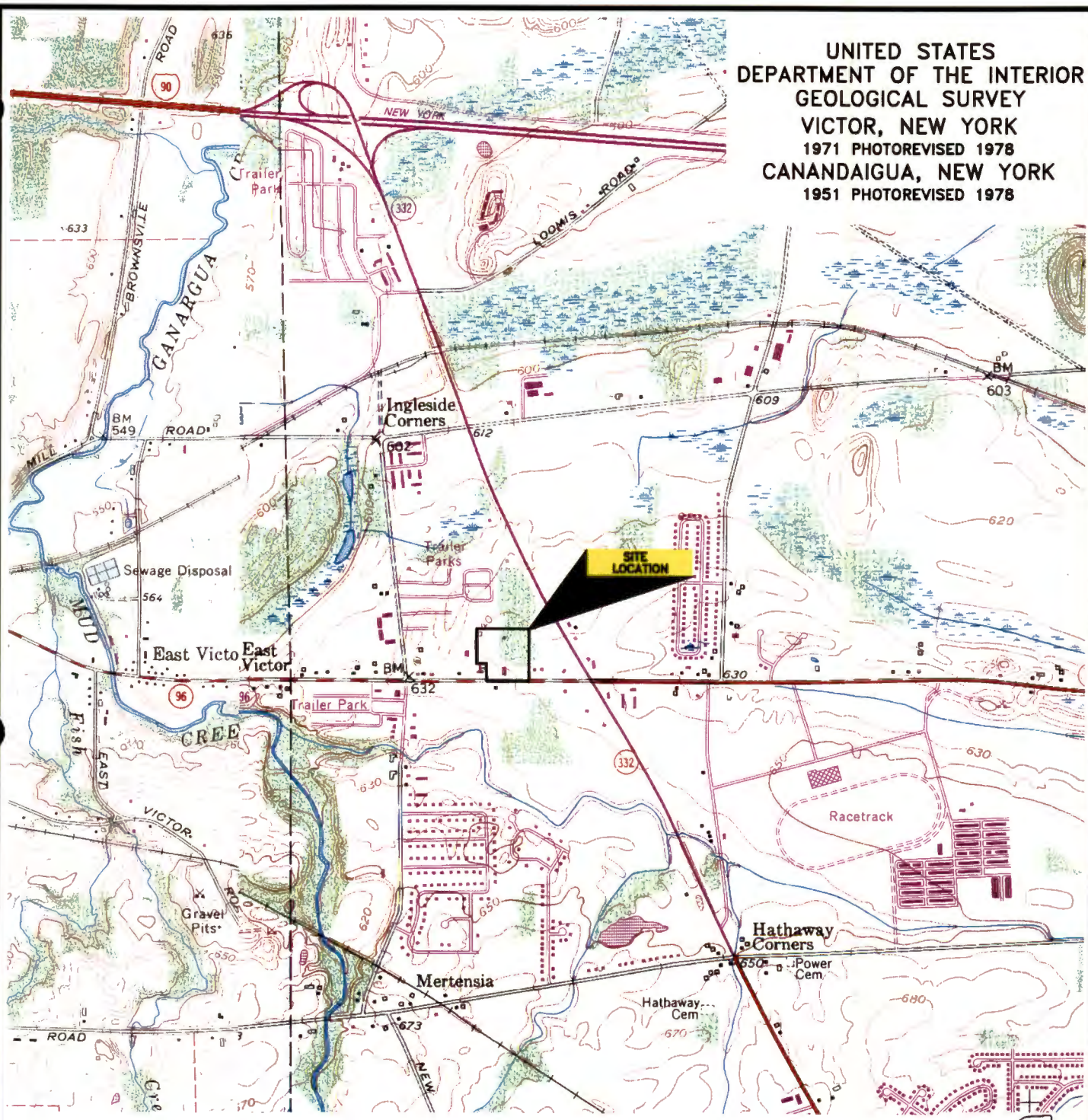
Notes:

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.
7. Data presented includes actual and estimated concentrations based on Level IV Data Validation Procedures. Refer to analyt data and data validation report for additional descriptions.

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
RW-1	3/28/00	140	3	3	ND	ND	ND	ND
	9/8/00	No sample collected due to low discharge.						
	3/8/01	220	4	5	ND	ND	ND	ND
	9/13/01	440	8	9	ND	ND	2	ND
RW-2	3/28/00	100	2	ND	ND	ND	ND	ND
	9/8/00	No sample collected due to low discharge.						
	3/8/01	140	3	ND	ND	ND	ND	ND
	9/13/01	No sample collected due to low discharge.						
RW-3	3/28/00	170	4	ND	ND	ND	ND	ND
	9/8/00	No sample collected due to low discharge.						
	3/8/01	180	4	ND	ND	ND	ND	ND
	9/13/01	160	3	1	ND	ND	3	ND
RW-4	3/28/00	1,000	22	11	ND	1	5	ND
	9/8/00	760	ND	ND	ND	ND	ND	ND
	3/8/01	840	16	8	ND	ND	ND	ND
	9/13/01	No sample collected due to low discharge.						

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.
7. Data presented includes actual and estimated concentrations based on Level IV Data Validation Procedures. Refer to analyt data and data validation report for additional descriptions.



