FINAL REPORT

INTERIM REMEDIAL MEASURE PROGRAM

2002 ANNUAL PROGRESS REPORT
OCTOBER 2001 – SEPTEMBER 2002

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

Prepared for
Diebold, Inc.
Canton, Ohio

October 2002

URS

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INTERIM REMEDIAL MEASURE 2002 ANNUAL PROGRESS REPORT

GRIFFIN TECHNOLOGY, INC. FACILITY

TOWN OF FARMINGTON

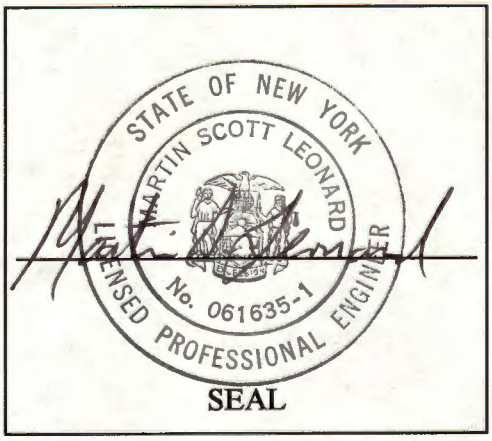
ONTARIO COUNTY, NEW YORK

The enclosed 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: Oct. 10, 2002



SEAL

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

This report presents information collected by URS Corporation (URS) between October 2001 and September 2002 during the operation of the Interim Remedial Measure (IRM) system at the Griffin Technology, Inc. (GTI) site located at 6132 Victor-Manchester Road in Farmington, Ontario County, New York. A general location map is included as Figure 1-1.

The IRM system consists of four groundwater recovery wells equipped with submersible electric pumps. The wells 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 (RW-1 through RW-3). 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.

Activities performed during the period from October 2001 through September 2002 are described in Section 2.0. Information collected during this period of operation is presented in Section 3.0. Conclusions are presented in Section 4.0.

The Scope of Work for the IRM was presented in the *Final Design Document*, which was issued to the NYSDEC on September 27, 1996. Implementation of the IRM included the following historic activities:

- Installing the IRM system in the undeveloped parcel of land located downgradient of the source area. The original IRM system consisted of installing three groundwater extraction wells (RW-1 through RW-3), 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 to discharge the combined effluent of all three wells 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 (RW-4).
- Installing a new sewer main crossing to provide sanitary sewer service to the undeveloped western parcel.
- Monitoring the quantity and quality of effluent discharged from the system monthly and reporting this data to the local POTW.
- Monitoring the groundwater elevations in all on-site wells and piezometers on a monthly basis 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 for a period of four years, beginning six months after initiation of the system. All groundwater samples collected during these semi-annual activities were analyzed for volatile organic compounds (VOCs) by NYSDEC Test Method ASP 91-1 (now referenced as NYSDEC Test Method ASP 95-1). After four years, the frequency of monitoring well sampling was reduced to an annual basis.
- Preparing progress reports for submission to the NYSDEC. The reports included data collected during the preceding months of operation as well as information and activities to be performed during subsequent reporting periods.

During the period from October 2001 through September 2002, URS completed the following:

- Collected water level data from on-site wells and composite effluent samples on a monthly basis;
- Performed a comprehensive groundwater monitoring event in May 2002; and,
- Evaluated system maintenance requirements.

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 remains 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 treatment. 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 the period from October 2001 through September 2002, 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 off-site monitoring wells MW-6S and MW-6D. On May 23, 2002, 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

Composite effluent samples were collected monthly from the common header discharge in the Central Access Vault. The recovery wells were typically shut down for approximately one hour while water level data were collected from the on-site monitoring wells. In order to collect the composite effluent sample, all recovery wells were restarted, such that the sample included a contribution from each well. These samples were submitted to Columbia Analytical Services, Inc. (CASI) of Rochester, New York for analysis of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) method 8260. The analytical results of these composite samples were used to report estimated loadings to the POTW.

On May 24, 2002, groundwater samples were collected from on-site and off-site monitoring wells and the individual recovery wells to evaluate regional groundwater quality. Prior to sample collection, the static water level in each well was measured. Using these measurements, the volume of water contained in each well 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. Samples were transferred from the bailers to laboratory supplied containers.

In addition, groundwater samples were collected from the four recovery wells, RW-1 through RW-4. These samples were collected directly from sample ports on the pump discharge line and transferred to laboratory supplied containers.

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-4. Groundwater samples were submitted to CASI and analyzed for VOCs by NYSDEC Test Method ASP 95-1. Chain-of-custody procedures were observed throughout the sampling event.

The data collected during this twelve-month period of IRM system operation and the results of the May 2002 groundwater sample 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 groundwater contour maps for both the overburden (Figures 3-1 through 3-5) and bedrock (Figures 3-6 through 3-10) water-bearing zones. For comparison purposes, URS has included contour maps from the September 13, 2001, semi-annual monitoring event, which just preceded the October 2001 through September 2002 period of operation. Figures 3-4 and 3-9 illustrate groundwater flow conditions in the vicinity of the site in the overburden and bedrock water-bearing zones, respectively, as measured during the annual monitoring event on May 23, 2002.

The elevation data indicate that groundwater flow in the overburden water-bearing zone is typically to the south-southwest and may ultimately discharge to Beaver Creek. The recovery wells produce limited influence on the shallow-water bearing zone.

In the bedrock water-bearing zone, groundwater flow is to the west-southwest. Pumping of well RW-3 has produced a localized groundwater low. In general, the system influences the bedrock zone more than the overburden zone, as evidenced by the water levels in the MW-5 nested pair. On-site, water level data from nested pairs outside the zone of influence of the extraction system indicate that the bedrock zone is within zero (PZ-1 pair) to two feet (PZ-02 pair) of the shallow zone. Off-site, water levels in the MW-6 pair are essentially equal and may monitor the same zone. Further offsite, at the MW-7 and MW-9 locations, water levels in the overburden and bedrock zones are separated by more than 20 feet and clearly monitor distinct water-bearing zones.

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 previously observed site conditions.

3.2 EFFLUENT OPERATING DATA AND ANALYTICAL RESULTS

A summary of the historical IRM system operating data and effluent analysis is presented in Table 3-2. The effluent samples were composite samples collected from the four recovery wells, RW-1 through RW-4. The effluent 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 primarily of trichloroethene (TCE) and 1,1,1-trichloroethane (1,1,1-TCA). These COCs are consistent with previous 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. Overall, concentrations of TCE have decreased since the inception of system operation.

The volume of water extracted by the system, as measured by the flow totalizer, decreased during the latter months (July and August 2002) 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 the monitoring wells sampled on May 24, 2002 is presented in Table 3-3. Table 3-3 also summarizes data from previous sampling events. Table 3-4 presents data from the individual recovery wells over the past year of operation. The laboratory data sheets are provided in Appendix B. A data validation report for this data, prepared by a URS QA/QC reviewer, is provided in Appendix C. Results of the validation indicate that the data are acceptable.

Groundwater analytical results showed that concentrations of COCs were generally lower than those reported for the previous (September 13, 2001) groundwater sampling event. The COCs detected in groundwater samples collected during May 2002 consisted of TCE, 1,1,1-TCA, cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride. TCE was consistently the compound with the highest reported concentration. The COCs detected are consistent with the results of earlier sampling events. Vinyl chloride was only detected in the sample from MW-07D, at a concentration of 4 micrograms per liter (µg/l).

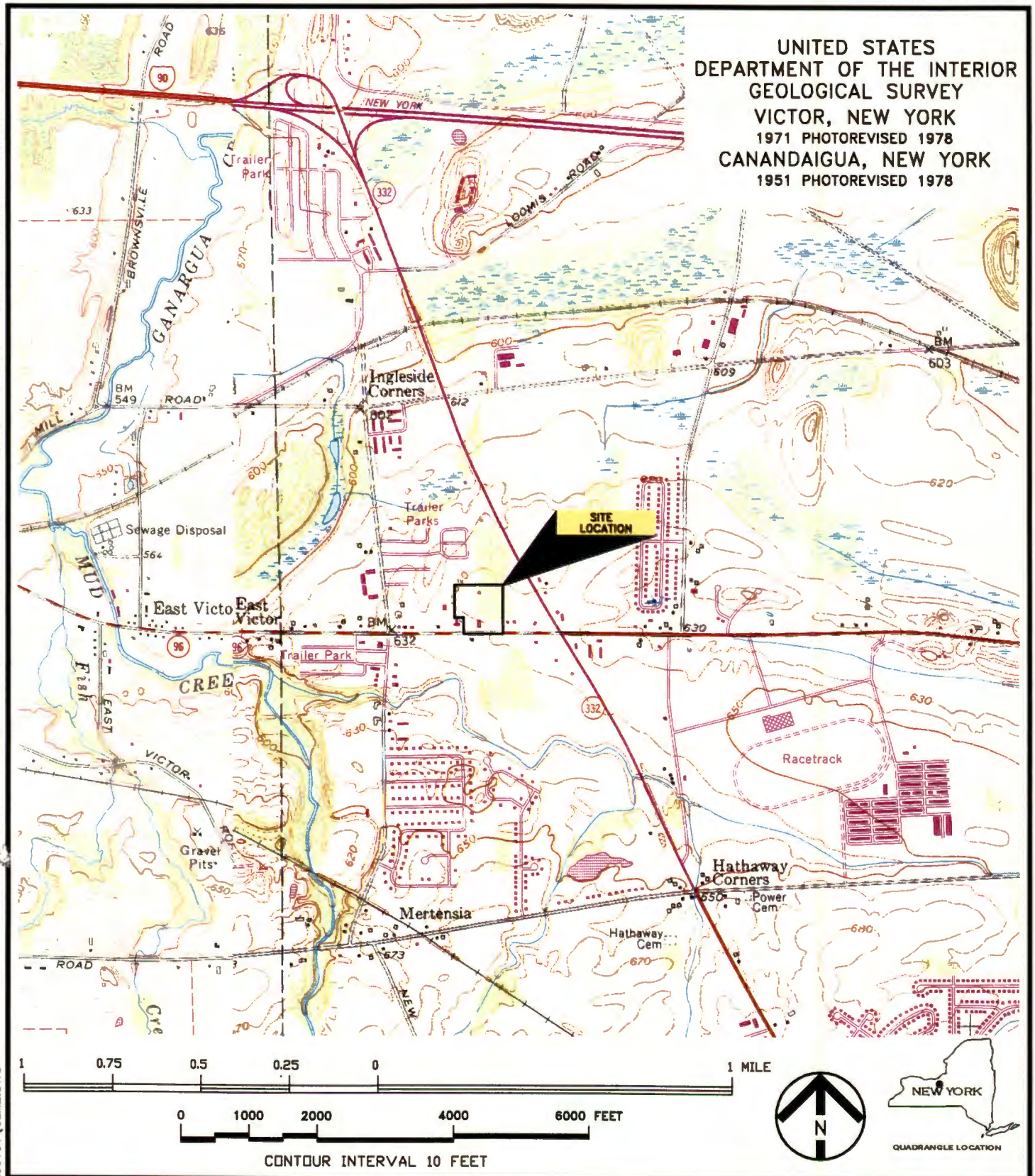
3.4 SYSTEM MAINTENANCE

The recovery system is relatively simple, with the ultimate treatment provided by the local POTW. During the May 2002 annual monitoring event, URS personnel performed amperage tests on each recovery pump to evaluate whether the pumps were drawing excessive amounts of power while running. In general, readings several amps higher than the pump rating indicate a maintenance issue and the potential for premature failure of the motor. All pumps were within the amperage tolerances of Gould, the pump manufacturer.

Based on the information collected during the twelve-month period from October 2001 through September 2002, 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 continues to influence 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 May 23, 2002, bedrock groundwater elevation data indicate the presence of a groundwater low southwest of the site in the vicinity of monitoring well MW-07D, which has been observed previously.
- The monthly quantity of groundwater removed by the IRM system decreased during the winter months, consistent with previous years. 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 have generally decreased throughout the operating period. Concentrations remained slightly lower than historical levels. TCE was consistently the COC reported at the highest concentration in the IRM system effluent.
- The observations of the previous five years indicate that the existing IRM system is effectively controlling off-site migration of COCs beneath the property and removing COCs from groundwater.

Figures



GENERAL LOCATION MAP

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

DRAWN BY: ERB	CHECKED BY: CAP	PROJECT NUMBER: 6E06191	DATE: 1/3/02	FIGURE NO: 1

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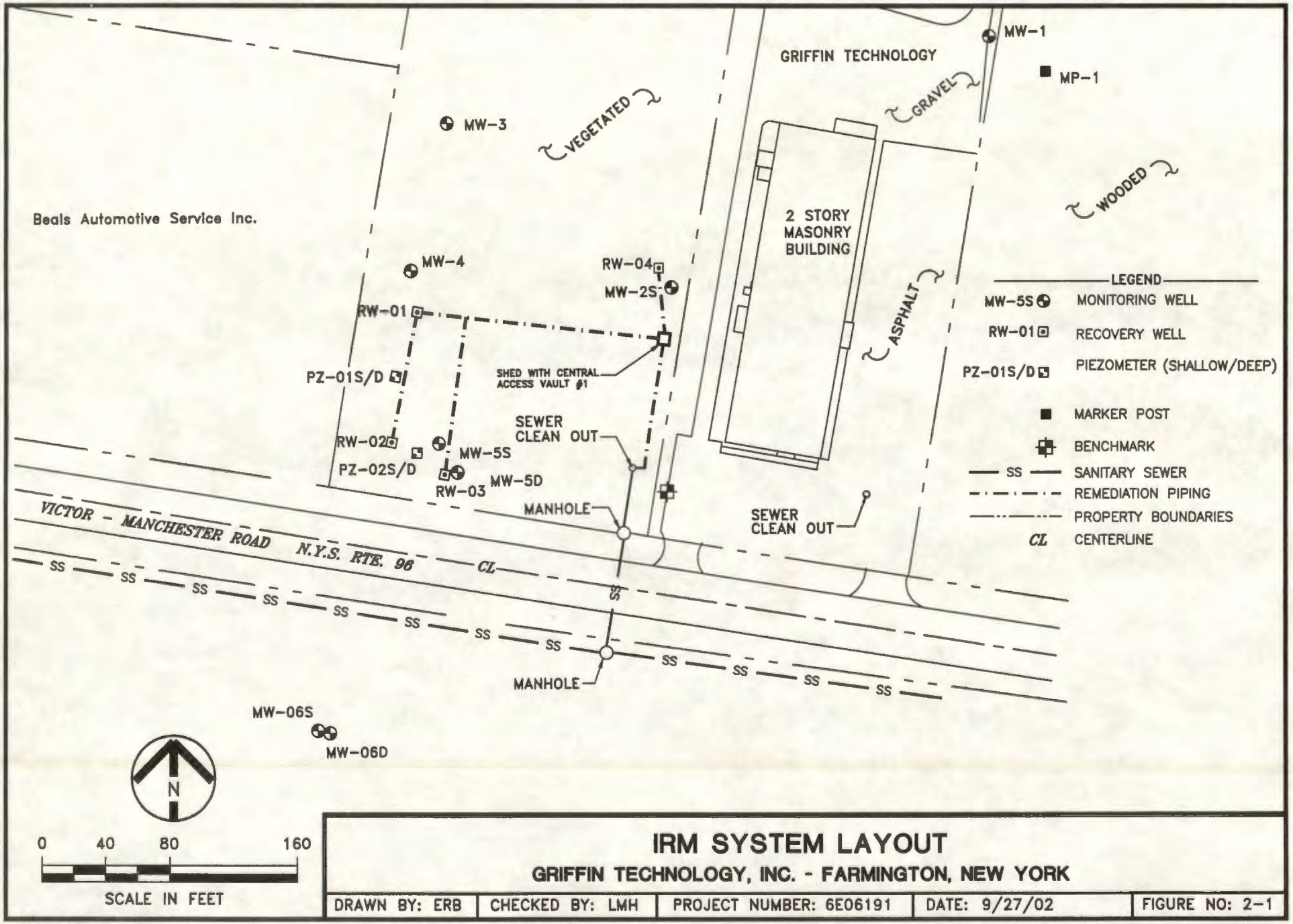

IRM SYSTEM LAYOUT

GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	CHECKED BY: LMH	PROJECT NUMBER: 6E06191	DATE: 9/27/02	FIGURE NO: 2-1

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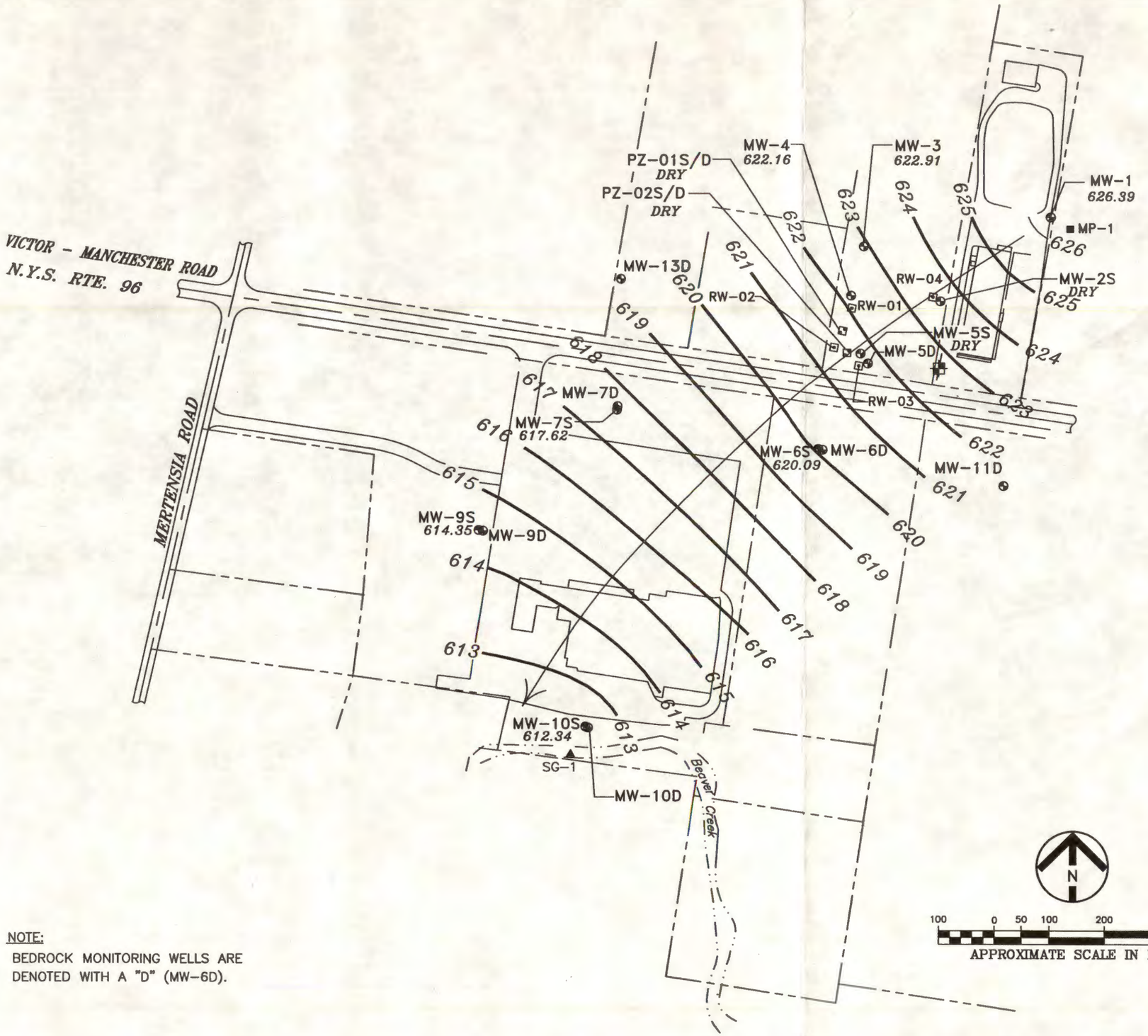

LEGEND

- 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).

