# 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

800 West St. Clair Avenue Suite 500 Cleveland, Ohio 44113-1232 216-622-2400 Project No. 13807296.00000 RECEIVED

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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:

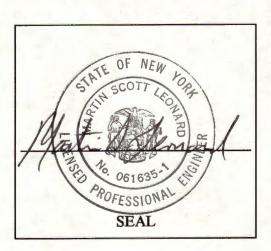
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SECTIONONE Introduction

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<sup>®</sup> "Load-Sensor" type controller to automate the operation of the pump. The controllers are currently operating on 4-minute reset time intervals.

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

The extracted groundwater flows from the manifold and header in the Central Access Vault through a force main pipe and into a sanitary sewer where it 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.

**SECTIONTWO** 

# 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).

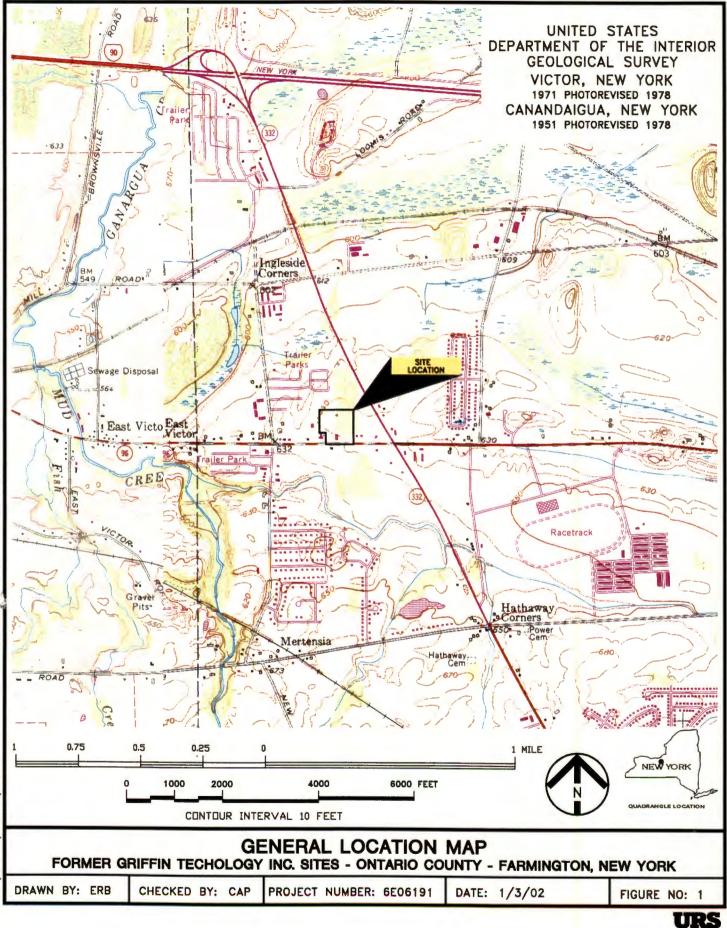
# 3.4 SYSTEM MAINTENANCE

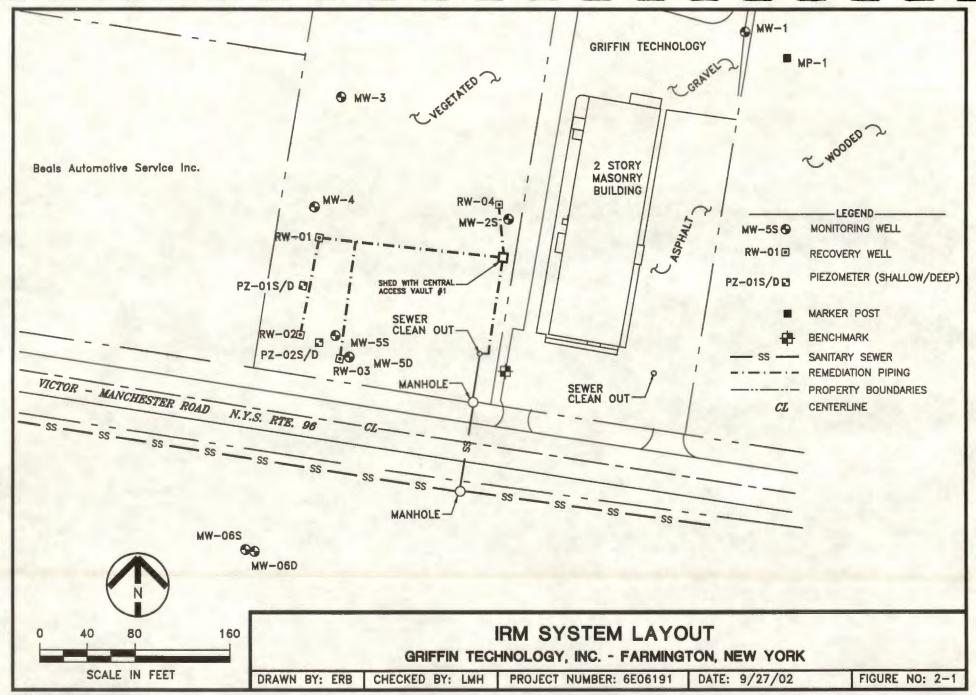
The recovery system is relatively simple, with the ultimate treatment provided by the local POTW. During the May 2002 annual monitoring event, URS personnel performed amperage tests on each recovery pump to evaluate whether the pumps were drawing excessive amounts of power while running. In general, 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.

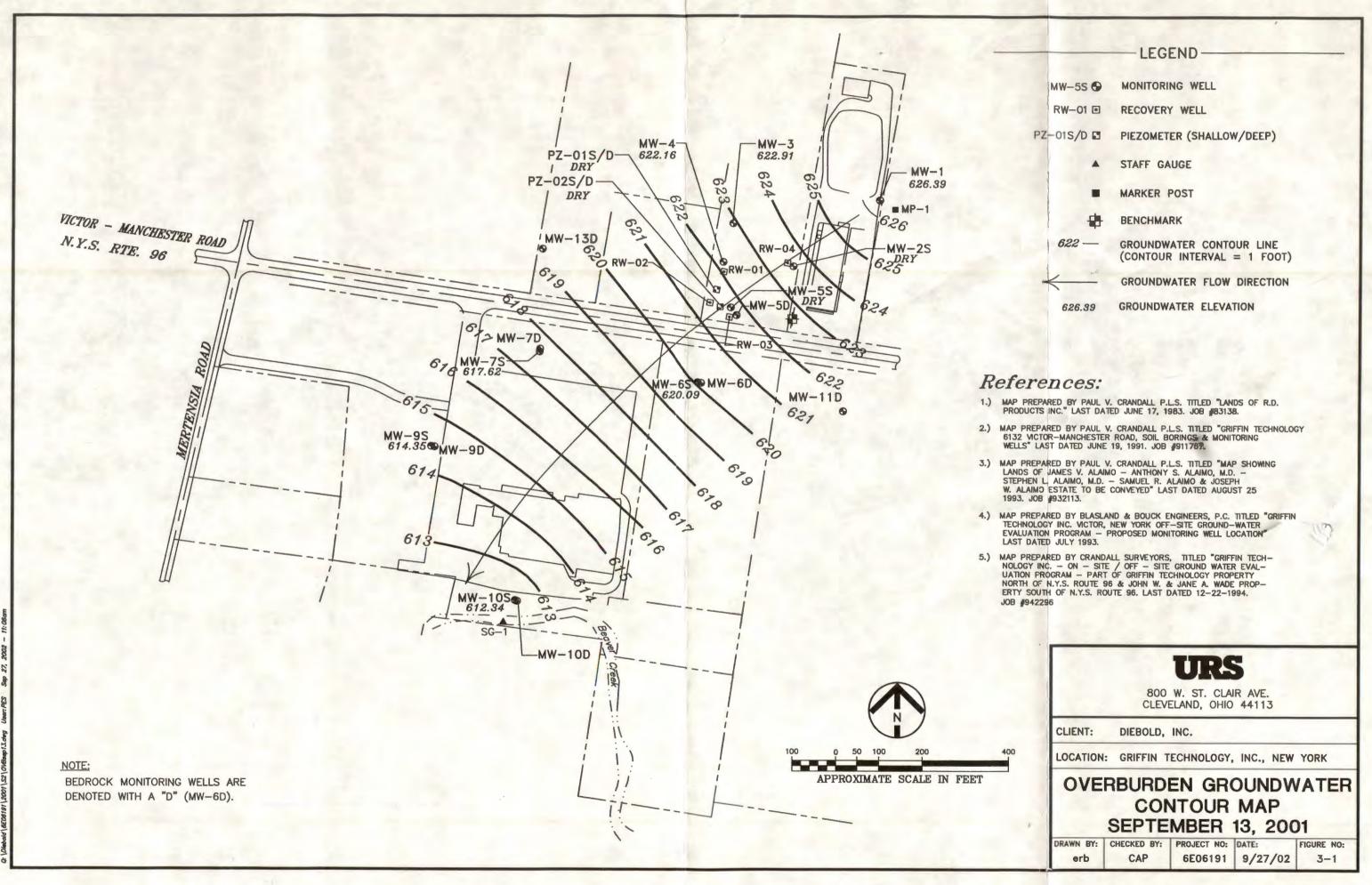
Based on the information collected during the twelve-month period from October 2001 through September 2002, the following summary has been developed regarding environmental conditions at the GTI site:

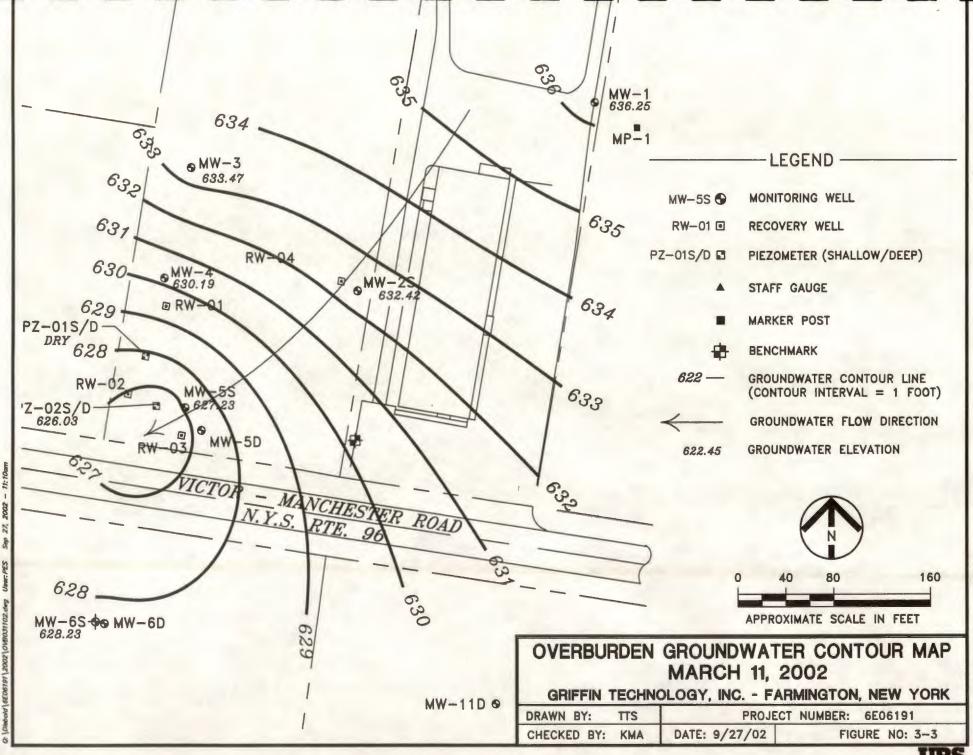
- Groundwater flow in the overburden and bedrock zones at the site is primarily to the southwest corner of the site. This is consistent with previous reports for the GTI site.
- The IRM system continues to influence groundwater flow patterns in the vicinity of the GTI facility. The groundwater elevation 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.