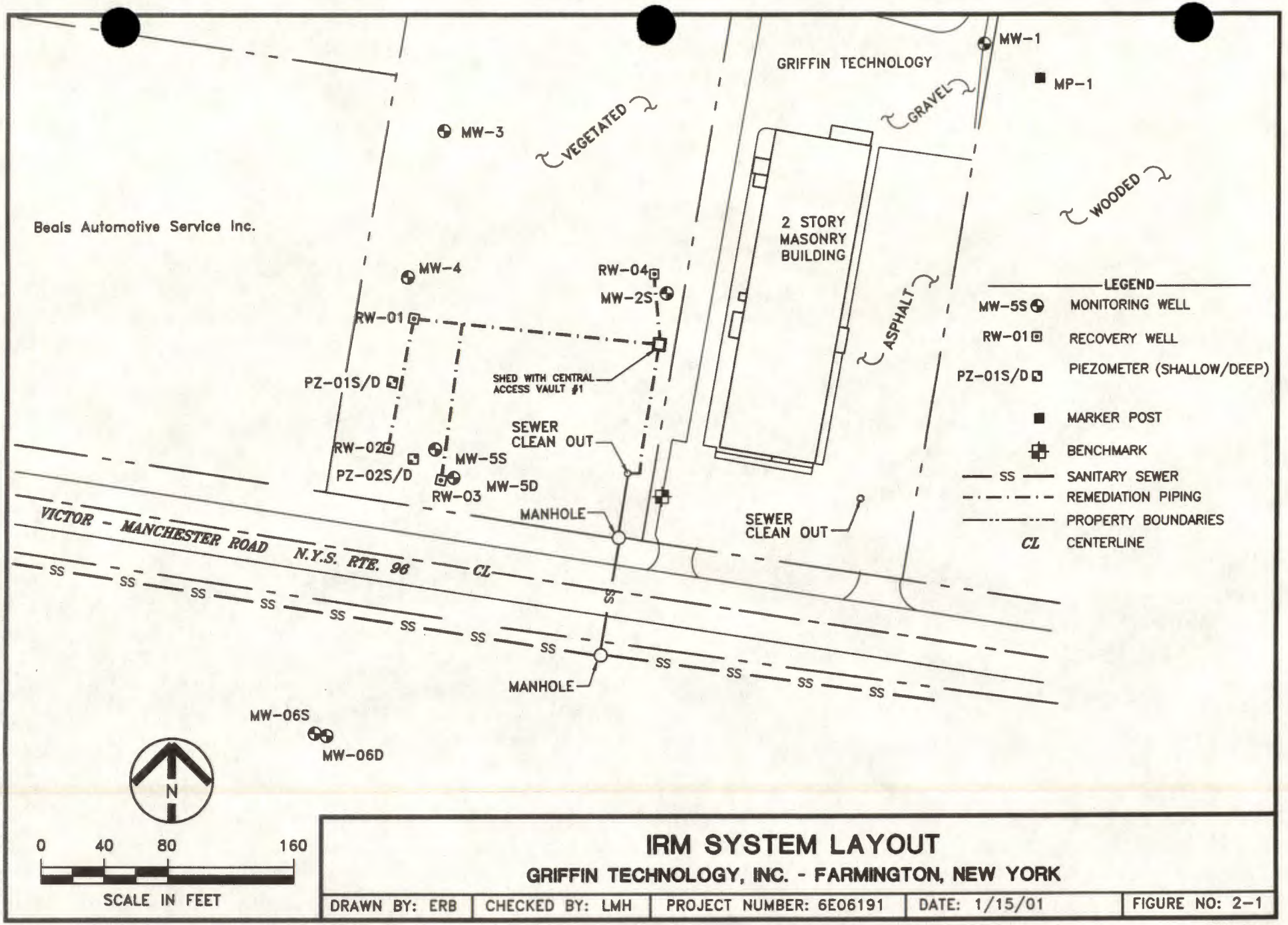
GENERAL LOCATION MAP

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

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

URS

EBOLD\6E06191\GLM2.DWG



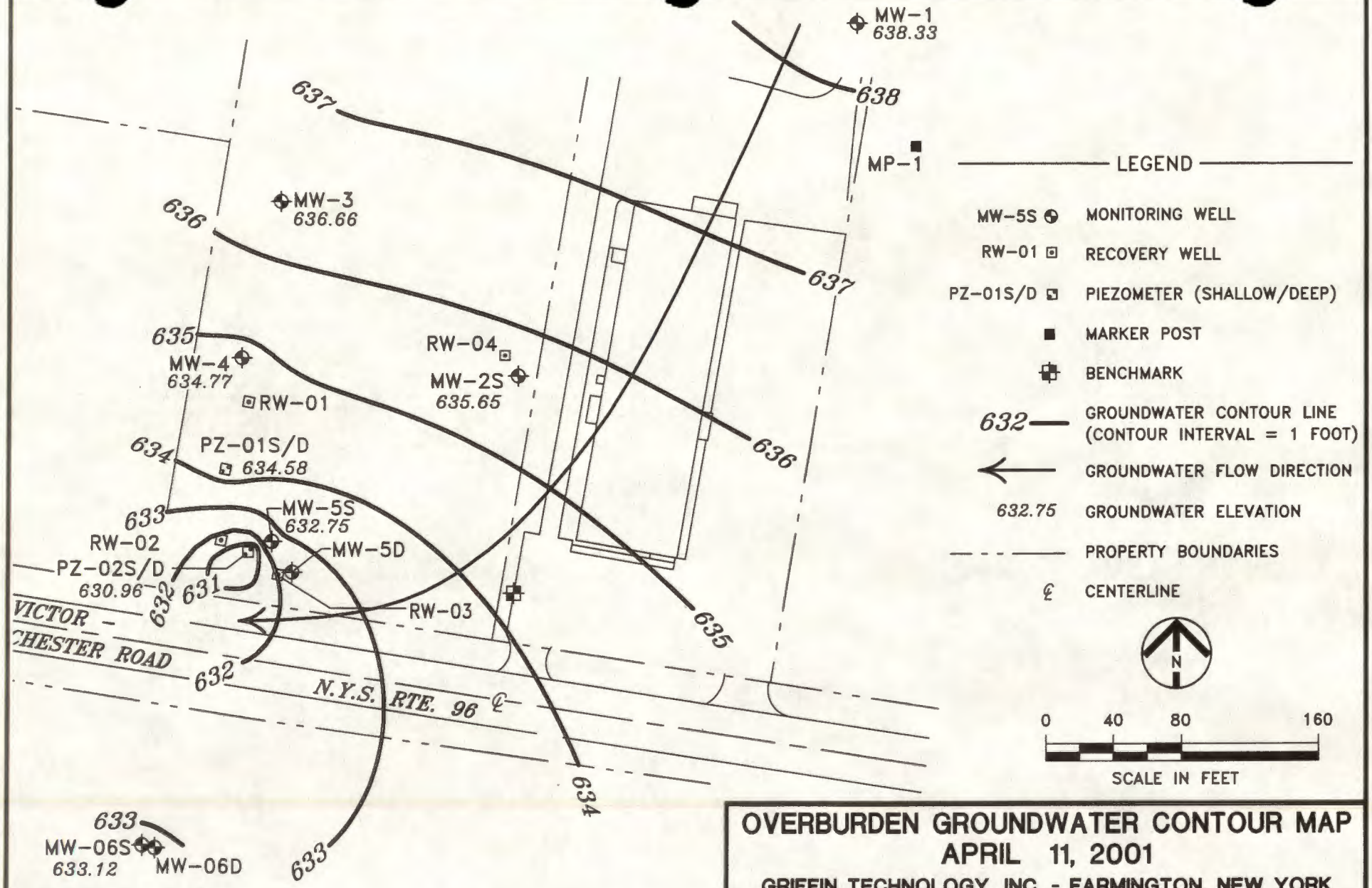
IRM SYSTEM LAYOUT

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

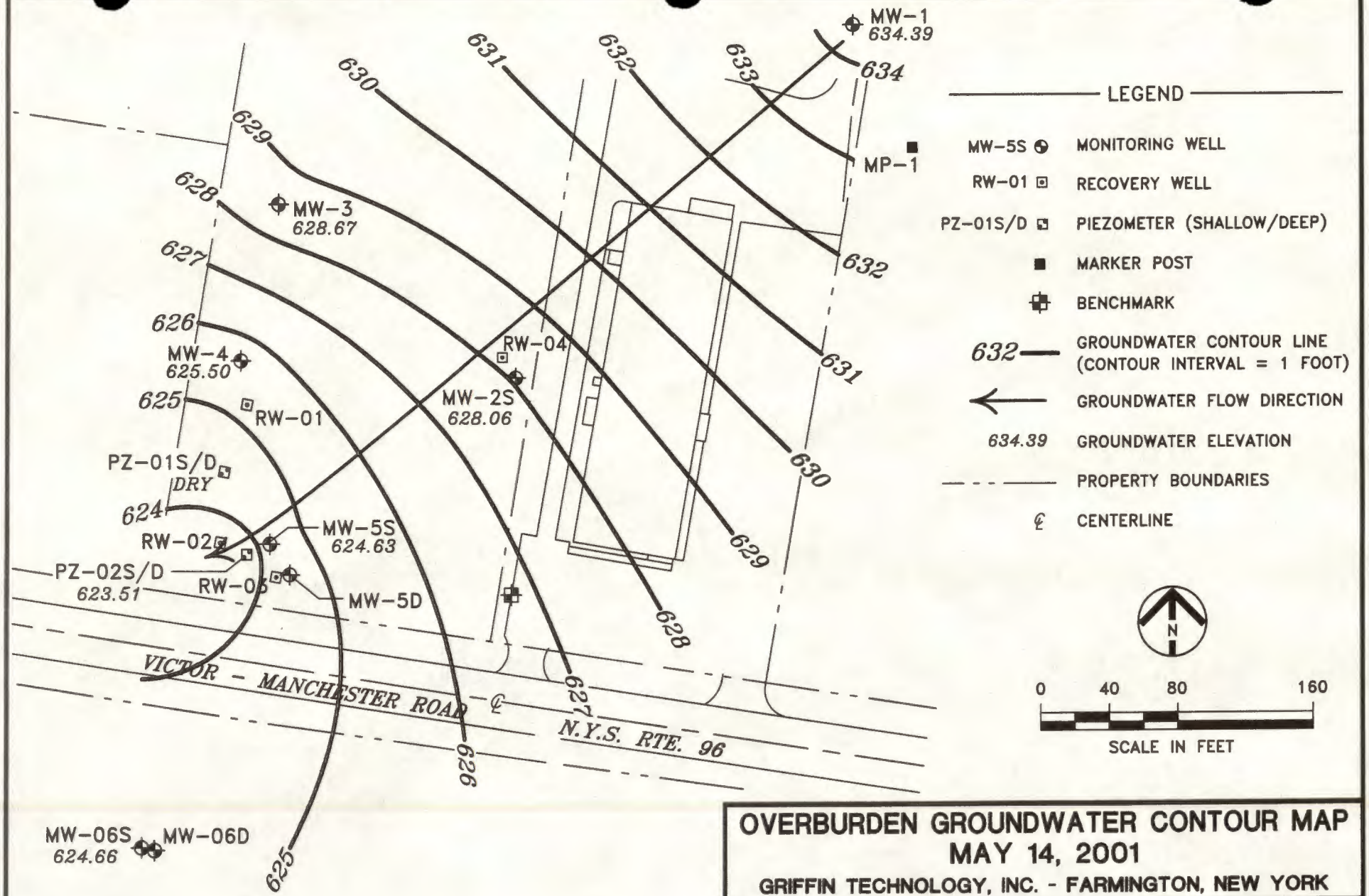


OVERBURDEN GROUNDWATER CONTOUR MAP
APRIL 11, 2001
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TBC		PROJECT NUMBER: 6E06191	
CHECKED BY: CAP	DATE: 10/30/01		FIGURE NO: 3-1

S025NW01_PROJ3.Cleveland Q:\Diebold\6E06191\2001\S1\OVBapr11.DWG

URS



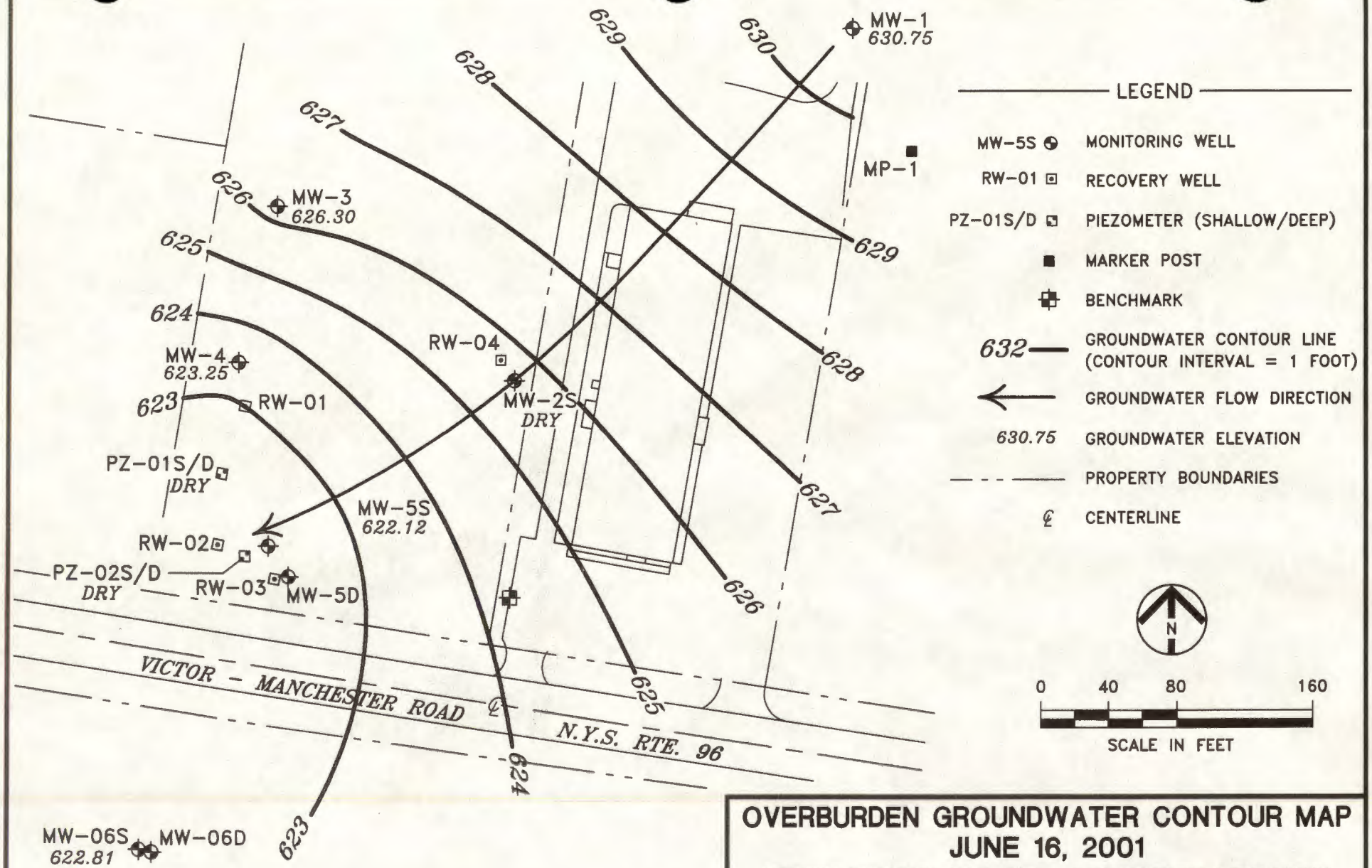
OVERBURDEN GROUNDWATER CONTOUR MAP
MAY 14, 2001

GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TBC	PROJECT NUMBER: 6E06191	
CHECKED BY: CAP	DATE: 10/30/01	FIGURE NO: 3-2

S025NW01_PROJ3.Cleveland Q:\Diebold\6E06191\2001\S1\OVBmay14.DWG

URS



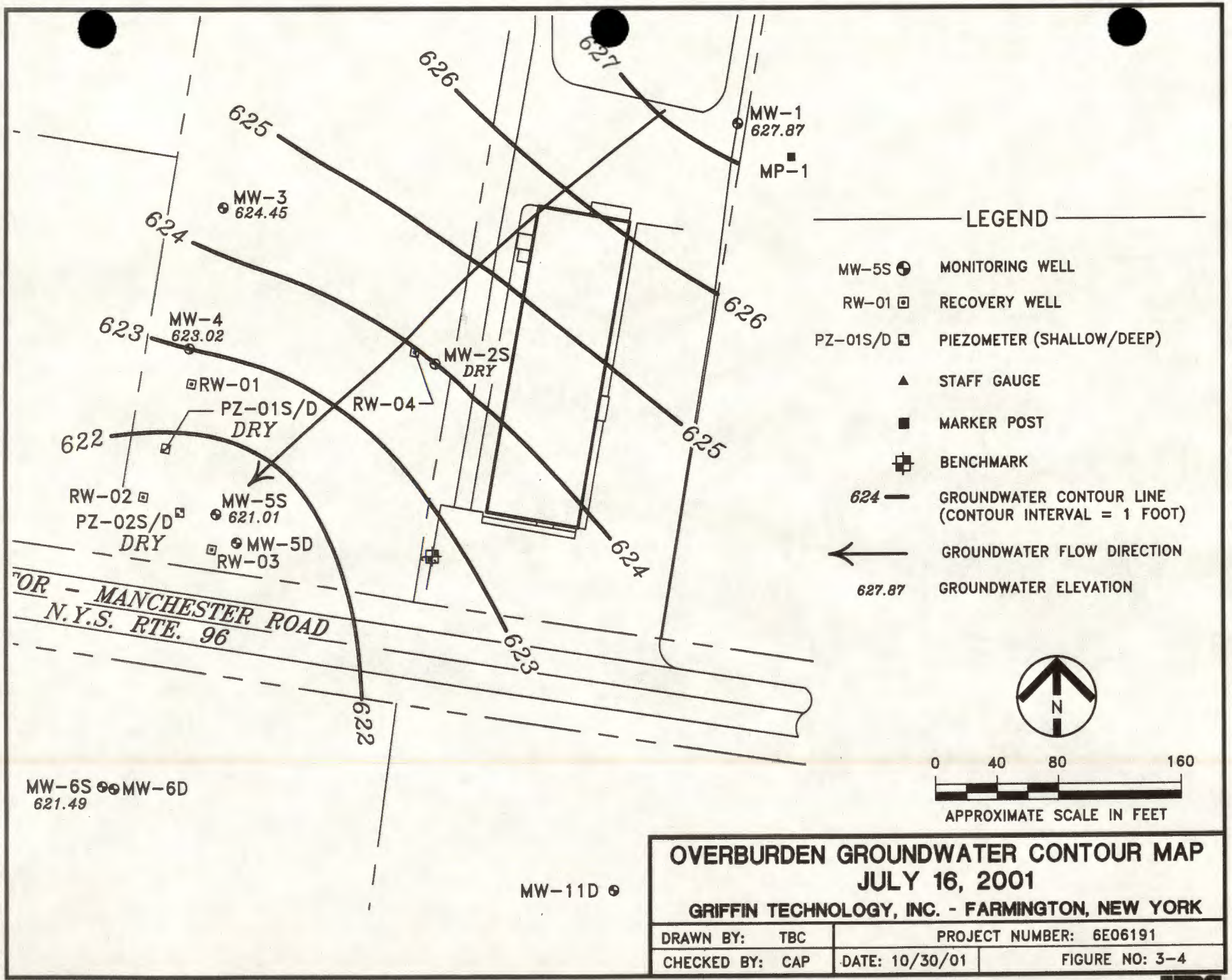
OVERBURDEN GROUNDWATER CONTOUR MAP
JUNE 16, 2001

GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TBC	PROJECT NUMBER: 6E06191	
CHECKED BY: CAP	DATE: 10/30/01	FIGURE NO: 3-3