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

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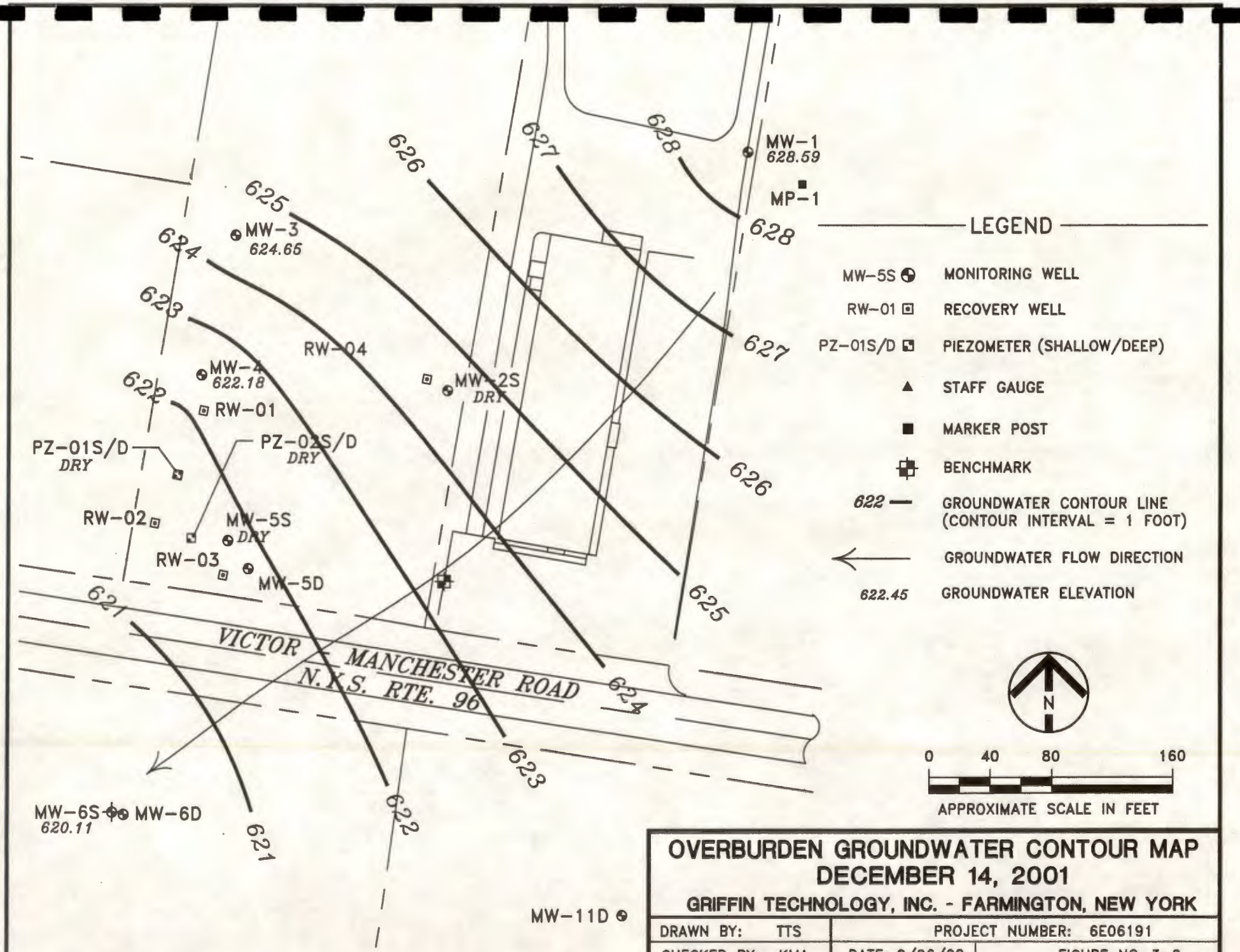

OVERBURDEN GROUNDWATER CONTOUR MAP
DECEMBER 14, 2001

GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

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CHECKED BY: KMA	DATE: 9/26/02	FIGURE NO: 3-2

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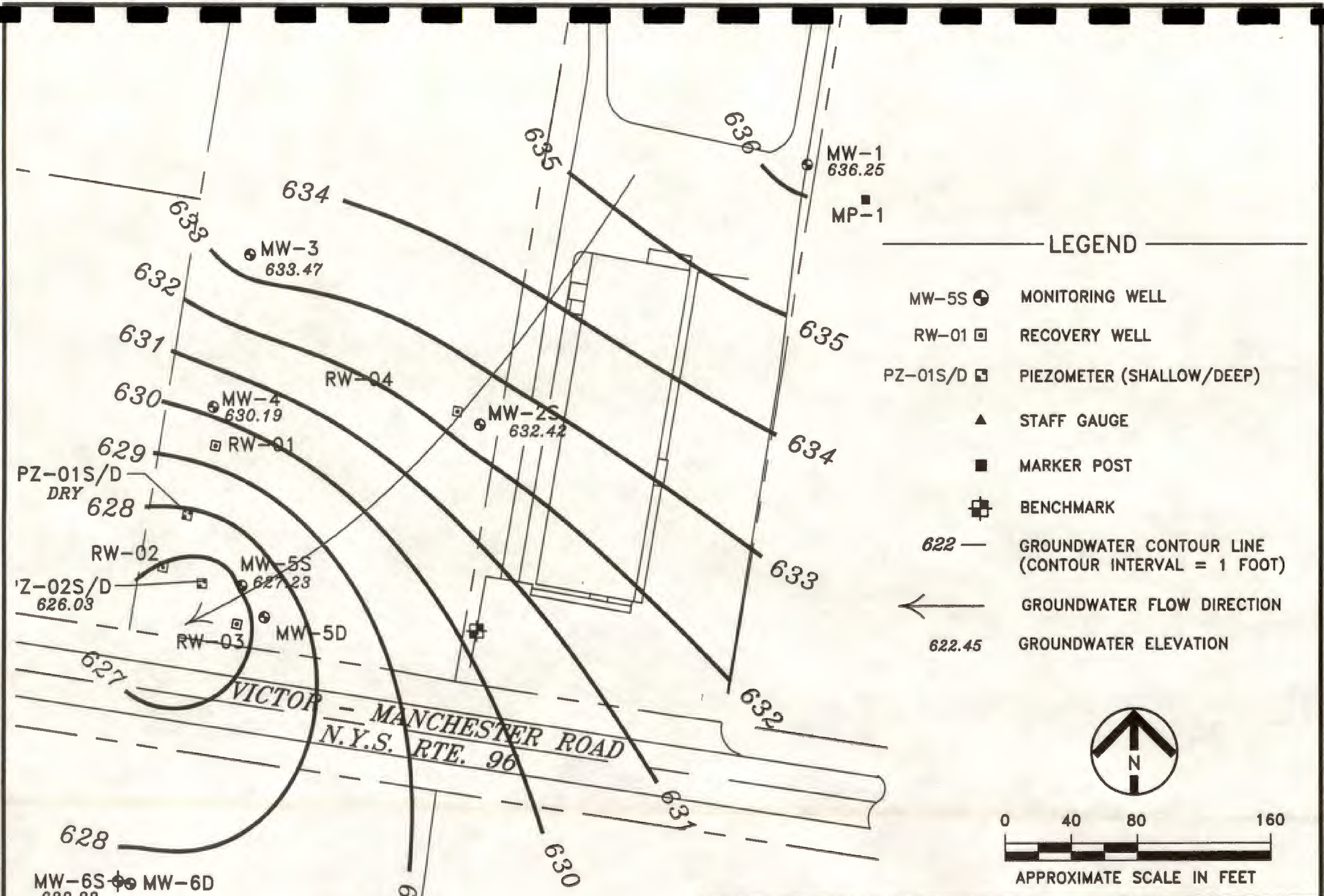

OVERBURDEN GROUNDWATER CONTOUR MAP
MARCH 11, 2002
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

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CHECKED BY: KMA	DATE: 9/27/02	FIGURE NO: 3-3

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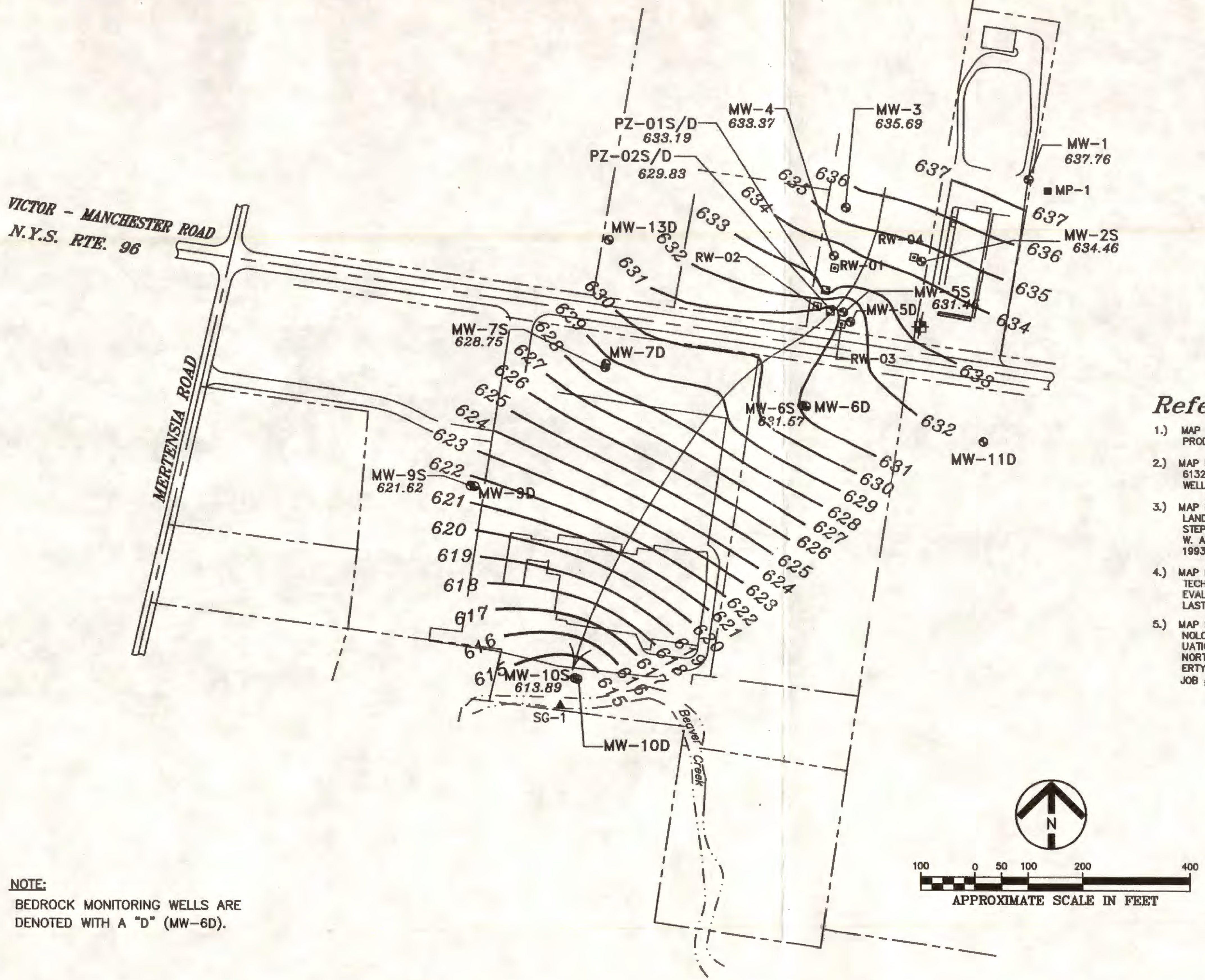

LEGEND

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.

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NOTE:

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

URS

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

CLIENT: DIEBOLD, INC.

LOCATION: GRIFFIN TECHNOLOGY, INC., NEW YORK

OVERBURDEN GROUNDWATER CONTOUR MAP MAY 23, 2002

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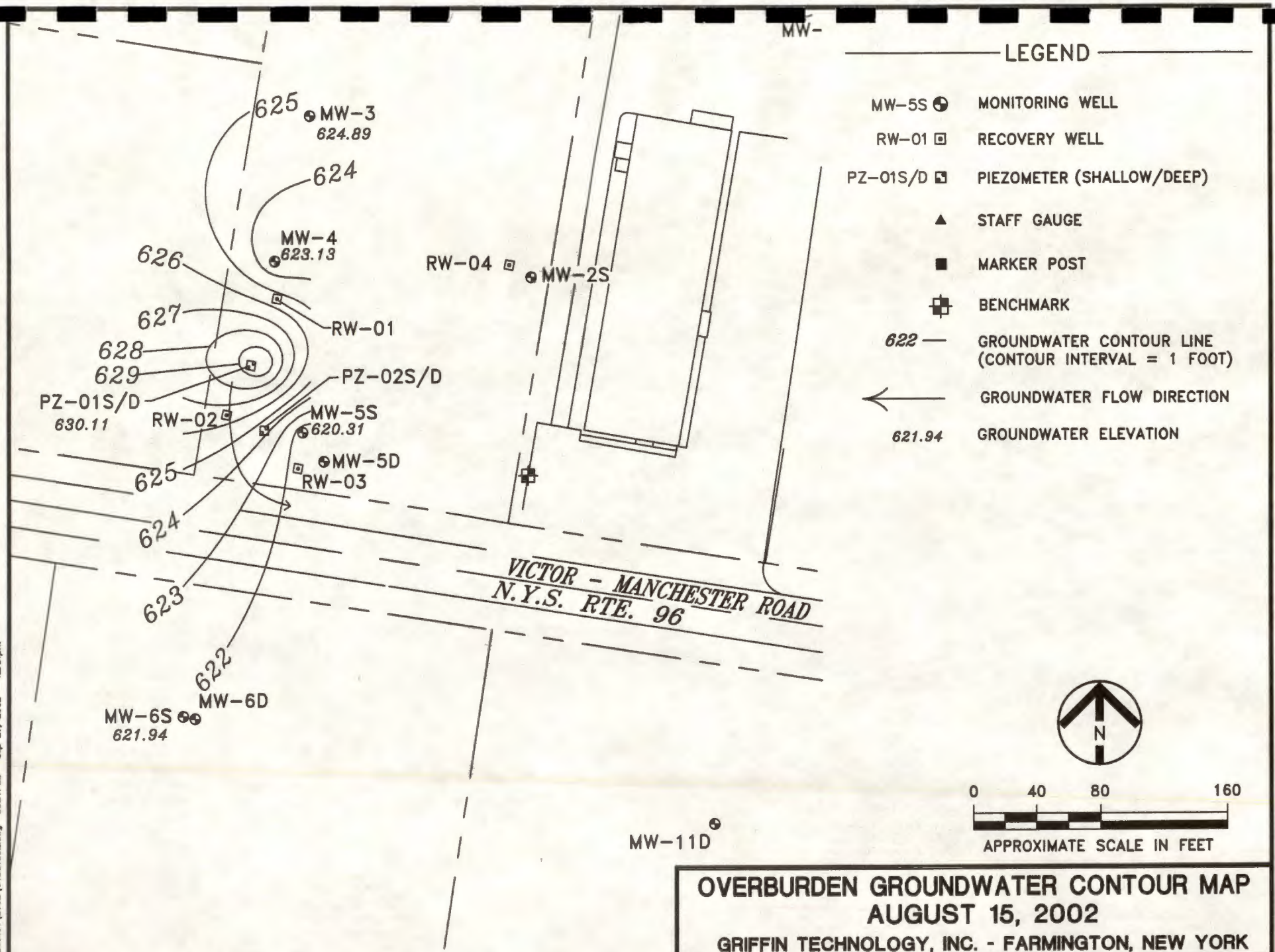

OVERBURDEN GROUNDWATER CONTOUR MAP
AUGUST 15, 2002
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

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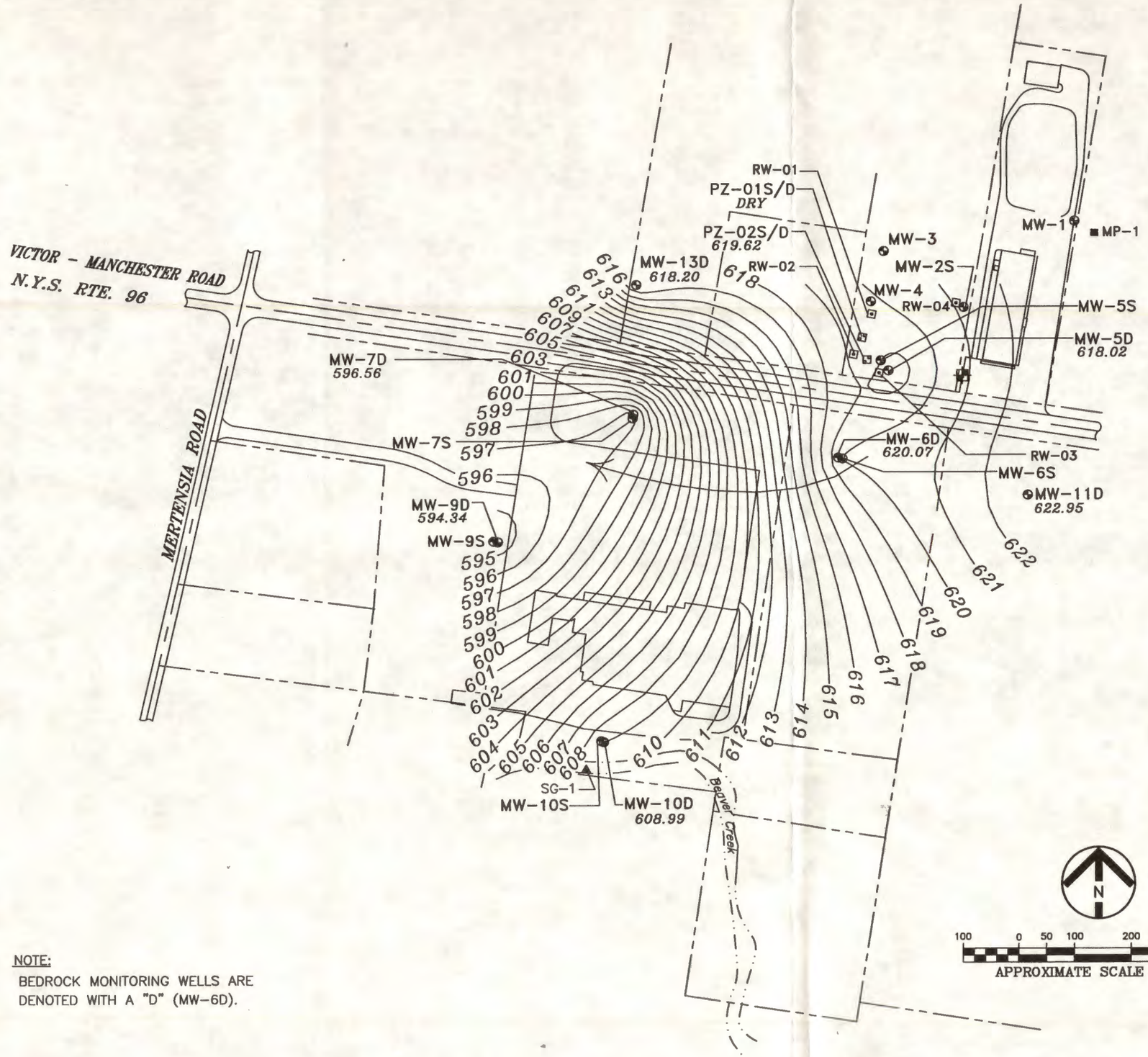

LEGEND

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

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

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

CLIENT: DIEBOLD, INC.