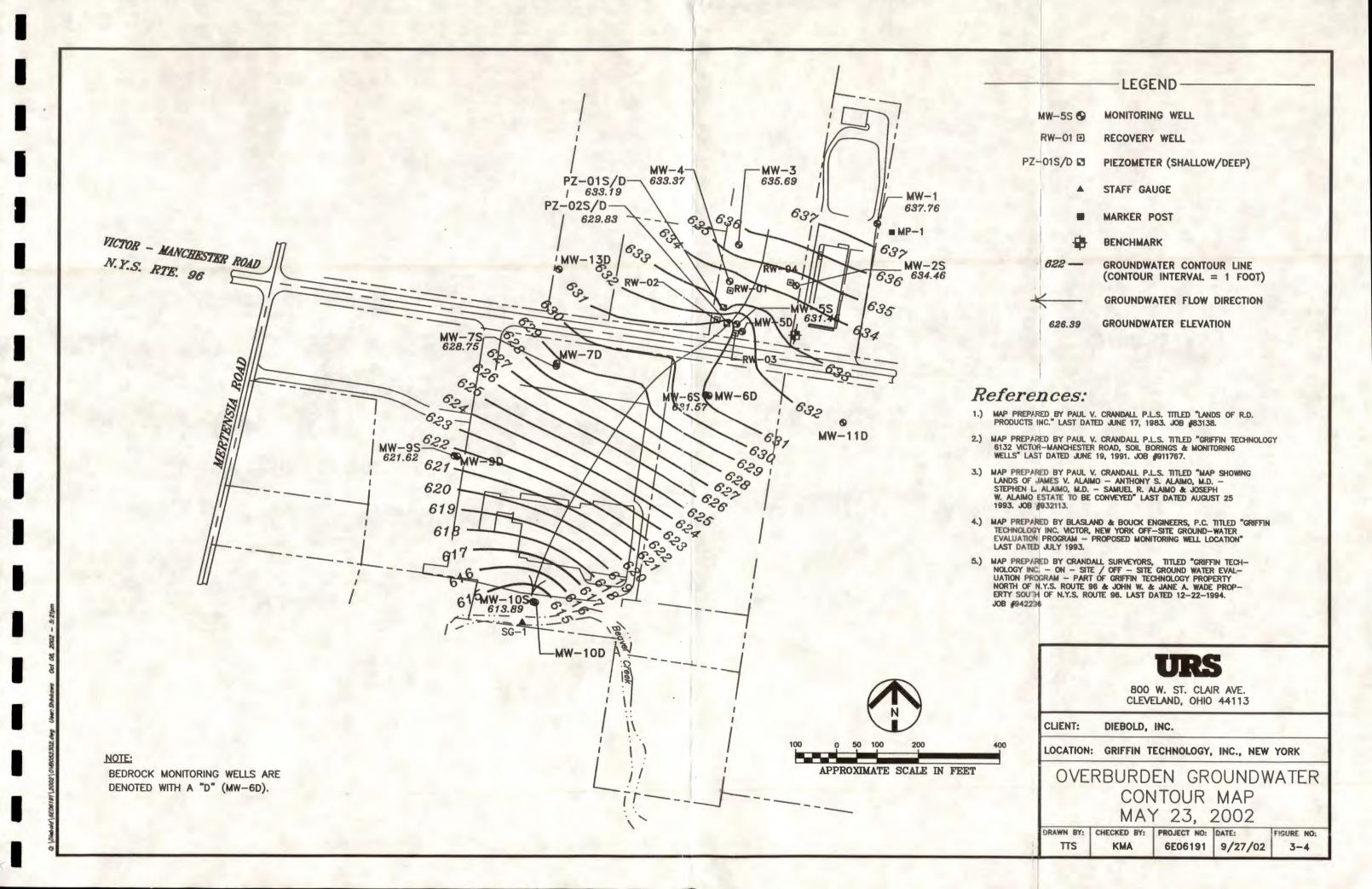
Figures

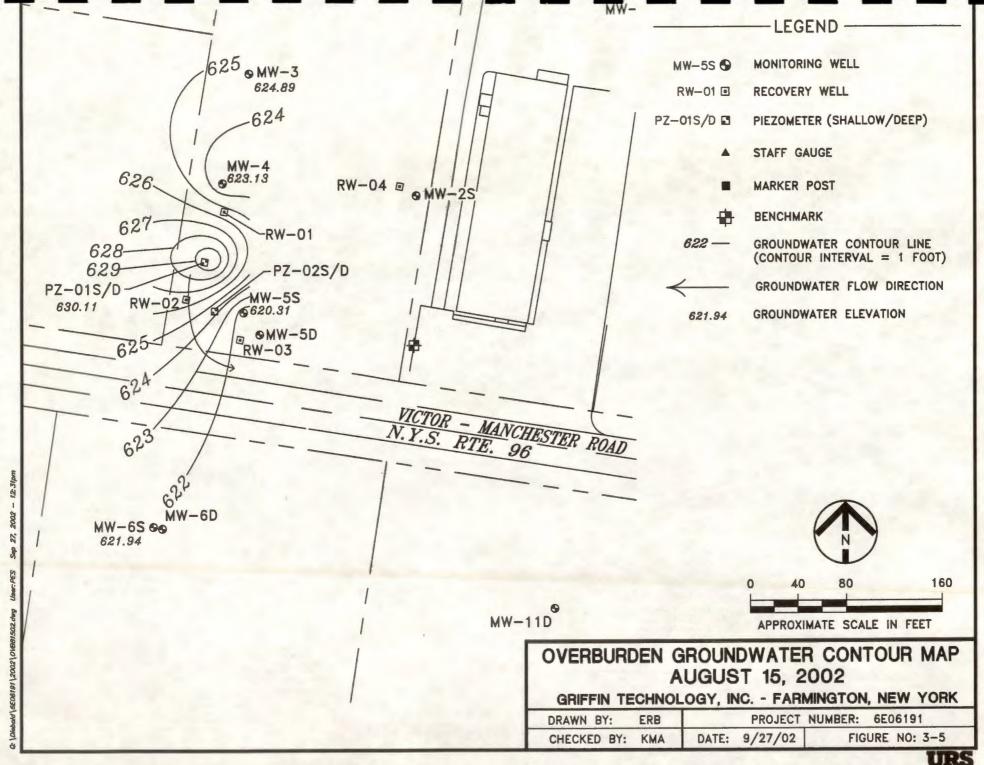


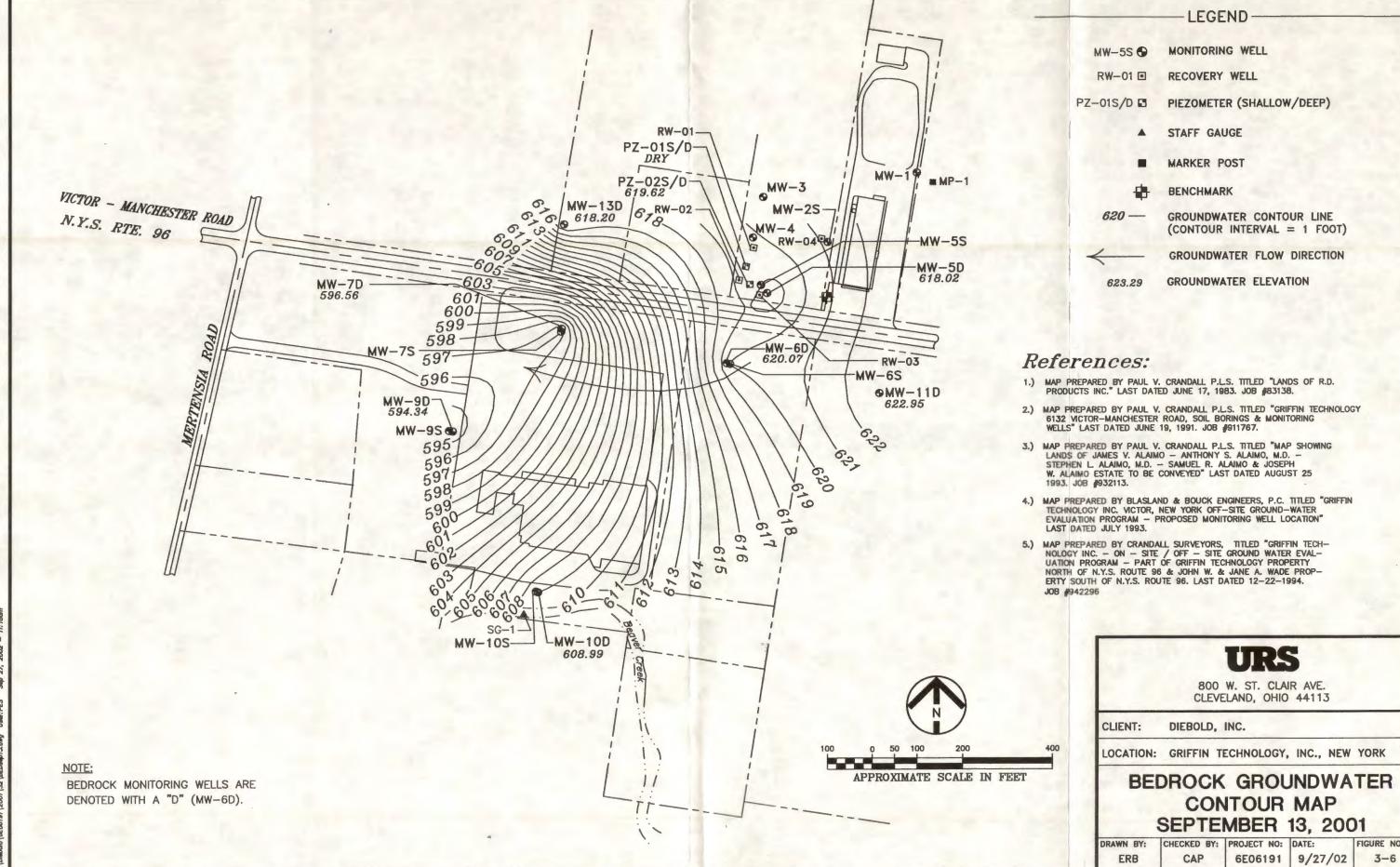


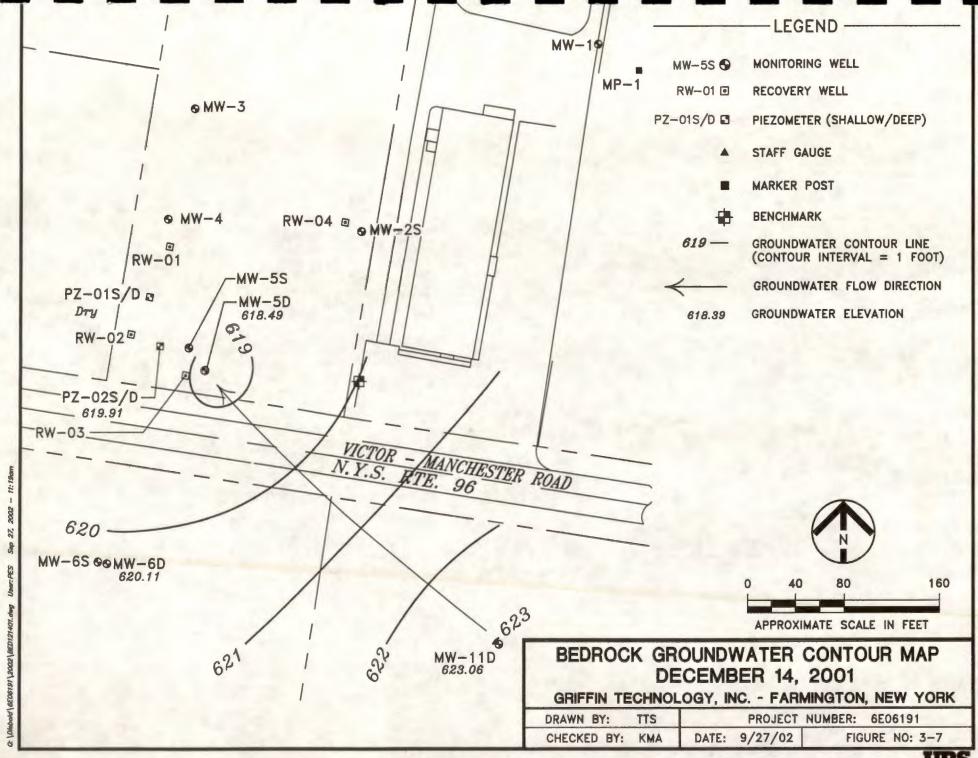


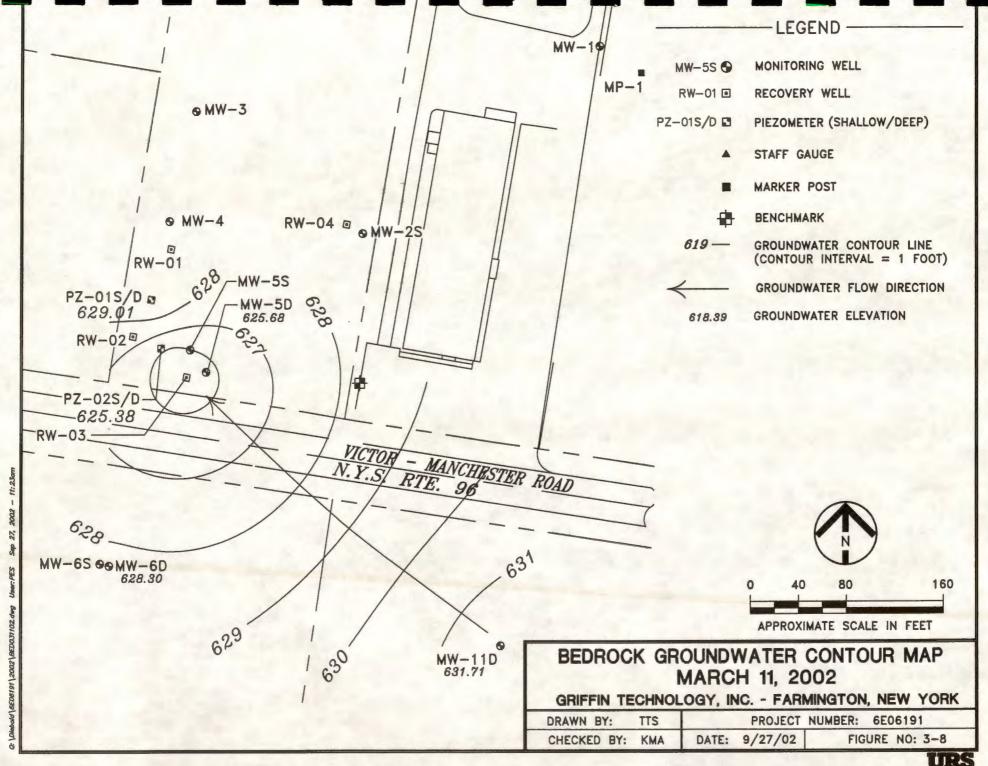


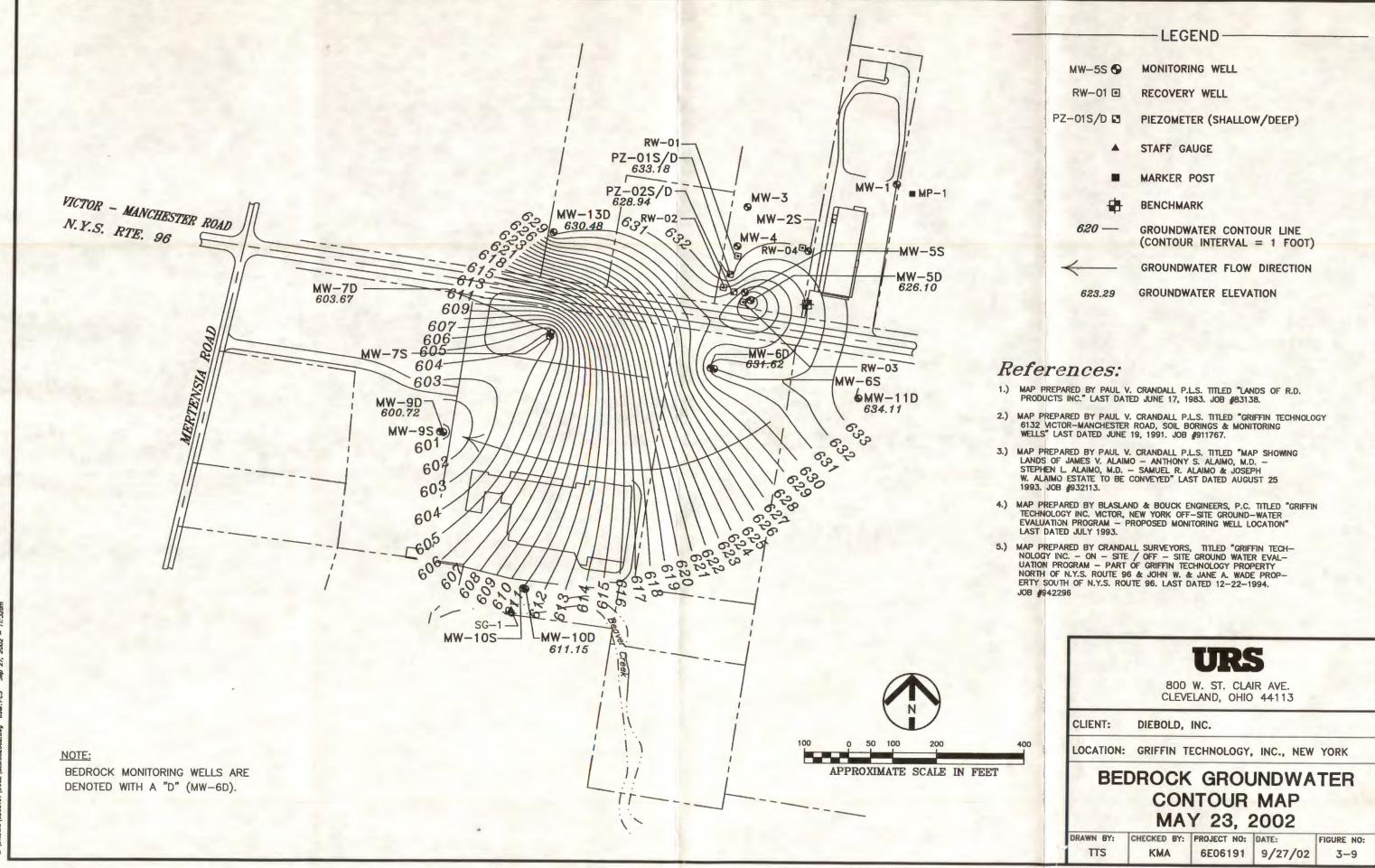




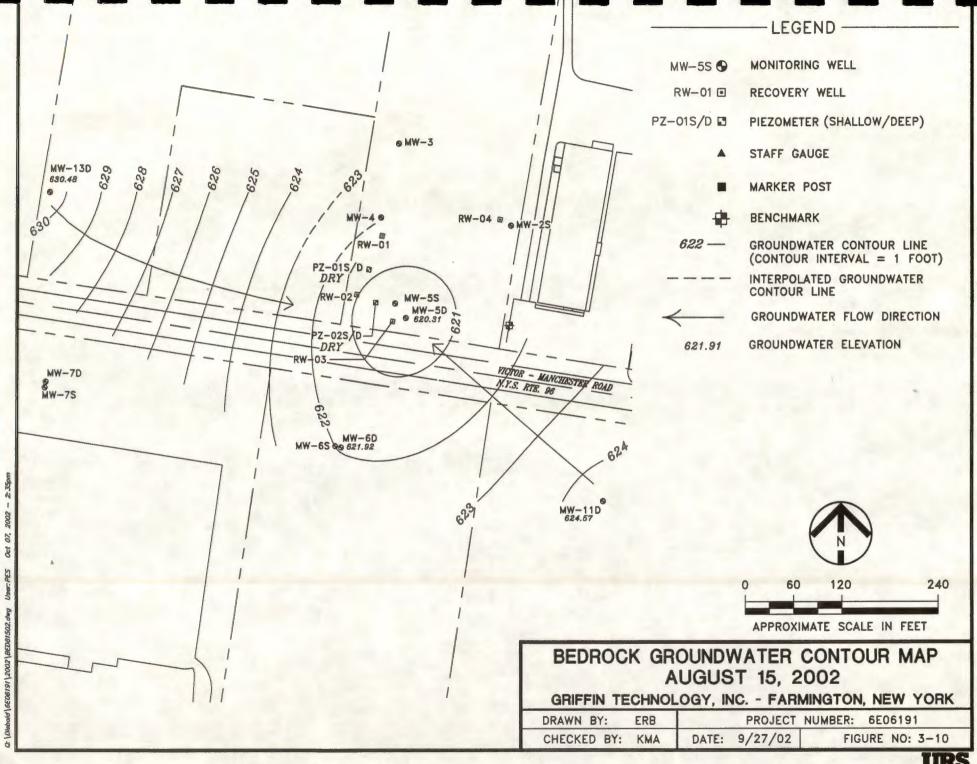








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Tables

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

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

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 w	vell converted to reco	very 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

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

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	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

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

Well	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

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
٠		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

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

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

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

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

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)
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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

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

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

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

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

Well	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

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

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

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

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

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		

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 CHLORIDI
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 w	ell converte	d to recovery	well RW-4.				
MW-03	12/19/1994	190	ND	ND	ND	ND	ND	ND
W-W-03	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

- 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.
- 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	Sample			CIS-			-	VINYL
Well No.	Date	TCE	1,1,1-TCA	1,2-DCE	XYLENES	1,1-DCE	ACETONE	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-058	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
11211 0020	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
Pohitons	05/24/2002	160	4	ND	ND	ND	ND	ND

- 1. 12/19/94 data collected by Blasland, Bouck & Lec.
- 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
MW-06S	12/19/1994	270	7.8	ND	ND	ND	ND	ND
WW-005	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

- 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.
- 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
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 Well abandoned.	29	ND	ND	ND	ND	ND	ND
MW-08D	12/19/1994 Well abandoned.	55	ND	ND	ND	ND	ND	ND
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

- 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.
- 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
MW-10S	12/19/1994	7.8	ND	ND	ND	ND	ND	ND
11211 200	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
MW-IOD	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
			ND	ND	ND	ND	ND	ND
	09/02/1998	9		ND	ND	ND	ND	ND
	03/18/1999	ND	ND		ND	ND	ND	ND
	09/02/1999	7	ND	ND		ND	ND	ND
	03/28/2000	3	ND	ND	ND		ND	ND
	09/08/2000	6	ND	ND	ND	ND	ND	ND
	03/08/2001	5	ND	ND	ND	ND		
	09/13/2001	6	ND	ND ND	ND ND	ND ND	ND ND	ND ND
	05/24/2002	4	ND					
MW-11D	04/11/1996	ND	ND	ND	ND	ND	ND	ND ND
	05/21/1996	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

- 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.
- 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 dischar	ge.		
	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 dischar	ge.		
	05/24/2002	490	11	6	ND	ND	ND	ND	

- 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.
- 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.

Recovery Well Effluent Analytical Results



, 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

Market Wa

Enc.



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 \_\_\_\_\_ 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. Muchael Lenny



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2109136

Lab ID

502540

Client ID

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.



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



## COLUMBIA ANALYTICAL SER CES

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

ANALYTE	PQL	RESULT	UNITS	
DATE ANALYZED : 10/26/	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	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	8	
DIBROMOFLUOROMETHANE	(86 - 117 %)	97	8	

## COLUMBIA ANALYTICAL SER SES

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

Project Reference:

Client Sample ID : METHOD BLANK .

Date Sampled : Date Received: Subm	Order #: 506470 ission #:	Sample Matrix: Analytical Run	
ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 10/25/0	1		
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
FETRACHLOROETHENE	5.0	5.0 U	UG/L
POLUENE	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
D-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	96
DIBROMOFLUOROMETHANE	(86 - 117 %)	93	9



(716) 288-5380 • FAX (716) 288-8475

# St., Saint 50, Parinter, Nation 09-68 CHAIN OF CUCTORY ARCRATORY AMALYONS FERUMENT FORM

DATE 10-19-01 PAGE 1 OF PROJECT NAME Griffin IRM **ANALYSIS REQUESTED** PROJECT MANAGER/CONTACT Ken Amstrong TCLP DMETALS

OVOA'S DSVOA'S DH/P

WASTE CHARACTERIZATION

DReact Corros. Dignit.

METALS, TOTAL

(LIST BELOW) **PRESERVATION** □ 95-1 COMPANY/ADDRESS 634 St. Clair Cleveland, Ohio 44113 CONTAINERS METALS, DISSOLVED (LIST BELOW) GC/MS VOA's GC/MS SVOA's ☐ 8270 ☐ 625 TEL (216) 622-2400 FAX (216) 241-9083 SAMPLER'S SIGNATURE Bot Fobian 2.0 Other FOR OFFICE USE ONLY SAMPLE SAMPLE I.D. DATE TIME 표 표 LAB I.D. MATRIX EFF-10-19-01 10-19-01 11:58 2 X WATER TURNAROUND REQUIREMENTS REPORT REQUIREMENTS INVOICE INFORMATION: SAMPLE RECEIPT: Bab Falcan Signature Bak Fabian \_\_\_ 1. Routine Report \_\_\_ 24 hr. \_\_\_ 48 hr. \_\_\_ 5 day 2. Routine Rep. w/CASE P.O. #: \_\_\_ Standard (10-15 working days) Narrative 3. EPA Level III \_\_\_ Provide Verbal Preliminary Results 0/13/01 Validatable Package 12:70 \_\_ Provide FAX Preliminary Results 4. N.J. Reduced Deliverables Level IV RELINQUISHED BY: RECEIVED BY: Requested Report Date \_\_\_ 5. NY ASP/CLP Deliverables 6. Site specific QC. Signature Hypipuleson Signature SPECIAL INSTRUCTIONS/COMMENTS: Printed Name Gregory &. Esmerian CA3 **METALS** Date/Time Date/Time 10-/9-01 12:85 ORGANICS: TCL PPL AE Only BN Only Special List RELINQUISHED BY: RECEIVED BY: Signalure Signature Printell Name Printed Name Date/Time Date/Time