S025NW01_PROJ3.Cleveland Q:\Diebold\6E06191\2001\S1\OVBjun16.DWG

URS

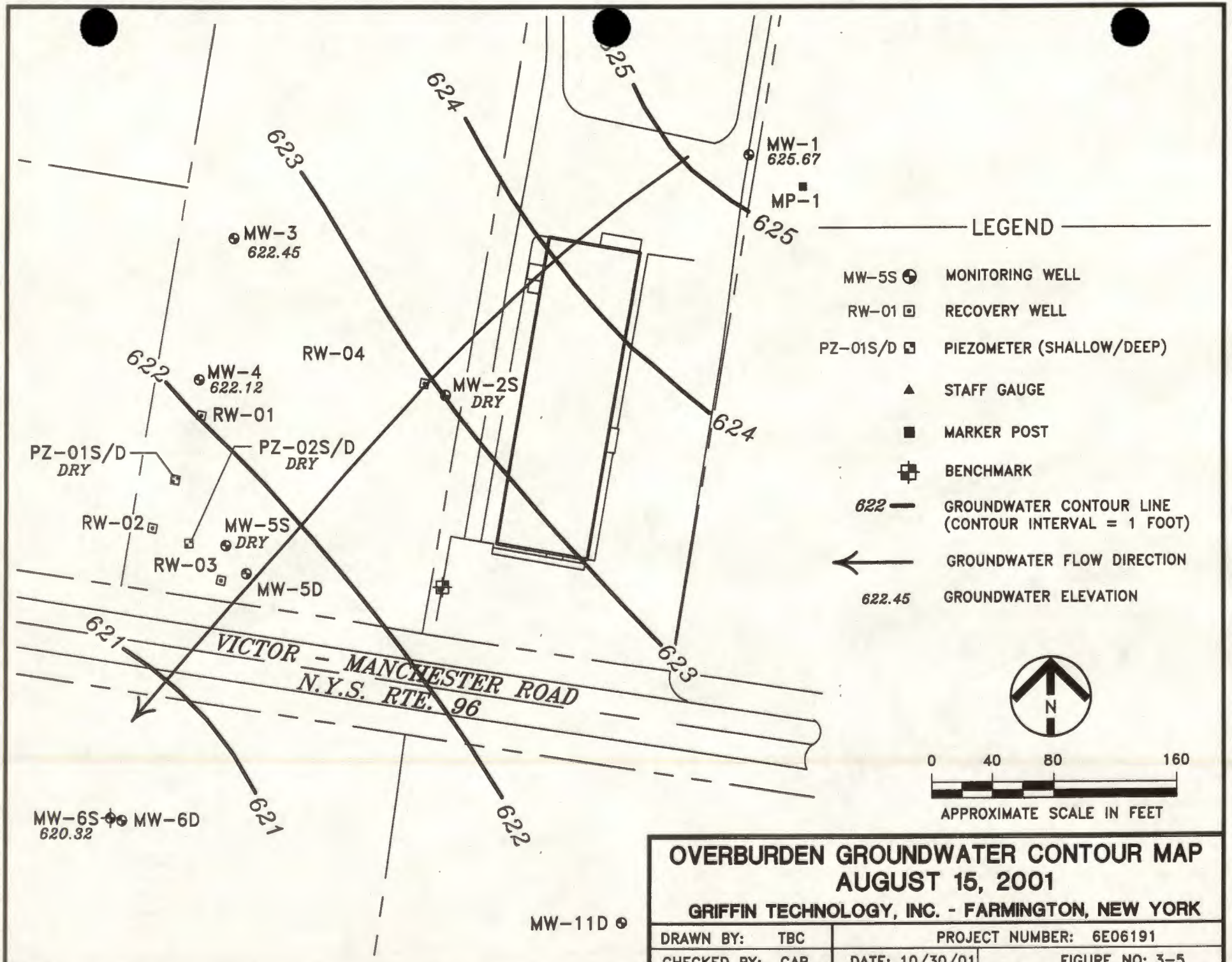


OVERBURDEN GROUNDWATER CONTOUR MAP
JULY 16, 2001
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TBC	PROJECT NUMBER: 6E06191	
CHECKED BY: CAP	DATE: 10/30/01	FIGURE NO: 3-4

S025NW01_PROJ3.Cleveland : Q:\Diebold\6E06191\2001\S2\OYBjul16.dwg

URS



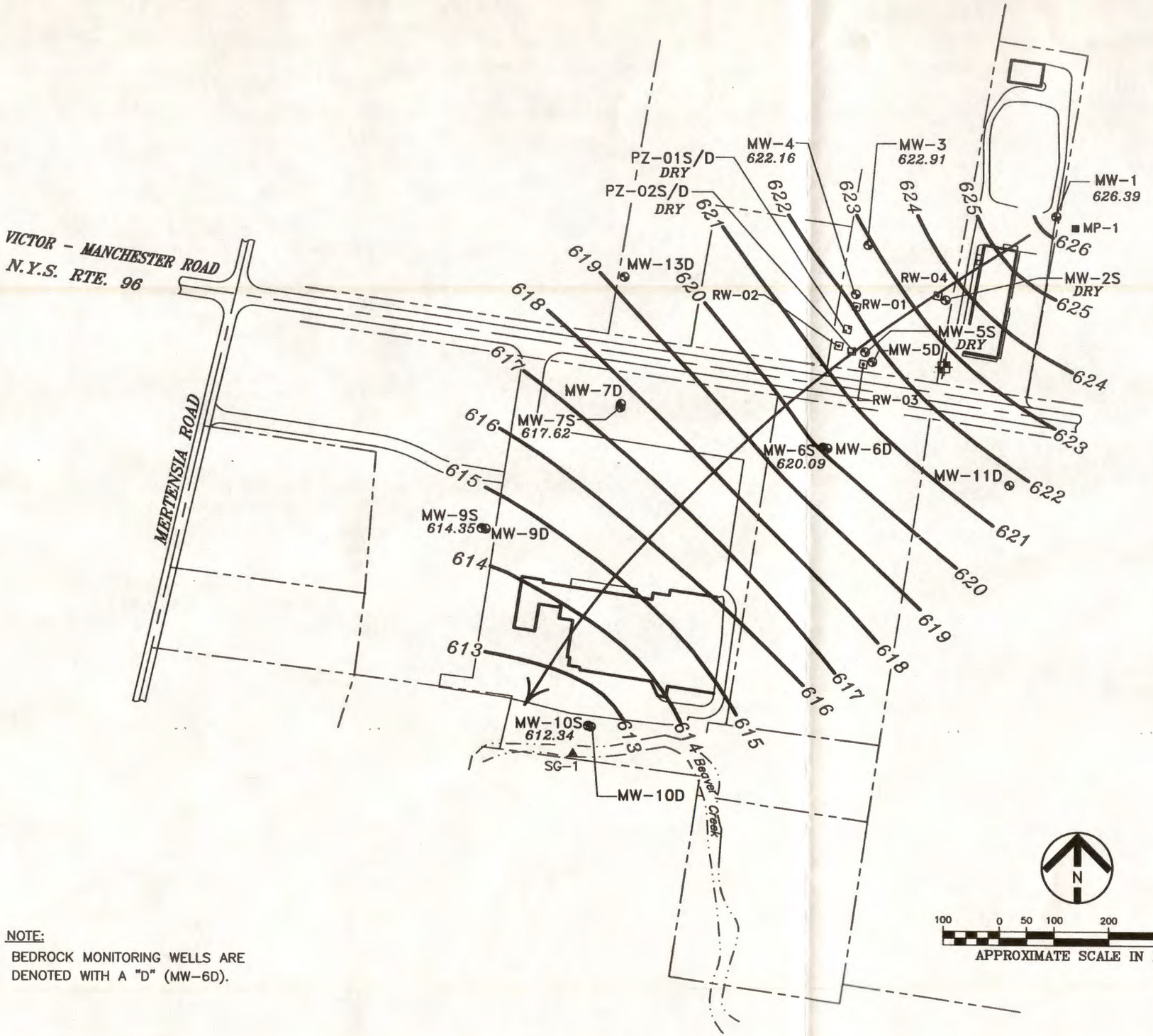
OVERBURDEN GROUNDWATER CONTOUR MAP
AUGUST 15, 2001

GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TBC	PROJECT NUMBER: 6E06191	
CHECKED BY: CAP	DATE: 10/30/01	FIGURE NO: 3-5

S025NW01_PROJ3.Cleveland : Q:\Diebold\6E06191\2001\S2\GWaug15.dwg

URS



LEGEND

MW-5S	MONITORING WELL
RW-01	RECOVERY WELL
PZ-01S/D	PIEZOMETER (SHALLOW/DEEP)
▲	STAFF GAUGE
■	MARKER POST
	BENCHMARK
622	GROUNDWATER CONTOUR LINE (CONTOUR INTERVAL = 1 FOOT)
←	GROUNDWATER FLOW DIRECTION
626.39	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

N

100 0 50 100 200 400

APPROXIMATE SCALE IN FEET

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

S02SNW01_PROJ3.Cleveland
Q:\Diebold\6E06191\2001\S2\DVBsep13.dwg

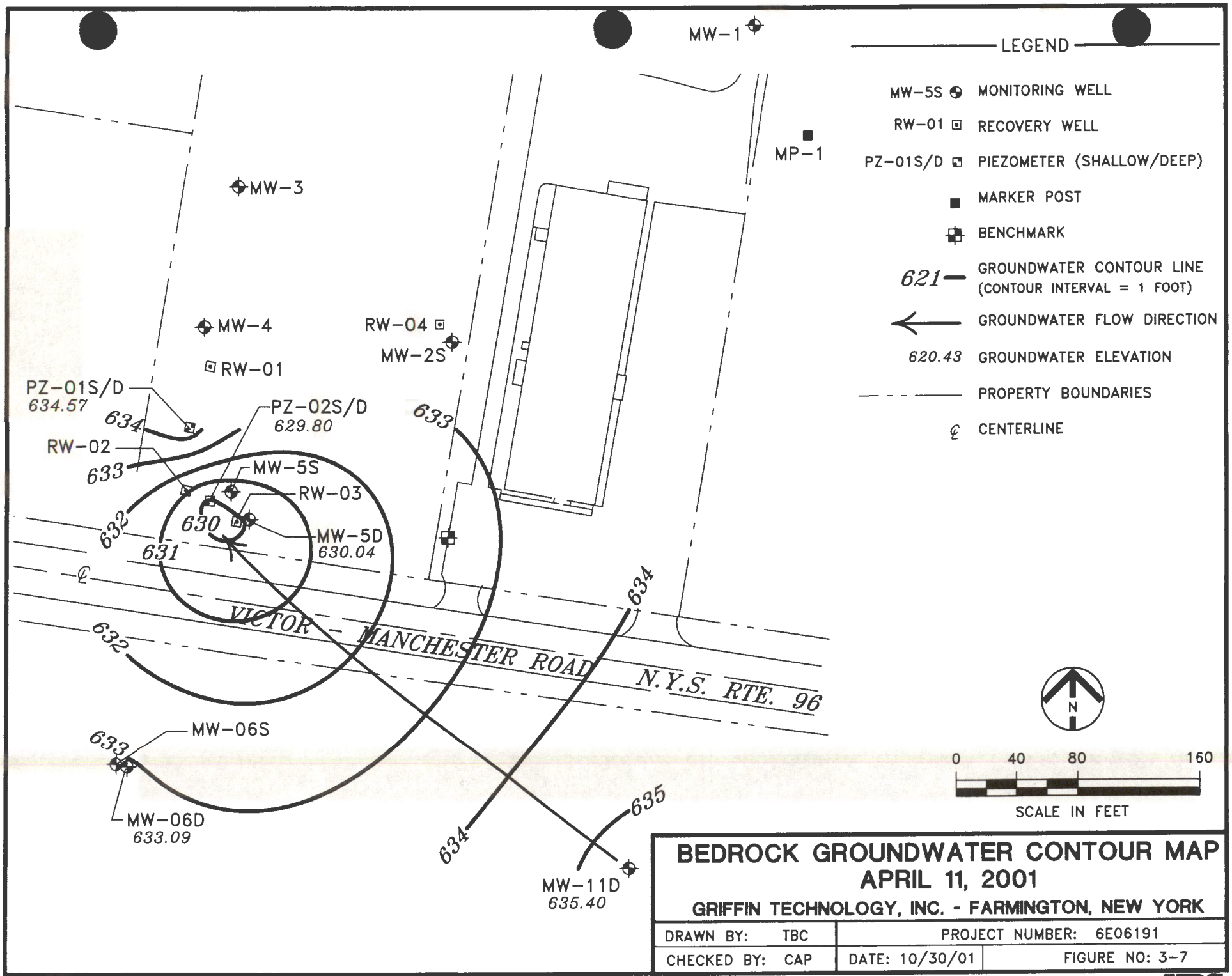
URS
800 W. ST. CLAIR AVE.
CLEVELAND, OHIO 44113

CLIENT: DIEBOLD, INC.