LOCATION: GRIFFIN TECHNOLOGY, INC., NEW YORK

BEDROCK GROUNDWATER CONTOUR MAP SEPTEMBER 13, 2001

DRAWN BY:	CHECKED BY:	PROJECT NO:	DATE:	FIGURE NO:
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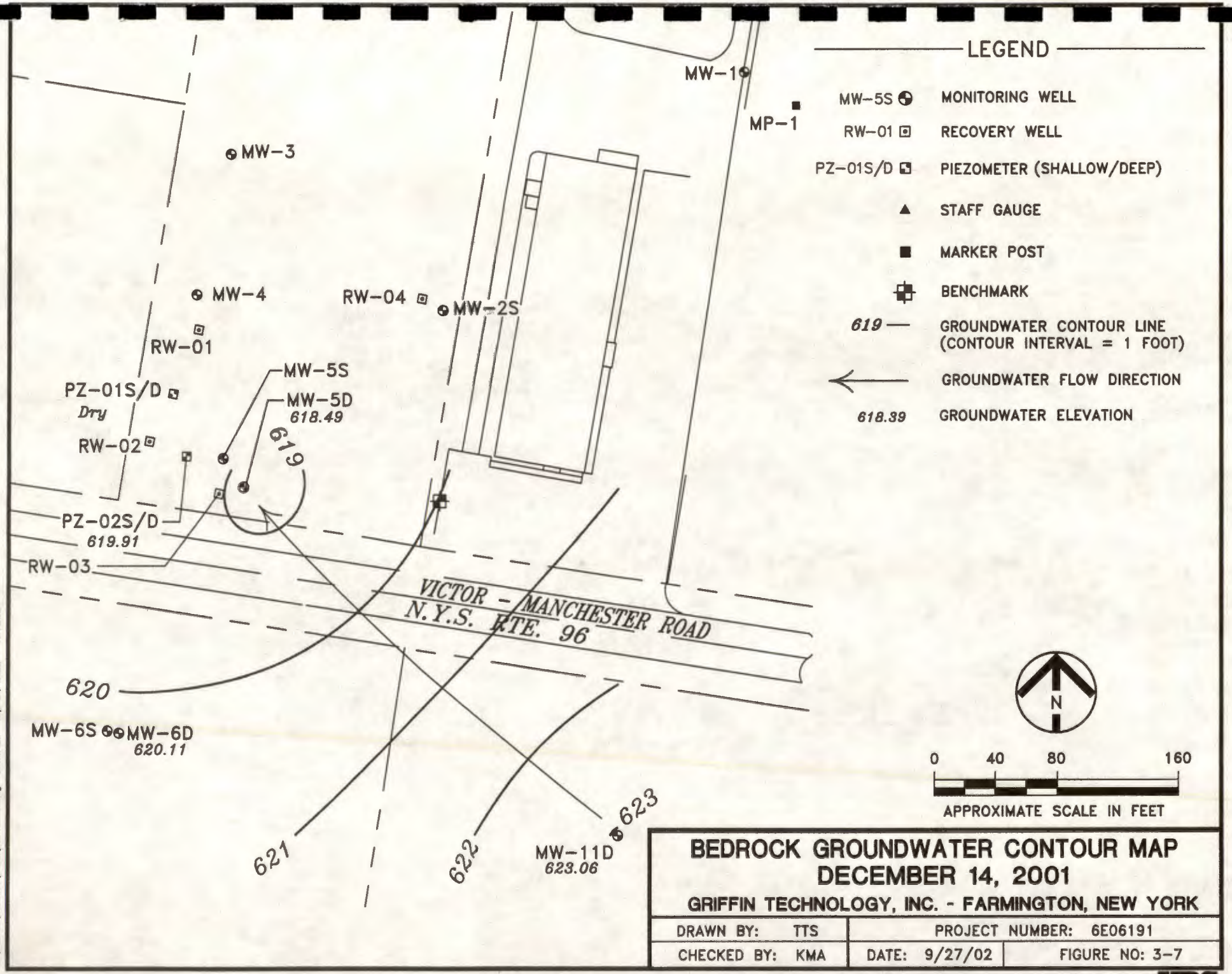
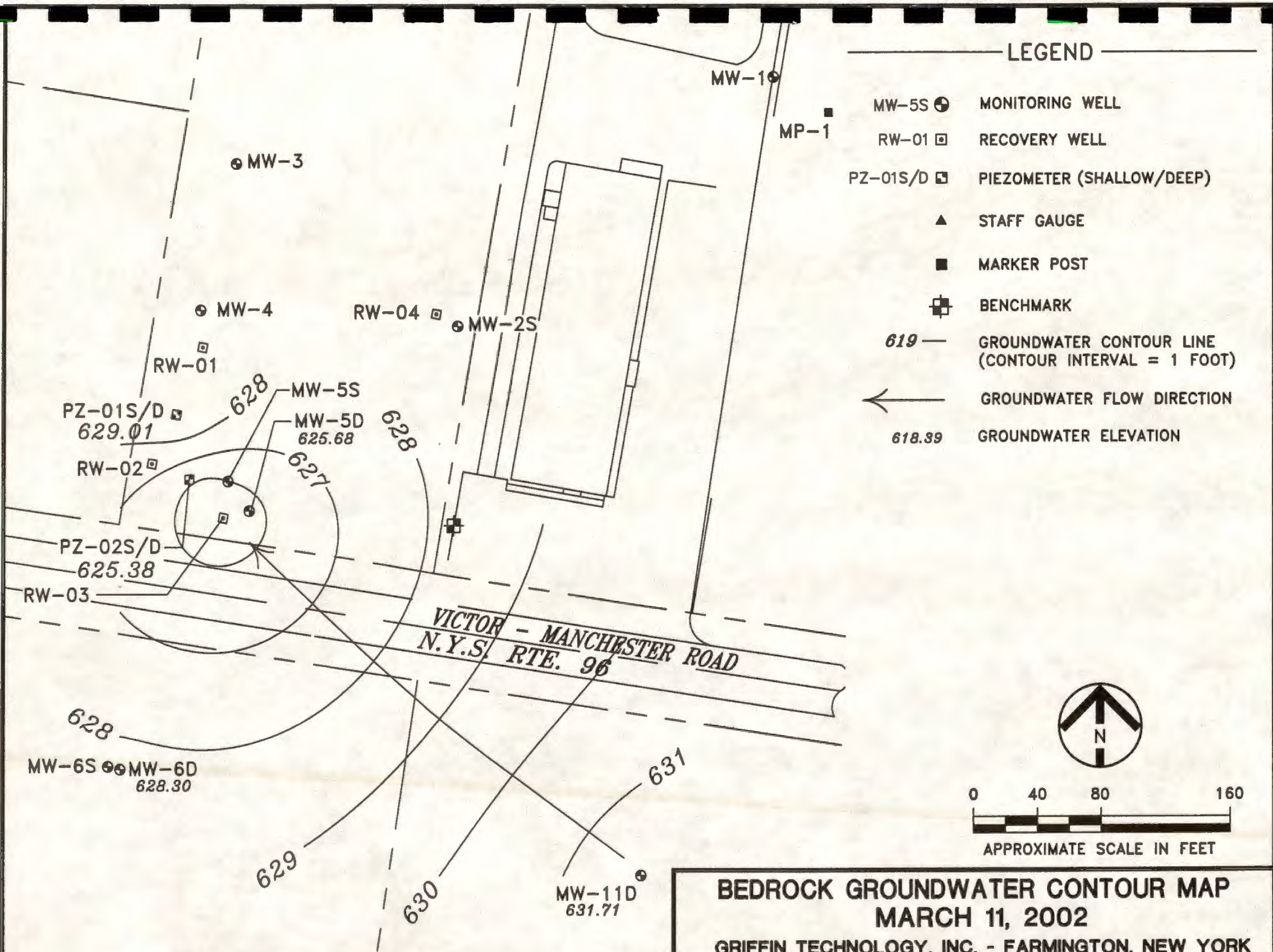


BEDROCK GROUNDWATER CONTOUR MAP
DECEMBER 14, 2001

GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TTS	PROJECT NUMBER: 6E06191	
CHECKED BY: KMA	DATE: 9/27/02	FIGURE NO: 3-7

URS



BEDROCK GROUNDWATER CONTOUR MAP
MARCH 11, 2002
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: TTS	PROJECT NUMBER: 6E06191	
CHECKED BY: KMA	DATE: 9/27/02	FIGURE NO: 3-8

URS

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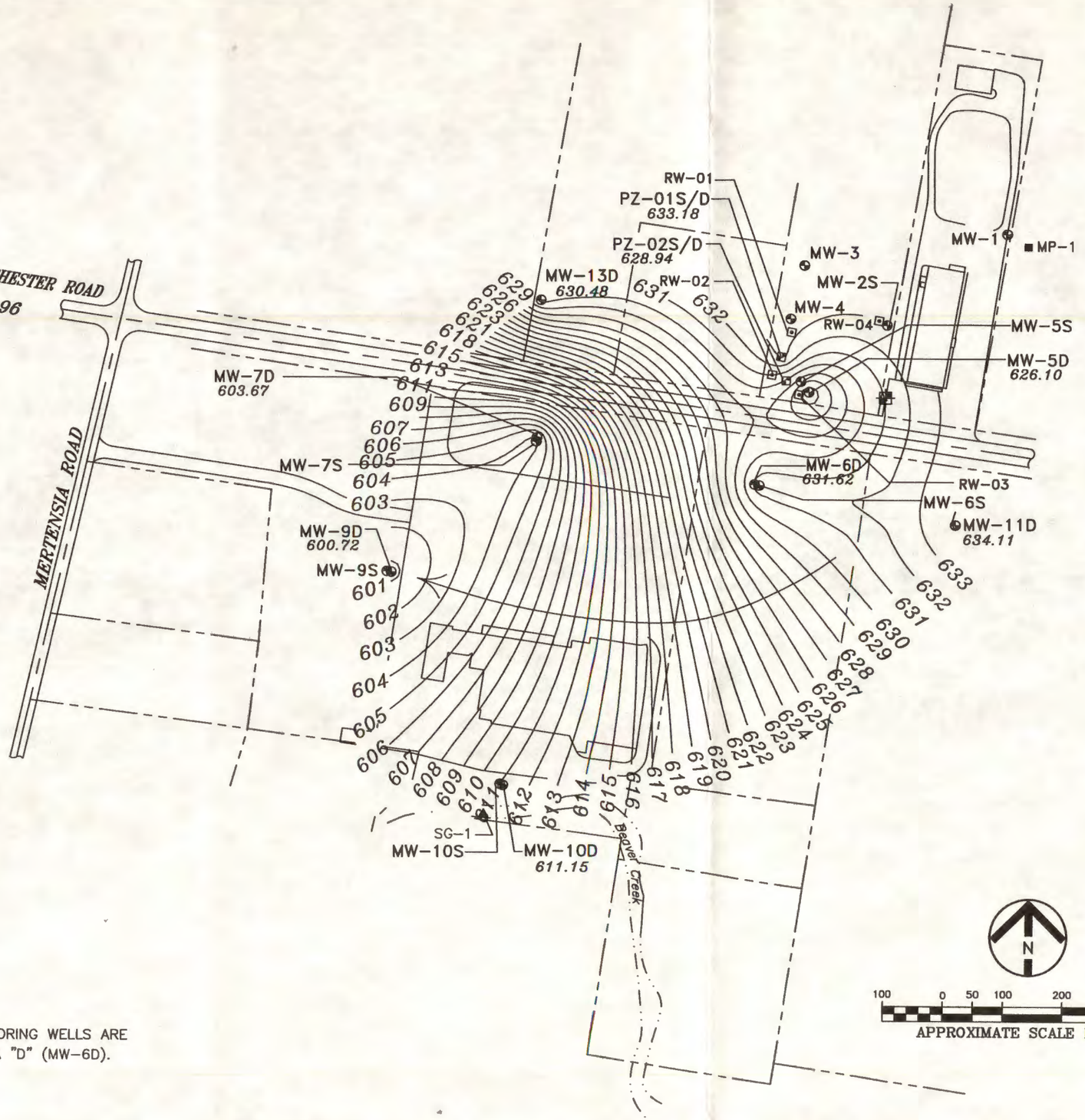

LEGEND

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 TECH-NOLOGY INC. - ON - SITE / OFF - SITE GROUND WATER EVAL-UATION PROGRAM - PART OF GRIFFIN TECHNOLOGY PROPERTY NORTH OF N.Y.S. ROUTE 96 & JOHN W. & JANE A. WADE PROP-ERTY SOUTH OF N.Y.S. ROUTE 96. LAST DATED 12-22-1994. JOB #942296

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

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

CLIENT: DIEBOLD, INC.

LOCATION: GRIFFIN TECHNOLOGY, INC., NEW YORK

BEDROCK GROUNDWATER CONTOUR MAP MAY 23, 2002

DRAWN BY:	CHECKED BY:	PROJECT NO:	DATE:	FIGURE NO:
TTS	KMA	6E06191	9/27/02	3-9

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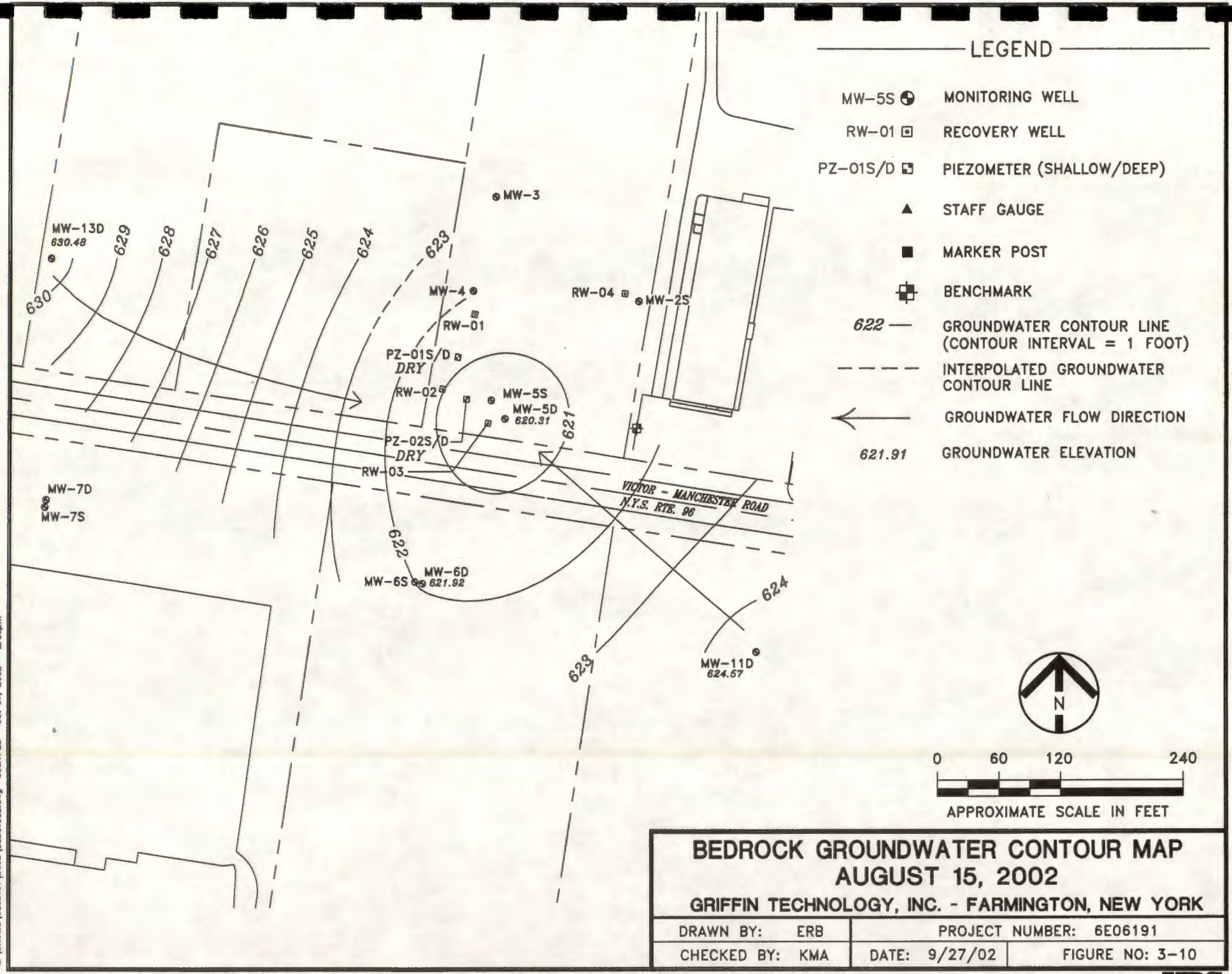

BEDROCK GROUNDWATER CONTOUR MAP
AUGUST 15, 2002
GRIFFIN TECHNOLOGY, INC. - FARMINGTON, NEW YORK

DRAWN BY: ERB	PROJECT NUMBER: 6E06191	
CHECKED BY: KMA	DATE: 9/27/02	FIGURE NO: 3-10

URS

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Tables

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
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	10/19/01	14.78	627.01
		11/04/01	14.99	626.80
		11/21/01	15.83	625.96
		12/03/01	12.11	629.68
		12/14/01	13.20	628.59
		1/3/02	10.29	631.50
		1/16/02	10.51	631.28
		2/1/02	5.92	635.87
		2/13/02	4.62	637.17
		2/25/02	5.01	636.78
		3/11/02	5.54	636.25
		3/26/02	5.48	636.31
		4/13/02	4.70	637.09
		4/27/02	5.10	636.69
		5/23/02	4.03	637.76
		6/5/02	3.83	637.96
		6/14/02	4.90	636.89
		7/1/02	6.55	635.24
		7/15/02	10.57	631.22
		7/29/02	11.28	630.51
		8/15/02	13.32	628.47
		9/4/02	14.99	626.80

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-02S	641.28	10/19/01	DRY	DRY
		11/04/01	DRY	DRY
		11/21/01	DRY	DRY
		12/03/01	DRY	DRY
		12/14/01	DRY	DRY
		1/3/02	DRY	DRY
		1/16/02	DRY	DRY
		2/1/02	11.50	629.78
		2/13/02	7.84	633.44
		2/25/02	7.98	633.30
		3/11/02	8.86	632.42
		3/26/02	8.68	632.60
		4/13/02	7.61	633.67
		4/27/02	7.98	633.30
		5/23/02	6.82	634.46
		6/5/02	6.13	635.15
		6/14/02	7.69	633.59
		7/1/02	11.48	629.80
		7/15/02	15.63	625.65
		7/29/02	DRY	DRY
		8/15/02	DRY	DRY
		9/4/02	DRY	DRY

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-2D	642.37	Monitoring well converted to recovery well RW-4.		
MW-03	642.17	10/19/01	18.58	623.59
		11/04/01	18.98	623.19
		11/21/01	19.92	622.25
		12/03/01	17.24	624.93
		12/14/01	17.52	624.65
		1/3/02	14.60	627.57
		1/16/02	15.00	627.17
		2/1/02	9.29	632.88
		2/13/02	6.45	635.72
		2/25/02	7.14	635.03
		3/11/02	8.70	633.47
		3/26/02	8.19	633.98
		4/13/02	7.12	635.05
		4/27/02	8.51	633.66
		5/23/02	6.48	635.69
		6/5/02	6.28	635.89
		6/14/02	7.74	634.43
		7/1/02	10.71	631.46
		7/15/02	14.57	627.60
		7/29/02	15.69	626.48
		8/15/02	17.28	624.89
		9/4/02	18.58	623.59

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-04	641.75	10/19/01	19.55	622.20
		11/04/01	19.19	622.56
		11/21/01	DRY	DRY
		12/03/01	19.13	622.62
		12/14/01	19.57	622.18
		1/3/02	18.96	622.79
		1/16/02	19.25	622.50
		2/1/02	13.61	628.14
		2/13/02	10.13	631.62
		2/25/02	9.55	632.20
		3/11/02	11.56	630.19
		3/26/02	12.43	629.32
		4/13/02	9.70	632.05
		4/27/02	10.91	630.84
		5/23/02	8.38	633.37
		6/5/02	7.22	634.53
		6/14/02	8.50	633.25
		7/1/02	12.06	629.69
		7/15/02	16.51	625.24
		7/29/02	16.93	624.82
		8/15/02	18.62	623.13
		9/4/02	19.38	622.37

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
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	10/19/01	DRY	DRY
		11/04/01	DRY	DRY
		11/21/01	DRY	DRY
		12/03/01	DRY	DRY
		12/14/01	DRY	DRY
		1/3/02	20.08	620.77
		1/16/02	20.45	620.40
		2/1/02	19.62	621.23
		2/13/02	11.20	629.65
		2/25/02	11.62	629.23
		3/11/02	13.62	627.23
		3/26/02	13.43	627.42
		4/13/02	10.72	630.13
		4/27/02	11.86	628.99
		5/23/02	9.40	631.45
		6/5/02	8.54	632.31
		6/14/02	9.80	631.05
		7/1/02	12.93	627.92
		7/15/02	16.65	624.20
		7/29/02	17.18	623.67
		8/15/02	19.50	621.35
		9/4/02	19.79	621.06

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-05D	641.01	10/19/01	22.41	618.60
		11/04/01	22.92	618.09
		11/21/01	23.05	617.96
		12/03/01	22.48	618.53
		12/14/01	22.52	618.49
		1/3/02	21.58	619.43
		1/16/02	21.40	619.61
		2/1/02	20.65	620.36
		2/13/02	13.49	627.52
		2/25/02	16.32	624.69
		3/11/02	15.33	625.68
		3/26/02	16.91	624.10
		4/13/02	12.75	628.26
		4/27/02	16.39	624.62
		5/23/02	14.91	626.10
		6/5/02	14.41	626.60
		6/14/02	12.18	628.83
		7/1/02	16.99	624.02
		7/15/02	18.22	622.79
		7/29/02	19.60	621.41
		8/15/02	20.70	620.31
		9/4/02	21.72	619.29

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
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	10/19/01	16.32	620.29
		11/04/01	NM	NM
		11/21/01	17.11	619.50
		12/03/01	NM	NM
		12/14/01	16.50	620.11
		1/3/02	NM	NM
		1/16/02	15.50	621.11
		2/1/02	NM	NM
		2/13/02	8.43	628.18
		2/25/02	NM	NM
		3/11/02	8.38	628.23
		3/26/02	NM	NM
		4/13/02	6.45	630.16
		4/27/02	NM	NM
		5/23/02	5.04	631.57
		6/5/02	NM	NM
		6/14/02	6.28	630.33
		7/1/02	NM	NM
		7/15/02	12.84	623.77
		7/29/02	NM	NM
		8/15/02	14.67	621.94
		9/4/02	NM	NM

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-06D	636.83	10/19/01	16.61	620.22
		11/04/01	NM	NM
		11/21/01	17.35	619.48
		12/03/01	NM	NM
		12/14/01	16.72	620.11
		1/3/02	NM	NM
		1/16/02	15.76	621.07
		2/1/02	NM	NM
		2/13/02	8.60	628.23
		2/25/02	NM	NM
		3/11/02	8.53	628.30
		3/26/02	NM	NM
		4/13/02	6.63	630.20
		4/27/02	NM	NM
		5/23/02	5.21	631.62
		6/5/02	NM	NM
		6/14/02	6.24	630.59
		7/1/02	NM	NM
		7/15/02	13.03	623.80
		7/29/02	NM	NM
		8/15/02	14.91	621.92
		9/4/02	NM	NM

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
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	10/19/01	NM	NM
		11/04/01	NM	NM
		11/21/01	NM	NM
		12/03/01	NM	NM
		12/14/01	NM	NM
		1/3/02	NM	NM
		1/16/02	NM	NM
		2/1/02	NM	NM
		2/13/02	NM	NM
		2/25/02	NM	NM
		3/11/02	NM	NM
		3/26/02	NM	NM
		4/13/02	NM	NM
		4/27/02	NM	NM
		5/23/02	5.54	628.75
		6/5/02	NM	NM
		6/14/02	NM	NM
		7/1/02	NM	NM
		7/15/02	NM	NM
		7/29/02	NM	NM
		8/15/02	NM	NM
		9/4/02	NM	NM

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-07D	634.16	10/19/01	NM	NM
		11/04/01	NM	NM
		11/21/01	NM	NM
		12/03/01	NM	NM
		12/14/01	NM	NM
		1/3/02	NM	NM
		1/16/02	NM	NM
		2/1/02	NM	NM
		2/13/02	NM	NM
		2/25/02	NM	NM
		3/11/02	NM	NM
		3/26/02	NM	NM
		4/13/02	NM	NM
		4/27/02	NM	NM
		5/23/02	30.49	603.67
		6/5/02	NM	NM
		6/14/02	NM	NM
		7/1/02	NM	NM
		7/15/02	NM	NM
		7/29/02	NM	NM
		8/15/02	NM	NM
		9/4/02	NM	NM