# Cooler Receipt And Preservation Check Form

Cooler received on O-Q-O by. AC COURIER: CAS UPS FEDEX CD&L CD.  Were custody spapers properly filled out (ink, signed, etc.)?  Were custody papers properly filled out (ink, signed, etc.)?  Did all bottles arrive in good condition (unbroken)?  Did any VOA vials have significant air bubbles?  Were co or Ice packs present?  Where Go or Ice packs present?  Temperature of cooler(s) upon receipt:  Is the temperature within 0°-6° Cf:  If No, Explain Below  Date/Time Temperatures Taken:  Date/Time Temperatures Taken:  Temp Blank Sample Bottle  Cooler Temp. IR Gun  fout of Temperature, Client Approval to Run Samples  Were all bottle labels complete (i.e. arlalysis; preservation, etc.)?  Were all bottle labels and tags agree with custody papers?  Were correct containers used for the tests indicated?  Air Samples: Cassettes / Tubes Intact  Canisters Pressurized  YES NO  Sample ID. Reagent  YES NO  Tedlar® Bags Inflated  Residual Chlorine (4+) for TCN& Phonol  Separation of the control of the	Project/Client		h	) c c	-4 s	Submission Numb	per 9136
Were custody papers properly filled out (ink, signed, etc.)? Did all bottles arrive in good condition (unbroken)? Did any VOA vials have significant air bubbles? Were Ice or Ice packs present? Where did the bottles originate? Temperature of cooler(s) upon receipt:  Is the temperature within 0°-6° C?: Yes   Yes	Cooler received on_	10-19-0) by:	38		COURIER: CA	AS UPS FE	DEX CD&L CLIEN
If No, Explain Below Date/Time Temperatures Taken:  Thermometer ID: INGUN Temp Blank Sample Bottle Cooler Temp. IR Gun  Tout of Temperature, Client Approval to Run Samples  Cooler Breakdown: Date:  Were all bottle labels complete (i.e. arialysis, preservation, etc.)?  Did all bottle labels and tags agree with custody papers?  Were correct containers used for the tests indicated?  Air Samples: Cassettes / Tubes Intact Canisters Pressurized  Tedlar® Bags Inflated  Temp Blank Sample Bottle Cooler Temp. IR Gun  by:  WES NO TES NO Tedlar® Bags Inflated  Temp Blank Samples Intact  Temp Blank Sample Bottle Cooler Temp.  Temp Blank Sample Bottle Temp.  Temp Blank Sampl	Were custoo Did all bottle Did any VO Were Ice or Where did the	dy papers properly es arrive in good c A vials have signifulate packs present the bottles originate.	filled of ondition icant aid?	ut (ink n (unbi r bubbl	roken)? es? _4hour!	Rule Y	ES NO ES NO N/A ES NO
Thermometer ID: Illow Temp Blank Sample Bottle Cooler Temp. IR. Gun  out of Temperature, Client Approval to Run Samples  cooler Breakdown: Date:	Is the temperat	ture within 0° - 6° C?			Yes 🗆 Yes	O Yes O	Yes 🗆 Yes 🗆
Cooler Breakdown: Date:			en:	10-1	No \$ No 1	3:00	No 🗆 No 🗆
Cooler Breakdown: Date:	Thermomete	er ID: Ikbun	1	emp E	Blank Sample	Bottle Cooler	Temp. IR Gun
Cooler Breakdown: Date:	fout of Temperature	Client Announl t	o Dun C	amplac			
Were all bottle labels complete (i.e. analysis, preservation, etc.)?  Did all bottle labels and tags agree with custody papers?  Were correct containers used for the tests indicated?  Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated xplain any discrepancies:  YES NO Sample ID. Reagent Vol. Added  pH Reagent  12 NaOH  2 HNO3  2 HNO3  2 HNO4  Residual Chlorine (H/-) for TCN & Phenol  5-9° P/PCBs (608 only)  SS = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH  PH adjustment is required, use NaOH and/or H <sub>2</sub> SO <sub>4</sub> VOC Vial pH Verification (Tested after Analysis) Following Samples	out of Tembersture	- Cheut Approval to		1	1		1
pH Reagent  12 NaOH  2 HNO <sub>3</sub> 2 H <sub>2</sub> SO <sub>4</sub> Residual Chlorine (+t-) for TCN & Phenol  5-9° P/PCBs (608 only)  ES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH  FpH adjustment is required, use NaOH and/or H <sub>2</sub> SO <sub>4</sub> VOC Vial pH Verification (Tested after Analysis) Following Samples	-				· · · · · · · · · · · · · · · · · · ·		
12 NaOH  2 HNO <sub>3</sub> 2 H <sub>2</sub> SO <sub>4</sub> Residual Chlorine (+/-) for TCN & Phenol  5-9* P/PCBs (608 only)  S = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH  pH adjustment is required, use NaOH and/or H <sub>2</sub> SO <sub>4</sub> VOC Vial pH Verification (Tested after Analysis) Following Samples		_	YES	NO	Sample LD.	Reagent	Vol. Added
2 HNO <sub>3</sub> 2 H <sub>2</sub> SO <sub>4</sub> Residual Chlorine (+/-) for TCN & Phenol  5-9* P/PCBs (608 only)  ES = All samples OK NO = Samples were preserved at lab as listed  PC OK to adjust pH  VOC Vial pH Verification (Tested after Analysis) Following Samples			-		`		* 50 1
2 H <sub>2</sub> SO <sub>4</sub> Residual Chlorine (+/-) for TCN & Phenol  5-9* P/PCBs (608 only)  ES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH  FpH adjustment is required, use NaOH and/or H <sub>2</sub> SO <sub>4</sub> VOC Vial pH Verification (Tested after Analysis) Following Samples	· 12				·		
Residual Chlorine (+/-) for TCN & Phenol  5-9  P/PCBs (608 only)  S = All samples OK  NO = Samples were preserved at lab as listed  PC OK to adjust pH  PH adjustment is required, use NaOH and/or H <sub>2</sub> SO <sub>4</sub> VOC Vial pH Verification  (Tested after Analysis)  Following Samples							
5-9° P/PCBs (608 only)  ES = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH  TPH adjustment is required, use NaOH and/or H <sub>2</sub> SO <sub>4</sub> VOC Vial pH Verification (Tested after Analysis) Following Samples	2	H <sub>2</sub> SO <sub>4</sub>					
S = All samples OK NO = Samples were preserved at lab as listed PC OK to adjust pH  pH adjustment is required, use NaOH and/or HrSO4  VOC Vial pH Verification  (Tested after Analysis)  Following Samples	Residual Chlorine (+/-)	for TCN & Phenol					
pH adjustment is required, use NaOH and/or H <sub>2</sub> SO <sub>4</sub> VOC Vial pH Verification  (Tested after Analysis)  Following Samples	5-9*	P/PCBs (608 only)					
VOC Vial pH Verification (Tested after Analysis) Following Samples		NO = Sam	ples were	preserv	ed at lab as listed	PC OK to adju	est pH
	VO (1	C Vial pH Verification Tested after Analysis) Following Samples					