LOCATION: GRIFFIN TECHNOLOGY, INC., NEW YORK

OVERBURDEN GROUNDWATER CONTOUR MAP SEPTEMBER 13, 2001

DRAWN BY:	CHECKED BY:	PROJECT NO:	DATE:	FIGURE NO:
TBC	CAP	6E06191	10/30/01	3-6

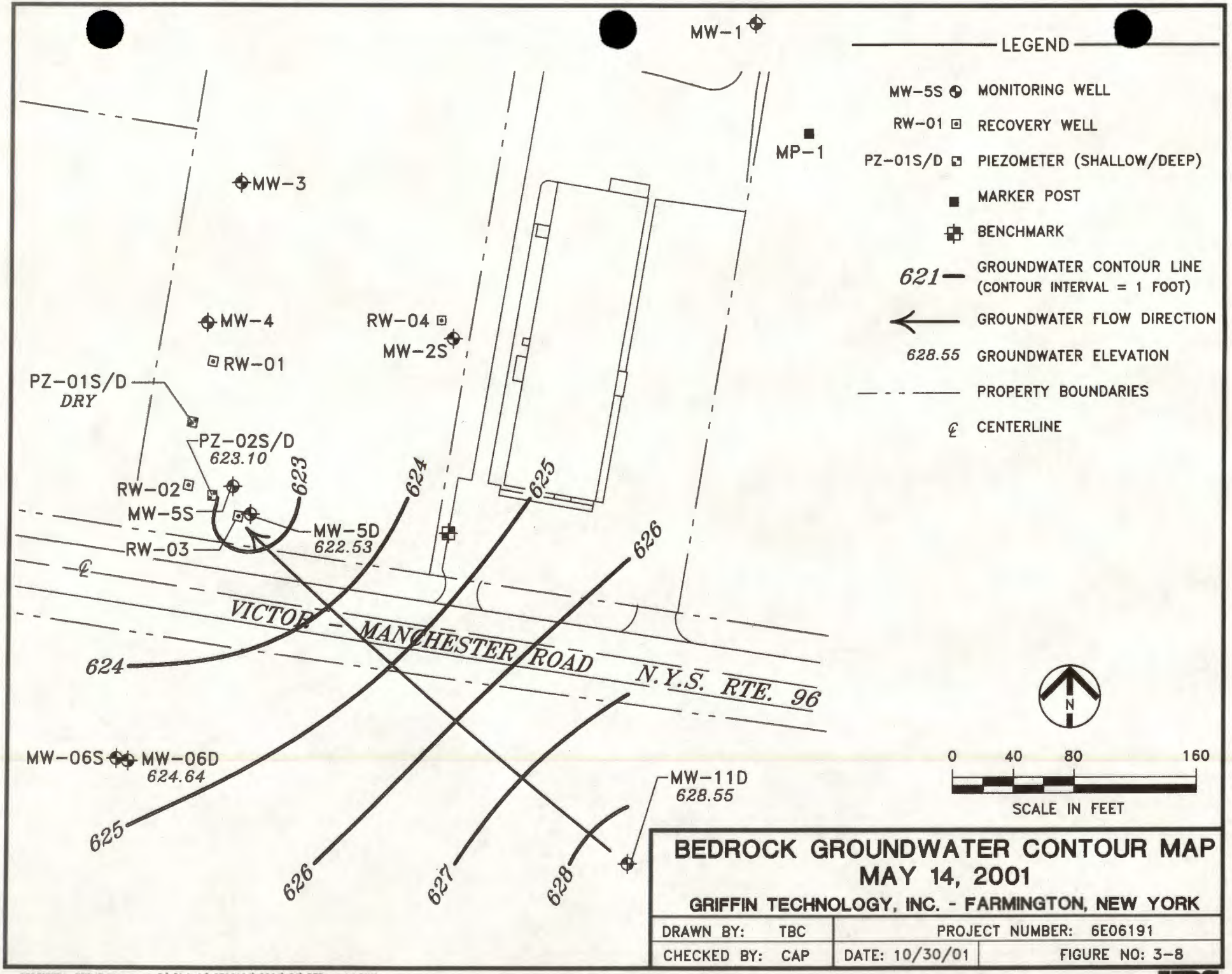


BEDROCK GROUNDWATER CONTOUR MAP
APRIL 11, 2001
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TBC	PROJECT NUMBER: 6E06191	
CHECKED BY: CAP	DATE: 10/30/01	FIGURE NO: 3-7

S025NW01_PROJ3.Cleveland Q:\Diebold\6E06191\2001\S1\BEDapr11.DWG

URS



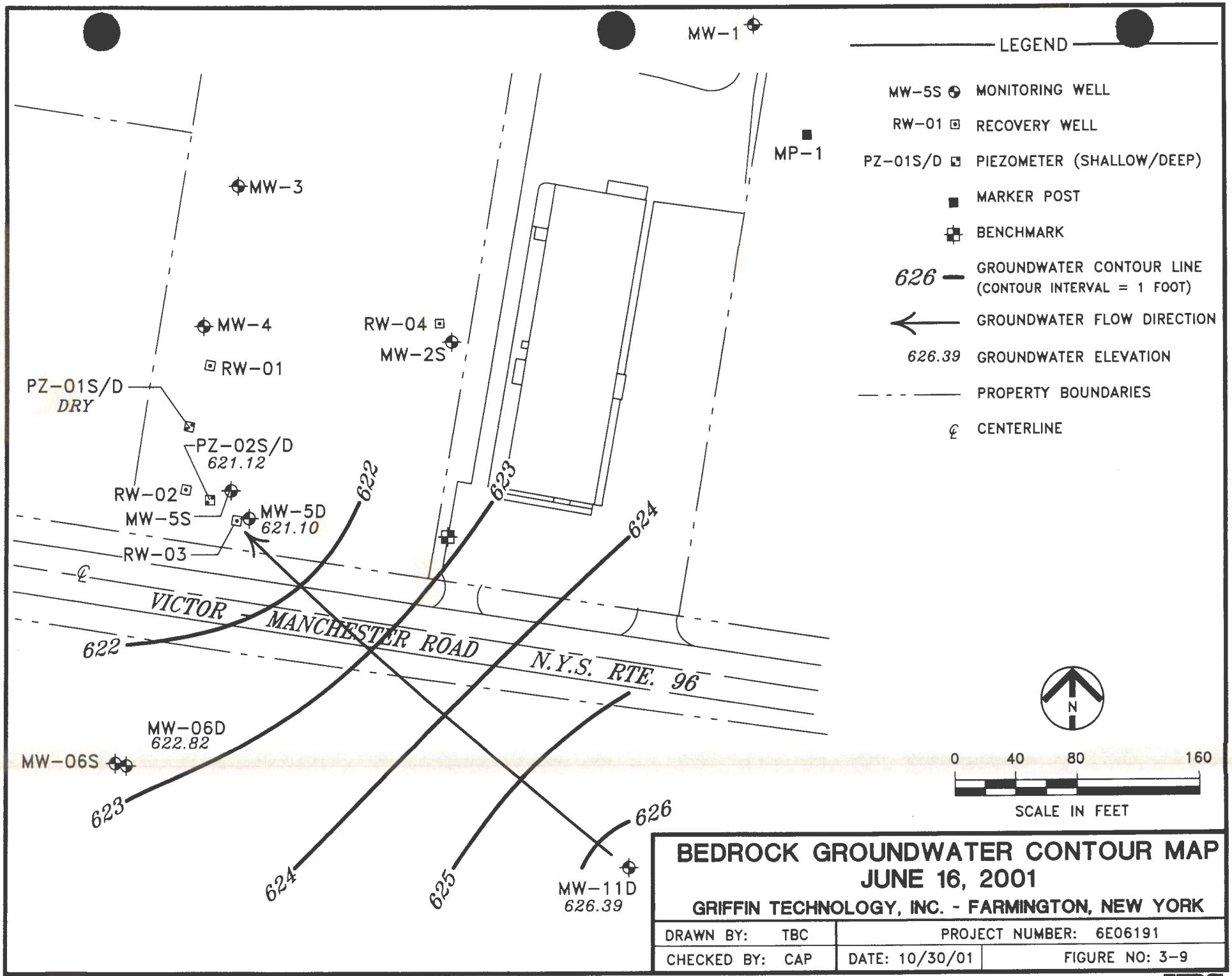
BEDROCK GROUNDWATER CONTOUR MAP
MAY 14, 2001

GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TBC	PROJECT NUMBER: 6E06191	
CHECKED BY: CAP	DATE: 10/30/01	FIGURE NO: 3-8