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
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	10/19/01	NM	NM
		11/04/01	NM	NM
		11/21/01	NM	NM
		12/03/01	NM	NM
		12/14/01	NM	NM
		1/3/02	NM	NM
		1/16/02	NM	NM
		2/1/02	NM	NM
		2/13/02	NM	NM
		2/25/02	NM	NM
		3/11/02	NM	NM
		3/26/02	NM	NM
		4/13/02	NM	NM
		4/27/02	NM	NM
		5/23/02	8.54	621.62
		6/5/02	NM	NM
		6/14/02	NM	NM
		7/1/02	NM	NM
		7/15/02	NM	NM
		7/29/02	NM	NM
		8/15/02	NM	NM
		9/4/02	NM	NM

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-09D	630.29	10/19/01	NM	NM
		11/04/01	NM	NM
		11/21/01	NM	NM
		12/03/01	NM	NM
		12/14/01	NM	NM
		1/3/02	NM	NM
		1/16/02	NM	NM
		2/1/02	NM	NM
		2/13/02	NM	NM
		2/25/02	NM	NM
		3/11/02	NM	NM
		3/26/02	NM	NM
		4/13/02	NM	NM
		4/27/02	NM	NM
		5/23/02	29.57	600.72
		6/5/02	NM	NM
		6/14/02	NM	NM
		7/1/02	NM	NM
		7/15/02	NM	NM
		7/29/02	NM	NM
		8/15/02	NM	NM
		9/4/02	NM	NM

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-10S	629.00	10/19/01	NM	NM
		11/04/01	NM	NM
		11/21/01	NM	NM
		12/03/01	NM	NM
		12/14/01	NM	NM
		1/3/02	NM	NM
		1/16/02	NM	NM
		2/1/02	NM	NM
		2/13/02	NM	NM
		2/25/02	NM	NM
		3/11/02	NM	NM
		3/26/02	NM	NM
		4/13/02	NM	NM
		4/27/02	NM	NM
		5/23/02	15.11	613.89
		6/5/02	NM	NM
		6/14/02	NM	NM
		7/1/02	NM	NM
		7/15/02	NM	NM
		7/29/02	NM	NM
		8/15/02	NM	NM
		9/4/02	NM	NM

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-10D	626.80	10/19/01	NM	NM
		11/04/01	NM	NM
		11/21/01	NM	NM
		12/03/01	NM	NM
		12/14/01	NM	NM
		1/3/02	NM	NM
		1/16/02	NM	NM
		2/1/02	NM	NM
		2/13/02	NM	NM
		2/25/02	NM	NM
		3/11/02	NM	NM
		3/26/02	NM	NM
		4/13/02	NM	NM
		4/27/02	NM	NM
		5/23/02	15.65	611.15
		6/5/02	NM	NM
		6/14/02	NM	NM
		7/1/02	NM	NM
		7/15/02	NM	NM
		7/29/02	NM	NM
		8/15/02	NM	NM
		9/4/02	NM	NM

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-11D	641.89	10/19/01	18.81	623.08
		11/04/01	19.00	622.89
		11/21/01	19.29	622.60
		12/03/01	19.11	622.78
		12/14/01	18.83	623.06
		1/3/02	16.98	624.91
		1/16/02	17.07	624.82
		2/1/02	14.77	627.12
		2/13/02	9.80	632.09
		2/25/02	9.90	631.99
		3/11/02	10.18	631.71
		3/26/02	9.71	632.18
		4/13/02	8.65	633.24
		4/27/02	10.08	631.81
		5/23/02	7.78	634.11
		6/5/02	7.75	634.14
		6/14/02	10.15	631.74
		7/1/02	12.50	629.39
		7/15/02	15.35	626.54
		7/29/02	15.85	626.04
		8/15/02	17.32	624.57
		9/4/02	18.26	623.63

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
MW-13D	636.58	10/19/01	NM	NM
		11/04/01	NM	NM
		11/21/01	NM	NM
		12/03/01	NM	NM
		12/14/01	NM	NM
		1/3/02	NM	NM
		1/16/02	NM	NM
		2/1/02	NM	NM
		2/13/02	NM	NM
		2/25/02	NM	NM
		3/11/02	NM	NM
		3/26/02	NM	NM
		4/13/02	NM	NM
		4/27/02	NM	NM
		5/23/02	6.1	630.48
		6/5/02	NM	NM
		6/14/02	NM	NM
		7/1/02	NM	NM
		7/15/02	NM	NM
		7/29/02	NM	NM
		8/15/02	NM	NM
		9/4/02	NM	NM

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
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	10/19/01	DRY	DRY
		11/04/01	10.41	630.09
		11/21/01	DRY	DRY
		12/03/01	DRY	DRY
		12/14/01	DRY	DRY
		1/3/02	DRY	DRY
		1/16/02	DRY	DRY
		2/1/02	DRY	DRY
		2/13/02	9.52	630.98
		2/25/02	9.77	630.73
		3/11/02	DRY	DRY
		3/26/02	10.40	630.10
		4/13/02	8.88	631.62
		4/27/02	10.16	630.34
		5/23/02	7.31	633.19
		6/5/02	6.22	634.28
		6/14/02	7.65	632.85
		7/1/02	10.40	630.10
		7/15/02	10.39	630.11
		7/29/02	10.40	630.10
		8/15/02	10.39	630.11
		9/4/02	DRY	DRY

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
PZ-1D	640.67	10/19/01	DRY	DRY
		11/04/01	DRY	DRY
		11/21/01	DRY	DRY
		12/03/01	DRY	DRY
		12/14/01	DRY	DRY
		1/3/02	DRY	DRY
		1/16/02	DRY	DRY
		2/1/02	15.38	625.29
		2/13/02	9.68	630.99
		2/25/02	9.87	630.80
		3/11/02	11.66	629.01
		3/26/02	11.62	629.05
		4/13/02	9.01	631.66
		4/27/02	10.33	630.34
		5/23/02	7.49	633.18
		6/5/02	6.32	634.35
		6/14/02	7.81	632.86
		7/1/02	11.55	629.12
		7/15/02	DRY	DRY
		7/29/02	DRY	DRY
		8/15/02	DRY	DRY
		9/4/02	DRY	DRY

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
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	10/19/01	DRY	DRY
		11/04/01	DRY	DRY
		11/21/01	DRY	DRY
		12/03/01	DRY	DRY
		12/14/01	DRY	DRY
		1/3/02	DRY	DRY
		1/16/02	DRY	DRY
		2/1/02	DRY	DRY
		2/13/02	9.97	629.76
		2/25/02	12.59	627.14
		3/11/02	13.70	626.03
		3/26/02	13.52	626.21
		4/13/02	11.22	628.51
		4/27/02	12.13	627.60
		5/23/02	9.90	629.83
		6/5/02	8.95	630.78
		6/14/02	9.84	629.89
		7/1/02	11.37	628.36
		7/15/02	15.16	624.57
		7/29/02	15.65	624.08
		8/15/02	DRY	DRY
		9/4/02	DRY	DRY

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

TABLE 3-1
SUMMARY OF GROUNDWATER ELEVATIONS
OCTOBER 2001 - SEPTEMBER 2002
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Well ID	Top of Casing Elevation (ft)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft)
PZ-2D	640.01	10/19/01	20.09	619.92
		11/04/01	20.20	619.81
		11/21/01	20.46	619.55
		12/03/01	19.93	620.08
		12/14/01	20.10	619.91
		1/3/02	19.73	620.28
		1/16/02	19.82	620.19
		2/1/02	19.36	620.65
		2/13/02	10.55	629.46
		2/25/02	13.66	626.35
		3/11/02	14.63	625.38
		3/26/02	14.42	625.59
		4/13/02	12.34	627.67
		4/27/02	13.22	626.79
		5/23/02	11.07	628.94
		6/5/02	10.21	629.80
		6/14/02	11.12	628.89
		7/1/02	11.76	628.25
		7/15/02	15.42	624.59
		7/29/02	15.89	624.12
		8/15/02	19.77	620.24
		9/4/02	19.21	620.80

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

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

		DISCHARGE CONCENTRATIONS						
MONTH	(GAL.)	TCE	1,1,1-TCA	Cis-1,2-DCE	2-BUTANONE	VINYL CHLORIDE	ACETONE	4-METHYL-2-PENTANONE
October 2001	47,850	240	ND	ND	ND	ND	ND	ND
November 2001	33,979	260	9.8	6.8	ND	ND	ND	ND
December 2001	61,530	330	10	ND	ND	ND	ND	ND
January 2002	50,351	390	14	ND	ND	ND	ND	ND
February 2002	135,169	350	ND	ND	ND	ND	ND	ND
March 2002	202,431	280	ND	ND	ND	ND	ND	ND
April 2002	390,249	270	ND	ND	ND	ND	ND	ND
May 2002	349,731	490	ND	ND	ND	ND	ND	ND
June 2002	247,641	220	ND	ND	ND	ND	ND	ND
July 2002	71,649	340	13	ND	ND	ND	ND	ND
August 2002	69,370	270	ND	ND	ND	ND	ND	ND

Notes:
All results expressed in micrograms per liter (µg/l).
No other VOC compounds detected.
ND indicates not detected.

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

Monitoring Well No.	Sample Date	TCE	1,1,1-TCA	CIS-1,2-DCE	XYLENES	1,1-DCE	ACETONE	VINYL CHLORIDE
MW-01	12/19/1994	ND	ND	ND	ND	ND	ND	ND
	05/21/1996	ND	ND	ND	ND	ND	ND	ND
	08/13/1997	ND	ND	ND	ND	ND	ND	ND
	03/18/1998	ND	ND	ND	ND	ND	ND	ND
	09/02/1998	ND	ND	ND	ND	ND	ND	ND
	03/18/1999	ND	ND	ND	ND	ND	ND	ND
	09/02/1999	ND	ND	ND	ND	ND	ND	ND
	03/28/2000	ND	ND	ND	ND	ND	ND	ND
	09/08/2000	ND	ND	ND	ND	ND	ND	ND
	03/08/2001	ND	ND	ND	ND	ND	ND	ND
	09/13/2001	ND	ND	ND	ND	ND	ND	ND
	05/24/2002	ND	ND	ND	ND	ND	ND	ND
MW-02S	12/19/1994	850	ND	ND	ND	ND	ND	ND
	05/21/1996	30	ND	1	ND	ND	ND	ND
	08/13/1997	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/18/1998	17,000	ND	ND	ND	ND	ND	ND
	09/02/1998	18,000	210	ND	ND	ND	ND	ND
	03/18/1999	28	ND	ND	ND	ND	ND	ND
	09/02/1999	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/28/2000	6	ND	ND	ND	ND	ND	ND
	09/08/2000	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/08/2001	9	ND	ND	ND	ND	ND	ND
	09/13/2001	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	05/24/2002	4	ND	ND	ND	ND	ND	ND
MW-02D	08/13/1997	450	23	42	ND	ND	ND	ND
	03/18/1998	740	16	28	ND	ND	ND	ND
	09/02/1998	680	25	39	ND	ND	ND	ND
	03/18/1999	190	5	6	ND	ND	ND	ND
	Monitoring well converted to recovery well RW-4.							
MW-03	12/19/1994	190	ND	ND	ND	ND	ND	ND
	05/21/1996	120	ND	2	ND	ND	ND	ND
	08/13/1997	150	ND	2	ND	ND	ND	ND
	03/18/1998	88	ND	ND	ND	ND	ND	ND
	09/02/1998	110	ND	ND	ND	ND	ND	ND
	03/18/1999	45	ND	ND	ND	ND	ND	ND
	09/02/1999	170	ND	ND	ND	ND	ND	ND
	03/28/2000	93	ND	ND	ND	ND	ND	ND
	09/08/2000	150	ND	ND	ND	ND	ND	ND
	03/08/2001	96	ND	ND	ND	ND	ND	ND
	09/13/2001	120	ND	ND	ND	ND	ND	ND
	05/24/2002	85	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 analytical 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	12/19/1994	710	6.7	23	ND	ND	ND	ND
	05/21/1996	16	ND	2	ND	ND	ND	ND
	08/13/1997	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/18/1998	59	ND	2	ND	ND	ND	ND
	09/02/1998	450	7	20	ND	ND	ND	ND
	03/18/1999	58	ND	1	ND	ND	ND	ND
	09/02/1999	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/28/2000	9	ND	ND	ND	ND	ND	ND
Duplicate	03/28/2000	9	ND	ND	ND	ND	ND	ND
	09/08/2000	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/08/2001	130	ND	2	ND	ND	ND	ND
Duplicate	03/08/2001	130	ND	2	ND	ND	ND	ND
	09/13/2001	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	05/24/2002	67	ND	1	ND	ND	ND	ND
Duplicate	05/24/2002	68	ND	1	ND	ND	ND	ND
MW-05S	12/19/1994	580	15	ND	ND	ND	ND	ND
	05/21/1996	350	16	ND	ND	ND	ND	ND
	08/13/1997	760	31	4	ND	ND	ND	ND
	03/18/1998	120	4	ND	1	ND	ND	ND
	09/02/1998	390	14	ND	ND	ND	ND	ND
	03/18/1999	95	3	ND	ND	ND	ND	ND
	09/02/1999	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	03/28/2000	140	4	ND	ND	ND	ND	ND
	09/08/2000	550	22	ND	ND	ND	ND	ND
	03/08/2001	330	9	ND	ND	ND	ND	ND
	09/13/2001	DRY	DRY	DRY	DRY	DRY	DRY	DRY
	05/24/2002	59	1	ND	ND	ND	ND	ND
MW-05D	12/19/1994	820	23	ND	ND	ND	ND	ND
	05/21/1996	1,000	48	8	ND	ND	ND	ND
	08/13/1997	250	7	2	ND	ND	ND	ND
	03/18/1998	250	7	ND	ND	ND	ND	ND
	09/02/1998	300	8	2	ND	ND	ND	ND
	03/18/1999	200	7	2	ND	ND	ND	ND
	09/02/1999	220	6	2	ND	ND	ND	ND
	03/28/2000	190	4	ND	ND	ND	ND	ND
	09/08/2000	160	3	ND	ND	ND	ND	ND
	03/08/2001	160	3	ND	ND	ND	ND	ND
	09/13/2001	120	3	ND	ND	ND	ND	ND
Duplicate	09/13/2001	110	2	ND	ND	ND	3	ND
	05/24/2002	160	4	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 analytical 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	12/19/1994	270	7.8	ND	ND	ND	ND	ND
	05/21/1996	ND	2	ND	ND	ND	ND	ND
	08/13/1997	140	9	3	ND	ND	ND	ND
	03/18/1998	5	ND	ND	ND	ND	ND	ND
	09/02/1998	140	8	2	ND	ND	ND	ND
	03/17/1999	ND	ND	ND	ND	ND	ND	ND
	09/02/1999	110	6	4	ND	ND	ND	ND
	03/28/2000	3	ND	ND	ND	ND	ND	ND
	09/08/2000	110	5	ND	ND	ND	ND	ND
	03/08/2001	ND	ND	ND	ND	ND	ND	ND
	09/13/2001	72	4	4	ND	ND	ND	ND
	05/24/2002	3	ND	ND	ND	ND	ND	ND
MW-06D	12/19/1994	190	7.5	ND	ND	ND	ND	ND
	05/21/1996	240	10	ND	ND	ND	ND	ND
	08/13/1997	150	10	2	ND	ND	ND	ND
	03/18/1998	6	ND	ND	ND	ND	ND	ND
	09/02/1998	140	8	2	ND	ND	ND	ND
	03/17/1999	ND	ND	ND	ND	ND	ND	ND
	09/02/1999	110	7	2	ND	ND	ND	ND
	03/28/2000	89	5	1	ND	ND	ND	ND
	09/08/2000	110	6	ND	ND	ND	ND	ND
Duplicate	09/08/2000	110	6	ND	ND	ND	ND	ND
	03/08/2001	95	5	ND	ND	ND	ND	ND
	09/13/2001	80	4	3	ND	ND	3	ND
	05/24/2002	91	4	ND	ND	ND	ND	ND
MW-07S	12/19/1994	250	6.6	8	ND	ND	ND	ND
	05/21/1996	310	7	6	ND	ND	ND	ND
	08/13/1997	250	6	6	ND	ND	ND	ND
	03/18/1998	3	ND	ND	ND	ND	ND	ND
	09/02/1998	220	5	4	ND	ND	ND	ND
	03/17/1999	ND	ND	ND	ND	ND	ND	ND
	09/02/1999	220	4	4	ND	ND	ND	ND
	03/28/2000	210	4	3	ND	ND	ND	ND
	09/08/2000	210	ND	ND	ND	ND	ND	ND
	03/08/2001	200	4	3	ND	ND	ND	ND
	09/13/2001	190	3	4	ND	ND	ND	ND
	05/24/2002	180	3	2	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 analytical 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-07D	12/19/1994	260	ND	7	ND	ND	ND	ND
	05/21/1996	290	4	12	ND	ND	ND	ND
	08/13/1997	180	2	13	ND	ND	ND	ND
	03/18/1998	150	2	15	ND	ND	ND	ND
	09/02/1998	200	2	15	ND	ND	ND	ND
	03/17/1999	100	ND	8	ND	ND	ND	ND
	09/02/1999	180	2	14	ND	ND	ND	ND
	03/28/2000	130	ND	19	ND	ND	ND	4
	09/08/2000	180	ND	13	ND	ND	ND	ND
	03/08/2001	140	ND	20	ND	ND	ND	3
	09/13/2001	150	1	14	ND	ND	ND	ND
	05/24/2002	140	ND	19	ND	ND	ND	4
MW-08S	12/19/1994	29	ND	ND	ND	ND	ND	ND
	Well abandoned.							
MW-08D	12/19/1994	55	ND	ND	ND	ND	ND	ND
	Well abandoned.							
MW-09S	12/19/1994	ND	ND	ND	ND	ND	ND	ND
	05/21/1996	ND	ND	ND	ND	ND	ND	ND
	08/13/1997	2	ND	ND	ND	ND	ND	ND
	03/18/1998	3	ND	ND	ND	ND	ND	ND
	09/02/1998	NS	NS	NS	NS	NS	NS	NS
	03/18/1999	ND	ND	ND	ND	ND	ND	ND
	09/02/1999	ND	ND	ND	ND	ND	ND	ND
	03/28/2000	ND	ND	ND	ND	ND	ND	ND
	09/08/2000	ND	ND	ND	ND	ND	ND	ND
	03/08/2001	ND	ND	ND	ND	ND	ND	ND
	09/13/2001	ND	ND	ND	ND	ND	ND	ND
	05/24/2002	ND	ND	ND	ND	ND	ND	ND
MW-09D	12/19/1994	ND	ND	ND	ND	ND	ND	ND
	05/21/1996	ND	ND	ND	ND	ND	ND	ND
	08/13/1997	ND	ND	ND	ND	ND	ND	ND
	03/18/1998	ND	ND	ND	ND	ND	ND	ND
	09/02/1998	NS	NS	NS	NS	NS	NS	NS
	03/18/1999	ND	ND	ND	ND	ND	ND	ND
	09/02/1999	ND	ND	ND	ND	ND	ND	ND
	03/28/2000	ND	ND	ND	ND	ND	ND	ND
	09/08/2000	ND	ND	ND	ND	ND	ND	ND
	03/08/2001	ND	ND	ND	ND	ND	ND	ND
	09/13/2001	ND	ND	ND	ND	ND	3	ND
	05/24/2002	ND	ND	1	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 analytical 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-10S	12/19/1994	7.8	ND	ND	ND	ND	ND	ND
	05/29/1996	30	1	ND	ND	ND	ND	ND
	08/13/1997	15	ND	ND	ND	ND	ND	ND
	03/18/1998	NS	NS	NS	NS	NS	NS	NS
	09/02/1998	8	ND	ND	ND	ND	ND	ND
	03/18/1999	ND	ND	ND	ND	ND	ND	ND
	09/02/1999	7	ND	ND	ND	ND	ND	ND
	03/28/2000	1	ND	ND	ND	ND	ND	ND
	09/08/2000	3	ND	ND	ND	ND	ND	ND
	03/08/2001	ND	ND	ND	ND	ND	ND	ND
	09/13/2001	6	ND	ND	ND	ND	ND	ND
	05/24/2002	ND	ND	ND	ND	ND	ND	ND
MW-10D	12/19/1994	8.2	ND	ND	ND	ND	ND	ND
	05/29/1996	8	ND	ND	ND	ND	ND	ND
	08/13/1997	15	ND	ND	ND	ND	ND	ND
	03/18/1998	NS	NS	NS	NS	NS	NS	NS
	09/02/1998	9	ND	ND	ND	ND	ND	ND
	03/18/1999	ND	ND	ND	ND	ND	ND	ND
	09/02/1999	7	ND	ND	ND	ND	ND	ND
	03/28/2000	3	ND	ND	ND	ND	ND	ND
	09/08/2000	6	ND	ND	ND	ND	ND	ND
	03/08/2001	5	ND	ND	ND	ND	ND	ND
	09/13/2001	6	ND	ND	ND	ND	ND	ND
	05/24/2002	4	ND	ND	ND	ND	ND	ND
MW-11D	04/11/1996	ND	ND	ND	ND	ND	ND	ND
	05/21/1996	ND	ND	ND	ND	ND	ND	ND
	08/13/1997	ND	ND	ND	ND	ND	ND	ND
	03/18/1998	ND	ND	ND	ND	ND	ND	ND
	09/02/1998	ND	ND	ND	ND	ND	ND	ND
	03/18/1999	ND	ND	ND	ND	ND	ND	ND
	09/02/1999	ND	ND	ND	ND	ND	ND	ND
	03/28/2000	ND	ND	ND	ND	ND	ND	ND
	09/08/2000	ND	ND	ND	ND	ND	ND	ND
	03/08/2001	ND	ND	ND	ND	ND	ND	ND
	09/13/2001	ND	ND	ND	ND	ND	ND	ND
	05/24/2002	ND	ND	ND	ND	ND	ND	ND
MW-13D	04/11/1996	610	5	4	ND	ND	ND	ND
	05/21/1996	190	5	4	ND	ND	ND	ND
	08/13/1997	160	4	4	ND	ND	ND	ND
	03/18/1998	110	2	ND	ND	ND	ND	ND
	09/02/1998	140	3	2	ND	ND	ND	ND
	03/17/1999	120	2	2	ND	ND	ND	ND
	09/02/1999	140	3	2	ND	ND	ND	ND
	03/28/2000	85	2	ND	ND	ND	ND	ND
	09/08/2000	140	ND	ND	ND	ND	ND	ND
	03/08/2001	88	2	ND	ND	ND	ND	ND
	09/13/2001	120	2	ND	ND	ND	ND	ND
	05/24/2002	100	2	1	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 analytical data and data validation report for additional descriptions.