Other Comments:



#### 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

#### 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  $\frac{g'}{g}$  pages

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

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

01



#### 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.



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



## COLUMBIA ANALYTICAL SI ICES

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 : 12/04/0:	L		
	.00		
ACETONE	20	20 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
,1-DICHLOROETHANE	5.0	5.0 U	UG/L
,2-DICHLOROETHANE	5.0	5.0 U	UG/L
,1-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
,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
-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
COLUENE	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
D-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
-BROMOFLUOROBENZENE	(87 - 111 %)	103	8
TOLUENE-D8	(87 - 108 %)	101	8
DIBROMOFLUOROMETHANE	(86 - 117 %)	109	8

## COLUMBIA ANALYTICAL SI ICES

### 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 : 12/06/03			
	.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	
FRANS-1,2-DICHLOROETHENE	5.0	10 U	UG/L UG/L
1,2-DICHLOROPROPANE	5.0		•
CIS-1,3-DICHLOROPROPENE		10 U	UG/L
FRANS-1,3-DICHLOROPROPENE	5.0 5.0	10 U	UG/L
ETHYLBENZENE		10 U	UG/L
2-HEXANONE	5.0	10 U	UG/L
METHYLENE CHLORIDE	10	20 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	5.0	10 U	UG/L
STYRENE	10	20 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	10 U	UG/L
TETRACHLOROETHENE	5.0	10 U	UG/L
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
FRICHLOROETHENE	5.0	10 U	UG/L
VINYL CHLORIDE	5.0	260	UG/L
O-XYLENE	5.0	10 U	UG/L
M+P-XYLENE	5.0	10 U	UG/L
THE ATTIONS	5.0	10 U	UG/L
SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(87 - 111 %)	102	8
TOLUENE-D8	(87 - 108 %)	107	of the state of th
DIBROMOFLUOROMETHANE	(86 - 117 %)	102	%

## COLUMBIA ANALYTICAL SI

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

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received: Sub	Order #: 518357	Sample Matrix: Analytical Run	
ANALYTE	PQL .	RESULT	UNITS
DATE ANALYZED : 12/04/			
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	90
DIBROMOFLUOROMETHANE	(86 - 117 %)	106	96

## COLUMBIA ANALYTICAL SI

## VOLATILE URGANICS METHOD 8260B TCL Reported: 12/17/01

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received: Sub	Order #: 518344 mission #:	Sample Matrix: WATER Analytical Run 72585		
ANALYTE	PQL	RESULT	UNITS	
DATE ANALYZED : 12/06/ ANALYTICAL DILUTION:	01 1.00			
ANABITICAL DILOTION:	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				
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L	
	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	96	
TOLUENE-D8	(87 - 108 %)	104	્રે ફ	
DIBROMOFLUOROMETHANE	(86 - 117 %)	103	e	



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

SF	-	1
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CAS Contact	,	ı

•	SF		7
		à	1
	CAS Contact	,	

Project Name  Criffin TRM  Project Manager	Project Number 38 06 E	0619	1,03					ANALY	SIS RE	QUES	TED (I	nclud	e Meth	od Nu	ımber	and C	Contai	ner Pro	servat	ive)			-
Project Manager	Report CC	011			PRE	SERVATI			T										,				
Company/Address Ken Atms	strong						-	-	)	2/		4.	-	> /			C.	13	1	-	Preserv	ative Ke	ey
URS					HS		/	/ /	//	180	2 /5	5	H D	0 2	2/	2	9	The state of the s	_/	/	0. NOI	NE	
634 St. Cleveland	Clair				NUMBER OF CONTAINERS	Gens Vols	3/	070	200	27.0	1500	10	EAIL	0	LA Pelo	The second of th	Y.	The Tare		/	2. HNO	vative Ke NE 03 604 OH Acetate OH 4SO4	-
Clausland	Ohio 44113	3			CON	/.00	4 4 0	0/2	000	200	1000	LON TO	PACY S	PAL Jente	580	9	7 0	Y	/		5. Zn. 6. Me	Acetate OH	
Phone #	FAX#		-6.2		ROF	120	2000	150	SE SE	50/3	30/0	30/2	4000	Selection of the select		M	B	B	/		7. Nat	1504	
Sampler's Signature Bob Vabran	(216)	241-9	083		JMBE	SWS	SWS-	02/20	18 8	48.8	E/3	STE	Pact TAI	14/0	12/1	X2/	1	Y			8. Oth		_
Bob Fabion	Bob Fa	ebian			ž	1000/0	500	00/4	2000	150	20	ZO	MA	N N	3/	/ '	X	7	/ A	LTERNA	EMARKS	S/ CRIPTION	N
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMP	LING	MATRIX											,								)
EFF-11-21-01	~101 61	11-21-01		WATER	2-										X								
	BEETE SE																						
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SPECIAL INSTRUCTIONS/COMMENTS Metals		· · · · · · · · ·							REQUI			)	REPO	ORT RE	QUIRI	EMENT	rs		INV	OICE II	NFORMA	ATION	
									48 hr				,	uits + QC	: Summ	aries		PO					
						_	'X ST							DUP, MS			ed)						- 1
. "						R	EQUESTE	D FAX D	ATE				III. Res	ults + Quaries	C and C	alibratio	n	BILL	.TO:				
						-							_ IV. Data	a Validati	ion Rep	ort with I	Raw Da	ta					
						R	EQUESTE	D REPOR	T DATE				V. Spei	calized F	orms /	Custom	Report						
See QAPP									/			-						SUE	MISSIO	1#:			
SAMPLE RECEIPT: CONDITION/COO RELINQUISHED BY				INQUISHED					EIVED B			-	F	RELINO	UISHE	D BY		+		RECE	EIVED BY	Y	
Rot Folian																							
Signature Bole Fabrica	Signam Cal	Sign	nature			Si	gnature					Signa	ture					Sign	ature				
PAntad Name OD URS	Printed National Colle	Prin	ited Name			Pr	rinted Nam	0				Printe	d Name					Prin	ed Name				
Firm 11-21-01 12:05	Firm B	Firm	n			Fi	rm					Firm					7	Firm					
Date/Time	Dale/Time/2i/or /2	05 Date	e/Time			Di	ate/Time					Date/	Time					Date	/Time				
Distribution: White - Return to Originator; Yellow	110.1																					SCOC-01	101-08

# Columbia Analytical Services Inc. Oler Receipt And Preservation Check

oject/Client	11013	11			Subm	ISSIOII INI	uniber_1	2-9644	
ooler received on_	1/21/01 by: 2	136	C	OURIE	R: CAS	UPS	FEDEX	CD&L	CLIE
Were custod Did all bottle Did any VO Were Ice or Where did th	y seals on outside of y papers properly first arrive in good cor. A vials have significate packs present? The bottles originate? The color(s) upon the seals of cooler(s)	illed ou ndition cant air	t (ink, :	ken)?	tc.)?	e	YES N	IO IO IO N/A	IENT
Is the temperat	ure within 0° - 6° C?:			res 🗆	Yes 🗆	Yes	0	Yes 🗆	Yes 🗆
If No, Explain	Below		1	No 🎾	No 🗆	No	0 1	No 🗆	No 🗆
Date/Time T	emperatures Taker	n:	11/2	21/01			12:	10	
Thermomete	er ID: IVabun	T	emp Bl	lank Sa	ample Bott	le Cod	oler Temp	o. IR	Gun
out of Temperature	, Client Approval to	Run Sa	amples_	,		Λ -			
olos Decaledou	11 0	61				Ale			
Were all both Did all bottle Were correct	Date: \[ \lambda - \frac{1}{2} \\ \text{te labels complete} \] te labels and tags agost containers used for \[ \text{Cassettes} \rangle Tubels \]	(i.e. and ree with or the te	h custo ests ind	dy paper licated?	s?	700	VES VES	NO NO NO	ed Ni
Were all bottle Did all bottle Were correct Air Samples	tle labels complete e labels and tags ago t containers used for assettes / Tube	(i.e. and ree with or the to es Intac	h custo ests ind ct (	dy paper licated? Canisters	ion, etc.)? s? Pressurize	d T	VES VES edlar® B	NO NO ags Inflat	
Were all both Did all both Were correct Air Samples  Explain any discrepa	tle labels complete e labels and tags agret containers used for Cassettes / Tuberncies:	(i.e. and ree with or the te	h custo ests ind	dy paper licated?	ion, etc.)? s? Pressurize	700	VES VES edlar® B	NO	
Were all both Did all bottle Were correct Air Samples splain any discrepa	tle labels complete e labels and tags agret containers used for Cassettes / Tuberncies:	(i.e. and ree with or the to es Intac	h custo ests ind ct (	dy paper licated? Canisters	ion, etc.)? s? Pressurize	d T	VES VES edlar® B	NO NO ags Inflat	
Were all bottle Did all bottle Were correct Air Samples splain any discrepa	tle labels complete e labels and tags agret containers used for Cassettes / Tuberncies:  Reagent  NaOH	(i.e. and ree with or the to es Intac	h custo ests ind ct (	dy paper licated? Canisters	ion, etc.)? s? Pressurize	d T	VES VES edlar® B	NO NO ags Inflat	
Were all both Did all bottle Were correct Air Samples Explain any discrepa  pH  12 2	tle labels complete e labels and tags agret containers used for Cassettes / Tuberncies:  Reagent  NaOH  HNO <sub>3</sub>	(i.e. and ree with or the to es Intac	h custo ests ind ct (	dy paper licated? Canisters	ion, etc.)? s? Pressurize	d T	VES VES edlar® B	NO NO ags Inflat	
Were all both Did all bottle Were correct Air Samples Explain any discrepa  pH  12  2  2	tle labels complete e labels and tags agret containers used for Cassettes / Tuberncies:  Reagent  NaOH  HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub>	(i.e. and ree with or the to es Intac	h custo ests ind ct (	dy paper licated? Canisters	ion, etc.)? s? Pressurize	d T	VES VES edlar® B	NO NO ags Inflat	
Were all both Did all bottle Were correct Air Samples xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-)	tle labels complete e labels and tags agrit containers used for Cassettes / Tuberncies:  Reagent  NaOH  HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol	(i.e. and ree with or the to es Intac	h custo ests ind ct (	dy paper licated? Canisters	ion, etc.)? s? Pressurize	d T	VES VES edlar® B	NO NO ags Inflat	
Were all both Did all bottle Were correct Air Samples xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-) 5-9* ES = All samples OK	tle labels complete e labels and tags agrit containers used for Cassettes / Tubernoies:  Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol P/PCBs (608 only) NO = Sam	(i.e. and ree with or the to es Intace YES	h custo ests ind ct (	dy paper licated? Canisters	ion, etc.)? s? Pressurize	d T	VES VES edlar® B	NO NO ags Inflate Vol. A	
Were all both Did all bottle Were correct Air Samples xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-) 5-9* ES = All samples OK f pH adjustment is requ	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol P/PCBs (608 only)	YES  Apples wer	h custo ests ind ct (	dy paper licated? Canisters	ion, etc.)? s? Pressurize	d T	VES edlar® B	NO NO ags Inflate Vol. A	

Other Comments:



#### 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

#### 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

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

This package has been reviewed by Columbia Analytical Services' QA

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



#### CASE NARRATIVE

This report contains analytical results for the following samples: Submission #: R2109935

Lab ID 518380

Client ID

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.



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



## COLUMBIA ANALYTICAL WICES

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 : 12/24/0	1			
	.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
				UG/L
CHLOROBENZENE		5.0	10 U	
CHLOROETHANE		5.0	10 U	UG/L
CHLOROFORM		5.0	10 U	UG/L
CHLOROMETHANE		5.0	10 U	UG/L
DIBROMOCHLOROMETHANE		5.0	10 U	UG/L
L,1-DICHLOROETHANE		5.0	10 U	UG/L
L, 2-DICHLOROETHANE		5.0	10 U	UG/L
L,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
FOLUENE		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			10 U	UG/L
		5.0		
M+P-XYLENE		5.0	10 U	UG/L
SURROGATE RECOVERIES	QC LIMIT	rs		
4-BROMOFLUOROBENZENE	(87 - 13	11 %)	104	8
FOLUENE-D8		08 %)	104	96
	(86 - 13	/		96

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

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled: Ord Date Received: Submissi	ler #: 523235 ion #:	Sample Matrix: Analytical Run	
ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 12/24/01			
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
TRICHLORO <mark>ETH</mark> ENE VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0 5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U 5.0 U	UG/L UG/L
SURROGATE RECOVERIES (	QC LIMITS		
	37 - 111. %)	95	%
	37 - 108 %)	104	ક
DIBROMOFLUOROMETHANE (8	36 - 117 왕)	99	%



# Analytical (716) 288-5380 • FAX (716) 288-8475

CHE	OF	JS	Y/130		FITANA	SIS	E C	T	M BN
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An Employee-Owned Company	·				_										D.	AIE_		-		_ PAGE	=		)F	-1-
PROJECT NAME	SRIFFL	NIR	M									A	NAL	YSIS	RE	QUE	STED	)						•
PROJECT MANAGER/O	CONTACT_	Ken A	rmstrong	54		5-1	95-2		95-3	A's	)A's	O H/P	ATION I Ignit.									PRES	SERVA	TION
COMPANY/ADDHESS	Clevela	nd, C	hio 444	3	OF CONTAINERS	GC/MS VOA's		302	PCB's	8021 VO,	STAR'S LIST 8270 SVOA'S	TALS SVOA's	EHI .	LAL O	SOLVED									
SAMPLER'S SIGNATUR	Cleveland Ohio 4443 TEL (216)622-2400 FAX (216) 241-9083 SAMPLEN'S SIGNATURE Bot Fabian		3	F CONT	MS VOA:	GC/MS SVOA's	GC VOA's □ 8021 □ 601/602	PESTICIDES/PCB's	H'S LIST	R'S LIST DTAL	TCLP   METALS   VOA'S	TE CHAF	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)							2.0	12	_	
SAMPLE I.D. DATE TIME FOR OFFICE USE ONLY SAMPLE MATRIX		#	GC/88	00 00 00 00 00 00 00 00 00 00 00 00 00	၁၈ ၂	PES 0 80	STA	STA	호 호	WAS	MET (LIS	MET (LIS							PH.	, H	Other			
EFF-12-14-01 12-14-01 14:55			WATER	3	×	.ŧ											-					)		
			and consider																					
						12.5																		
				TURNA	AROUN	ID REQ	UIREM	ENTS	REI	PORT	REQUI	REMEI	ITS		INVOIC	E INFO	MATION	N:		SA	MPLE	RECEIF	)T·	
RELINQUISHED  Signature Printed Name  Printe	15!30	Signalyte Printed Name	CAS	Stat	_24 hr48 hr5 day _Standard (10-15 working days) _Provide Verbal Preliminary Res			5 hr5 day1. Routine Report2. Routine Rep. w/CAS Narrative			P.O. #: Bill To:					SAMPLE RECEIPT:  Shipping Via: Shipping #: Temperature:								
RELINQUISHED I	3Y:	Date/Time	RECEIVED BY:	Reques		Prelimi	•	SUITS	5. 1	NY ASP	bles Lev CLP De	eliverable	es						Subm	nission No.	12	19	93.	5
Printed Name		Signature Printed Name		SPEC	CIALI	NSTR	UCTIC	NS/C	OMM	ENTS	:			-					1					
Firm		Firm		META	ALS																			
Date/Time		Date/Time					TO!			3.45														-
RELINQUISHED I	3Y:		RECEIVED BY:	UHG	ANICS	): U	TUL			AE (	Uniy	□ Bi	v Only		Specia	LIST								_
Signetary		Signature																						
Printername  Firm		Printed Name																						
Date/Time																								
Date/ Hills		Date/Time																						