S025NW01_PROJ3.Cleveland Q:\Diebold\6E06191\2001\S1\BEDmay14.DWG

URS

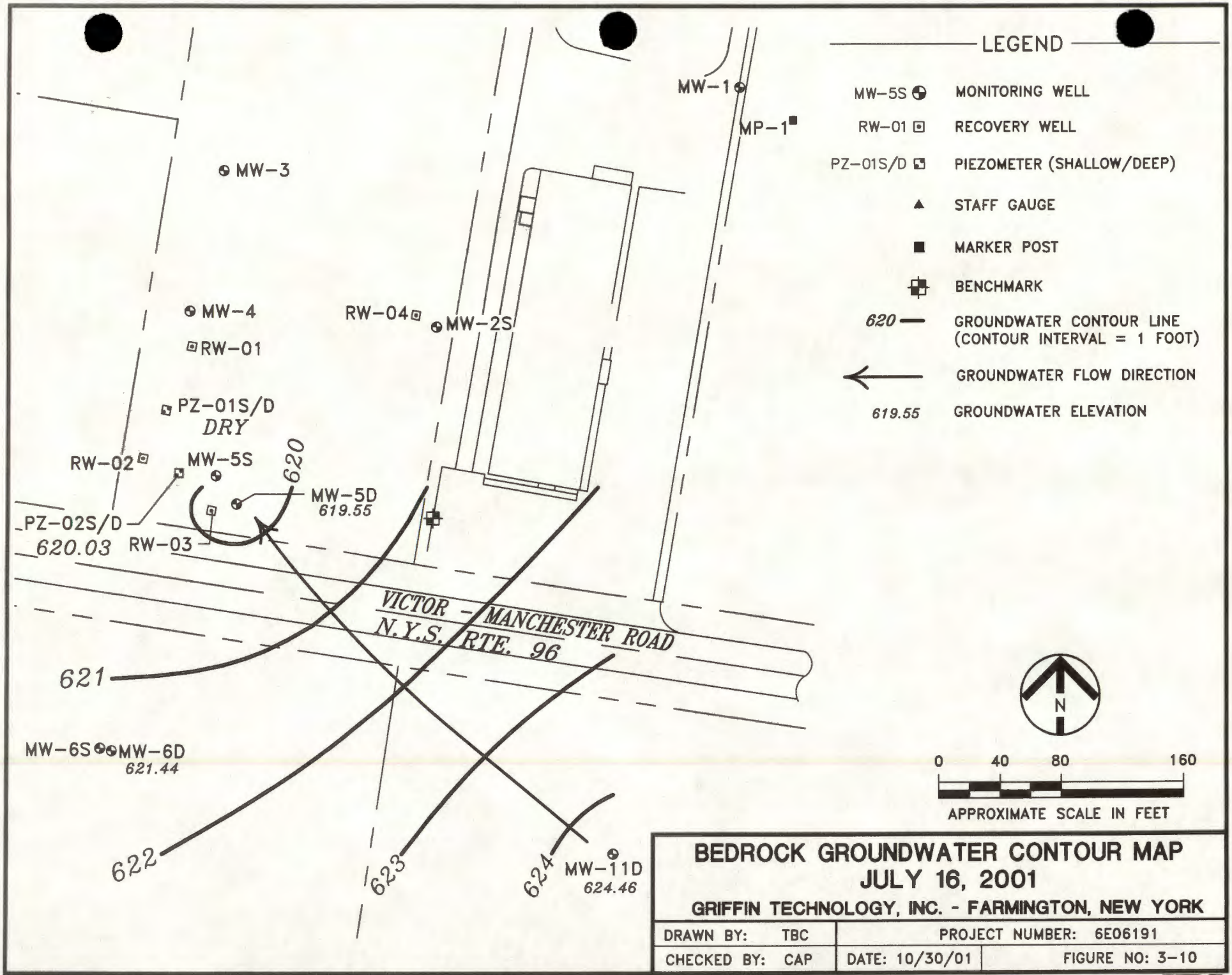


BEDROCK GROUNDWATER CONTOUR MAP
JUNE 16, 2001
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TBC	PROJECT NUMBER: 6E06191	
CHECKED BY: CAP	DATE: 10/30/01	FIGURE NO: 3-9

S025NW01_PROJ3.Cleveland Q:\Diebold\6E06191\2001\S1\BEDjun16.DWG

URS



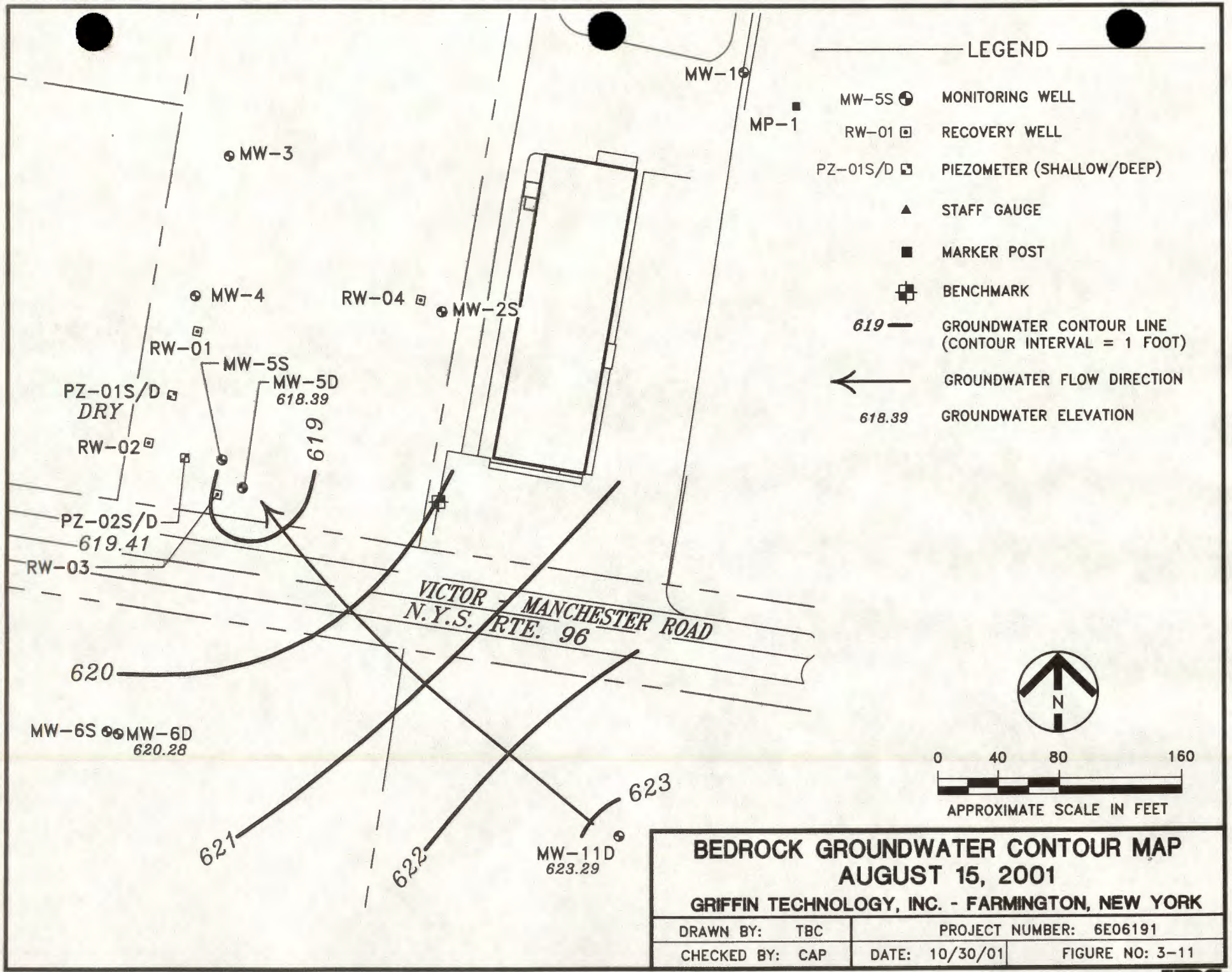
BEDROCK GROUNDWATER CONTOUR MAP
JULY 16, 2001

GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TBC	PROJECT NUMBER: 6E06191	
CHECKED BY: CAP	DATE: 10/30/01	FIGURE NO: 3-10

S025NW01_PROJ3.Cleveland : Q:\Diebold\6E06191\2001\SZ\BEDjul16.dwg

URS



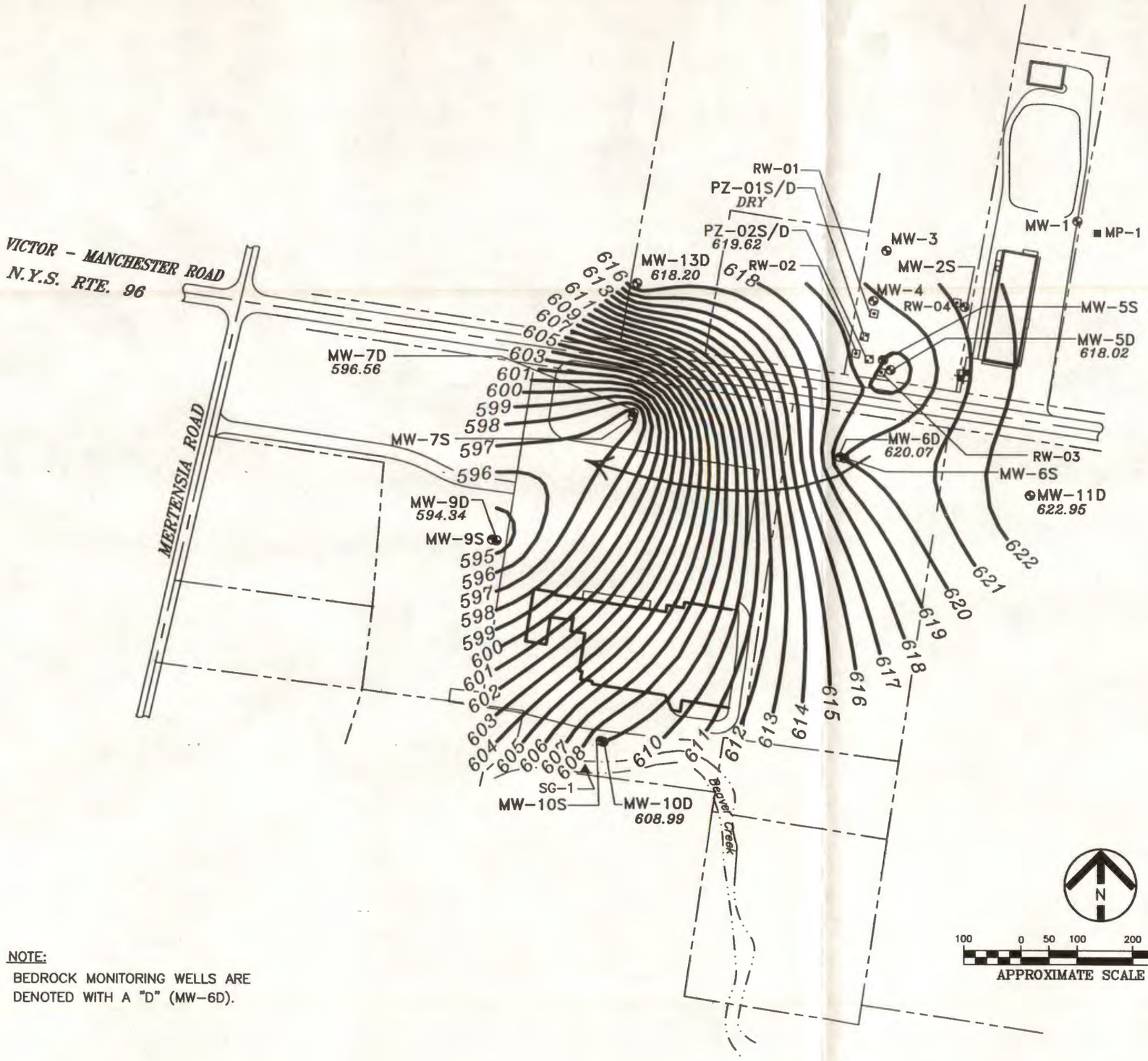
BEDROCK GROUNDWATER CONTOUR MAP
AUGUST 15, 2001

GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TBC	PROJECT NUMBER: 6E06191	
CHECKED BY: CAP	DATE: 10/30/01	FIGURE NO: 3-11

S025NW01_PROJ3.Cleveland : Q:\Diebold\6E06191\2001\S2\BEDaug15.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
- 620 — GROUNDWATER CONTOUR LINE (CONTOUR INTERVAL = 1 FOOT)
- GROUNDWATER FLOW DIRECTION
- 623.29 — 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

BEDROCK GROUNDWATER CONTOUR MAP SEPTEMBER 13, 2001

DRAWN BY:	CHECKED BY:	PROJECT NO:	DATE:	FIGURE NO:
TBC	CAP	6E06191	10/30/01	3-12

S025NW01_PROJ3.Cleveland
Q:\Diebold\6E06191\2001\S2\BEDdeep13.dwg

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

May 2, 2001

Mr. Ken Armstrong
URS Corporation
623 West St. Clair Ave
Cleveland, OH 44143

PROJECT:GRIFFIN IRM
Submission #:R2106547

Dear Mr. Armstrong

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

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

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 Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2106547
Reported : 05/02/01

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. Michael K Pe

Columbia Analytical Services, Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2106547

Lab ID	Client ID
454628	EFF-4-11-01

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
AIHA # in Rochester:	7889		

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 05/02/01

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-4-11-01

Date Sampled : 04/11/01 **Order #:** 454628 **Sample Matrix:** WATER
Date Received: 04/12/01 **Submission #:** R2106547 **Analytical Run** 63503

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 04/17/01			
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	210	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		
BROMOFLUOROBENZENE	(86 - 115 %)	103	%
TOLUENE-D8	(88 - 110 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	109	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 05/02/01

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : Order #: 458522 Sample Matrix: WATER
Date Received: Submission #: Analytical Run 63503

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 04/17/01			
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 %)	101	%
TOLUENE-D8	(88 - 110 %)	98	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	106	%