TABLE 3-4
SUMMARY OF RECOVERY WELL ANALYTICAL RESULTS
GRIFFIN TECHNOLOGY, INC.
FARMINGTON, NEW YORK

Recovery Well No.	Sample Date	TCE	1,1,1-TCA	CIS-1,2-DCE	XYLENES	1,1-DCE	ACETONE	VINYL CHLORIDE
RW-1	03/28/2000	140	3	3	ND	ND	ND	ND
	09/08/2000	No sample collected due to low discharge.						
	03/08/2001	220	4	5	ND	ND	ND	ND
	09/13/2001	440	8	9	ND	ND	2	ND
	05/24/2002	53	ND	1	ND	ND	ND	ND
RW-2	03/28/2000	100	2	ND	ND	ND	ND	ND
	09/08/2000	No sample collected due to low discharge.						
	03/08/2001	140	3	ND	ND	ND	ND	ND
	09/13/2001	No sample collected due to low discharge.						
	05/24/2002	53	ND	ND	ND	ND	ND	ND
RW-3	03/28/2000	170	4	ND	ND	ND	ND	ND
	09/08/2000	No sample collected due to low discharge.						
	03/08/2001	180	4	ND	ND	ND	ND	ND
	09/13/2001	160	3	1	ND	ND	3	ND
	05/24/2002	120	3	ND	ND	ND	ND	ND
RW-4	03/28/2000	1,000	22	11	ND	1	5	ND
	09/08/2000	760	ND	ND	ND	ND	ND	ND
	03/08/2001	840	16	8	ND	ND	ND	ND
	09/13/2001	No sample collected due to low discharge.						
	05/24/2002	490	11	6	ND	ND	ND	ND

Notes:

1. All results expressed in micrograms per liter (µg/l).
2. No other VOC compounds detected at method detection limit.
3. "ND" indicates not detected.
4. Data presented include actual and estimated concentrations based on Level IV Data Validation Procedures. Refer to analytical data sheets and data validation report for additional descriptions.

Appendix A
Recovery Well Effluent Analytical Results

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

November 7, 2001

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

PROJECT:GRIFFIN IRM
Submission #:R2109136

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.

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

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 # : R2109136
Reported : 11/07/01

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. Perry

Columbia Analytical Services, Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2109136

Lab ID	Client ID
502540	EFF-10-19-01

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.

An Employee - Owned Company

Effective 9/24/01

CAS LIST OF 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)

* - Inorganic Duplicate analysis not within control limits. Flag the entire batch - Inorganic analysis only

* - 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/Rochester Lab ID # for State Certifications

NELAP Accredited
New York ID # 10145
Connecticut ID # PH0556
Massachusetts ID # M-NY032
American Industrial Hygiene Assoc. ID #:100314
Navy Facilities Engineering Service Center Approved

Delaware Accredited
New Jersey ID # 73004
Rhode Island ID # 158
New Hampshire ID # 294100 A/B
West Virginia ID # 292
Florida ID # Pending

ACCREDITED IN ACCORDANCE WITH nelac

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 11/07/01

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-10-19-01

Date Sampled : 10/19/01 **Order #:** 502540 **Sample Matrix:** WATER
Date Received: 10/19/01 **Submission #:** R2109136 **Analytical Run** 70890

DATE ANALYZED : 10/26/01
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
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	240	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 %)	99	%
TOLUENE-D8	(87 - 108 %)	92	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	97	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 11/07/01

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 506470 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 70890

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/25/01			
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
1,1-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 %)	96	%
TOLUENE-D8	(87 - 108 %)	91	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	93	%

Columbia Analytical Services, Inc.
An Employee-Owned Company

[redacted] St., [redacted] 150, [redacted] ter, [redacted] 09-6[redacted]
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE 10-19-01 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)	95-1							PRESERVATION pH < 2.0	pH > 12	Other
EFF-10-19-01	10-19-01	11:58		WATER	2											X									

RELINQUISHED BY:
Signature Bob Fabian
Printed Name Bob Fabian
Firm URS
Date/Time 10-19-01 12:40

RECEIVED BY:
Signature [illegible]
Printed Name [illegible]
Firm CAS
Date/Time 10/19/01 12:40

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature [illegible]
Printed Name Gregory B. Esmerian
Firm CAS
Date/Time 10-19-01 12:55

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: 22/9136
Submission No:

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 9136

Cooler received on 10-19-01 by: AE COURIER: CAS UPS FEDEX CD&L (CLIENT)

1.	Were custody seals on outside of cooler?				YES / (NO)	
2.	Were custody papers properly filled out (ink, signed, etc.)?				(YES) NO	
3.	Did all bottles arrive in good condition (unbroken)?				(YES) NO	
4.	Did any VOA vials have significant air bubbles?				YES (NO) N/A	
5.	Were Ice or Ice packs present?				YES NO	
6.	Where did the bottles originate?				(CAS/ROC) CLIENT	
7.	Temperature of cooler(s) upon receipt:	12°				
	Is the temperature within 0° - 6° C?:	Yes ☐	Yes ☐	Yes ☐	Yes ☐	Yes ☐
	If No, Explain Below	No ☒	No ☐	No ☐	No ☐	No ☐

- 4 hour Rule

Date/Time Temperatures Taken: 10-19-01 @ 13:00

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

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 10/22/01 by: MK

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

December 17, 2001

Mr. Ken Armstrong
URS Corporation
800 West St. Clair Ave
Cleveland, OH 44113

PROJECT:GRIFFIN IRM PROJECT #3806E06191.03
Submission #:R2109644

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.

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

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 PROJECT #3806E06191.03
Lab Submission # : R2109644
Reported : 12/17/01

Report Contains a total of 9 pages

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

Columbia Analytical Services Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2109644

Lab ID	Client ID
512650	EFF-11-21-01

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.

An Employee - Owned Company

Effective 10/26/01

CAS LIST OF 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)

* - Inorganic Duplicate analysis not within control limits. Flag the entire batch - Inorganic analysis only

* - 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/Rochester Lab ID # for State Certifications

NELAP Accredited
New York ID # 10145
Connecticut ID # PH0556
Massachusetts ID # M-NY032
American Industrial Hygiene Assoc. ID #:100314
Navy Facilities Engineering Service Center Approved

Delaware Accredited
New Jersey ID # 73004
Rhode Island ID # 158
New Hampshire ID # 294100 A/B
West Virginia ID # 292
Florida ID # E87674

ACCREDITED IN ACCORDANCE WITH nelac

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 12/17/01

URS Corporation
Project Reference: GRIFFIN IRM PROJECT #3806E06191.03
Client Sample ID : EFF-11-21-01

Date Sampled : 11/21/01 11:30 **Order #:** 512650 **Sample Matrix:** WATER
Date Received: 11/21/01 **Submission #:** R2109644 **Analytical Run** 72585

DATE ANALYZED : 12/04/01
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	6.8	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	9.8	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	320 E	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(87 - 111 %)	103	%
TOLUENE-D8	(87 - 108 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	109	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 12/17/01

URS Corporation
Project Reference: GRIFFIN IRM PROJECT #3806E06191.03
Client Sample ID : EFF-11-21-01

Date Sampled : 11/21/01 11:30 **Order #:** 512650 **Sample Matrix:** WATER
Date Received: 11/21/01 **Submission #:** R2109644 **Analytical Run** 72585

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 12/06/01			
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	260	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 %)	102	%
TOLUENE-D8	(87 - 108 %)	107	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	102	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 12/17/01

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 518357 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 72585

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 12/04/01			
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 %)	102	%
TOLUENE-D8	(87 - 108 %)	100	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	106	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 12/17/01

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 518344 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 72585

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 12/06/01			
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 %)	108	%
TOLUENE-D8	(87 - 108 %)	104	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	103	%

[redacted] Analytical Services [redacted] An Employee-Owned Company www.caslab.com

[redacted] CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM [redacted]

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 [redacted]

CAS Contact

Project Name: Griffin IRm	Project Number: 3806E06191.03
Project Manager: Ken Armstrong	Report CC
Company/Address: URS, 634 St. Clair, Cleveland, Ohio 44113	
Phone #: (216) 622-2400	FAX#: (216) 241-9083
Sampler's Signature: Bob Fabian	Sampler's Printed Name: Bob Fabian

ANALYSIS REQUESTED *(Include Method Number and Container 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 ☐METALS ☐VOA's ☐SVOA's ☐H/P	WASTE CHARACTERIZATION ☐React ☐Corros. ☐Ignit.	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	95-1 8260 VOCs	per Mark Schmidt	[illegible] 11			REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE																					
EFF-11-21-01	512650	11-21-01	11:30	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
X STANDARD
REQUESTED FAX DATE ______
REQUESTED REPORT DATE ______

REPORT REQUIREMENTS
X 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. Specialized Forms / Custom Report
Edata ____ Yes ____ No

INVOICE INFORMATION
PO#
BILL TO:
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: 8 CUSTODY SEALS: Y (N) Client

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Bob Fabian	Signature: Brian Collan	Signature	Signature	Signature	Signature
Printed Name: Bob Fabian	Printed Name: Brian Collan	Printed Name	Printed Name	Printed Name	Printed Name
Firm: URS	Firm: CAS	Firm	Firm	Firm	Firm
Date/Time: 11-21-01 12:05	Date/Time: 11/21/01 12:05	Date/Time	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 URS Submission Number R2-9644

Cooler received on 11/21/01 by: [signature] 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? 8°4hr rule (CAS/ROC,) CLIENT
7. Temperature of cooler(s) upon receipt: _____ _____ _____ _____ _____

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

Date/Time Temperatures Taken: 11/21/01 12:10

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

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 11-21-01 by: [signature]

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

January 11, 2002

Mr. Ken Armstrong
URS Corporation
800 West St. Clair Ave
Cleveland, OH 44113

PROJECT:GRIFFIN IRM
Submission #:R2109935

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.

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

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 # : R2109935
Reported : 01/11/02

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.

01

Columbia Analytical Services inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2109935

Lab ID	Client ID
518380	EFF-12-14-01

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.

An Employee - Owned Company

Effective 10/26/01

CAS LIST OF 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)

* - Inorganic Duplicate analysis not within control limits. Flag the entire batch - Inorganic analysis only

* - 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/Rochester Lab ID # for State Certifications

NELAP Accredited
New York ID # 10145
Connecticut ID # PH0556
Massachusetts ID # M-NY032
American Industrial Hygiene Assoc. ID #:100314
Navy Facilities Engineering Service Center Approved

Delaware Accredited
New Jersey ID # 73004
Rhode Island ID # 158
New Hampshire ID # 294100 A/B
West Virginia ID # 292
Florida ID # E87674

ACCREDITED IN ACCORDANCE WITH nelac

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 01/11/02

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-12-14-01

Date Sampled : 12/14/01 **Order #:** 518380 **Sample Matrix:** WATER
Date Received: 12/14/01 **Submission #:** R2109935 **Analytical Run** 73385

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 12/24/01			
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	UG/L
1,1,2-TRICHLOROETHANE	5.0	10 U	UG/L
TRICHLOROETHENE	5.0	330	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 %)	104	%
TOLUENE-D8	(87 - 108 %)	104	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	104	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 01/11/02

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 523235 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 73385

DATE ANALYZED : 12/24/01
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(87 - 111 %)	95	%
TOLUENE-D8	(87 - 108 %)	104	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	99	%

[redacted] Analytical Services INC.
An Employee-Owned Company

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

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

DATE _____ PAGE _____ OF _____

PROJECT NAME GRIFFIN FIRM
PROJECT MANAGER/CONTACT Ken Armstrong
COMPANY/ADDRESS ~~30795 B-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 ☐ 624 ☒ 8260 ☐ 95-1	GC/MS SVOA's ☐ 625 ☐ 8270 ☐ 95-2	GC VOA's ☐ 601/602 ☐ 8021	PESTICIDES/PCB's ☐ 608 ☐ 8081 ☐ 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)	PRESERVATION pH < 2.0	pH > 12	Other
EFF-12-14-01	12-14-01	14:55		WATER	3	X												

RELINQUISHED BY:
Signature Bob Fabian
Printed Name Bob Fabian
Firm URS
Date/Time 12-14-01 15:30

RECEIVED BY:
Signature Kelly M. Cook
Printed Name K. COOK
Firm CAS
Date/Time 12-14-01 1530

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:
Submission No. 12/9935

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 9935

Cooler received on 12-14-01 by: CMC 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:	6°C				
	Is the temperature within 0° - 6° C?:	Yes ☒	Yes ☐	Yes ☐	Yes ☐	Yes ☐
	If No, Explain Below	No ☐	No ☐	No ☐	No ☐	No ☐

Date/Time Temperatures Taken: 12-14-01 1530

Thermometer ID: IR-60N Temp Blank Sample Bottle Cooler Temp. (IR Gun)

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 12/17/01 by: _____

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

January 29, 2002

Mr. Ken Armstrong
URS Corporation
800 West St. Clair Ave
Cleveland, OH 44113

PROJECT:GRIFFIN IRM
Submission #:R2210305

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.

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

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 # : R2210305
Reported : 01/29/02

Report Contains a total of 9 pages

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

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

Columbia Analytical Services, Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2210305

Lab ID	Client ID
524602	EFF-1-16-02

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.

An Employee - Owned Company

Effective 10/26/01

CAS LIST OF 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)

* - Inorganic Duplicate analysis not within control limits. Flag the entire batch - Inorganic analysis only

* - 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/Rochester Lab ID # for State Certifications

NELAP Accredited
New York ID # 10145
Connecticut ID # PH0556
Massachusetts ID # M-NY032
American Industrial Hygiene Assoc. ID #:100314
Navy Facilities Engineering Service Center Approved

Delaware Accredited
New Jersey ID # 73004
Rhode Island ID # 158
New Hampshire ID # 294100 A/B
West Virginia ID # 292
Florida ID # E87674

ACCREDITED IN ACCORDANCE WITH nelac

COLUMBIA ANALYTICAL SERVICES

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

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-1-16-02

Date Sampled : 01/16/02 10:05 Order #: 524602 Sample Matrix: WATER
Date Received: 01/16/02 Submission #: R2210305 Analytical Run 73742

DATE ANALYZED : 01/22/02
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
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	14	UG/L
1,1,1-TRICHLOROETHANE	5.0	10 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	440 E	UG/L
TRICHLOROETHENE	5.0	10 U	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 %)	95	%
TOLUENE-D8	(87 - 108 %)	105	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	102	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 01/29/02

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-1-16-02

Date Sampled : 01/16/02 10:05 **Order #:** 524602 **Sample Matrix:** WATER
Date Received: 01/16/02 **Submission #:** R2210305 **Analytical Run** 73742

DATE ANALYZED : 01/24/02
ANALYTICAL DILUTION: 2.50

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	50 U	UG/L
BENZENE	5.0	13 U	UG/L
BROMODICHLOROMETHANE	5.0	13 U	UG/L
BROMOFORM	5.0	13 U	UG/L
BROMOMETHANE	5.0	13 U	UG/L
2-BUTANONE (MEK)	10	25 U	UG/L
CARBON DISULFIDE	10	25 U	UG/L
CARBON TETRACHLORIDE	5.0	13 U	UG/L
CHLOROBENZENE	5.0	13 U	UG/L
CHLOROETHANE	5.0	13 U	UG/L
CHLOROFORM	5.0	13 U	UG/L
CHLOROMETHANE	5.0	13 U	UG/L
DIBROMOCHLOROMETHANE	5.0	13 U	UG/L
1,1-DICHLOROETHANE	5.0	13 U	UG/L
1,2-DICHLOROETHANE	5.0	13 U	UG/L
1,1-DICHLOROETHENE	5.0	13 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	13 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	13 U	UG/L
1,2-DICHLOROPROPANE	5.0	13 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	13 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	13 U	UG/L
ETHYLBENZENE	5.0	13 U	UG/L
2-HEXANONE	10	25 U	UG/L
METHYLENE CHLORIDE	5.0	13 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	25 U	UG/L
STYRENE	5.0	13 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	13 U	UG/L
TETRACHLOROETHENE	5.0	13 U	UG/L
TOLUENE	5.0	13 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	13 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	13 U	UG/L
TRICHLOROETHENE	5.0	390	UG/L
VINYL CHLORIDE	5.0	13 U	UG/L
O-XYLENE	5.0	13 U	UG/L
M+P-XYLENE	5.0	13 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(87 - 111 %)	101	%
TOLUENE-D8	(87 - 108 %)	103	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	101	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 01/29/02

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 525803 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 73742

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 01/22/02			
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 %)	100	%
TOLUENE-D8	(87 - 108 %)	102	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	100	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 01/29/02

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 525805 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 73742

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 01/23/02			
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 %)	100	%
TOLUENE-D8	(87 - 108 %)	103	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	101	%

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

[redacted]mbi Analytical Services, INC
An Employee-Owned Company
www.caslab.com

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

S[redacted]
CAS Contact

Project Name: Griffin IRM	Project Number:
Project Manager: Ken Armstrong	Report CC: Catherine Palko
Company/Address: URS 634 St. Clair Cleveland, OH 44113	
Phone #: (216) 622-2400	FAX#: (216) 241-9083
Sampler's Signature: Bob Fabian	Sampler's Printed Name: Bob 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 ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)					REMARKS/ ALTERNATE DESCRIPTION
EFF-1-16-02		1-16-02	10:05	WATER	3	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:
A2210305
SUBMISSION #:

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

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Bob Fabian	Signature: M A Greiter	Signature	Signature	Signature	Signature
Printed Name: Bob Fabian	Printed Name: M A Greiter	Printed Name	Printed Name	Printed Name	Printed Name
Firm: URS	Firm: CAS	Firm	Firm	Firm	Firm
Date/Time: 1/16-02 11:25	Date/Time: 1/16/02 1125	Date/Time	Date/Time	Date/Time	Date/Time

SCOC-0101-08

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

Cooler Receipt And Preservation Check Form

Project/Client URS Submission Number R2-103035.

Cooler received on 1/16/02 by: MA **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? 1 (CAS/ROC), CLIENT
7. Temperature of cooler(s) upon receipt:

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

Date/Time Temperatures Taken: 1/16/02 1127

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

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 1-17-02 by: JE

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					
5-11 pH slurry*	CLP SVOA					
5-9 pH slurry*	CLP* P/PCBs					
5-9**	P/PCBs (608 only)					

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

*Do not adjust pH! Report in C/N **If pH adjustment is required, use NaOH and/or H_2SO_4

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

09

Other Comments:

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

February 28, 2002

Mr. Ken Armstrong
URS Corporation
800 West St. Clair Ave
Cleveland, OH 44113

PROJECT:GRIFFIN IRM
Submission #:R2210686

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.

1 Mustard St.• Suite 250 • Rochester, NY 14609 • Tele:(585)288-5380 • Fax:(585)288-8475

Columbia Analytical Services, Inc.
1 Mustard ST.
Suite 250
Rochester, NY 14609
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2210686
Project Manager : Mark Wilson
Reported : 02/28/02

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 Perry

Columbia Analytical Services, Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2210686

Lab ID	Client ID
530853	EFF-2-13-02

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.