## Cooler Receipt And Preservation Check Form

roject/Client /		WC	£4		Subn	<u>s</u>			
Cooler received on \2	2-14-01 by:	Conc	c	OURIER	: CAS	UPS	FEDEX	CD&	L CLIENT
Were custod Did all bottle Did any VOA Were Ice or I Where did th	y seals on outside of y papers properly it is arrive in good contains have significe packs present of cooler(s) upon	filled out ondition cant air ? ?	t (ink, (unbro bubble	oken)?	c.)?		YES	10 10 10 10 10	
Is the temperate	ure within 0° - 6° C?:			Yes D.	Yes 🗆	Yes	s <b>D</b>	Yes 🗆	Yes 🗆
If No, Explain	Below		1	No 🗆	No 🗆	No		No 🗆	No 🗆
Date/Time T	emperatures Take	n: 12	-14	-01	15	30			
	rD: 12-601						oler Tem	D. IR	Gun
f out of Temperature,									
Cooler Breakdown: Were all bott	Date:	12/	17/87		bv:	MA	4		
. Were all bott	le labels complete	(i.e. an	alvsis.	preservatio	n_etc.)?		YES	ONO	
2. Did all bottle	labels and tags ag	ree with	hasta	dy naners'	)		YVES		
	containers used for							NO	
							1		
	Cassettes / Tub					ed 1	redlar® B	ags Inna	ted N/A
Explain any discrepar	ncies:								
		YES	NO	Sample 1.1	Э.	Reage	nt	Vol.	Added
pН	Reagent								
· 12	NaOH								
2	HNO <sub>3</sub>								
2	H <sub>2</sub> SO <sub>4</sub>				•				
Residual Chlorine (+/-)	for TCN & Phenol								
5-9*	P/PCBs (608 only)								
YES = All samples OK			e preserv	ved at lab as l	isted	PC OK	to adjust pl	I	
*If pH adjustment is require	red, use NaOH and/or l	H <sub>2</sub> SO <sub>4</sub>							
VC	C Vial pH Verification	n					-		
	Tested after Analysis)								
	Following Samples							٠.	
	Exhibited pH > 2								
				2					
					-				
					, i.				

Other Comments:



#### 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

Markl. Mo

Mark Wilson

Client Service Manager

Enc.



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.

01



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2210305

Lab ID

524602

Client ID

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.



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



#### COLUMBIA ANALYTICAL SI TICES

VOLATILE RGANICS 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 C Date Received: 01/16/02 Submis	order #:	524602 R221030		le Matrix: ytical Run	WATER 73742
ANALYTE		PQL		RESULT	UNITS
DATE ANALYZED : 01/22/02					
ANALYTICAL DILUTION: 2.0	00				
Korton Communication of the Co		2	0	40 U	UG/L
ACETONE		5:		10" U	UG/L
BENZENE		5.		10 U	UG/L
BROMODICHLOROMETHANE		5.		10-U	UG/L
BROMOFORM		5.		10 U	UG/L
BROMOMETHANE			0	20. U	UG/L
2-BUTANONE (MEK)			.0	20 U	UG/L
CARBON DISULFIDE		5.		10 U	UG/L
CARBON TETRACHLORIDE		5.		10 U	UG/L
CHLOROBENZENE		5.		10 U	UG/L
CHLOROETHANE		5.		10 U	UG/L
CHLOROFORM		. 5.		10 U	UG/L
CHLOROMETHANE	-	. 5.		. 10 U	UG/L
DIBROMOCHLOROMETHANE		5.		10 U	UG/L
1,1-DICHLOROETHANE		5.		10 U	UG/L
1,2-DICHLOROETHANE				10 U	UG/L
1.1-DICHLOROETHENE			.0	10 U	UG/L
CIS-1,2-DICHLOROETHENE			. 0	10 U	UG/L
TRANS-1,2-DICHLOROETHENE				10 U	UG/L
1,2-DICHLOROPROPANE			. 0	10 U	UG/L
CIS-1,3-DICHLOROPROPENE			.0	10 U	UG/L
TRANS-1,3-DICHLOROPROPENE				10 U	UG/L
ETHYLBENZENE			.0	20 U	UG/L
2-HEXANONE			10	10 U	UG/L
METHYLENE CHLORIDE			.0 10	20 U	UG/L
4-METHYL-2-PENTANONE (MIBK)				10 U	UG/L
STYRENE			.0	10 U	UG/L
1,1,2,2-TETRACHLOROETHANE			.0	10 U	UG/L
TETRACHLOROETHENE			.0	10 U	UG/L
TOLUENE			.0	14	UG/L
1,1,1-TRICHLOROETHANE			.0	10 U	UG/L
1,1,2-TRICHLOROETHANE			.0	440 E	UG/L
TRICHLOROETHENE			.0	10 U	UG/L
VINYL CHLORIDE			.0	10 U	UG/L
O-XYLENE		5	.0	10 U	UG/L
M+P-XYLENE		5	. 0	20.0	00/2
SURROGATE RECOVERIES	QC L	MITS			
4-BROMOFLUOROBENZENE	(87 -	111 %)		95	8
TOLUENE-D8	(87 -	108 %)		105	ક ક
	(86 -	- 117 %)		102	

From-+2885380

## COLUMBIA ANALYTICAL RVICES

## 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

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 01/24/	/02		
ANALYTICAL DILUTION:	2.50		
ACETONE	20	50 U	UG/L
BENZENE	5.0	13 U	UG/L
BROMODICHLOROMETHANE	5.0	13 U	UG/L
BROMOFORM	5.0	13 U	UG/L
BROMOMETHANE	5.0	13 U	UG/L
2-BUTANONE (MEK)	10	25 U	UG/L
CARBON DISULFIDE	10	25 U	UG/L
CARBON TETRACHLORIDE	5.0	13 U	UG/L
CHLOROBENZENE	5.0	13 U	UG/L
CHLOROETHANE	5.0	13 U	UG/L
CHLOROFORM	5.0	13 U	UG/L
CHLOROMETHANE	5.0	13 U	UG/L
DIBROMOCHLOROMETHANE	5.0	13 U	UG/L
, 1-DICHLOROETHANE	5.0	13 U	UG/L
,2-DICHLOROETHANE	5.0	13 U	UG/L
,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
,2-DICHLOROPROPANE	5.0	13 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	13 U	UG/L
RANS-1,3-DICHLOROPROPENE	5.0	13 U	UG/L
THYLBENZENE	5.0	13 U	UG/L
-HEXANONE	10	25 U	UG/L
ETHYLENE CHLORIDE	5.0	13 U	UG/L
-METHYL-2-PENTANONE (MIBK)	10	25 U	UG/L
TYRENE	5.0	13 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	13 U	UG/L
TETRACHLOROETHENE	5.0	13 U	UG/L
OLUENE	5.0	13 U	UG/L
,1,1-TRICHLOROETHANE	5.0	13 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	13 U	UG/L
CRICHLOROETHENE	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		
	Management of the state of the		
4-BROMOFLUOROBENZENE	(87 - 111 %)	101	ક
TOLUENE-D8	(87 - 108 %)	103	ક
DIBROMOFLUOROMETHANE	(86 - 117 %)	101	ક

## COLUMBIA ANALYTICAL RVICES

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

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order # Submission #	: 525803 :	Sample Matrix: WATER Analytical Run 73742			
ANALYTE		PQL	RESULT	UNITS		
DATE ANALYZED :	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-DICHLOROETHEN	NE .	5.0	5.0 U	UG/L		
TRANS-1, 2-DICHLOROETH		5.0	5.0 U	UG/L		
1,2-DICHLOROPROPANE		5.0	5.0 U	UG/L		
CIS-1,3-DICHLOROPROPE	ENE	5.0	5.0 U	UG/L		
TRANS-1, 3-DICHLOROPRO	OPENE	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-TETRACHLOROET	THANE	5.0	5.0 U	UG/L		
TETRACHLOROETHENE		5.0	5.0 U	UG/L		
TOLUENE		5.0	5.0 U	UG/L		
1,1,1-TRICHLOROETHANK	Ξ	5.0	5.0 U	UG/L		
1,1,2-TRICHLOROETHANI	Ξ	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	S QC LI	IMITS				
4-BROMOFLUOROBENZENE		- 111 %)	100	8		
TOLUENE-D8	(87 -	108 %)	102	8		
DIBROMOFLUOROMETHANE	(86 -	- 117 %)	100	8		

## COLUMBIA ANALYTICAL

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:

Order #: 525805 Submission #:

Sample Matrix: WATER Analytical Run 73742

Date Received:	Submission #:	Analytical Run 73742						
ANALYTE		PQL	RESULT	UNITS				
	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-DICHLOROETHEN	E	5.0	5.0 U	UG/L				
TRANS-1,2-DICHLOROETH	ENE	5.0	5.0 U	UG/L				
1,2-DICHLOROPROPANE		5.0	5.0 U	UG/L				
CIS-1,3-DICHLOROPROPE	NE	5.0	5.0 U	UG/L				
TRANS-1,3-DICHLOROPRO	PENE	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-TETRACHLOROET	HANE	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 LIMI	TS						
4-BROMOFLUOROBENZENE	(87 - 1	11 %)	100	96				
TOLUENE-D8		08 %)	103	ક				
DIBROMOFLUOROMETHANE		17 %)	101	of				



Sie		
CAS Contac	et	

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

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CAS Contac	1	

Project Name	Project Number						-	AN	NALYS	IS RE	QUEST	ED (	nclud	e Meth	od Nu	mber	and (	Contai	ner Pr	reserva	tive)			
Griffin The Project Manager Ken Armstro Company/Address	Report CC Cath	erine	Palko	)	PRE	SERVA																Descri	n satis sa 1	Vou
URS					ERS		0800 088 0600 088 0800 088			/	3808	2 /3	SK	ZATION S	Jonit	MIC	Maria	//	//	//	/	0. No 1. Ho 2. Hi	rvative I ONE CL NO3 SO4 IOH	Көу
Cleveland, Phone # (216) 422-2400 Sampler's Signature Bob Fabran	Clair				NUMBER OF CONTAINERS		100	3/2	603	PCB's	100 K	22705	746	CTER	2 2 2	SOLVE SOLVE	is bell	/	/	/		3. H 4. N 5. Zr	SO <sub>4</sub> OH . Aceta	te
Cleveland	OH 4411				3 OF CC	/5	288	28	7601	1608 1608	757	20/	JANE JSV	JOS TARA	TOT.	" DIS	1	/ /	/ ,	//	/		Aceta OH HSO <sub>4</sub>	
(216) 622-2400 Sampler's Signature	Sampler's Printed Nam	241-9	083		UMBER	CIMS	SWS	0/2	SSTIC	1487 148'S	TAR'S	2/07/	487E	FTA1	ETAI	Sting	/	/	/			8. O		
Bb Fabran	FOR OFFICE USE ONLY	Fabig SAMP			Z	OR	100	100	120	100	100	120	12/	120	1/2/	7	1	1	1	1	ALTERN	NATE DE	KS/ SCRIPTI	O.
CLIENT SAMPLE ID	LAB ID	DATE	TIME	MATRIX		1											-	-	+	-				
EFF-1-16-02		1-16-02	10:05	WATER	3	X													-					
		-																						
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•	2																							
																		-	-					
							TI	IDMAD	OLIND	PEOU	REME	UTS		REP	ORT R	FOLIE	REMEN	ITS	-	11	IVOICE	INFOR	MATION	
SPECIAL INSTRUCTIONS/COMMENTS  Metals											S APPLY		-		ults Only									
							-		NDARD	48 hr	5	day	-		DUP, M			ired)	P	0#				
							REQUI	ESTED		TE			-	_ III. Re	sults + (	OC and	Calibrat	ion	В	IILL TO:				
							REQUI	ESTED	REPOR	T DATE			-	_	ta Valida					122	2	10	30	5
See QAPP	OLED TEMP.		CII	STODY SEA	IS: Y	N							+	Edat	a	Yes		_ No	S	MISSIO	ON #:			
SAMPLE RECEIPT: CONDITION/CO	RECEIVED BY	LI		LINQUISHED					RECE	IVED E	JY.				RELING	DUISH	ED BY				RE	CEIVED	BY	
Signature, El	Signature DA A (215 )	Si	gnature	-			Signate	ure						ature						lignature				
Printed Name	Printed Name CAS	Pr	inted Name					Name			- 1			ed Nam	е					rinted Nan	ne			
FIND 6-02 11:25		125	m Marker Time				Firm Date/T	ime					Firm	/Time						Date/Time				
Date/Time	Date/Time 1	De	ite/Time				Date	,,,,,,															SCOO	C-0101-0