Columbia Analytical Services
An Employee Owned Company
www.caslab.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (716) 288-5380 • 800-695-7222 x11 • FAX (716) 288-8475 PAGE 1 OF 1

SR #

CAS Contact

Project Name: Griffin IRM	Project Number: 3506E0G191.03
Project Manager: Ken Armstrong	Report CC:
Company/Address: 634 St. Clair Cleveland, Ohio 44113	
Phone #: (216)622-2400	FAX#: (216)241-7083
Sampler's Signature: Robert Fabian	Sampler's Printed Name: ROBERT FABIAN

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOA's ☐8260 ☐624 ☐CLP	GC/MS SVOA's ☐8270 ☐625 ☐CLP	GC VOA's ☐8021 ☐601/602	PESTICIDES/ PCB's ☐8081 ☐608 ☐CLP ☐8082	STAR'S LIST 8021 VOA's ☐TOTAL ☐TCLP	STAR'S LIST 8270 SVOA's ☐TOTAL ☐TCLP	TCLP ☐VOA's ☐METALS	WASTE CHARACTERIZATION ☐SVOA's ☐H/P ☐React ☐Corros. ☐Ignit.	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below) 6240					REMARKS/ ALTERNATE DESCRIPTION
EFF-4-11-01		4-11-01	11:15	WATER	2										X					

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
____ 24 hr ____ 48 hr ____ 5 day
_____ STANDARD
REQUESTED FAX DATE
REQUESTED REPORT DATE

REPORT REQUIREMENTS
____ I. Results Only
____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
____ V. Speicalized Forms / Custom Report
Edata ____ Yes ____ No

INVOICE INFORMATION
PO#
BILL TO: Client
22/6547
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: 12 CUSTODY SEALS: Y (N)

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Bob Fabian					
Signature: Bob Fabian	Signature: Mark Gaiter	Signature: Brian Colton	Signature:	Signature:	Signature:
Printed Name: CAS	Printed Name: CAS	Printed Name: CAS	Printed Name:	Printed Name:	Printed Name:
Firm: 4-11-01 11:55	Firm: 4/11/01 1153	Firm: 4/11/01 1153	Firm:	Firm:	Firm:
Date/Time	Date/Time	Date/Time 4/11/01	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Lab Copy; Pink - Retained by Client

SCOC-0101-08

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client WCC4 Submission Number 5547

Cooler received on 4/11/07 by: MM 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. Rule 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: 4/11/07 1155

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

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 4/13/07 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:

07

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

June 4, 2001

RECEIVED
JUN 14 2001
URS

Mr. Ken Armstrong
URS Corporation
623 West St. Clair Ave
Cleveland, OH 44143

PROJECT:GRIFFIN IRM
Submission #:R2106937

Dear Mr. Armstrong

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

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

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 Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2106937
Reported : 06/04/01

Report Contains a total of 7 pages

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

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

01

Columbia Analytical Services, Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2106937

Lab ID	Client ID
463190	EFF-5-14-01

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
AIHA # in Rochester:	7889		

COLUMBIA ANALYTICAL SERVICES

VOLATI ORGANICS
METHOD 8260B TCL
Reported: 06/04/01

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-5-14-01

Date Sampled : 05/14/01 **Order #:** 463190 **Sample Matrix:** WATER
Date Received: 05/14/01 **Submission #:** R2106937 **Analytical Run** 65027

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 05/23/01			
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-DICHLOROETHANE	5.0	10 U	UG/L
,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	390	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		
BROMOFLUOROBENZENE	(86 - 115 %)	101	%
LUENE-D8	(88 - 110 %)	104	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	102	%

COLUMBIA ANALYTICAL SERVICES

VOLATI ORGANICS
METHOD 8260B TCL
Reported: 06/04/01

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 467955 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 65027

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 05/23/01			
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 %)	100	%
TOLUENE-D8	(88 - 110 %)	102	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	101	%

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 5-14-01 PAGE 1 OF 1

PROJECT NAME Griffin IRM
PROJECT MANAGER/CONTACT Ken Armstrong
COMPANY/ADDRESS 634 St. Clair
Cleveland, Ohio 44113
TEL (216) 622-2400 FAX (216) 241-3083
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-5-14-01	5-14-01	13:20	163190	WATER	2											X									

RELINQUISHED BY:
Signature Bob Fabian
Printed Name Bob Fabian
Firm U.E.S
Date/Time 5-14-01 13:55

RECEIVED BY:
Signature
Printed Name
Firm CAS
Date/Time 5/14/01 1355

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: 2
Submission No: 22/6937

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

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Che[illegible]orm

Project/Client WCC4 Submission Number R2-6937

Cooler received on 5/14/07 by: [illegible] 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: 2 ____ ____ ____ ____

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: 5/14/07 1357

Thermometer ID: IR-6Gun Temp Blank Sample Bottle Cooler Temp. IR Gun

If out of Temperature, Client Approval to Run Samples ____

Cooler Breakdown: Date: 5-15-01 by: HE

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

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

RECEIVED
JUL 17 2001
URS

July 10, 2001

Mr. Ken Armstrong
URS Corporation
623 West St. Clair Ave
Cleveland, OH 44143

PROJECT:GRIFFIN IRM
Submission #:R2107373

Dear Mr. Armstrong

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

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

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 Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2107373
Reported : 07/10/01

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. 7/11/01

Columbia Analytical Services inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2107373

Lab ID	Client ID
471600	EFF-6-16-01

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
AIHA # in Rochester:	7889		

COLUMBIA ANALYTICAL SEF CES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 07/10/01

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-6-16-01

Date Sampled : 06/16/01 **Order #:** 471600 **Sample Matrix:** WATER
Date Received: 06/16/01 **Submission #:** R2107373 **Analytical Run** 66373

DATE ANALYZED : 06/27/01
ANALYTICAL DILUTION: 2.00

ANALYTE	PQL	RESULT	UNITS
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
BROMOCHLOROMETHANE	5.0	10 U	UG/L
,1-DICHLOROETHANE	5.0	10 U	UG/L
1,2-DICHLOROETHANE	5.0	10 U	UG/L
1,1-DICHLOROETHENE	5.0	10 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	10 U	UG/L
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	UG/L
1,1,2-TRICHLOROETHANE	5.0	10 U	UG/L
TRICHLOROETHENE	5.0	380	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		
BROMOFLUOROBENZENE	(86 - 115 %)	104	%
TOLUENE-D8	(88 - 110 %)	102	%
DIBROMOFLUOROMETHANE	(86 - 118 %)	99	%

COLUMBIA ANALYTICAL SEI CES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 07/10/01

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 476997 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 66373

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 06/27/01			
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		
BROMOFLUOROBENZENE	(86 - 115 %)	101	%
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 6-16-01 PAGE 1 OF 1

PROJECT NAME Griffin IRM

PROJECT MANAGER/CONTACT Ken Armstrong

COMPANY/ADDRESS 30775 Bainbridge Rd
Solon, Ohio

TEL ( ) _____ FAX ( ) _____

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-6-16-01	6-16-01	10:05		WATER	2																				

RELINQUISHED BY:
Signature: Bob Fabian
Printed Name: Bob Fabian
Firm: URS
Date/Time: 6-16-01 10:35

RECEIVED BY:
Signature: Mark Hyatt
Printed Name: MARK HYATT
Firm: CAS
Date/Time: 6/16/01 1035

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: _____
Shipping #: _____
Temperature: 11
Submission No: R47373

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 7373

Cooler received on 6/16/01 by: [illegible] 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:	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: 6/16/01 1090

Thermometer ID: _____ Temp Blank Sample Bottle Cooler Temp: IR Gun

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 6/18/01 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 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:

007

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

August 1, 2001

Mr. Ken Armstrong
URS Corporation
623 West St. Clair Ave
Cleveland, OH 44143

PROJECT:GRIFFIN IRM
Submission #:R2107762

Dear Mr. Armstrong

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

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Val Gardner for

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 Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2107762
Reported : 08/01/01

Report Contains a total of 6 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 #: R2107762

Lab ID	Client ID
479044	EFF-7-16-01

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

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 08/01/01

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-7-16-01

Date Sampled : 07/16/01 **Order #:** 479044 **Sample Matrix:** WATER
Date Received: 07/16/01 **Submission #:** R2107762 **Analytical Run** 67268

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 07/30/01			
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	340	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	(87 - 111 %)	98	%
TOLUENE-D8	(87 - 108 %)	96	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	99	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 08/01/01

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 482676 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 67268

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 07/30/01			
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	(87 - 111 %)	98	%
TOLUENE-D8	(87 - 108 %)	97	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	98	%

Columbia Analytical Services, Inc.
An Employee Owned Company

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

CHAIN CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 7-16-01 PAGE 1 OF 1

PROJECT NAME Griffin IRM
PROJECT MANAGER/CONTACT Ken Armstrong
COMPANY/ADDRESS 634 St. Clair
Cleveland, Ohio 44113
TEL (216) 622-2400 FAX (216) 241-9083
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)	9240							PRESERVATION pH < 2.0	pH > 12	Other
EFF-7-16-01	7-16-01	11:55	479044	WATER	2											X									

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time 7/16/01

RECEIVED BY:
Signature Brian Allen
Printed Name Brian Allen
Firm CB
Date/Time 7/16/01 1230

RELINQUISHED BY:
Signature Bob Fabian
Printed Name Bob Fabian
Firm URS
Date/Time 7-16-01 12:30

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
X Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
X 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: 22/7762

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 Submission Number R2-7762

Cooler received on 7/16/01 by: BC 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:	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:	7/16/01 12:30				
	Thermometer ID: IR-Gun	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: 7-16-01 by: BE

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

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				
VOA's OK; pH<2 ug			8/1/01	
				--

Other Comments:

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

August 28, 2001

Mr. Ken Armstrong
URS Corporation
623 West St. Clair Ave
Cleveland, OH 44143

PROJECT:GRIFFIN IRM
Submission #:R2108179

Dear Mr. Armstrong

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

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

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 Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2108179
Reported : 08/28/01

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 #: R2108179

Lab ID	Client ID
486365	EFF-8-15-01

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
AIHA # in Rochester:	7889		

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 08/28/01

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-8-15-01

Date Sampled : 08/15/01 10:15 **Order #:** 486365 **Sample Matrix:** WATER
Date Received: 08/15/01 **Submission #:** R2108179 **Analytical Run** 68364

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/25/01			
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	360	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	(87 - 111 %)	103	%
TOLUENE-D8	(87 - 108 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	98	%

COLUMBIA ANALYTICAL S ICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 08/28/01

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 488830 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 68364

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/25/01			
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-DICHLOROETHANE	5.0	5.0 U	UG/L
,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		
-BROMOFLUOROBENZENE	(87 - 111 %)	100	%
OLUENE-D8	(87 - 108 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	99	%

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 8-15-01 PAGE 1 OF 1

PROJECT NAME Griffin IRM

PROJECT MANAGER/CONTACT Ken Armstrong

COMPANY/ADDRESS URS 634 St. Clair
Cleveland, Ohio 44113

TEL (216) 622-2400 FAX (216) 241-9083

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)	Sizing							PRESERVATION pH < 2.0	pH > 12	Other
EFF-8-15-01	8-15-01	10:15		WATER	2	X										X									

RELINQUISHED BY:	RECEIVED BY:
Signature Bob Fabian	Signature [signature]
Printed Name Bob Fabian	Printed Name Mc. KA Geiter
Firm URS	Firm CAS
Date/Time 8-15-01 11:05	Date/Time 8/15/01 1105

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

RELINQUISHED BY:	RECEIVED BY:
Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	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°C

Submission No: R2/8179

SPECIAL INSTRUCTIONS/COMMENTS:

METALS

ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

80

Columbia Analytical Services Inc.
Cooler Receipt And Preservation Check Form

Project/Client WCCH Submission Number R2-8179

Cooler received on 8/15/01 by: MH 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: 8/15/01 1110

Thermometer ID: IR-6un Temp Blank Sample Bottle Cooler Temp. (IR. Gun)

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 8-16-01 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.