An Employee - Owned Company

Effective 2/8/02

CAS LIST OF 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)

* - Inorganic Duplicate analysis not within control limits. Flag the entire batch - Inorganic analysis only

* - 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/Rochester Lab ID # for State Certifications

American Industrial Hygiene Assoc. ID #:100314
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved
Nebraska Accredited
NELAP Accredited
New York ID # 10145
New Jersey ID # NY004
New Hampshire ID # 294100 A/B
Rhode Island ID # 158
South Carolina ID #91012
West Virginia ID # 292

ACCREDITED IN ACCORDANCE WITH nelac

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 02/28/02

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-2-13-02

Date Sampled : 02/13/02 **Order #:** 530853 **Sample Matrix:** WATER
Date Received: 02/13/02 **Submission #:** R2210686 **Analytical Run** 74719

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 02/21/02			
ANALYTICAL DILUTION: 2.00			
ACETONE	20	40 U	UG/L
BENZENE	5.0	10 U	UG/L
BROMODICHLOROMETHANE	5.0	10 U	UG/L
BROMOFORM	5.0	10 U	UG/L
BROMOMETHANE	5.0	10 U	UG/L
2-BUTANONE (MEK)	10	20 U	UG/L
CARBON DISULFIDE	10	20 U	UG/L
CARBON TETRACHLORIDE	5.0	10 U	UG/L
CHLOROBENZENE	5.0	10 U	UG/L
CHLOROETHANE	5.0	10 U	UG/L
CHLOROFORM	5.0	10 U	UG/L
CHLOROMETHANE	5.0	10 U	UG/L
DIBROMOCHLOROMETHANE	5.0	10 U	UG/L
1,1-DICHLOROETHANE	5.0	10 U	UG/L
1,2-DICHLOROETHANE	5.0	10 U	UG/L
1,1-DICHLOROETHENE	5.0	10 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	10 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	10 U	UG/L
1,2-DICHLOROPROPANE	5.0	10 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	10 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	10 U	UG/L
ETHYLBENZENE	5.0	10 U	UG/L
2-HEXANONE	10	20 U	UG/L
METHYLENE CHLORIDE	5.0	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	20 U	UG/L
STYRENE	5.0	10 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	10 U	UG/L
TETRACHLOROETHENE	5.0	10 U	UG/L
TOLUENE	5.0	10 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	10 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	10 U	UG/L
TRICHLOROETHENE	5.0	350	UG/L
VINYL CHLORIDE	5.0	10 U	UG/L
O-XYLENE	5.0	10 U	UG/L
M+P-XYLENE	5.0	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(87 - 111 %)	99	%
TOLUENE-D8	(87 - 108 %)	101	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	100	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 02/28/02

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 532116 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 74719

DATE ANALYZED : 02/20/02
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(87 - 111 %)	94	%
TOLUENE-D8	(87 - 108 %)	99	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	97	%

[redacted] Analytical Services INC
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:
Project Manager: Ken Armstrong	Report CC: Catherine Palko
Company/Address: URS 634 St. Clair Cleveland, OH 44113	
Phone #: (216) 622-2400	FAX#: (216) 241-9083
Sampler's Signature: Bob Fabian	Sampler's Printed Name: Bob Fabian

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

PRESERVATIVE

Analysis columns: 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 ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P; WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.; METALS, TOTAL (List in comments below); METALS, DISSOLVED (List in comments below)

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 ____

REMARKS/ ALTERNATE DESCRIPTION

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOA's	GC/MS SVOA's	GC VOA's	PESTICIDES/PCB's	STAR'S LIST 8021 VOA's	STAR'S LIST 8270 SVOA's	TCLP	WASTE CHARACTERIZATION	METALS, TOTAL	METALS, DISSOLVED	REMARKS/ ALTERNATE DESCRIPTION
EFF-2-13-02	530853	2-13-02	11:10	WATER	3	X										

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:
R2210686
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: 6° CUSTODY SEALS: Y (N) Client

	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Bob Fabian	Gregory Esmerian				
Printed Name	Bob Fabian	Gregory O. Esmerian				
Firm	URS	CAS				
Date/Time	2-13-02 11:47	2-13-02 11:47				

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

SCOC-0101-08

1A3 2-13-02

Cooler Receipt And Preservation Check Form

Project/Client URS Submission Number 106586.

Cooler received on 2-13-02 by: ME **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:	6°

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: 2-13-02 @ 11:50

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

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 2-14-02 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					
5-11 pH slurry*	CLP SVOA					
5-9 pH slurry*	CLP* P/PCBs					
5-9**	P/PCBs (608 only)					

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

*Do not adjust pH! Report in C/N **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

March 22, 2002

Mr. Ken Armstrong
URS Corporation
800 West St. Clair Ave
Cleveland, OH 44113

PROJECT:GRIFFIN IRM
Submission #:R2211042

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
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2211042
Project Manager : Mark Wilson
Reported : 03/22/02

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 Perry

01

Columbia Analytical Services inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2211042

Lab ID	Client ID
536226	EFF-3-11-02

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.

02

Columbia Analytical Services INC.

An Employee - Owned Company

Effective 2/8/02

CAS LIST OF 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)

* - Inorganic Duplicate analysis not within control limits. Flag the entire batch - Inorganic analysis only

* - 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/Rochester Lab ID # for State Certifications

American Industrial Hygiene Assoc. ID #:100314
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved
Nebraska Accredited

NELAP Accredited
New York ID # 10145
New Jersey ID # NY004
New Hampshire ID # 294100 A/B
Rhode Island ID # 158
South Carolina ID #91012
West Virginia ID # 292

ACCREDITED IN ACCORDANCE WITH nelac

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 03/22/02

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-3-11-02

Date Sampled : 03/11/02 **Order #:** 536226 **Sample Matrix:** WATER
Date Received: 03/11/02 **Submission #:** R2211042 **Analytical Run** 75599

DATE ANALYZED : 03/19/02
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
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	280	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 %)	101	%
TOLUENE-D8	(87 - 108 %)	105	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	106	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 03/22/02

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 538340 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 75599

DATE ANALYZED : 03/19/02
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(87 - 111 %)	101	%
TOLUENE-D8	(87 - 108 %)	105	%
DIBROMOFLUOROMETHANE	(86 - 117 %)	105	%

Environmental Analytical Services INC.
An Employee-Owned Company

[redacted] Mustard St., Suite 250, Rochester, NY [redacted]
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY LABORATORY ANALYSIS REQUEST FORM

DATE 3-11-02 PAGE 1 OF 1

PROJECT NAME Griffin IRM

PROJECT MANAGER/CONTACT Ken Armstong/Catharine Palko

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 ☐ 624 ☒ 8260 ☐ 95-1	GC/MS SVOA's ☐ 625 ☐ 8270 ☐ 95-2	GC VOA's ☐ 601/602 ☐ 8021	PESTICIDES/PCB's ☐ 608 ☐ 8081 ☐ 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)	PRESERVATION pH < 2.0	pH > 12	Other
EFF-3-11-02	3-11-02	11:40		WATER	3	X											●	

RELINQUISHED BY:
Bob Fabian
Signature Bob Fabian
Printed Name URS
Firm 3-11-02 12:25
Date/Time

RECEIVED BY:
Janice Kaeser
Signature Janice Kaeser
Printed Name URS
Firm 3/11/02 12:25
Date/Time

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: _____
Submission No: R221042

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

Cooler Receipt And Preservation Check Form

Project/Client WCC 4 Submission Number R2-11042.

Cooler received on 3/11/02 by: BK 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:	2.8C

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: 3/11/02 12:25

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

If out of Temperature, Client Approval to Run Samples_____

Cooler Breakdown: Date: 3-11-02 by: CMC

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					
5-11 pH slurry*	CLP SVOA					
5-9 pH slurry*	CLP* P/PCBs					
5-9**	P/PCBs (608 only)					

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

*Do not adjust pH! Report in C/N **If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				07

Other Comments:

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

May 3, 2002

Mr. Ken Armstrong
URS Corporation
1382 West 9th Street
Suite 100
Cleveland, OH 44113

PROJECT:GRIFFIN IRM
Submission #:R2211506

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 (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Michael K. Perry For:
Mark Wilson
Client Service Manager

Enc.

Columbia Analytical Services inc.

1 Mustard ST.
Suite 250
Rochester, NY 14609
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2211506
Project Manager : Mark Wilson
Reported : 05/03/02

Report Contains a total of 8 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. Michael K. Perry

Columbia Analytical Services, Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2211506

Lab ID	Client ID
544054	EFF-4-13-02

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.
An Employee - Owned Company

ACCREDITED IN ACCORDANCE WITH nelac

QUALITY ETHICS SERVICE
ACL Environmental Sciences

Effective 4/1/2002

CAS LIST OF 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)

* - Inorganic Duplicate analysis not within control limits. Flag the entire batch - Inorganic analysis only

* - 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/Rochester Lab ID # for State Certifications

American Industrial Hygiene Assoc. ID #:100314
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved
Nebraska Accredited
NELAP Accredited
New York ID # 10145
New Jersey ID # NY004
New Hampshire ID # 294100 A/B
Rhode Island ID # 158
South Carolina ID #91012
West Virginia ID # 292

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 05/03/02

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-4-13-02

Date Sampled : 04/13/02 **Order #:** 544054 **Sample Matrix:** WATER
Date Received: 04/13/02 **Submission #:** R2211506 **Analytical Run** 76825

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 04/24/02			
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	270	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	(83 - 118 %)	107	%
TOLUENE-D8	(91 - 113 %)	110	%
DIBROMOFLUOROMETHANE	(87 - 115 %)	109	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD: 8260B TCL

LABORATORY CONTROL SAMPLE SUMMARY

REFERENCE ORDER #: 546172 ANALYTICAL RUN # : 76825

ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS
DATE ANALYZED : 04/24/02			
ANALYTICAL DILUTION: 1.0			
ACETONE	20.0	105	50 - 150
BENZENE	20.0	80	70 - 130
BROMODICHLOROMETHANE	20.0	96	70 - 130
BROMOFORM	20.0	98	70 - 130
BROMOMETHANE	20.0	84	50 - 150
2-BUTANONE (MEK)	20.0	94	50 - 150
CARBON DISULFIDE	20.0	65	70 - 130
CARBON TETRACHLORIDE	20.0	97	70 - 130
CHLOROBENZENE	20.0	92	70 - 130
CHLOROETHANE	20.0	87	70 - 130
CHLOROFORM	20.0	95	70 - 130
CHLOROMETHANE	20.0	86	70 - 130
DIBROMOCHLOROMETHANE	20.0	98	70 - 130
1,1-DICHLOROETHANE	20.0	93	70 - 130
1,2-DICHLOROETHANE	20.0	104	70 - 130
1,1-DICHLOROETHENE	20.0	71	70 - 130
CIS-1,2-DICHLOROETHENE	20.0	85	70 - 130
TRANS-1,2-DICHLOROETHENE	20.0	79	70 - 130
1,2-DICHLOROPROPANE	20.0	78	70 - 130
CIS-1,3-DICHLOROPROPENE	20.0	89	70 - 130
TRANS-1,3-DICHLOROPROPENE	20.0	110	70 - 130
ETHYLBENZENE	20.0	93	70 - 130
2-HEXANONE	20.0	91	70 - 130
METHYLENE CHLORIDE	20.0	77	70 - 130
4-METHYL-2-PENTANONE (MIBK)	20.0	98	70 - 130
STYRENE	20.0	90	70 - 130
1,1,2,2-TETRACHLOROETHANE	20.0	106	70 - 130
TETRACHLOROETHENE	20.0	89	70 - 130
TOLUENE	20.0	87	70 - 130
1,1,1-TRICHLOROETHANE	20.0	94	70 - 130
1,1,2-TRICHLOROETHANE	20.0	95	70 - 130
TRICHLOROETHENE	20.0	83	70 - 130
VINYL CHLORIDE	20.0	84	70 - 130
O-XYLENE	20.0	93	70 - 130
M+P-XYLENE	40.0	93	70 - 130

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 05/03/02

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 546171 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 76825

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 04/24/02			
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	(83 - 118 %)	108	%
TOLUENE-D8	(91 - 113 %)	109	%
DIBROMOFLUOROMETHANE	(87 - 115 %)	111	%

[redacted] Analytical Services INC.
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

[redacted]
CAS Contact

Project Name: Griffin IRM	Project Number:
Project Manager: Ken Armstrong	Report CC: Catherine Palko
Company/Address: URS 634 St. Clair Cleveland, Ohio 44113	
Phone #: (216) 622-2400	FAX#: (216) 241-9083
Sampler's Signature:	Sampler's Printed Name:

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 ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
EFF-4-13-02	544054	4-13-02	10:15	WATER	3	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:
R22/11506
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Bob Fabian	Signature: M. Cook	Signature	Signature	Signature	Signature
Printed Name: Bob Fabian	Printed Name: M. COOK	Printed Name	Printed Name	Printed Name	Printed Name
Firm: URS	Firm: CAS	Firm	Firm	Firm	Firm
Date/Time: 4-13-02 10:50	Date/Time: 4-13-02 1050	Date/Time	Date/Time	Date/Time	Date/Time

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

SCOC-0101-08

Cooler Receipt And Preservation Check Form

Project/Client WCC4 Submission Number 11506.

Cooler received on 4-13-02 by: WM **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:	6°C				
	Is the temperature within 0° - 6° C?:	(Yes)	Yes	Yes	Yes	Yes
	If No, Explain Below	No	No	No	No	No

Date/Time Temperatures Taken: 4-13-02 1055

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

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 4/15/02 by: JBL

	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					
5-11 pH slurry*	CLP SVOA					
5-9 pH slurry*	CLP* P/PCBs					
5-9**	P/PCBs (608 only)					

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

*Do not adjust pH! Report in C/N **If pH adjustment is required, use NaOH and/or H_2SO_4

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

Other Comments:

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

June 28, 2002

Mr. Ken Armstrong
URS Corporation
1382 West 9th Street
Suite 100
Cleveland, OH 44113

PROJECT:GRIFFIN IRM
Submission #:R2212412

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 (585) 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
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2212412
Project Manager : Mark Wilson
Reported : 06/28/02

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. Perry

Columbia Analytical Services inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2212412

Lab ID	Client ID
561050	EFF-6-14-02

All samples were received in good condition.

All samples were preserved in accordance with approved analytical methods.

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.

All sampling activities performed by CAS personnel have been in accordance with "CAS Field Procedures and Measurements Manual" or by client specifications.

Columbia Analytical Services INC.
An Employee - Owned Company

ACCREDITED IN ACCORDANCE WITH nelac

QUALITY ETHICS SERVICE
ACL Environmental Sciences

Effective 6/18/2002

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 a 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 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.

CAS/Rochester Lab ID # for State Certifications

Army Corp of Engineers Validated
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved
Nebraska Accredited
NELAP Accredited
New York ID # 10145
New Jersey ID # NY004
New Hampshire ID # 294100 A/B
Rhode Island ID # 158
South Carolina ID #91012
West Virginia ID # 292

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 06/28/02

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-6-14-02

Date Sampled : 06/14/02 **Order #:** 561050 **Sample Matrix:** WATER
Date Received: 06/14/02 **Submission #:** R2212412 **Analytical Run** 79364

DATE ANALYZED : 06/22/02
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
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	220	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	(83 - 118 %)	108	%
TOLUENE-D8	(91 - 113 %)	101	%
DIBROMOFLUOROMETHANE	(87 - 115 %)	105	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 06/28/02

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 562955 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 79364

DATE ANALYZED : 06/22/02
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(83 - 118 %)	107	%
TOLUENE-D8	(91 - 113 %)	100	%
DIBROMOFLUOROMETHANE	(87 - 115 %)	106	%

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

[redacted] Analytical Services, Inc.
An Employee-Owned Company
www.caslab.com

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 Firm	Project Number: 10-00051592.00
Project Manager: Ken Armstrong	Report CC: Catherine Pelko
Company/Address: URS	
634 St. Clair	
Cleveland, Ohio 44113	
Phone #: (216) 622-2400	FAX#: (216) 24-9083
Sampler's Signature: Bob Fabian	Sampler's Printed Name: Bob 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)	VOC's by USEPA-CLP				
EFF-6-14-02		6-14-02	14:35	WATER	3											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 _____

REMARKS/ ALTERNATE DESCRIPTION

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:
R22124I2
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Bob Fabian	Kelly M. Cook				
Signature: Bob Fabian	Signature: K. Cook	Signature	Signature	Signature	Signature
Printed Name: URS	Printed Name: CAS	Printed Name	Printed Name	Printed Name	Printed Name
Firm: 6-14-02 15:35	Firm: 6-14-02 1535	Firm	Firm	Firm	Firm
Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

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

SCOC-0101-08

Cooler Receipt And Preservation Check Form

Project/Client UXCA Submission Number 02-12412.

Cooler received on 6.14.02 by: WMC **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: 6°C

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

Date/Time Temperatures Taken: 6.14.02 1540

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

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 6/17/02 by: 9402

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					
5-11 pH slurry*	CLP SVOA					
5-9 pH slurry*	CLP* P/PCBs					
5-9**	P/PCBs (608 only)					

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

*Do not adjust pH! Report in C/N **If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2				
	9 11 42	MM 7/1/02		

07

Other Comments:

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

July 26, 2002

RECEIVED
AUG - 5 2002
URS

Mr. Ken Armstrong
URS Corporation
1382 West 9th Street
Suite 100
Cleveland, OH 44113

PROJECT:GRIFFIN IRM
Submission #:R2212825

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 (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson
Client Service Manager

Enc.

1 Mustard St.• Suite 250 • Rochester, NY 14609 • Tele:(585)288-5380 • Fax:(585)288-8475

Columbia Analytical Services Inc.

1 Mustard ST.
Suite 250
Rochester, NY 14609
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2212825
Project Manager : Mark Wilson
Reported : 07/26/02

Report Contains a total of 9 pages

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

Columbia Analytical Services, Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2212825

Lab ID	Client ID
568334	EFF-7-15-02

All samples were received in good condition.

All samples were preserved in accordance with approved analytical methods.

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.

All sampling activities performed by CAS personnel have been in accordance with "CAS Field Procedures and Measurements Manual" or by client specifications.

Columbia Analytical Services INC.
An Employee - Owned Company

ACCREDITED IN ACCORDANCE WITH nelac

QUALITY ETHICS SERVICE
ACL Environmental Sciences

Effective 6/18/2002

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 a 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 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.

CAS/Rochester Lab ID # for State Certifications

Army Corp of Engineers Validated
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved
Nebraska Accredited
NELAP Accredited
New York ID # 10145
New Jersey ID # NY004
New Hampshire ID # 294100 A/B
Rhode Island ID # 158
South Carolina ID #91012
West Virginia ID # 292

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 07/26/02

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-7-15-02

Date Sampled : 07/15/02 **Order #:** 568334 **Sample Matrix:** WATER
Date Received: 07/15/02 **Submission #:** R2212825 **Analytical Run** 80311

DATE ANALYZED : 07/17/02
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
DIBROMOCHLOROMETHANE	5.0	10 U	UG/L
1,1-DICHLOROETHANE	5.0	10 U	UG/L
1,2-DICHLOROETHANE	5.0	10 U	UG/L
1,1-DICHLOROETHENE	5.0	10 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	10 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	10 U	UG/L
1,2-DICHLOROPROPANE	5.0	10 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	10 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	10 U	UG/L
ETHYLBENZENE	5.0	10 U	UG/L
2-HEXANONE	10	20 U	UG/L
METHYLENE CHLORIDE	5.0	10 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	20 U	UG/L
STYRENE	5.0	10 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	10 U	UG/L
TETRACHLOROETHENE	5.0	10 U	UG/L
TOLUENE	5.0	10 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	13	UG/L
1,1,2-TRICHLOROETHANE	5.0	10 U	UG/L
TRICHLOROETHENE	5.0	480 E	UG/L
VINYL CHLORIDE	5.0	10 U	UG/L
O-XYLENE	5.0	10 U	UG/L
M+P-XYLENE	5.0	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(83 - 118 %)	95	%
TOLUENE-D8	(91 - 113 %)	93	%
DIBROMOFLUOROMETHANE	(87 - 115 %)	94	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 07/26/02

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-7-15-02

Date Sampled : 07/15/02 **Order #:** 568334 **Sample Matrix:** WATER
Date Received: 07/15/02 **Submission #:** R2212825 **Analytical Run** 80311

DATE ANALYZED : 07/18/02
ANALYTICAL DILUTION: 2.50

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	50 U	UG/L
BENZENE	5.0	13 U	UG/L
BROMODICHLOROMETHANE	5.0	13 U	UG/L
BROMOFORM	5.0	13 U	UG/L
BROMOMETHANE	5.0	13 U	UG/L
2-BUTANONE (MEK)	10	25 U	UG/L
CARBON DISULFIDE	10	25 U	UG/L
CARBON TETRACHLORIDE	5.0	13 U	UG/L
CHLOROBENZENE	5.0	13 U	UG/L
CHLOROETHANE	5.0	13 U	UG/L
CHLOROFORM	5.0	13 U	UG/L
CHLOROMETHANE	5.0	13 U	UG/L
DIBROMOCHLOROMETHANE	5.0	13 U	UG/L
1,1-DICHLOROETHANE	5.0	13 U	UG/L
1,2-DICHLOROETHANE	5.0	13 U	UG/L
1,1-DICHLOROETHENE	5.0	13 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	13 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	13 U	UG/L
1,2-DICHLOROPROPANE	5.0	13 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	13 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	13 U	UG/L
ETHYLBENZENE	5.0	13 U	UG/L
2-HEXANONE	10	25 U	UG/L
METHYLENE CHLORIDE	5.0	13 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	25 U	UG/L
STYRENE	5.0	13 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	13 U	UG/L
TETRACHLOROETHENE	5.0	13 U	UG/L
TOLUENE	5.0	13 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	13 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	13 U	UG/L
TRICHLOROETHENE	5.0	340	UG/L
VINYL CHLORIDE	5.0	13 U	UG/L
O-XYLENE	5.0	13 U	UG/L
M+P-XYLENE	5.0	13 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(83 - 118 %)	94	%
TOLUENE-D8	(91 - 113 %)	92	%
DIBROMOFLUOROMETHANE	(87 - 115 %)	98	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 07/26/02

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 569095 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 80311

DATE ANALYZED : 07/16/02
ANALYTICAL DILUTION: 1.00

ANALYTE	PQL	RESULT	UNITS
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(83 - 118 %)	94	%
TOLUENE-D8	(91 - 113 %)	94	%
DIBROMOFLUOROMETHANE	(87 - 115 %)	95	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 07/26/02

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 569097 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 80311

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 07/18/02			
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	(83 - 118 %)	95	%
TOLUENE-D8	(91 - 113 %)	93	%
DIBROMOFLUOROMETHANE	(87 - 115 %)	95	%

[redacted] Analytical Services, INC
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 _____ OF _____

SH[redacted]

CAS Contact

Project Name: Griffin IRM	Project Number: 10-00051592.00
Project Manager: Ken Armstrong	Report CC: Catherine Palko
Company/Address: 800 W. St. Clair Ave., Ste 500 Cleveland, Ohio 44113	
Phone #: (216) 622-2400	FAX#: (216) 622-0123
Sampler's Signature	Sampler's Printed Name

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	STARS LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STARS 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)	VOC's by USEPA-CLP					
EFF-7-15-02		7-15-02	12:15	WATER	3											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 _____

REMARKS/ ALTERNATE DESCRIPTION

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:
R22/2825
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Bob Fabian	Signature: [redacted]	Signature:	Signature:	Signature:	Signature:
Printed Name: Bob Fabian	Printed Name: Heather Lordahl	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: URS	Firm: CAS	Firm:	Firm:	Firm:	Firm:
Date/Time: 7-15-02 13:15	Date/Time: 7/15/02 1315	Date/Time:	Date/Time:	Date/Time:	Date/Time:

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

SCOC-0101-06

Cooler Receipt And Preservation Check Form

Project/Client URS Submission Number R2-12825.