SOP No.: SMO-GEN Revision No. 1 Date: 01/11/02 Page 13 of 14

Cooler Receipt And Preservation Check Form

ooler received on	1/16/2 by:	MA	CC	DURIER: CA	S UPS	FEDEX	CD&L (CLI
ooler received on_	1 /00 05.	16		JOIGE OF	20 010		
Were custody Did all bottle Did any VOA Were Ice or I	y seals on outside of y papers properly for arrive in good control of the packs present?	filled or ondition ficant and	ut (i <mark>nk,</mark> n (un <b>b</b> ro	oken)?		YES NO YES NO YES NO YES NO	) ) N/A
	e bottles originate of cooler(s) upon		:	(		CAS/RO	C, CLIENT
Is the tempe	erature within 0° - 6° (	C?:	Ye	Yes	Yes	Ye	es Yes
If No, Expl			No		No	No	No No
Date/Tim	e Temperatures Ta	aken:		1/1	6,02	112	27
	r ID: IR-bus					ooler Tem	. IR. Gun
ant of Tomporature	Client Approval to F	lun San	nnles				
Were all bottle Did all bottle Were correct	Date:  -  The labels completed labels and tags ago to containers used for the labels and tags. Tub	e (i.e. and gree with the the the the the the the the the t	th custo ests ind	dy papers? icated?	etc.)?	YES IN YES IN YES IN YES IN YES	ON
Were all bottle Did all bottle Were correct Air Samples	tle labels complete e labels and tags ag t containers used for : Cassettes / Tub	e (i.e. and gree with the the the second sec	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized To	YES 1 YES 2 edlar® Ba	NO NO gs Inflated N
Did all bottle Were correct	tle labels complete e labels and tags ag t containers used for : Cassettes / Tub	e (i.e. and gree with the the the second sec	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized T	YES 1 YES 2 edlar® Ba	NO NO
Were all bottle Did all bottle Were correct Air Samples	tle labels complete e labels and tags ag t containers used for : Cassettes / Tub	e (i.e. argree wi or the trees Inta	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized To	YES 1 YES 2 edlar® Ba	NO NO gs Inflated N
Were all bottle Did all bottle Were correct Air Samples xplain any discrepa	tle labels complete e labels and tags ag t containers used for : Cassettes / Tub ancies:	e (i.e. argree wi or the trees Inta	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized To	YES 1 YES 2 edlar® Ba	NO NO gs Inflated N
Were all bottle Did all bottle Were correct Air Samples xplain any discrepa	tle labels complete e labels and tags ag t containers used fg : Cassettes / Tub ancies:  Reagent	e (i.e. argree wi or the trees Inta	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized To	YES 1 YES 2 edlar® Ba	NO NO gs Inflated N
Were all bottle Did all bottle Were correct Air Samples xplain any discrepa	tle labels complete e labels and tags ag t containers used fg : Cassettes / Tub ancies:  Reagent NaOH	e (i.e. argree wi or the trees Inta	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized To	YES 1 YES 2 edlar® Ba	NO NO gs Inflated N
Were all bottle Did all bottle Were correct Air Samples xplain any discreps  pH  12  2  2	tle labels complete e labels and tags ag t containers used fg : Cassettes / Tub ancies:  Reagent  NaOH  HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub>	e (i.e. argree wi or the trees Inta	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized To	YES 1 YES 2 edlar® Ba	NO NO gs Inflated N
Were all bottle Did all bottle Were correct Air Samples xplain any discreps  pH  12  2  2	tle labels complete e labels and tags ag t containers used fg : Cassettes / Tub ancies:  Reagent  NaOH  HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub>	e (i.e. argree wi or the trees Inta	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized To	YES 1 YES 2 edlar® Ba	NO NO gs Inflated N
Were all bottle Did all bottle Were correct Air Samples xplain any discreps  pH  12  2  2  Residual Chlorine (+/-)	tle labels complete e labels and tags ag t containers used fg : Cassettes / Tub ancies:  Reagent  NaOH  HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol	e (i.e. argree wi or the trees Inta	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized To	YES 1 YES 2 edlar® Ba	NO NO gs Inflated N
Were all bottle Did all bottle Were correct Air Samples xplain any discreps  pH  12  2  2  Residual Chlorine (+/-) 5-11 pH slurry*	tle labels complete e labels and tags ag t containers used fg : Cassettes / Tub ancies:  Reagent  NaOH  HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol  CLP SVOA	e (i.e. angree without the trees Intaches Intach	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized To	YES 1 YES 2 edlar® Ba	NO NO gs Inflated N
Were all bottle Did all bottle Were correct Air Samples xplain any discreps  pH  12  2  2  Residual Chlorine (+/-) 5-11 pH slurry*	tle labels complete e labels and tags ag t containers used fg : Cassettes / Tub ancies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only) NO = Sam	yes (i.e. an gree with or the these Intarantese Intara	th custo tests ind ct C	preservation, edy papers? icated? anisters Pressu	rized Telegraphic Reagen	YES 1 YES 2 edlar® Ba	NO NO gs Inflated No Vol. Added



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 (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 \_\_\_\_ pages

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

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

01



#### CASE NARRATIVE

This report contains analytical results for the following samples: Submission #: R2210686

Lab ID 530853

Client ID

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.



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



## COLUMBIA ANALYTICAL SER SES

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 : 02/21/0	02		
ANALYTICAL DILUTION: 2	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
M+F-XILENE	3.0	10 0	00/1
SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(87 - 111 %)	99	9
TOLUENE-D8	(87 - 108 %)	101	8
DIBROMOFLUOROMETHANE	(86 - 117 %)	100	8

## COLUMBIA ANALYTICAL SERV

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

Project Reference:

Client Sample ID : METHOD BLANK

Date Sampled:

Order #: 532116
Submission #:

Sample Matrix: WATER Analytical Run 74719

Date Received:	Submission #:	Ar	alytical Run	74719
ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED	: 02/20/02			
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-DICHLOROETHE	NE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROET	HENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE		5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROP	ENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPR		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-TETRACHLOROE	THANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE		5.0	5.0 U	UG/L
TOLUENE		5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHAN		5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHAN	E	5.0	5.0 U	UG/L
TRICHLOROETHENE		5.0	5.0 U	UG/L
VINYL CHLORIDE	*	5.0	5.0 U	UG/L
O-XYLENE		5.0	5.0 U	UG/L
M+P-XYLENE		5.0	5.0 U	UG/L
SURROGATE RECOVERIE	S QC LIMI	TS		
4-BROMOFLUOROBENZENE	(87 - 1	11 %)	94	8
TOLUENE-D8		108 %)	99	ક
DIBROMOFLUOROMETHANE	(86 - 1	17 %)	97	8



## CHAIN OF CUSTODY/LABORATORY ANALYSIS RÉQUEST FORM

SR#	
	*
CAS Contact	

Services \*\*C One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (716) 288-5380 • 800-695-7222 x11 • FAX (716) 288-8475

ACE	/ OF
AGE	OF

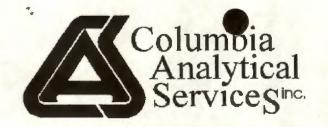
Project Name  Griff: IRm	Project Number		# 10 mm H. 2 mm			-		AN	IALYSIS	SREC	DUEST	red (/	nclud	e Meti	od N	ımber	and C	Contai	ner P	reserva	ative)			
Froject Manager  Ken Armstrong  Company/Address	Report CC Cathe	rine	Palko	)	PRE	SERVA																		
URS					RS		GCMS 3624 3CIE	1	/	1	78082	, /	5 /	d/H/b	Now	1	1	//	/	1	1	Prese 0. N 1. H	orvative K ONE CL	(ey
Cleveland, O Phone 8 (216) 622-2400 Sampler's Signature Bob Fabrian	it				NUMBER OF CONTAINERS		100	100	200	583	2010	2000	418	TERIZ	0	ZVE)	pelon		/	/	/	2. H 3. H 4. N	ONE CL NO <sub>3</sub> 2SO <sub>4</sub> aOH	
Cleveland, O	H 44113				OF CO	/5	2 82 S	55	601/6 Ec.	800	870	200	SET	Con	107A	DISS		/		/		5. /	n. Acetate leOH aHSO <sub>4</sub>	е
(216) 622-2400 Sampler's Signature	(216)2	241-9	083		JMBER	MSW	180 S	200	87.01	ARIS!	ARIS!	10 TAL	STE	74/0	18 6	13.00	/	/	/	/			ther	_
Bob Fabian	Bob FOR OFFICE USE ONLY	Fabia	PLING	1	ž	000		000	180	120	120	120	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	MA	NA NA	5/	_	1	1	/	ALTER	REMAP NATE DE	RKS/ SCRIPTIO	ON
CLIENT SAMPLE ID	LAB ID	DATE	TIME	MATRIX																				-0
EFF-2-13-02	530857	2-13-09	11:10	WATER	3	X												-	-	+				•
																		-	-	+				
									-										-		-			
SPECIAL INSTRUCTIONS/COMMENTS Metals				1			24	RUSH	OUND RECEIVED	ARGES	APPLY	)		I. Resu	ilts Only ults + Q	C Summ	EMENT saries s require		PC		IVOICE	INFOR	MATION	
									AX DATE				-	III. Res		C and C	Calibratio	n	BI	LL TO:				0
See QAPP							REQUES	STED R	EPORT D	ATE				V. Spei	calized I	Forms /	Custom			JBMISSIC	27 ON #:	40	681	6
SAMPLE RECEIPT: CONDITION/COO	LER TEMP: 60			STODY SEA		N		<	RECEIVI	ED BY	+	,	-			_ 105 UISHE	D BY	NO	+		RE	CEIVED	BY	
D. 15.	11														-									
Bob Tabian	Signature Prify Jenne	ewy	gnature				Signature						Signal	d Name						gnature inted Nam	200			
URS	Firm C SSW	erian	inted Name				Printed N	*amb					Firm	. 1491116				_	Fir					
2-13-02 11:47	Date/Time Q-13-PQ 18	11:47	ate/Time				Date/Tim	10					Date/1	ime					Da	ite/Time				
Distribution: White - Return to Originator; Yellow	- Lab Copy; Pink - Retained by Cl	ient	2																				SCOC-0	0101-08

SOP No.: SMO-GEN Revision No. 1 Date: 01/11/02 Page 13 of 14

## Cooler Receipt And Preservation Check Form

oject/Client		116		lbmission N				OF 0 -	6
oler received on 6	1-13-02 by:_)	16	C	OURIER:	CAS	UPS	FEDEX	CD&L	(CLIEN
Were custody Were custody Did all bottles Did any VOA Were Ice or I Where did the	seals on outside of papers properly fit arrive in good control vials have significate packs present? The bottles originate?	f coole lled ou ndition cant air	t (ink, (unbro	oken)?	)?		YES (NO YES) NO YES (NO YES (NO YES (NO CAS/RO	)N/A	ENT
-	rature within 0° - 6° C		Y	es Y	es	Yes	Ye	s !	Yes
If No, Expla			N	o N	-	No	No	) 1	No
Date/Time	Temperatures Tal	ken: _	a.	-13-00	20	11:50	)		
Thermometer	ID: IR-bun	T	emp B	lank Sam	ple Bo	ttle Co	oler Tem	p. (IR.	Gun
out of Temperature,	Client Approval to R	un Sam	ples			2	7		
Were all bottle  Did all bottle  Were correct	Date: 2- le labels complete labels and tags ag containers used fo	(i.e. arree with	nalysis, th cust ests inc	, preservation ody papers dicated?	?		YES YES YES dlar® Ba	NO NO	ed N/A
Were all bott Did all bottle Were correct Air Samples:	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube	(i.e. arree with the tree s Intage	nalysis, th custo ests indet	, preservation ody papers dicated? Canisters Pr	on, etc.)	ed Te	YES YES odlar® Ba	NO NO gs Inflate	
Were all bottle Did all bottle Were correct Air Samples: xplain any discrepa	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube	(i.e. arree with	nalysis, th cust ests inc	, preservation ody papers dicated?	on, etc.)		YES YES odlar® Ba	NO NO	
Were all bottle Did all bottle Were correct Air Samples: xplain any discrepa	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube ancies:	(i.e. arree with the tree s Intage	nalysis, th custo ests indet	, preservation ody papers dicated? Canisters Pr	on, etc.)	ed Te	YES YES odlar® Ba	NO NO gs Inflate	
Were all bott Did all bottle Were correct Air Samples: xplain any discrepa	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube ancies:  Reagent NaOH	(i.e. arree with the tree s Intage	nalysis, th custo ests indet	, preservation ody papers dicated? Canisters Pr	on, etc.)	ed Te	YES YES odlar® Ba	NO NO gs Inflate	
Were all bottle Did all bottle Were correct Air Samples: xplain any discrepa	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube mcies:	(i.e. arree with the tree s Intage	nalysis, th custo ests indet	, preservation ody papers dicated? Canisters Pr	on, etc.)	ed Te	YES YES odlar® Ba	NO NO gs Inflate	
Were all bottle Did all bottle Were correct Air Samples: xplain any discrepa	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube mcies:	(i.e. arree with the tree s Intage	nalysis, th custo ests indet	, preservation ody papers dicated? Canisters Pr	on, etc.)	ed Te	YES YES odlar® Ba	NO NO gs Inflate	
Were all bottle Did all bottle Were correct Air Samples: xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-)	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube mcies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol	(i.e. arree with the tree s Intage	nalysis, th custo ests indet	, preservation ody papers dicated? Canisters Pr	on, etc.)	ed Te	YES YES odlar® Ba	NO NO gs Inflate	
Were all bott Did all bottle Were correct Air Samples: xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-)  5-11 pH slurry*	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube mcies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA	(i.e. arree with the tree s Intage	nalysis, th custo ests indet	, preservation ody papers dicated? Canisters Pr	on, etc.)	ed Te	YES YES odlar® Ba	NO NO gs Inflate	
Were all bottle Did all bottle Were correct Air Samples: xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-) 5-11 pH slurry*	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube mcies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs	(i.e. arree with the tree s Intage	nalysis, th custo ests indet	, preservation ody papers dicated? Canisters Pr	on, etc.)	ed Te	YES YES odlar® Ba	NO NO gs Inflate	
Were all bottle Did all bottle Were correct Air Samples: xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-) 5-11 pH slurry*  5-9 pH slurry*	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube mcies:	(i.e. ar ree with the total residue)  YES	nalysis, th custoests incet (	yed at lab as l	on, etc.)	Reagent PC OK	YES YES odlar® Ba	NO NO gs Inflate Vol. Ad	
Were all bottle Did all bottle Were correct Air Samples: xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-) 5-11 pH slurry*	Date: 2- le labels complete labels and tags ag containers used fo Cassettes / Tube incies:	(i.e. ar ree with the total residue)  YES	nalysis, th custoests incet (	, preservation ody papers dicated? Canisters Pr	on, etc.)	Reagent PC OK	YES YES edlar® Ba	NO NO gs Inflate Vol. Ad	

Other Comments:



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.



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 \_\_\_\_\_ pages

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

This package has been reviewed by Columbia Analytical Services' QA

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



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2211042

Lab ID

536226

Client ID

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.