A FULL SERVICE ENVIRONMENTAL LABORATORY

October 10, 2001

Mr. Ken Armstrong
URS Corporation
623 West St. Clair Ave
Cleveland, OH 44143

PROJECT:GRIFFIN IRM 3806E06191.03
Submission #:R2108565

Dear Mr. Armstrong

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

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

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 Corporation
Project Reference	: GRIFFIN IRM 3806E06191.03
Lab Submission #	: R2108565
Reported	: 10/10/01

Report Contains a total of 67 pages

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

CASE NARRATIVE

COMPANY: URS Greiner WCC
Griffin IRM
SUBMISSION #: R2108565

URS water samples were collected on 09/13/01 and received at CAS on 09/13/01 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-6D was analyzed for site specific QC. All matrix spike recoveries were within QC limits. All RPD were within limits.

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.

1 Mustard Street, Suite 250 ▪ Rochester, NY 14609-6925 ▪ Telephone (716) 288-5380 ▪ Fax (716) 288-8475

CAS ASP/CLP BATCHING FORM / LOGIN SHEET

SDG #: MW-1
SUBMISSION R2108565
CLIENT: URS Corporation
CLIENT REP: Mark Wilson
PROJECT: GRIFFIN IRM 3806E06191.03

BATCH COMPLETE: __yes_____
DISKETTE REQUESTED: Y___ N__x__
DATE: 09/13/01
CUSTODY SEAL: PRESENT/ABSENT:
CHAIN OF CUSTODY: PRESENT/ABSENT:

DATE REVISED:
DATE DUE: 10/10/01
PROTOCOL: ASP-B
SHIPPING No.:

CAS JOB #	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE SAMPLED	DATE RECEIVED	pH (SOLIDS)	% SOLIDS	REMARKS SAMPLE CONDITION
492822	MW-1	WATER	95-1	9/13/01	9/13/01			
492823	MW-3	WATER	95-1	9/13/01	9/13/01			
492824	MW-5D	WATER	95-1	9/13/01	9/13/01			
492825	MW-6S	WATER	95-1	9/13/01	9/13/01			
492826	MW-6D	WATER	**QC** 95-1	9/13/01	9/13/01			
492827	MW-7S	WATER	95-1	9/13/01	9/13/01			
492828	TB-1-9-13-01	WATER	95-1	9/13/01	9/13/01			
492829	DUP	WATER	95-1	9/13/01	9/13/01			
492830	MW-7D	WATER	95-1	9/13/01	9/13/01			
492831	MW-9S	WATER	95-1	9/13/01	9/13/01			
492832	MW-9D	WATER	95-1	9/13/01	9/13/01			
492833	MW-10S	WATER	95-1	9/13/01	9/13/01			
492834	MW-10D	WATER	95-1	9/13/01	9/13/01			
492835	MW-13D	WATER	95-1	9/13/01	9/13/01			
492836	MW-11D	WATER	95-1	9/13/01	9/13/01			
492837	RW-01	WATER	95-1	9/13/01	9/13/01			
492838	RW-03	WATER	95-1	9/13/01	9/13/01			
492839	COOLER BLANK	WATER	95-1	9/13/01	9/13/01			

03

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	492822	X					
MW-3	492823	X					
MW-5D	492824	X					
MW-6S	492825	X					
MW-6D	492826	X					
MW-7S	492827	X					
TB-1-9-13-01	492828	X					
DUP	492829	X					
MW-7D	492830	X					
MW-9S	492831	X					
MW-9D	492832	X					
MW-10S	492833	X					
MW-10D	492834	X					
MW-13D	492835	X					
MW-11D	492836	X					
RW-01	492837	X					
RW-03	492838	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
492822	WATER	09/13/01	09/13/01	LOW	09/18/01
492823	WATER	09/13/01	09/13/01	LOW	09/18/01
492824	WATER	09/13/01	09/13/01	LOW	09/18/01
492825	WATER	09/13/01	09/13/01	LOW	09/18/01
492826	WATER	09/13/01	09/13/01	LOW	09/19/01
492827	WATER	09/13/01	09/13/01	LOW	09/19/01
492828	WATER	09/13/01	09/13/01	LOW	09/19/01
492829	WATER	09/13/01	09/13/01	LOW	09/19/01
492830	WATER	09/13/01	09/13/01	LOW	09/18/01
492831	WATER	09/13/01	09/13/01	LOW	09/19/01
492832	WATER	09/13/01	09/13/01	LOW	09/19/01
492833	WATER	09/13/01	09/13/01	LOW	09/19/01
492834	WATER	09/13/01	09/13/01	LOW	09/19/01
492835	WATER	09/13/01	09/13/01	LOW	09/19/01
492836	WATER	09/13/01	09/13/01	LOW	09/19/01
492837	WATER	09/13/01	09/13/01	LOW	09/19,20/01
492838	WATER	09/13/01	09/13/01	LOW	09/20/01

NCF5

5/91

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY

ORGANIC ANALYSES

SAMPLE ID	MATRIX	ANALYTICAL PROTOCOL	EXTRACTION METHOD	AUXILARY CLEAN UP	DIL/CONC FACTOR
492822	WATER	95-1			1.0
492823	WATER	95-1			1.0
492824	WATER	95-1			1.0
492825	WATER	95-1			1.0
492826	WATER	95-1			1.0
492827	WATER	95-1			1.0
492828	WATER	95-1			1.0
492829	WATER	95-1			1.0
492830	WATER	95-1			1.0
492831	WATER	95-1			1.0
492832	WATER	95-1			1.0
492833	WATER	95-1			1.0
492834	WATER	95-1			1.0
492835	WATER	95-1			1.0
492836	WATER	95-1			1.0
492837	WATER	95-1			1.0, 2.5
492838	WATER	95-1			1.0

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-1

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492822 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9643.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/18/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U J
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492822 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9643.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/18/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-3

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492823 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9644.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/18/01

GC Column: RTX502. ID: 0.53 (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
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U J
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	120	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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-3

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492823 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9644.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/18/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5D

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492824 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9645.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/18/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	3	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	120	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492824 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9645.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/18/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6S

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492825 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9646.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/18/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	4	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	4	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	72	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492825 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9646.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/18/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6D

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492826 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9654.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	~~3~~	~~J~~ 10UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	3	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	4	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	80	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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-6D

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492826 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9654.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7S

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492827 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9658.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U J
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	4	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	3	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	190	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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-7S

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492827 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9658.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB-1 9-13-01

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492828 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9659.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	2	J
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-1 9-13-01

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492828 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9659.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DUP

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492829 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9660.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	~~3~~	~~J~~ 10 UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	2	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	110	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492829 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9660.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-7D

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492830 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9647.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/18/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	14	
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	1	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	150	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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-7D

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER

Sample wt/vol: 5.0 (g/ml) ML

Level: (low/med) LOW

% Moisture: not dec. _____

GC Column: RTX502. ID: 0.53 (mm)

Soil Extract Volume _____ (uL)

Lab Sample ID: 492830 1.0

Lab File ID: H9647.D

Date Received: 09/13/01

Date Analyzed: 09/18/01

Dilution Factor: 1.0

Soil Aliquot Volume: _____ (uL)

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9S

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492831 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9661.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND		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
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	~~3~~	~~J~~ 10 UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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-9S

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492831 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9661.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9D

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492832 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9662.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	~~3~~	~~J~~ 10 UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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-9D

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492832 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9662.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-10S

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492833 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9663.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

GC Column: RTX502. ID: 0.53 (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
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	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
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492833 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9663.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-10D

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492834 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9664.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U J
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	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
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492834 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9664.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-13D

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492835 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9665.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	2	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	120	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-11D

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492836 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9666.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND		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
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U J
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492836 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9666.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RW-01

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492837 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9667.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q	
74-87-3	Chloromethane	10	U	
75-01-4	Vinyl chloride	10	U	
74-83-9	Bromomethane	10	U	
75-00-3	Chloroethane	10	U	
75-69-4	Trichlorofluoromethane	10	U	
67-64-1	Acetone	~~2~~	~~J~~	10 UJ
75-35-4	1,1-Dichloroethene	10	U	
75-09-2	Methylene chloride	10	U	
75-15-0	Carbon disulfide	10	U	
156-60-5	trans-1,2-Dichloroethene	10	U	
75-34-3	1,1-Dichloroethane	10	U	
78-93-3	2-Butanone	10	U	
156-59-2	cis-1,2-Dichloroethene	9	J	
67-66-3	Chloroform	10	U	
107-06-2	1,2-Dichloroethane	10	U	
71-55-6	1,1,1-Trichloroethane	8	J	
56-23-5	Carbon tetrachloride	10	U	
71-43-2	Benzene	10	U	
79-01-6	Trichloroethene	~~390~~	~~E~~	440
78-87-5	1,2-Dichloropropane	10	U	
75-27-4	Bromodichloromethane	10	U	
10061-01-5	cis-1,3-Dichloropropene	10	U	
10061-02-6	trans-1,3-Dichloropropene	10	U	
79-00-5	1,1,2-Trichloroethane	10	U	
124-48-1	Dibromochloromethane	10	U	
75-25-2	Bromoform	10	U	
108-10-1	4-Methyl-2-pentanone	1	J	
108-88-3	Toluene	10	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	10	U	
108-90-7	Chlorobenzene	10	U	
100-41-4	Ethylbenzene	10	U	
108-38-3/106-42-3	(m+p)Xylene	10	U	
95-47-6	o-Xylene	10	U	
100-42-5	Styrene	10	U	
79-34-5	1,1,2,2-Tetrachloroethane	10	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

RW-01

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492837 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9667.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RW-01DL

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492837 2.5

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9681.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/20/01

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 2.5

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

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	25	U
75-01-4	Vinyl chloride	25	U
74-83-9	Bromomethane	25	U
75-00-3	Chloroethane	25	U
75-69-4	Trichlorofluoromethane	25	U
67-64-1	Acetone	25	U
75-35-4	1,1-Dichloroethene	25	U
75-09-2	Methylene chloride	25	U
75-15-0	Carbon disulfide	25	U
156-60-5	trans-1,2-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
78-93-3	2-Butanone	25	U
156-59-2	cis-1,2-Dichloroethene	9	JD
67-66-3	Chloroform	25	U
107-06-2	1,2-Dichloroethane	25	U
71-55-6	1,1,1-Trichloroethane	8	JD
56-23-5	Carbon tetrachloride	25	U
71-43-2	Benzene	25	U
79-01-6	Trichloroethene	440	D
78-87-5	1,2-Dichloropropane	25	U
75-27-4	Bromodichloromethane	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
10061-02-6	trans-1,3-Dichloropropene	25	U
79-00-5	1,1,2-Trichloroethane	25	U
124-48-1	Dibromochloromethane	25	U
75-25-2	Bromoform	25	U
108-10-1	4-Methyl-2-pentanone	25	U
108-88-3	Toluene	25	U
591-78-6	2-Hexanone	25	U
127-18-4	Tetrachloroethene	25	U
108-90-7	Chlorobenzene	25	U
100-41-4	Ethylbenzene	25	U
108-38-3/106-42-3	(m+p)Xylene	25	U
95-47-6	o-Xylene	25	U
100-42-5	Styrene	25	U
79-34-5	1,1,2,2-Tetrachloroethane	25	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

RW-01DL

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492837 2.5

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9681.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/20/01

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 2.5

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RW-03

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492838 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9680.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/20/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	~~3~~	~~J~~ 10 UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	1	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	3	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	160	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

RW-03

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492838 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9680.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/20/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

COOLER BLK

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492839 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9682.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/20/01

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

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

CONCENTRATION UNITS:

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

74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	UJ
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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 BLK

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492839 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9682.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/20/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	TOT OUT
01	VBLK01	104	102	99	0
02	VBLK01MS	102	101	88	0
03	MW-1	103	100	100	0
04	MW-3	102	102	100	0
05	MW-5D	106	102	99	0
06	MW-6S	106	102	99	0
07	MW-7D	107	102	99	0
08	VBLK02	99	101	100	0
09	VBLK02MS	90	103	98	0
10	MW-6D	101	100	97	0
11	MW-6DMS	103	100	97	0
12	MW-6DMSD	104	100	97	0
13	MW-7S	103	100	100	0
14	TB-1 9-13-01	104	99	98	0
15	DUP	103	101	100	0
16	MW-9S	103	100	98	0
17	MW-9D	102	101	99	0
18	MW-10S	102	102	99	0
19	MW-10D	102	102	99	0
20	MW-13D	103	102	97	0
21	MW-11D	104	102	99	0
22	RW-01	105	100	101	0
23	VBLK03	106	100	99	0
24	VBLK03MS	105	101	100	0
25	RW-03	108	100	100	0
26	RW-01DL	110	101	103	0
27	COOLER BLK	106	101	102	0