Cooler received on 7/15/02 by: JHD **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: 7° _____ _____ _____ _____

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

Date/Time Temperatures Taken: 7/15/02 1315

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

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 7/15/02 by: JHD

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					
5-11 pH slurry*	CLP SVOA					
5-9 pH slurry*	CLP* P/PCBs					
5-9**	P/PCBs (608 only)					

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

*Do not adjust pH! Report in C/N **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

September 3, 2002

Mr. Ken Armstrong
URS Corporation
1382 West 9th Street
Suite 100
Cleveland, OH 44113

PROJECT:GRIFFIN IRM
Submission #:R2213309

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 (585) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson
Client Service Manager

Enc.

1 Mustard St.• Suite 250 • Rochester, NY 14609 • Tele:(585)288-5380 • Fax:(585)288-8475

Columbia Analytical Services, Inc.
1 Mustard ST.
Suite 250
Rochester, NY 14609
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2213309
Project Manager : Mark Wilson
Reported : 09/03/02

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. Perry

Columbia Analytical Services, Inc.

CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2213309

Lab ID	Client ID
576780	EFF-8-15-02

All samples were received in good condition.

All samples were preserved in accordance with approved analytical methods.

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.

All sampling activities performed by CAS personnel have been in accordance with "CAS Field Procedures and Measurements Manual" or by client specifications.

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QUALITY ETHICS SERVICE
ACL Environmental Sciences

Effective 6/18/2002

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 a 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 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.

CAS/Rochester Lab ID # for State Certifications

Army Corp of Engineers Validated
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved
Nebraska Accredited
NELAP Accredited
New York ID # 10145
New Jersey ID # NY004
New Hampshire ID # 294100 A/B
Rhode Island ID # 158
South Carolina ID #91012
West Virginia ID # 292

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/03/02

URS Corporation
Project Reference: GRIFFIN IRM
Client Sample ID : EFF-8-15-02

Date Sampled : 08/15/02 **Order #:** 576780 **Sample Matrix:** WATER
Date Received: 08/15/02 **Submission #:** R2213309 **Analytical Run** 82001

DATE ANALYZED : 08/22/02
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
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	270	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	(83 - 118 %)	99	%
TOLUENE-D8	(91 - 113 %)	101	%
DIBROMOFLUOROMETHANE	(87 - 115 %)	102	%

COLUMBIA ANALYTICAL SERVICES

VOLATILE ORGANICS
METHOD 8260B TCL
Reported: 09/03/02

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 580238 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run** 82001

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/22/02			
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	(83 - 118 %)	102	%
TOLUENE-D8	(91 - 113 %)	104	%
DIBROMOFLUOROMETHANE	(87 - 115 %)	101	%

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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SR #

CAS Contact

Project Name: Griffin IRM	Project Number
Project Manager: Ken Armstrong	Report CC: Catherine Palko
Company/Address: URS 634 St. Clair Cleveland, Ohio 44113	
Phone #: (216) 622-2400	FAX#: (216) 622-9083
Sampler's Signature: Bob Fabian	Sampler's Printed Name: Bob 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 ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	Vocs by USEPA - CLP				
EFF-8-15-02		8-15-02	11:10	WATER	3											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 _____

REMARKS/ ALTERNATE DESCRIPTION

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:
13309
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: _____ CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Bob Fabian	Signature: Heather Lovejoy	Signature	Signature	Signature	Signature
Printed Name: Bob Fabian	Printed Name: Heather Lovejoy	Printed Name	Printed Name	Printed Name	Printed Name
Firm: URS	Firm: CAS	Firm	Firm	Firm	Firm
Date/Time: 8-15-02 11:55	Date/Time: 8/15/02 1155	Date/Time	Date/Time	Date/Time	Date/Time

SCOC-0101-08

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

Cooler Receipt And Preservation Check Form

Project/Client UPS Submission Number R2-13309.

Cooler received on 8/15/02 by: MP 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: 6° _____ _____ _____ _____

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: 8/15/02 1200

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

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 8/15/02 by: MP

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					
5-11 pH slurry*	CLP SVOA					
5-9 pH slurry*	CLP* P/PCBs					
5-9**	P/PCBs (608 only)					

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

*Do not adjust pH! Report in C/N **If pH adjustment is required, use NaOH and/or H_2SO_4

VOC Vial pH Verification (Tested after Analysis) Following Samples Exhibited pH > 2			
	< 2 MP 9/4/02		

Other Comments:

Appendix B
Monitoring Well Groundwater Analytical Results

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

June 24, 2002

Mr. Ken Armstrong
URS Corporation
1382 West 9th Street
Suite 100
Cleveland, OH 44113

PROJECT:GRIFFIN IRM
Submission #:R2212150

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 (585) 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
(585) 288-5380

THIS IS AN ANALYTICAL TEST REPORT FOR:

Client : URS Corporation
Project Reference: GRIFFIN IRM
Lab Submission # : R2212150
Project Manager : Mark Wilson
Reported : 06/24/02

Report Contains a total of 92 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. Perry

CAS ASP/CLP BATCHING FORM / LOGIN SHEET

SDG #: MW-1
SUBMISSION R2212150
CLIENT: URS Corporation
CLIENT REP: Mark Wilson
PROJECT: GRIFFIN IRM

BATCH COMPLETE: __yes_____
DISKETTE REQUESTED: Y___ N__x__
DATE: 05/24/02
CUSTODY SEAL: PRESENT/ABSENT:
CHAIN OF CUSTODY: PRESENT/ABSENT:

DATE REVISED:
DATE DUE: 06/22/02
PROTOCOL: ASP-B
SHIPPING No.:

CAS JOB #	CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE SAMPLED	DATE RECEIVED	pH (SOLIDS)	% SOLIDS	REMARKS SAMPLE CONDITION
555753	MW-1	WATER	95-1	5/24/02	5/24/02			
555754	MW-2S	WATER	95-1	5/24/02	5/24/02			
555755	MW-3	WATER	95-1	5/24/02	5/24/02			
555756	MW-4	WATER	95-1	5/24/02	5/24/02			
555757	MW-4(DUP)	WATER	95-1	5/24/02	5/24/02			
555758	MW-5S	WATER	95-1	5/24/02	5/24/02			
555759	MW-5D	WATER	QC 95-1	5/24/02	5/24/02			
555760	MW-6S	WATER	95-1	5/24/02	5/24/02			
555771	MW-6D	WATER	95-1	5/24/02	5/24/02			
555773	MW-7S	WATER	95-1	5/24/02	5/24/02			
555774	MW-7D	WATER	95-1	5/24/02	5/24/02			
555776	MW-9S	WATER	95-1	5/24/02	5/24/02			
555777	MW-9D	WATER	95-1	5/24/02	5/24/02			
555778	MW-10S	WATER	95-1	5/24/02	5/24/02			
555779	MW-13D	WATER	95-1	5/24/02	5/24/02			
555780	MW-11D	WATER	95-1	5/24/02	5/24/02			
555783	RW-01	WATER	95-1	5/24/02	5/24/02			
555784	RW-02	WATER	95-1	5/24/02	5/24/02			
555787	RW-03	WATER	95-1	5/24/02	5/24/02			
555789	RW-04	WATER	95-1	5/24/02	5/24/02			
555791	TRIP BLANK	WATER	95-1	5/24/02	5/24/02			
556267	MW-10D	WATER	95-1	5/24/02	5/24/02			
556268	Cooler Blank	WATER	95-1					

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ACCREDITED IN ACCORDANCE WITH nelac

QUALITY ETHICS SERVICE
ACL Environmental Sciences

Effective 6/18/2002

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 a 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 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.

CAS/Rochester Lab ID # for State Certifications

Army Corp of Engineers Validated
Delaware Accredited
Connecticut ID # PH0556
Florida ID # E87674
Massachusetts ID # M-NY032
Navy Facilities Engineering Service Center Approved
Nebraska Accredited
NELAP Accredited
New York ID # 10145
New Jersey ID # NY004
New Hampshire ID # 294100 A/B
Rhode Island ID # 158
South Carolina ID #91012
West Virginia ID # 292

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[redacted] CHAIN OF CUSTODY LABORATORY ANALYSIS REQUEST FORM [redacted]

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SR [redacted]

CAS Contact

Project Name: Griffin IRM	Project Number:
Project Manager: Ken Armstrong	Report CC: Catherine Palko
Company/Address: URS 800 West St. Clair Ave Cleveland, Ohio 44113	
Phone #: (216) 622-2402	FAX#: (216) 241-9083
Sampler's Signature: Bob Fabian	Sampler's Printed Name: Bob 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	ASP 95-1	REMARKS/ ALTERNATE DESCRIPTION
MW-1	555753	5.24.02	09:15	GW WATER	3	X	
MW-2S	54		09:30		3	X	
MW-3	55		09:45		3	X	
MW-4	56		09:55		3	X	
MW-4 (DUP)	57		09:55		3	X	
MW-5S	58		10:20		3	X	
MW-5D	59		10:35		3	X	
MW-5D (MS)			10:35		3	X	
MW-5D (MSD)			10:35		3	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 _____

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 ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P
WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.
METALS, TOTAL (List in comments below)
METALS, DISSOLVED (List in comments below)

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:
R224150
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: 20 CUSTODY SEALS: Y (N) Client

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Bob Fabian	Signature: Brian Collen	Signature	Signature	Signature	Signature
Printed Name: Bob Fabian	Printed Name: Brian Collen	Printed Name	Printed Name	Printed Name	Printed Name
Firm: URS	Firm: CAS	Firm	Firm	Firm	Firm
Date/Time: 5-24-02 14:50	Date/Time: 5/24/02 1450	Date/Time	Date/Time	Date/Time	Date/Time

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

SCOC-0402-40

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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 2 OF 3

SR [redacted]

CAS Contact

Project Name: Griffin IRM	Project Number
Project Manager: Ken Armstrong	Report CC: Catherine Palko
Company/Address: URS	
800 West St. Clair Ave.	
Cleveland, Ohio 44113	
Phone #: (216) 622-2402	FAX#: (216) 241-9083
Sampler's Signature: Bob Fabian	Sampler's Printed Name: Bob 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	ASP 93-1
mw-6S	555760	5.24.02	11:00	G.W.	3	X
mw-6D	71		11:10	G.W.	3	X
mw-7S	73		12:05	G.W.	3	X
mw-7D	74		12:15	G.W.	3	X
mw-9S	76		12:20	G.W.	3	X
mw-9D	77		12:35	G.W.	3	X
mw-10S	78		12:50	G.W.	3	X
mw-13D	79		13:15	G.W.	3	X
mw-11D	80		13:30	G.W.	3	X

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 ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P
WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.
METALS, TOTAL (List in comments below)
METALS, DISSOLVED (List in comments below)

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 _____

REMARKS/ ALTERNATE DESCRIPTION

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:
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: 2 CUSTODY SEALS: Y (N) Client

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Bob Fabian	Signature: [signature]	Signature	Signature	Signature	Signature
Printed Name: Bob Fabian	Printed Name: Brian Colter	Printed Name	Printed Name	Printed Name	Printed Name
Firm: URS	Firm: CAS	Firm	Firm	Firm	Firm
Date/Time: 5-24-02 14:50	Date/Time: 5/24/02 1450	Date/Time	Date/Time	Date/Time	Date/Time

SCOC-0402-40

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

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An Employee-Owned Company
www.caslab.com

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

SR[redacted]

One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (716) 288-5380 • 800-695-7222 x11 • FAX (716) 288-8475 PAGE 3 OF 3

CAS Contact

Project Name	Project Number
Griffin IRM	
Project Manager	**Report CC**
Ken Armstrong	Catherine Palko
Company/Address	
URS	
800 West St. Clair Ave	
Cleveland, Ohio 44113	
Phone #	**FAX#**
(216) 622-2402	(216) 241-9083
Sampler's Signature	**Sampler's Printed Name**

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)	ASP 95-1				REMARKS/ ALTERNATE DESCRIPTION
RW-01	555783	5-24-02	13:40	G.W.	3											X				
RW-02	84		13:48	G.W.	3											X				
RW-03	87		13:50	G.W.	3											X				
RW-04	89		13:55	G.W.	3											X				
Trip Blank	91	↓			3											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:
SUBMISSION #:

SAMPLE RECEIPT: CONDITION/COOLER TEMP: 2° CUSTODY SEALS: Y (N) Client

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Bob Fabian	Signature: [signature]	Signature	Signature	Signature	Signature
Printed Name: Bob Fabian	Printed Name: [signature]	Printed Name	Printed Name	Printed Name	Printed Name
Firm: URS	Firm: [signature]	Firm	Firm	Firm	Firm
Date/Time: 5-24-02 14:50	Date/Time: 5/24/02 1450	Date/Time	Date/Time	Date/Time	Date/Time

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

SCOC-0402-40

Cooler Receipt And Preservation Check Form

Project/Client URS Submission Number 12150.

Cooler received on 5/24/02 by: BL 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: 5/24/02 1450

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

If out of Temperature, Client Approval to Run Samples _____

Cooler Breakdown: Date: 5/28/02 by: BL

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					
5-11 pH slurry*	CLP SVOA					
5-9 pH slurry*	CLP* P/PCBs					
5-9**	P/PCBs (608 only)					

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

*Do not adjust pH! Report in C/N **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:

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555753 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557531

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:54	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:48	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555754 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557541

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555755 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557551

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:54	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:48	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555756 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557561

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555757 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557571

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555758 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557581

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555759 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557591

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 11:36	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555760 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557601

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:48	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555771 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557711

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:48	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555773 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557731

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:49	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555774 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557741

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:49	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555776 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557761

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:49	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555777 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557771

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:49	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555778 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557781

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:48	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555779 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557791

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555780 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557801

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555783 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557831

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 11:19	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 17:23	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555784 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557841

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555787 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557871

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555789 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557891

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐
06/03/02 11:19	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 17:23	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555791 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557911

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 556267 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5562671

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 16:45	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 11:19	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 17:23	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 556268 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5562681

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 16:45	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐
06/03/02 11:19	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 17:23	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555791 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557911

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 556267 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5562671

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 16:45	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 11:19	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 17:23	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 556268 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5562681

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 16:45	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐
06/03/02 11:19	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 17:23	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555753 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557531

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:54	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:48	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555754 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557541

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555755 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557551

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:54	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:48	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555756 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557561

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
08/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555757 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557571

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555758 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557581

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555759 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557591

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 11:36	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555760 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557601

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:48	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555771 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557711

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:48	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555773 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557731

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:49	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555774 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557741

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:49	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555776 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557761

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:49	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555777 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557771

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:49	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555778 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557781

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
05/31/02 17:48	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555779 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557791

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555780 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557801

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Chain of Custody

Submission: **R2212150** ***Client:*** URS Corporation

Lab ID: 555783 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557831

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 11:19	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 17:23	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

Lab ID: 555784 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557841

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555787 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557871

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐

Lab ID: 555789 ***Matrix*** WATER

Received into CAS-Rochester Custody: 5/24/02

Container: 5557891

Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	☐
06/01/02 11:46	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/01/02 12:37	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐
06/03/02 11:19	dlipani	GC/MS Volatiles	Cooler 1	Analysis	☐
06/03/02 17:23	dlipani	GC/MS Volatiles	Cooler 1	Storage	☐

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	555753	X					
MW-2S	555754	X					
MW-3	555755	X					
MW-4	555756	X					
MW-4(DUP)	555757	X					
MW-5	555758	X					
MW-5D	555759	X					
MW-6S	555760	X					
MW-6D	555771	X					
MW-7S	555773	X					
MW-7D	555774	X					
MW-9S	555776	X					
MW-9D	555777	X					
MW-10S	555778	X					
MW-13D	555779	X					
MW-11D	555780	X					
RW-01	555783	X					
RW-02	555784	X					
RW-03	555787	X					
RS-04	555789	X					
TRIP BLANK	555791	X					
MW-10D	556267	X					

*Check Appropriate Boxes
*CLP, Non-CLP
*HSL, Priority Pollutant
NYF1

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
555753	WATER	05/24/02	05/24/02	LOW	05/31/02
555754	WATER	05/24/02	05/24/02	LOW	06/01/02
555755	WATER	05/24/02	05/24/02	LOW	06/01/02
555756	WATER	05/24/02	05/24/02	LOW	06/01/02
555757	WATER	05/24/02	05/24/02	LOW	05/31/02
555758	WATER	05/24/02	05/24/02	LOW	05/31/02
555759	WATER	05/24/02	05/24/02	LOW	05/31/02
555760	WATER	05/24/02	05/24/02	LOW	05/31/02
555771	WATER	05/24/02	05/24/02	LOW	05/31/02
555773	WATER	05/24/02	05/24/02	LOW	05/31/02
555774	WATER	05/24/02	05/24/02	LOW	05/31/02
555776	WATER	05/24/02	05/24/02	LOW	05/31/02
555777	WATER	05/24/02	05/24/02	LOW	05/31/02
555778	WATER	05/24/02	05/24/02	LOW	06/01/02
555779	WATER	05/24/02	05/24/02	LOW	06/01/02
555780	WATER	05/24/02	05/24/02	LOW	06/01/02
555783	WATER	05/24/02	05/24/02	LOW	06/03/02
555784	WATER	05/24/02	05/24/02	LOW	06/01/02
555787	WATER	05/24/02	05/24/02	LOW	06/01/02
555789	WATER	05/24/02	05/24/02	LOW	06/03/02
555791	WATER	05/24/02	05/24/02	LOW	06/01/02
556267	WATER	05/24/02	05/24/02	LOW	06/03/02

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
555753	WATER	95-1			1.0
555754	WATER	95-1			1.0
555755	WATER	95-1			1.0
555756	WATER	95-1			1.0
555757	WATER	95-1			1.0
555758	WATER	95-1			1.0
555759	WATER	95-1			1.0
555760	WATER	95-1			1.0
555771	WATER	95-1			1.0
555773	WATER	95-1			1.0
555774	WATER	95-1			1.0
555776	WATER	95-1			1.0
555777	WATER	95-1			1.0
555778	WATER	95-1			1.0
555779	WATER	95-1			1.0
555780	WATER	95-1			1.0
555783	WATER	95-1			1.0
555784	WATER	95-1			1.0
555787	WATER	95-1			1.0
555789	WATER	95-1			2.0, 5.0
555791	WATER	95-1			1.0
556267	WATER	95-1			1.0

NCF2 9/89

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-1

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555753 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3613.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
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.

MW-1

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555753 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3613.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q	
~~1.~~	~~unknown freon~~	~~3.83~~	~~10~~	~~J~~	R
~~2.~~	~~unknown freon~~	~~3.96~~	~~9~~	~~J~~	R

PO
7/12/02

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-2S

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555754 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3632.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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
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	4	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

PJM 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-2S

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555754 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3632.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q	
~~1.~~	~~unknown freon~~	~~3.83~~	~~9~~	~~J~~	R
~~2.~~	~~unknown freon~~	~~3.98~~	~~10~~	~~J~~	R

PV
7/12/02

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-3

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555755 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3614.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
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	85	
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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555755 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3614.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q
~~1.~~	~~unknown freon~~	~~3.83~~	~~8~~	~~J~~
~~2.~~	~~unknown freon~~	~~3.96~~	~~10~~	~~J~~

RTP

PJG
7/12/02

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-4

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555756 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3633.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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	(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
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	1	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	67	
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

RJM 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-4

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555756 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3633.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q	
1.	unknown freon	3.83	11	J	R
2.	unknown freon	3.97	11	J	R

RJO 7/12/02

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-4 DUP

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555757 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3634.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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
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	1	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	68	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	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

PJD 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-4 DUP

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555757 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3634.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q	
~~1.~~	~~unknown freon~~	~~3.83~~	~~10~~	~~J~~	R
~~2.~~	~~unknown freon~~	~~3.98~~	~~10~~	~~J~~	R

RA
7/12/02

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-5S

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555758 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3635.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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
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	1	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	59	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
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

DO 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-5S

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555758 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3635.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q	
1.	unknown freon	3.83	9	J	R
2.	unknown freon	3.98	9	J	R

PM 7/12/02

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555759 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3605.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
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	4	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.