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



## COLUMBIA ANALYTICAL S VICES

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

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 03/19/0				
ANALYTICAL DILUTION: 2	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
		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			20 U	UG/L
2-HEXANONE		10	10 U	UG/L
METHYLENE CHLORIDE		5.0	20 U	UG/L
4-METHYL-2-PENTANONE (MIBK)			10 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		UG/L
1,1,2-TRICHLOROETHANE		5.0	10 U	
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 LIMI	TS		
4-BROMOFLUOROBENZENE	(87 - 1	.11 %)	101	ફ
TOLUENE-D8		.08 %)	105	8
DIBROMOFLUOROMETHANE	The second secon	17 %)	106	°04

## COLUMBIA ANALYTICAL S

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

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:	Order #: Submission #:	538340	Sample Matrix: Analytical Run	
ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 03/	19/02			
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 (MIB	K)	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 LIM	MITS		
4-BROMOFLUOROBENZENE	(87 -	111 %)	101	9
TOLUENE-D8		108 %)	105	8
DIBROMOFLUOROMETHANE		117 %)	105	8



ard St., Suite 250, Rochester, N1-14009 (716) 288-5380 • FAX (716) 288-8475

3-11-02 PAGE 1 OF 1

An Employee-Owned Company	. DC.	TO.			T				-			AI	VAL	/SIS	REC	QUES	TED	-					
PROJECT NAME _ G	rittin	A	10.4.	P.IV.	-							۵	Z ±								PRES	SERVA	ATION
PROJECT MANAGER/	CONTACT N	en ftrmst	ong Cathorine	raiko		-	N		6	1,8	A's	F	ATIC										
COMPANY/ADDRESS	URS			, , , , , , , , , , , , , , , , , , , ,	RS	1-96 🗆	0 95-2	0	95	000	SVC	S	ERIZ.		ÆD/								
PROJECT MANAGER/OCCOMPANY/ADDRESS	-, Clevel	and, C	hio 441	13	OF CONTAINERS	1	's 25	01/60	PESTICIDES/PCB's	8021 TCLF	8270 TCLF	TALS	ACTE	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)								
TEL (26) 622-	2400	_ FAX (2)	6)241-9	083	N	OA's	GC/MS SVOA's	0	DES/	IST	IST	ME	HAB	50	OW								
SAMPLER'S SIGNATUR	RE BOX	Tabro	w		8	18 V	15 5	21 ZOA	15 E	YS L	YS L	A's	TE C	ALS,	ALS, BE						< 2.0	12	1
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RELINQUISHED  Signature Bob Fabra  Printed Name U.S.S.	BY:	T JON	RECEIVED BY:	DN 2	4 hr.	48 hr.	5	day			e Repor												,
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Signature		Signature			FOLAL	INCT	NOT	ONE															
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Firm		Firm																					
Date/Time		Date/Time																					

SOP No.: SMO-GEN Revision No. 1 Date: 01/11/02 Page 13 of 14

## Cooler Receipt And Preservation Check Form

ler received on 3	/11/or by: 4	Be	- C	OURIER: CAS	UPS	FEDEX	CD&L	CLIE
·						YESANO	7	
Were custody	seals on outside of	f coole	r?	signed etc.)?	(	YES NO		
Were custody	papers properly fi s arrive in good con	ndition	u (ink,	oken)?	2	YES NO		
Did any VOA	vials have signific	cant ai	r bubb	les?		YES NO	N/A	
	ce packs present?					YES NO	1	
Where did the	e bottles originate?		7	2C		CAS/RO	C, CLIE	ENT
Temperature	of cooler(s) upon r	eceipt	-	5				_
	rature within 0° - 6° C			es Yes	Yes	Ye		res
If No, Expla	ain Below		N	No No	No	No	1	No
Date/Time	ain Below e Temperatures Tal	ken: _	3	111/02		/.	2: 2	5
Thermometer	ID:	Т	emp B	lank Sample B	ottle C	ooler Temp	o. IR.	Gun
ut of Temperature,	Client Approval to R	un san	thres				-	
Were all bottle Did all bottle Were correct Air Samples	Date: 3-11 le labels complete labels and tags ag containers used fo Cassettes / Tube	(i.e. and ree with the the the the the the the the the t	nalysis th cust ests in ct	s, preservation, etc tody papers? dicated? Canisters Pressuri	zed I	YES YES YES edlar® Ba	NO	ed N//
Were all bottle Did all bottle Were correct Air Samples	le labels complete labels and tags ag containers used fo	(i.e. and ree with the the the the the the the the the t	nalysis th cust ests in ct	, preservation, etc lody papers? dicated? Canisters Pressuri	zed I	YES	NO	ed N/A
Were all bottle Did all bottle Were correct Air Samples	le labels complete e labels and tags ag containers used fo : Cassettes / Tube	(i.e. and ree with the the the the the the the the the t	nalysis th cust ests in ct	, preservation, etc lody papers? dicated? Canisters Pressuri	zed I	YES YES edlar® Ba	NO	
Were all bottle Did all bottle Were correct Air Samples	le labels complete e labels and tags ag containers used fo : Cassettes / Tube	(i.e. arree with the tree in t	nalysis th cust ests in ct	e, preservation, etc. lody papers? dicated? Canisters Pressuri	zed T	YES YES edlar® Ba	YO YO gs Inflate	
Were all bottle Did all bottle Were correct Air Samples plain any discrepa	le labels complete e labels and tags ag containers used fo Cassettes / Tube	(i.e. arree with the tree in t	nalysis th cust ests in ct	e, preservation, etc. lody papers? dicated? Canisters Pressuri	zed T	YES YES edlar® Ba	YO YO gs Inflate	
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Were all bottle Did all bottle Were correct Air Samples plain any discrepa	le labels complete labels and tags ag containers used fo Cassettes / Tube ancies:  Reagent NaOH	(i.e. arree with the tree in t	nalysis th cust ests in ct	e, preservation, etc. lody papers? dicated? Canisters Pressuri	zed T	YES YES edlar® Ba	YO YO gs Inflate	
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Were all bottle Did all bottle Were correct Air Samples plain any discrepa  pH  12  2  2  2  desidual Chlorine (+/-)	le labels complete labels and tags ag containers used fo Cassettes / Tube ancies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol	(i.e. arree with the tree in t	nalysis th cust ests in ct	e, preservation, etc. lody papers? dicated? Canisters Pressuri	zed T	YES YES edlar® Ba	YO YO gs Inflate	
Were all bottle Did all bottle Were correct Air Samples plain any discrepa  pH  12  2  2  2  2  2  2  2-  2-  1-11 pH slurry*	le labels complete labels and tags ag containers used fo Cassettes / Tube ancies:  Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only)	(i.e. arree with a ree lintary res lintary res	nalysis th cust ests in ct  NO	s, preservation, etclody papers? dicated? Canisters Pressuring Sample I.D.	zed T	YES YES edlar® Ba	VO gs Inflate	
Were all bottle Did all bottle Were correct Air Samples plain any discrepa  pH  12  2  2  2  desidual Chlorine (+/- 5-11 pH slurry*  5-9 pH slurry*  5-9**  ES = All samples OK	le labels complete e labels and tags ag containers used fo Cassettes / Tube ancies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA  CLP* P/PCBs  P/PCBs (608 only) NO = Sam	yes	nalysis th cust ests in ct  NO	s, preservation, etc. lody papers? dicated? Canisters Pressuri	zed T Reager	YES YES edlar® Ba	VO gs Inflate	
Were all bottle Were correct Air Samples plain any discrepa  pH  12  2  2  2  desidual Chlorine (+/-  5-9 pH slurry*  5-9 pH slurry*  5-9**  ES = All samples OK To not adjust pH! Repo	le labels complete e labels and tags ag containers used fo Cassettes / Tube ancies:  Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only) NO = Sam out in C/N **If pH ac	yes  yes  yes  glight and the test intactions are the trees intactions are the trees intactions are the trees intactions are the trees intactions are trees in the trees in th	nalysis th cust ests in ct  NO	s, preservation, etclody papers? dicated? Canisters Pressuring Sample I.D.	zed T Reager	YES YES edlar® Ba	VO gs Inflate	
Were all bottle Were correct Air Samples plain any discrepa  pH  12  2  2  2  desidual Chlorine (+/- 5-11 pH slurry*  5-9 pH slurry*  5-9**  ES = All samples OK Do not adjust pH! Repo	le labels complete e labels and tags ag containers used fo Cassettes / Tube ancies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only) NO = Sam out in C/N **If pH ac OC Vial pH Verification Tested after Analysis)	yes  yes  yes  glight and the test intactions are the trees intactions are the trees intactions are the trees intactions are the trees intactions are trees in the trees in th	nalysis th cust ests in ct  NO	s, preservation, etc. lody papers? dicated? Canisters Pressuri	zed T Reager	YES YES edlar® Ba	VO gs Inflate	
Were all bottle Were correct Air Samples plain any discrepa  pH  12  2  2  2  desidual Chlorine (+/- 5-11 pH slurry*  5-9 pH slurry*  5-9**  ES = All samples OK Do not adjust pH! Repo	le labels complete labels and tags ag containers used for Cassettes / Tuberancies:  Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only) NO = Samont in C/N **If pH acooc Vial pH Verification	yes  yes  yes  glight and the test intactions are the trees intactions are the trees intactions are the trees intactions are the trees intactions are trees in the trees in th	nalysis th cust ests in ct  NO	s, preservation, etc. lody papers? dicated? Canisters Pressuri	zed T Reager	YES YES edlar® Ba	VO gs Inflate	

Other Comments:



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 of the analyses requested. All data has been reviewed parts of the analyses requested. 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 (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 \_\_\_\_\_\_ pages

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

This package has been reviewed by Columbia Analytical Services' QA

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



#### CASE NARRATIVE

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







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

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 : 04/24/0	02		
	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
M+P-XILENE	3.0	10 0	06/11
SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(83 - 118 %)	107	ક
TOLUENE-D8	(91 - 113 %)	110	8
DIBROMOFLUOROMETHANE	(87 - 115 %)	109	8

VOLATILE ORGANICS METHOD: 8260B TCL

## LABORATORY CONTROL SAMPLE SUMMARY

EFERENCE ORDER #: 546172	ANALYT	76825		
ANALYTE	TRUE VALUE	% RECOVERY	QC LIMITS	
ATE ANALYZED : 04/24/02 NALYTICAL 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 20.0	71 85	70 - 130 70 - 130	
CIS-1,2-DICHLOROETHENE	20.0	79	70 - 130	
TRANS-1,2-DICHLOROETHENE	20.0	78	70 - 130	
1,2-DICHLOROPROPANE 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	

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

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled:

Order #: 546171

Sample Matrix: WATER Analytical Run 76825

Date Received:	Submission #:	Aı	nalytical Run	76825		
ANALYTE		PQL	RESULT	UNITS		
	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-DICHLOROETHEN	JE	5.0	5.0 U	UG/L		
1,2-DICHLOROPROPANE		5.0	5.0 U	UG/L		
CIS-1,3-DICHLOROPROPENE	3	5.0	5.0 U	UG/L		
TRANS-1, 3-DICHLOROPROPE		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		
	MIBK)	10	10 U	UG/L		
STYRENE		5.0	5.0 U	UG/L		
1,1,2,2-TETRACHLOROETHA	ANE	5.0	5.0 U	UG/L		
TETRACHLOROETHENE		5.0	5.0 U	UG/L		
TOLUENE		5.0	5.0 U	UG/L		
1,1,1-TRICHLOROETHANE		5.0	5.0 U	UG/L		
1,1,2-TRICHLOROETHANE		5.0	5.0 U	UG/L		
TRICHLOROETHENE		5.0	5.0 U	UG/L		
VINYL CHLORIDE		5.0	5.0 U	UG/L		
O-XYLENE		5.0	5.0 U	UG/L		
M+P-XYLENE		5.0	5.0 U	UG/L		
SURROGATE RECOVERIES	QC LIMI	TS				
4-BROMOFLUOROBENZENE	(83 - 1	18 %)	108	8		
TOLUENE-D8		13 %)	109	ક		
DIBROMOFLUOROMETHANE		15 %)	111	8		



## CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

3	
CAS Contact	•

Services One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (716) 288-5380 • 800-695-7222 x11 • FAX (716) 288-8475 PAGE www.csslab.com Project Number ANALYSIS REQUESTED (include Method Number and Container Preservative) Griffin IRM Report CC PRESERVATIVE Catherine Palko Ken Armstrong Company/Address Preservative Key O. NONE NUMBER OF CONTAINERS 1. HCL 2. HNO<sub>3</sub> 3. H<sub>2</sub>SO<sub>4</sub> 4. NaOH 634 St. Clair 44113 Zn. Acetate
 MeOH 7. NaHSO<sub>4</sub> 8. Other REMARKS/ ALTERNATE DESCRIPTION FOR OFFICE USE ONLY SAMPLING CLIENT SAMPLE ID DATE TIME MATRIX LAB ID 3 4-12-02 WATER SPECIAL INSTRUCTIONS/COMMENTS TURNAROUND REQUIREMENTS REPORT REQUIREMENTS INVOICE INFORMATION Metals **RUSH (SURCHARGES APPLY)** I. Results Only 24 hr \_\_\_\_ 5 day II. Results + QC Summaries PO# (LCS, DUP, MS/MSD as required) STANDARD BILL TO: III. Results + QC and Calibration REQUESTED FAX DATE Summaries IV. Data Validation Report with Raw Data REQUESTED REPORT DATE V. Speicalized Forms / Custom Report See QAPP Edata \_\_\_\_ Yes \_\_\_\_ No CUSTODY SEALS: Y N SAMPLE RECEIPT: CONDITION/COOLER TEMP: RECEIVED BY RELINQUISHED BY RECEIVED BY RELINQUISHED BY RECEIVED BY Signature Signature Signature Signature