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix Spike - EPA Sample No.: MW-6D

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0.0	49	98	61 - 145
Benzene	50	0.0	50	100	76 - 127
Trichloroethene	50	80	130	106	71 - 120
Toluene	50	0.0	48	96	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	48	96	2	14	61 - 145
Benzene	50	49	98	2	11	76 - 127
Trichloroethene	50	130	100	0	14	71 - 120
Toluene	50	48	96	0	13	76 - 125
Chlorobenzene	50	50	100	2	13	75 - 130

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

_____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6DMS

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492826 1.0 MS

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9655.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	49	
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	3	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	5	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	50	
79-01-6	Trichloroethene	130	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	48	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	49	
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-6DMSD

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 492826 1.0 MS

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9656.D

Level: (low/med) LOW Date Received: 09/13/01

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND		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
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	48	
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	3	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	5	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	49	
79-01-6	Trichloroethene	130	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	48	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	50	
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 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	48	96	61 - 145
Benzene	50	0.0	50	100	76 - 127
Trichloroethene	50	0.0	48	96	71 - 120
Toluene	50	0.0	47	94	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: 1 out of 5 outside limits~~ PL 10/05/01

Spike Recovery: 0 out of ~~10~~ 5 outside limits

COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK01MS

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9633.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/18/01

GC Column: RTX502. ID: 0.53 (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
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	48	
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	50	
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
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	47	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	49	
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 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	48	96	61 - 145
Benzene	50	0.0	43	86	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: 1 out of 5 outside limits~~ 10/05/01

Spike Recovery: 0 out of ~~10~~ 5 outside limits

COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK02MS

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9653.D

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	48	
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	43	
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
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	49	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	49	
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 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	52	104	61 - 145
Benzene	50	0.0	50	100	76 - 127
Trichloroethene	50	0.0	55	110	71 - 120
Toluene	50	0.0	49	98	76 - 125
Chlorobenzene	50	0.0	50	100	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~~ PL 10/05/01

Spike Recovery: 0 out of ~~10~~ 5 outside limits

COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03MS

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9679.D

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/20/01

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

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

CONCENTRATION UNITS:

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

CAS NO.	COMPOUND		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
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	52	
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	50	
79-01-6	Trichloroethene	55	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	49	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	50	
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK01

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Lab File ID: H9632.D Lab Sample ID: VBLK

Date Analyzed: 09/18/01 Time Analyzed: 11:12

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

Instrument ID: GCMS#1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK01MS	VBLKMS	H9633.D	11:55
02	MW-1	492822 1.0	H9643.D	18:51
03	MW-3	492823 1.0	H9644.D	19:28
04	MW-5D	492824 1.0	H9645.D	20:06
05	MW-6S	492825 1.0	H9646.D	20:43
06	MW-7D	492830 1.0	H9647.D	21:20

COMMENTS

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK01

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9632.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/18/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9632.D

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/18/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK02

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Lab File ID: H9652.D Lab Sample ID: VBLK

Date Analyzed: 09/19/01 Time Analyzed: 10:32

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

Instrument ID: GCMS#1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK02MS	VBLKMS	H9653.D	11:16
02	MW-6D	492826 1.0	H9654.D	11:54
03	MW-6DMS	492826 1.0 MS	H9655.D	12:31
04	MW-6DMSD	492826 1.0 MSD	H9656.D	13:09
05	MW-7S	492827 1.0	H9658.D	14:31
06	TB-1 9-13-01	492828 1.0	H9659.D	15:12
07	DUP	492829 1.0	H9660.D	15:52
08	MW-9S	492831 1.0	H9661.D	16:40
09	MW-9D	492832 1.0	H9662.D	17:22
10	MW-10S	492833 1.0	H9663.D	18:00
11	MW-10D	492834 1.0	H9664.D	18:38
12	MW-13D	492835 1.0	H9665.D	19:15
13	MW-11D	492836 1.0	H9666.D	19:53
14	RW-01	492837 1.0	H9667.D	20:30

COMMENTS

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK02

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9652.D

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/19/01

GC Column: RTX502. ID: 0.53 (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
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9652.D

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/19/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK03

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Lab File ID: H9678.D Lab Sample ID: MET BLK

Date Analyzed: 09/20/01 Time Analyzed: 15:48

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

Instrument ID: GCMS#1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	VBLK03MS	VBLKMS	H9679.D	16:28
02	RW-03	492838 1.0	H9680.D	17:09
03	RW-01DL	492837 2.5	H9681.D	17:50
04	COOLER BLK	492839 1.0	H9682.D	18:28

COMMENTS

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: MET BLK

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9678.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 09/20/01

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

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
75-69-4	Trichlorofluoromethane	10	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	10	U
75-09-2	Methylene chloride	10	U
75-15-0	Carbon disulfide	10	U
156-60-5	trans-1,2-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
156-59-2	cis-1,2-Dichloroethene	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	10	U
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
108-38-3/106-42-3	(m+p)Xylene	10	U
95-47-6	o-Xylene	10	U
100-42-5	Styrene	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/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: MET BLK

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: H9678.D

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 09/20/01

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

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Lab File ID (Standard): H9631.D Date Analyzed: 09/18/01

Instrument ID: GCMS#1 Time Analyzed: 10:29

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

		IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR ST	193110	12.96	849748	15.06	672960	22.25
	LOWER LIMIT	96555	12.46	424874	14.56	336480	21.75
	UPPER LIMIT	386220	13.46	1699496	15.56	1345920	22.75
	EPA SAMPLE NO.						
01	VBLK01	192059	12.92	864665	15.04	684386	22.23
02	VBLK01MS	194348	12.92	870956	15.04	692759	22.25
03	MW-1	165386	12.90	725444	15.03	576754	22.21
04	MW-3	169444	12.91	715523	15.03	562385	22.22
05	MW-5D	180204	12.90	801380	15.03	628392	22.22
06	MW-6S	178717	12.91	789737	15.03	628731	22.22
07	MW-7D	174736	12.91	775764	15.03	616863	22.20

IS1 = Bromochloromethane

IS2 = 1,4-Difluorobenzene

IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Lab File ID (Standard): H9651.D Date Analyzed: 09/19/01

Instrument ID: GCMS#1 Time Analyzed: 09:47

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

		IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR ST	182677	12.94	813264	15.06	651366	22.27
	LOWER LIMIT	91339	12.44	406632	14.56	325683	21.77
	UPPER LIMIT	365354	13.44	1626528	15.56	1302732	22.77
	EPA SAMPLE NO.						
01	VBLK02	188183	12.94	835806	15.04	659454	22.23
02	VBLK02MS	187386	12.96	845112	15.08	582156	22.27
03	MW-6D	161525	12.94	740763	15.04	581331	22.25
04	MW-6DMS	162712	12.93	737118	15.05	586381	22.24
05	MW-6DMSD	162757	12.92	751013	15.04	594535	22.23
06	MW-7S	162608	12.92	740610	15.04	587152	22.22
07	TB-1 9-13-01	160434	12.92	726762	15.03	579551	22.23
08	DUP	161263	12.91	740026	15.03	570893	22.22
09	MW-9S	159400	12.92	722978	15.04	568584	22.23
10	MW-9D	156273	12.92	711082	15.04	557392	22.23
11	MW-10S	156554	12.91	707020	15.03	554827	22.22
12	MW-10D	156218	12.90	697165	15.03	549902	22.22
13	MW-13D	151781	12.91	691324	15.03	539333	22.22
14	MW-11D	154032	12.91	695194	15.03	549232	22.22
15	RW-01	152285	12.91	684057	15.03	541030	22.22

IS1 = Bromochloromethane

IS2 = 1,4-Difluorobenzene

IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

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

* Values outside of contract required QC limits

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CAS/ROCH Contract: WCC

Lab Code: 10145 Case No.: R21-8565 SAS No.: _____ SDG No.: MW-1

Lab File ID (Standard): H9677.D Date Analyzed: 09/20/01

Instrument ID: GCMS#1 Time Analyzed: 15:04

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

		IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR ST	197728	12.97	844418	15.08	586199	22.27
	LOWER LIMIT	98864	12.47	422209	14.58	293100	21.77
	UPPER LIMIT	395456	13.47	1688836	15.58	1172398	22.77
	EPA SAMPLE NO.						
01	VBLK03	162314	12.93	738615	15.05	591573	22.24
02	VBLK03MS	165169	12.94	735715	15.04	589560	22.23
03	RW-03	161849	12.94	735808	15.04	584908	22.23
04	RW-01DL	158805	12.92	727628	15.03	577788	22.23
05	COOLER BLK	161389	12.94	719724	15.04	567447	22.25

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

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

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

ANALYTICAL DATA VALIDATION
GRIFFIN TECHNOLOGY SITE
SYSTEM OPERATION
SEMI-ANNUAL GROUNDWATER SAMPLING
SECOND ROUND 2001

INTRODUCTION

This appendix presents the findings of a validation of analytical data for samples collected in September 2001 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 Services 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

VOCs continued:

- Internal standard areas and retention times
- Field duplicate results
- Compound identification and quantitation
- Overall assessment of data

The following sections present the data validation.

SIGNIFICANT PROBLEMS IDENTIFIED IN CASE NARRATIVE

No problems were identified in the case narrative.

RESULTS REPORTED FROM SECONDARY DILUTIONS

For samples that required dilutions, part of the validation process is to evaluate which set of results (initial or diluted) are considered to be most representative of the sample matrix. For this data set, one sample was analyzed at a dilution for VOCs.

- For the initial VOC analysis of sample RW-01 analyzed at a dilution factor of 1, the corresponding TCE concentration exceeded the instrument's linear calibration range and the sample was reanalyzed at a dilution factor of 2.5. For this sample, the TCE concentration reported from the diluted analysis (440 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. All samples were analyzed within this time period.

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". Three VOC continuing calibration analyses yielded a percent difference (%D) value for acetone above the "Guidelines" acceptance criterion of 25 percent (specifically, 27%, 34% and 29%). The positive and non-detected acetone results in all samples were qualified as estimated ("J" or "UJ"), in accordance with the "Guidelines".

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 and tentatively identified compounds (TICs).

TRIP BLANK SAMPLES

Trip blank samples are used to assess VOC cross-contamination during shipment to the laboratory. Two trip blank sample, identified as "TB-1-9-13-01" and "Cooler Blank", were submitted with the cooler containing aqueous samples for VOC analyses.

Acetone was detected in the trip blank labeled TB-1-9-13-01 at a concentration ot 2 J µg/L. All positive detections for acetone in associated samples were qualified as non-detect at the reporting limit ("10 U µg/L").

Associated Groundwater Samples: MW-1, MW-9S, MW-9D, DUP, RW-01, and RW-03.

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, indicating that the method was in control. Additionally, no errors in calculations or transcriptions were noted during the validation of the LCS recoveries from this data set.

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

Matrix effects on the analytical results are evaluated by analyzing matrix spike/matrix spike duplicate (MS/MSD) samples. MW-6D was analyzed as an MS/MSD sample for this data set.

All VOC MS/MSD recoveries and relative percent differences (RPDs) were within the method established control limits, indicating that acceptable analytical accuracy was

achieved for these analyses. 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-5D 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. In addition, no Tentatively Identified Compounds (TICs) were detected in any of the samples.

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 LCS, MS/MSD, and field duplicate results) were achieved for this data set. In addition, completeness, defined to be the percentage of analytical results which are judged to be valid, including estimated ("J" or "UJ") values, was 100 percent for this data set. Sample results from this investigation required some qualification based on the minor deficiencies summarized below:

- The positive acetone results in samples MW-1, MW-9S, MW-9D, DUP, RW-01, and RW-03 were qualified as non-detect at the reporting limit ("10 U µg/L") due to the detection of acetone at a similar concentration in the trip blank.

- The non-detected results for acetone in all samples were qualified as estimated ("UJ") due to outlying continuing calibration %Ds.

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