MW-5D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555759 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3605.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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-6S

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555760 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3615.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
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	3	J
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555760 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3615.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q	
~~1.~~	~~unknown freon~~	~~3.83~~	~~7~~	~~J~~	R
~~2.~~	~~unknown freon~~	~~3.98~~	~~8~~	~~J~~	R

RD 7/12/02

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-6D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555771 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3616.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
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	4	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	91	
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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555771 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3616.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q
~~1.~~	~~unknown freon~~	~~3.83~~	~~8~~	~~J~~
~~2.~~	~~unknown freon~~	~~3.97~~	~~9~~	~~J~~

RR

7/12/02

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-7S

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555773 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3617.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
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	2	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	180	
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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555773 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3617.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q	
~~1.~~	~~unknown freon~~	~~3.83~~	~~9~~	~~J~~	R
~~2.~~	~~unknown freon~~	~~3.96~~	~~7~~	~~J~~	R

7/12/02

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-7D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555774 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3618.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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	4	J
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	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	19	
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	140	
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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555774 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3618.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q
~~1.~~	~~unknown freon~~	~~3.83~~	~~10~~	~~J~~
~~2.~~	~~unknown freon~~	~~3.96~~	~~8~~	~~J~~

R
R

RJD
7/12/02

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9S

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555776 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3619.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
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.

MW-9S

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555776 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3619.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q	
~~1.~~	~~unknown freon~~	~~3.83~~	~~8~~	~~J~~	R
~~2.~~	~~unknown freon~~	~~3.96~~	~~7~~	~~J~~	R

DJO 7/12/02

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-9D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555777 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3620.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
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	1	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555777 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3620.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q
~~1.~~	~~unknown freon~~	~~3.83~~	~~6~~	~~J~~
~~2.~~	~~unknown freon~~	~~3.97~~	~~5~~	~~J~~

RR

FX 7/12/02

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-10S

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555778 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3628.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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
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

PJA 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-10S

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555778 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3628.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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-13D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555779 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3629.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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	(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
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	1	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	2	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	100	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
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

BD 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-13D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555779 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3629.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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-11D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555780 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3630.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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
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

PJ 7/2/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-11D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555780 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3630.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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: 1

CAS NO.	COMPOUND	RT	EST. CONC.	Q
~~1.~~	~~unknown~~	~~3.99~~	~~6~~	~~J~~ R

PJD
7/12/02

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

RW-01

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555783 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3648.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/03/02

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
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	1	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	10	U
79-01-6	Trichloroethene	53	
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

FJ 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

RW-01

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555783 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3648.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/03/02

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: 1

CAS NO.	COMPOUND	RT	EST. CONC.	Q
~~1.~~	~~unknown freon~~	~~3.81~~	~~11~~	~~J~~ R

7/12/02

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

RW-02

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555784 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3636.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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
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	53	
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

RJ 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

RW-02

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555784 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3636.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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-03

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555787 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3638.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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
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

PJS 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

RW-03

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555787 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3638.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown freon	3.83	9	J
2.	unknown freon	3.96	10	J

RR

7/12/02

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

RW-04

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555789 2.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3649.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/03/02

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: ~~1.0~~ 2.0 (DL) 6/21/02

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	20	U
75-01-4	Vinyl chloride	20	U
74-83-9	Bromomethane	20	U
75-00-3	Chloroethane	20	U
67-64-1	Acetone	20	UJ
75-35-4	1,1-Dichloroethene	20	U
75-09-2	Methylene chloride	20	U
75-15-0	Carbon disulfide	20	U
156-60-5	trans-1,2-Dichloroethene	20	U
75-34-3	1,1-Dichloroethane	20	U
78-93-3	2-Butanone	20	U
156-59-2	cis-1,2-Dichloroethene	6	J
67-66-3	Chloroform	20	U
107-06-2	1,2-Dichloroethane	20	U
71-55-6	1,1,1-Trichloroethane	11	J
56-23-5	Carbon tetrachloride	20	U
71-43-2	Benzene	20	U
79-01-6	Trichloroethene	~~480~~	~~E~~ 490
78-87-5	1,2-Dichloropropane	20	U
75-27-4	Bromodichloromethane	20	U
10061-01-5	cis-1,3-Dichloropropene	20	U
10061-02-6	trans-1,3-Dichloropropene	20	U
79-00-5	1,1,2-Trichloroethane	20	U
124-48-1	Dibromochloromethane	20	U
75-25-2	Bromoform	20	U
108-10-1	4-Methyl-2-pentanone	20	U
108-88-3	Toluene	20	U
591-78-6	2-Hexanone	20	U
127-18-4	Tetrachloroethene	20	U
108-90-7	Chlorobenzene	20	U
100-41-4	Ethylbenzene	20	U
108-38-3/106-42-3	(m+p)Xylene	20	U
95-47-6	o-Xylene	20	U
100-42-5	Styrene	20	U
79-34-5	1,1,2,2-Tetrachloroethane	20	U

FJ 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

RW-04

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555789 2.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3649.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/03/02

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: ~~1.0~~ 2.0 (R) 6/21/02

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-04DL

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555789 5.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3650.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/03/02

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 5.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	50	U
75-01-4	Vinyl chloride	50	U
74-83-9	Bromomethane	50	U
75-00-3	Chloroethane	50	U
67-64-1	Acetone	50	U
75-35-4	1,1-Dichloroethene	50	U
75-09-2	Methylene chloride	50	U
75-15-0	Carbon disulfide	50	U
156-60-5	trans-1,2-Dichloroethene	50	U
75-34-3	1,1-Dichloroethane	50	U
78-93-3	2-Butanone	50	U
156-59-2	cis-1,2-Dichloroethene	7	JD
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	50	U
71-55-6	1,1,1-Trichloroethane	10	JD
56-23-5	Carbon tetrachloride	50	U
71-43-2	Benzene	50	U
79-01-6	Trichloroethene	490	D
78-87-5	1,2-Dichloropropane	50	U
75-27-4	Bromodichloromethane	50	U
10061-01-5	cis-1,3-Dichloropropene	50	U
10061-02-6	trans-1,3-Dichloropropene	50	U
79-00-5	1,1,2-Trichloroethane	50	U
124-48-1	Dibromochloromethane	50	U
75-25-2	Bromoform	50	U
108-10-1	4-Methyl-2-pentanone	50	U
108-88-3	Toluene	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	50	U
108-90-7	Chlorobenzene	50	U
100-41-4	Ethylbenzene	50	U
108-38-3/106-42-3	(m+p)Xylene	50	U
95-47-6	o-Xylene	50	U
100-42-5	Styrene	50	U
79-34-5	1,1,2,2-Tetrachloroethane	50	U

7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

RW-04DL

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555789 5.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3650.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/03/02

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 5.0

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

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

Number TICs found: 0

CAS NO.	COMPOUND	RT	EST. CONC.	Q

PJD 7/12/02

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

TRIP BLANK

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555791 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3640.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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
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

7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRIP BLANK

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555791 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3640.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown freon	3.83	10	J
2.	unknown freon	3.97	10	J

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-10D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 556267 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3651.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/03/02

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
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	4	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

7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-10D

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 556267 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3651.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/03/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown freon	3.81	20	J
2.	unknown freon	3.95	14	J

RR

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

COOLER BLK

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 556268 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3653.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/03/02

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
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

BP 7/12/02

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

COOLER BLK

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 556268 1.0

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3653.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 06/03/02

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: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown freon	3.81	15	J
2.	unknown freon	3.95	8	J

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	TOT OUT
01	VBLK01	100	101	99	0
02	VBLK01MS	100	102	97	0
03	MW-5D	100	101	98	0
04	MW-5DMS	103	102	99	0
05	MW-5DMSD	103	103	98	0
06	MW-1	104	102	101	0
07	MW-3	105	102	99	0
08	MW-6S	104	101	98	0
09	MW-6D	106	102	99	0
10	MW-7S	106	102	98	0
11	MW-7D	104	102	98	0
12	MW-9S	104	101	100	0
13	MW-9D	106	102	97	0
14	VBLK02	101	100	97	0
15	VBLK02MS	104	101	97	0
16	MW-10S	104	101	99	0
17	MW-13D	105	101	98	0
18	MW-11D	105	100	98	0
19	MW-2S	108	100	99	0
20	MW-4	107	102	98	0
21	MW-4 DUP	108	102	99	0
22	MW-5S	109	100	98	0
23	RW-02	109	101	98	0
24	RW-03	111	101	99	0
25	TRIP BLANK	111	101	97	0
26	VBLK03	103	100	97	0
27	VBLK03MS	104	102	98	0
28	RW-01	104	103	98	0
29	RW-04	103	102	97	0
30	RW-04DL	104	102	97	0
31	MW-10D	107	102	97	0
32	COOLER BLK	106	102	98	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: URS

Lab Code: 10145 Case No.: R2-12150 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	57	114	61 - 145
Benzene	50	0.0	55	110	76 - 127
Trichloroethene	50	0.0	53	106	71 - 120
Toluene	50	0.0	55	110	76 - 125
Chlorobenzene	50	0.0	55	110	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~~ N/A (R) 6/21/02

Spike Recovery: ~~1 out of 10 outside limits~~ ∅ out of 5 outside limits

COMMENTS: _____

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK01MS

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3604.D

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

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	57	
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	55	
79-01-6	Trichloroethene	53	
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
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	55	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	55	
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: URS

Lab Code: 10145 Case No.: R2-12150 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	56	112	61 - 145
Benzene	50	0.0	54	108	76 - 127
Trichloroethene	50	0.0	52	104	71 - 120
Toluene	50	0.0	54	108	76 - 125
Chlorobenzene	50	0.0	53	106	75 - 130

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

* Values outside of QC limits

~~RPD: 1 out of 5 outside limits~~ N/A (PL) 6/21/02

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

COMMENTS: _____

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK02MS

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3627.D

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/01/02

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
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	56	
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	54	
79-01-6	Trichloroethene	52	
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	54	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	53	
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: URS

Lab Code: 10145 Case No.: R2-12150 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	56	112	61 - 145
Benzene	50	0.0	50	100	76 - 127
Trichloroethene	50	0.0	50	100	71 - 120
Toluene	50	0.0	53	106	76 - 125
Chlorobenzene	50	0.0	52	104	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~~ N/A (PL) 6/21/02

Spike Recovery: ~~1 out of 10 outside limits~~ ∅ out of 5 outside limits

COMMENTS: _____

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK03MS

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3647.D

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

% Moisture: not dec. _____ Date Analyzed: 06/03/02

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
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	56	
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	50	
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	53	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	52	
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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

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

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50	0.0	58	116	61 - 145
Benzene	50	0.0	55	110	76 - 127
Trichloroethene	50	160	220	114	71 - 120
Toluene	50	0.0	55	110	76 - 125
Chlorobenzene	50	0.0	55	110	75 - 130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	58	116	0	14	61 - 145
Benzene	50	54	108	2	11	76 - 127
Trichloroethene	50	210	100	18 *	14	71 - 120
Toluene	50	55	110	0	13	76 - 125
Chlorobenzene	50	54	108	2	13	75 - 130

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

* Values outside of QC limits

RPD: 1 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-5DMS

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555759 1.0 MS

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3606.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	58	
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	4	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	55	
79-01-6	Trichloroethene	220	E
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
124-48-1	Dibromochloromethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
108-88-3	Toluene	55	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	55	
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

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

MW-5DMSD

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Matrix: (soil/water) WATER Lab Sample ID: 555759 1.0 MS

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3607.D

Level: (low/med) LOW Date Received: 05/24/02

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	58	
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	4	J
56-23-5	Carbon tetrachloride	10	U
71-43-2	Benzene	54	
79-01-6	Trichloroethene	210	E
78-87-5	1,2-Dichloropropane	10	U
75-27-4	Bromodichloromethane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
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	55	
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
108-90-7	Chlorobenzene	54	
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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Lab File ID: I3603.D Lab Sample ID: VBLK01

Date Analyzed: 05/31/02 Time Analyzed: 11:58

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	VBLK01MS	I3604.D	12:38
02	MW-5D	555759 1.0	I3605.D	13:24
03	MW-5DMS	555759 1.0 MS	I3606.D	14:04
04	MW-5DMSD	555759 1.0 MSD	I3607.D	14:39
05	MW-1	555753 1.0	I3613.D	18:14
06	MW-3	555755 1.0	I3614.D	18:49
07	MW-6S	555760 1.0	I3615.D	19:23
08	MW-6D	555771 1.0	I3616.D	19:57
09	MW-7S	555773 1.0	I3617.D	20:32
10	MW-7D	555774 1.0	I3618.D	21:06
11	MW-9S	555776 1.0	I3619.D	21:41
12	MW-9D	555777 1.0	I3620.D	22:15

COMMENTS

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK01

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3603.D

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

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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
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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3603.D

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

% Moisture: not dec. _____ Date Analyzed: 05/31/02

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

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLK02

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: SDG No.: MW-1

Lab File ID: I3626.D Lab Sample ID: VBLK02

Date Analyzed: 06/01/02 Time Analyzed: 10:44

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	VBLK02MS	I3627.D	11:22
02	MW-10S	555778 1.0	I3628.D	11:59
03	MW-13D	555779 1.0	I3629.D	12:33
04	MW-11D	555780 1.0	I3630.D	13:08
05	MW-2S	555754 1.0	I3632.D	14:17
06	MW-4	555756 1.0	I3633.D	14:51
07	MW-4 DUP	555757 1.0	I3634.D	15:25
08	MW-5S	555758 1.0	I3635.D	16:00
09	RW-02	555784 1.0	I3636.D	16:34
10	RW-03	555787 1.0	I3638.D	17:43
11	TRIP BLANK	555791 1.0	I3640.D	18:52

COMMENTS

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK02

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3626.D

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

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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
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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3626.D

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

% Moisture: not dec. _____ Date Analyzed: 06/01/02

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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Lab File ID: I3646.D Lab Sample ID: VBLK03

Date Analyzed: 06/03/02 Time Analyzed: 11:18

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	VBLK03MS	I3647.D	12:22
02	RW-01	555783 1.0	I3648.D	13:00
03	RW-04	555789 2.0	I3649.D	13:45
04	RW-04DL	555789 5.0	I3650.D	14:29
05	MW-10D	556267 1.0	I3651.D	15:08
06	COOLER BLK	556268 1.0	I3653.D	16:38

COMMENTS

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK03

Lab Name: CAS/ROCH Contract: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3646.D

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

% Moisture: not dec. _____ Date Analyzed: 06/03/02

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
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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

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

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: I3646.D

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

% Moisture: not dec. _____ Date Analyzed: 06/03/02

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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Lab File ID (Standard): I3602.D Date Analyzed: 05/31/02

Instrument ID: GCMS#1 Time Analyzed: 11:12

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

		IS1 AREA #	IS1 RT #	IS2 AREA #	IS2 RT #	IS3 AREA #	IS3 RT #
	12 HOUR ST	192212	12.62	833244	14.69	680429	21.82
	LOWER LIMIT	96106	12.12	416622	14.19	340215	21.32
	UPPER LIMIT	384424	13.12	1666488	15.19	1360858	22.32
	EPA SAMPLE NO.						
01	VBLK01	196001	12.61	852354	14.68	682966	21.80
02	VBLK01MS	190448	12.62	848976	14.67	673734	21.81
03	MW-5D	182121	12.63	824875	14.69	654187	21.81
04	MW-5DMS	181446	12.63	840704	14.70	684362	21.81
05	MW-5DMSD	182062	12.60	839475	14.65	655827	21.78
06	MW-1	184313	12.62	816681	14.69	643534	21.81
07	MW-3	183093	12.62	809413	14.69	641327	21.83
08	MW-6S	177267	12.62	777299	14.69	625590	21.83
09	MW-6D	178423	12.62	798239	14.68	636496	21.82
10	MW-7S	177014	12.62	785409	14.69	625798	21.81
11	MW-7D	179071	12.62	788872	14.69	626979	21.81
12	MW-9S	180611	12.62	785033	14.69	627450	21.81
13	MW-9D	176496	12.62	788005	14.69	626317	21.81

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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Lab File ID (Standard): I3625.D Date Analyzed: 06/01/02

Instrument ID: GCMS#1 Time Analyzed: 10:04

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	196355	12.63	837436	14.71	685073	21.83
	LOWER LIMIT	98178	12.13	418718	14.21	342537	21.33
	UPPER LIMIT	392710	13.13	1674872	15.21	1370146	22.33
	EPA SAMPLE NO.						
01	VBLK02	195423	12.62	868728	14.69	687261	21.81
02	VBLK02MS	188283	12.62	845542	14.68	669809	21.81
03	MW-10S	188349	12.63	846703	14.69	667437	21.83
04	MW-13D	180883	12.62	812499	14.69	643774	21.82
05	MW-11D	184965	12.62	811313	14.69	647805	21.83
06	MW-2S	181233	12.63	814522	14.71	642391	21.83
07	MW-4	180110	12.64	811380	14.69	642614	21.83
08	MW-4 DUP	179714	12.63	801173	14.71	628552	21.83
09	MW-5S	176819	12.63	788012	14.70	624141	21.83
10	RW-02	176727	12.63	791579	14.70	624750	21.83
11	RW-03	175911	12.63	779732	14.70	623341	21.83
12	TRIP BLANK	178136	12.64	800898	14.71	634973	21.83

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: URS

Lab Code: 10145 Case No.: R2-12150 SAS No.: _____ SDG No.: MW-1

Lab File ID (Standard): I3645.D Date Analyzed: 06/03/02

Instrument ID: GCMS#1 Time Analyzed: 10:34

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	202859	12.63	855561	14.69	706797	21.79
	LOWER LIMIT	101430	12.13	427781	14.19	353399	21.29
	UPPER LIMIT	405718	13.13	1711122	15.19	1413594	22.29
	EPA SAMPLE NO.						
01	VBLK03	206039	12.59	915410	14.66	732707	21.78
02	VBLK03MS	197077	12.65	889081	14.71	701811	21.83
03	RW-01	198130	12.60	888686	14.67	708183	21.79
04	RW-04	199123	12.61	888548	14.68	705035	21.78
05	RW-04DL	195441	12.62	868822	14.68	698989	21.80
06	MW-10D	186068	12.60	860264	14.66	681350	21.78
07	COOLER BLK	189043	12.60	847291	14.67	680807	21.79

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

Appendix C
Analytical Data Validation

APPENDIX C
ANALYTICAL DATA VALIDATION

GRIFFIN TECHNOLOGY SITE

SYSTEM OPERATION
ANNUAL GROUNDWATER SAMPLING

MAY 2002

INTRODUCTION

This appendix presents the findings of a validation of analytical data for samples collected in May 2002 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. Twenty 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:

Volatile Organic Compounds

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

- Field duplicate results
- Compound identification and quantitation
- Overall assessment of data

The following sections present the data validation.

SIGNIFICANT PROBLEMS IDENTIFIED IN CASE NARRATIVE

The laboratory experienced a compressor leak in the sample storage area where the project samples were held prior to analysis. The leak resulted in low-level contamination of most of the samples and both trip blanks with Freon compounds, which were detected and reported as tentatively identified compounds (TICs). The laboratory stated in the narrative that these TICs "should be considered laboratory contamination". The contamination is discussed further under *TRIP BLANK SAMPLES*, below.

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 dilutions for VOCs.

- For the initial VOC analysis of sample RW-04 analyzed at a dilution factor of 2, the corresponding TCE concentration exceeded the instrument's linear calibration range and the sample was reanalyzed at a dilution factor of 5. For this sample, the TCE concentration reported from the diluted analysis (490 µg/L) is considered to be more representative of the sample's concentration and was transcribed onto the data summary table, along with a "D" qualifier, indicating that the compound was detected.

SAMPLE HOLDING TIMES

The VOC holding time criterion established in the QAPP is seven days from receipt at the laboratory to analysis. Nine samples and the MS/MSD were analyzed within this time period. Eight additional samples, the field duplicate, and the Trip Blank were analyzed on the eighth day after receipt, and the last three samples and the Cooler Blank were analyzed on the tenth

day. Although the analyses of 11 primary samples were performed beyond the *contractual* holding time of seven days, they were well within the *technical* holding time of 14 days after collection for preserved water samples. Since the laboratory documented that all samples were adequately preserved (pH<2 at the time of analysis), no qualifications were deemed necessary.

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 that the instruments are capable of producing acceptable qualitative and quantitative data for VOCs. All initial and continuing calibrations were performed at the required frequency.

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

All VOC continuing calibration RRF values met the acceptance criterion presented in the "Guidelines". Two VOC continuing calibration analyses yielded a percent difference (%D) value for acetone above the "Guidelines" acceptance criterion of 25 percent (specifically, 29.9% and 40.7%). The non-detected acetone results in all associated samples were qualified as estimated ("UJ"), in accordance with the "Guidelines".

Associated Groundwater Samples: MW-2S, MW-4, MW-4 (Dup), MW-5S, MW-10D, MW-10S, MW-11D, MW-13D, RW-01, RW-02, RW-03, RW-04, Trip Blank, and Cooler Blank.

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 samples, identified as "Trip Blank" and "Cooler Blank", were submitted with the cooler containing aqueous samples for VOC analyses.

Two unknown Freon compounds were detected as TICs in both trip blanks at concentrations ranging from 8 J to 15 J µg/L, due to laboratory contamination. All Freon TICs at the same retention times in the associated samples were therefore negated (lined through and flagged "R" on the Form 1E's).

Associated Groundwater Samples: All samples except MW-5D, MW-10S, MW-13D, RW-02, and RW-04.

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-5D 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 and precision were 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 "Volatile Internal Standard Area and RT Summary" forms (Form 8A) 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-4 and MW-4 (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. The Tentatively Identified Compounds (TICs) detected in the samples were confirmed, but were all determined to be attributable to contamination during sample storage..

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 non-detected results for acetone in eleven primary samples, the field duplicate, and the trip blanks were qualified as estimated ("UJ") due to outlying continuing calibration %Ds.
- The unknown Freon compounds detected as TICs in all but five samples were negated due to the presence of the same TICs in both trip blanks (explained in the narrative as laboratory contamination).

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