Printed Name

Firm

Date/Time

Printed Name

Date/Time

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

10:50

Printed Name

Date/Time

SCOC-0101-08

Printed Name Firm

Date/Time

SOP No.: SMO-GEN Revision No. 1 Date: 01/17/02 Page 13 of 14

## Cooler Receipt And Preservation Check Form

ooler received on_	4-13-12 by:	100		COURIER: C	AS UPS	FEDEX	CD&L	CLIE
Were custod Did all bottle Did any VO Were Ice or	ly seals on outside ly papers properly es arrive in good c A vials have signi Ice packs present he bottles originate	filled ondition ficant a	out (in on (unl	broken)?		YES NO YES NO YES NO YES NO YES NO CAS/ROC	en/A	VT.
. Temperature	e of cooler(s) upon	receip	ot: _	6				
Is the temp	erature within 0° - 6°	C?:	- 1	Yes Yes	Yes	Yes	Yes	S
If No, Exp	lain Below			No No	No	No	No	
out of Temperature,			nples /	D by:	BL		ı	-
Were all bottle  Did all bottle  Were correct	tle labels complete e labels and tags at t containers used fo	gree wi	ith cus tests in	s, preservation, estody papers?	etc.)?	YES NO YES NO YES NO	0	N/A
Were all bottle Did all bottle Were correct	tle labels complete e labels and tags ag t containers used for : Cassettes / Tub	gree wi	ith cus tests in	s, preservation, estody papers?	etc.)?	YES NO YES NO llar® Bags	0	
Were all both Did all bottle Were correct Air Samples	tle labels complete e labels and tags ag t containers used for : Cassettes / Tub	gree with the test inta	ith cus tests in ct	s, preservation, estody papers? idicated? Canisters Pressu	rized Ted	YES NO YES NO llar® Bags	O O Inflated	
Were all bot Did all bottle Were correct Air Samples xplain any discrepa	tle labels complete e labels and tags ag t containers used fo : Cassettes / Tub ancies:	gree with the test inta	ith cus tests in ct	s, preservation, estody papers? idicated? Canisters Pressu	rized Ted	YES NO YES NO llar® Bags	O O Inflated	
Were all bot Did all bottle Were correct Air Samples xplain any discrepa	tle labels complete e labels and tags ag t containers used for : Cassettes / Tub ancies:	gree with the test inta	ith cus tests in ct	s, preservation, estody papers? idicated? Canisters Pressu	rized Ted	YES NO YES NO llar® Bags	O O Inflated	
Were all both Did all both Were correct Air Samples xplain any discrepa	tle labels complete e labels and tags ag t containers used fo : Cassettes / Tub ancies:  Reagent NaOH	gree with the test inta	ith cus tests in ct	s, preservation, estody papers? idicated? Canisters Pressu	rized Ted	YES NO YES NO llar® Bags	O O Inflated	
Were all both Did all both Were correct Air Samples xplain any discrepa	tle labels complete e labels and tags ag t containers used fo : Cassettes / Tub ancies:  Reagent  NaOH  HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub>	gree with the test inta	ith cus tests in ct	s, preservation, estody papers? idicated? Canisters Pressu	rized Ted	YES NO YES NO llar® Bags	O O Inflated	
Were all both Did all both Were correct Air Samples xplain any discrepa	tle labels complete e labels and tags ag t containers used fo : Cassettes / Tub ancies:  Reagent  NaOH  HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub>	gree with the test inta	ith cus tests in ct	s, preservation, estody papers? idicated? Canisters Pressu	rized Ted	YES NO YES NO llar® Bags	O O Inflated	
Were all both Did all both Were correct Air Samples xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-)	tle labels complete e labels and tags ag t containers used for : Cassettes / Tub ancies:  Reagent  NaOH  HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol	gree with the test inta	ith cus tests in ct	s, preservation, estody papers? idicated? Canisters Pressu	rized Ted	YES NO YES NO llar® Bags	O O Inflated	
Were all both Did all bothle Were correct Air Samples xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-) 5-11 pH slurry*	tle labels complete e labels and tags ag t containers used for Cassettes / Tub ancies:  Reagent NaOH HNO3 H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA	gree with the test inta	ith cus tests in ct	s, preservation, estody papers? idicated? Canisters Pressu	rized Ted	YES NO YES NO llar® Bags	O O Inflated	
Were all bottle Did all bottle Were correct Air Samples xplain any discrepa  pH  12  2  2  Residual Chlorine (+/-) 5-11 pH slurry*  5-9 pH slurry*	tle labels complete e labels and tags ag t containers used for : Cassettes / Tub ancies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only) NO = Sam	yes  Ples were	ith custests in ct NO	s, preservation, estody papers? idicated? Canisters Pressu	rized Ted  Reagent  PC OK to	YES NO YES NO llar® Bags	O O Inflated	





URS

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.



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 \_\_\_\_\_ pages

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

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



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2212412

Lab ID

561050

Client ID

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.







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 1 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

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

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

	Order #: 561050 ission #: R2212412	Sample Matrix: Analytical Run	
ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 06/22/0			
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
	10	20 U	UG/L
CARBON DISULFIDE	5.0	10 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		10 U	UG/L
CHLOROMETHANE	5.0	10 U	UG/L
DIBROMOCHLOROMETHANE	5.0		
,1-DICHLOROETHANE	5.0	10 U	UG/L
,2-DICHLOROETHANE	5.0	10 U	UG/L
,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
L, 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
1-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
COLUENE	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
JINYL 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	8
FOLUENE-D8	(91 - 113 %)	101	8
DIBROMOFLUOROMETHANE	(87 - 115 %)	105	8
DI BROMOF HOOKOME I NAME	(8) = 113 %	4 100	
			04

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

Project Reference: Client Sample ID : METHOD BLANK

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

ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 06/22/0	2			
	.00			
		0.0	20. 11	IIC /I
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
		5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE		5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE			5.0 U	UG/L
ETHYLBENZENE		5.0	10 U	UG/L
2 - HEXANONE		10	5.0 U	UG/L
METHYLENE CHLORIDE		5.0		UG/L
4-METHYL-2-PENTANONE (MIBK)		10	10 U	
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 LIMI	TS		
4-BROMOFLUOROBENZENE		18 %)	107	9
TOLUENE-D8	(91 - 1	13 %)	100	8
DIBROMOFLUOROMETHANE	(87 - 1	15 %)	106	8



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

	OF	1
No.	UL	

SHF	
CAS Contact	

www.caslab.com																							
Project Name Cariffin IRM	Project Number	592.0	D					AN	IALYS	IS RE	QUES	TED (	nciud	e Meth	od Nu	mber	and C	Contair	ner Pre	eservati	ive)		4.
Corpany/Address	10-00051 Report CC Cather	ne Pa	Iko	-	PRE	SERVAT												0					
Company/Address URS					RS		1	/	1	1	8082	00 /00	S. Y	0/1	Prit	1	1	12	//	7	/	Preservativ	e Key
634 Sticlair					NUMBER OF CONTAINERS	GCMS VOA	10	3/3	3/2	188	2/20	70 SW	57	ERIZ	0	LVED	Selow S	4	/	/	/	Preservativ D. NONE 1. HCL 2. HNO <sub>3</sub> 3. H <sub>2</sub> SO <sub>4</sub> 4. NaOH 5. Zn. Ace	
Cleveland OV	20 H4113				JF CO	100	824	28/	201/60	100 P	77.80	178/1	SVO	Sor Sor	074 men	NSSC ment	7	/ /	/ /	//	1	5. Zn. Ace 6. MeOH 7. NaHSO	
(216) 622 2400	FAX# (216)2	4-908.	3		MBER (	WS VO	USN S	000	TICA	P.S.	PISI	DA C	TH'S	A CO	4 69	1 Com	5/	/	/			B. Other _	
(216) 622-7400 Sampler's Signature Fabrian	Sampler's Printed Nan	abien			N	1000	000	000	J.E.S.	STA	S77	0/2/2	ZX S	MEI	MET	20			/	/ AI	R TERNA	EMARKS/ TE DESCRIP	PTION
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMP DATE	LING TIME	MATRIX																			
EFF-6-14-02		6-14-02	14:35	WHITER	3											X							
	144		-																				
	1.																		-				
SPECIAL INSTRUCTIONS/COMMENTS							TII	RNARC	NIND	BEOLIII	REMEN	UTS		REPO	ORT RE	OUIR	EMENT	rs	-	INV	OICE IN	IFORMATIO	)N
Metals										HARGES				_ I. Resu		2011							
							2	STAND		8 hr	5	day	-	LCS, i			aries s require	ed)	PO#		-		
							REQUE	STED F		E			-	_ III. Res		C and C	alibratio	in	BILL	L TO:			
							REQUE	STED R	EPORT	DATE			-					Raw Data	a 1	72.	2 1	21/1	2
See QAPP													_				Custom		SÚE	BMISSION		241	
SAMPLE RECEIPT: CONDITION/CO	OLER TEMP:		CUS	STODY SEAL	LS: Y	N													1				
RELINQUISHED BY	HOULIM ONK		REI	LINQUISHED	BY				RECEI	VED BY	,			F	RELINO	UISHE	D BY				RECE	IVED BY	
Bolt Fabian Signature Bob Fabian Printed Name DRS Firm 074-02 15!35 Date/Time	Signalury (OOK		nature				Signatu						Signa							ature			
Printed Name	Printed Name	Pi	nted Name				Printed Firm	Name					Firm	d Name					Firm				<u> </u>
074-02 15:35 Date/Time	6-14-02 150 Date/Time	50	te/Time				Date/Tir	me	-				Date/	Time						/Time			

SOP No.: SMO-GEN Revision No. 1

Date: 01/17/02 Page 13 of 14

## Cooler Receipt And Preservation Check Form

	CA			Submission Num	ber <u>27-</u>	12412	•	
ooler received on	.14.02 by: 1	un		COURIER: CA	S UPS	FEDEX	CD&L	CLIEN
Were custody Did all bottle Did any VOA Were 1ce or 1 Where did th	y seals on outside y papers properly is a arrive in good co A vials have signif (ce packs present) e bottles originate of cooler(s) upon	filled ondition ficant a	ut (inl n (unb ir bub	oroken)?		YES INO YES NO YES NO YES NO CAS/RO	N/A	
-	erature within 0° - 6°			Yes Yes	Yes	Yes	yes Yes	
If No, Expl	ain Below		1	No No	No	No	No	
Date/Time	e Temperatures Ta	aken:	6.1	4.02	1540			
Thermometer	r ID: 12-60	NI	emp I	Blank Sample	Bottle Co	ooler Temp	. IR. Gur	
out of Temperature,								
	containers used for Cassettes / Tub	or the t	ests in		rized To	YES N YES N edlar® Bag	10	N/A
. Air Samples:	Cassettes / Tub	or the tes Inta	ests in	dicated? Canisters Pressur		YES Nedlar® Bag	IO s Inflated	N/A
. Air Samples:	Cassettes / Tub	or the tes Inta	ests in ct	dicated? Canisters Pressur	rized To	YES Nedlar® Bag	10	N/A
. Air Samples: explain any discrepa	Cassettes / Tub	or the tes Inta	ests in	dicated? Canisters Pressur		YES Nedlar® Bag	IO s Inflated	N/A
Air Samples: Explain any discrepa pH 12	Reagent NaOH	or the tes Inta	ests in	dicated? Canisters Pressur		YES Nedlar® Bag	IO s Inflated	N/A
Air Samples: Explain any discrepa  pH  12  2	Reagent NaOH HNO3	or the tes Inta	ests in	dicated? Canisters Pressur		YES Nedlar® Bag	IO s Inflated	N/A
pH 12 2	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub>	or the tes Inta	ests in	dicated? Canisters Pressur		YES Nedlar® Bag	IO s Inflated	N/A
Air Samples: Explain any discrepa  pH  12  2	Reagent NaOH HNO3	or the tes Inta	ests in	dicated? Canisters Pressur		YES Nedlar® Bag	IO s Inflated	N/A
pH 12 2	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub>	or the tes Inta	ests in	dicated? Canisters Pressur		YES Nedlar® Bag	IO s Inflated	N/A
pH 12 2 2 Residual Chlorine (+/-)	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol	or the tes Inta	ests in	dicated? Canisters Pressur		YES Nedlar® Bag	IO s Inflated	N/A
pH 12 2 2 Residual Chlorine (+/-) 5-11 pH slurry*	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA	or the tes Inta	ests in	dicated? Canisters Pressur		YES Nedlar® Bag	IO s Inflated	N/A
pH  12  2  Residual Chlorine (+/-) 5-11 pH slurry* 5-9 pH slurry* 5-9**	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only) NO = Sam	YES ples were	NO NO	Sample I.D.	Reagent	YES Nedlar® Bag	IO s Inflated	N/A
pH 12 2 Residual Chlorine (+/-) 5-11 pH slurry* 5-9 pH slurry* 5-9** (ES = All samples OK	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only) NO = Sam	YES Please were discovered by the state of t	NO NO	Sample I.D.	Reagent	YE8 Nedlar® Bag	IO s Inflated	N/A

Other Comments:



A FULL SERVICE ENVIRONMENTAL LABORATORY

July 26, 2002

Mr. Ken Armstrong URS Corporation 1382 West 9th Street Suite 100 Cleveland, OH 44113 AUG - 5.2002

URS

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 (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 \_\_\_\_\_ pages

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

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



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2212825

Lab ID

568334

Client ID

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.







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

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

ANALYTE		LYTE PQL				
DATE ANALYZED : 07/17/0						
ANALYTICAL DILUTION:	2.00					
ACETONE			20	40	U	UG/L
BENZENE			5.0	10	U	UG/L
BROMODICHLOROMETHANE			5.0	10		UG/L
BROMOFORM			5.0	10		UG/L
BROMOMETHANE			5.0	10		UG/L
2-BUTANONE (MEK)			10	20		UG/L
CARBON DISULFIDE			10	20		UG/L
CARBON TETRACHLORIDE			5.0	10		UG/L
CHLOROBENZENE			5.0	10		UG/L
CHLOROETHANE			5.0	10		UG/L
CHLOROFORM			5.0	10		UG/L
CHLOROMETHANE			5.0	10		UG/L
DIBROMOCHLOROMETHANE			5.0	10		UG/L
1,1-DICHLOROETHANE			5.0	10		UG/L
1,2-DICHLOROETHANE			5.0	10		UG/L
1,1-DICHLOROETHENE			5.0	10		UG/L
			5.0	10		UG/L
CIS-1,2-DICHLOROETHENE				10		UG/L
TRANS-1,2-DICHLOROETHENE			5.0	10		UG/L
1,2-DICHLOROPROPANE			5.0			UG/L
CIS-1,3-DICHLOROPROPENE			5.0	10		
TRANS-1,3-DICHLOROPROPENE			5.0	10		UG/L
ETHYLBENZENE			5.0	10		UG/L
2-HEXANONE			10	20		UG/L
METHYLENE CHLORIDE			5.0	10		UG/L
4-METHYL-2-PENTANONE (MIBK)			10	20		UG/L
STYRENE			5.0	10		UG/L
1,1,2,2-TETRACHLOROETHANE			5.0 .	10		UG/L
FETRACHLOROETHENE			5.0	10		UG/L
FOLUENE			5.0	10	U	UG/L
1,1,1-TRICHLOROETHANE			5.0	13		UG/L
1,1,2-TRICHLOROETHANE			5.0		U	UG/L
TRICHLOROETHENE			5.0	480		UG/L
VINYL CHLORIDE			5.0	10		UG/L
O-XYLENE			5.0	10		UG/L
M+P-XYLENE			5.0	10	U	UG/L
SURROGATE RECOVERIES	QC	LIMITS				
4-BROMOFLUOROBENZENE	(83	- 118	8)	95		9
TOLUENE-D8	(91	- 113		93		eg .
DIBROMOFLUOROMETHANE	(87	- 115		94		8

#### 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

ANALYTE				PQL	RESULT	UNITS
DATE ANALYZED : 07/18/0	2					
	.50					
ACETONE				20	50 U	UG/L
BENZENE				5.0	13 U	UG/L
BROMODICHLOROMETHANE				5.0	13 U	UG/L
BROMOFORM				5.0	13 U	UG/L
BROMOMETHANE				5.0	13 U	UG/L
2-BUTANONE (MEK)				10	25 U	UG/L
CARBON DISULFIDE				10	25 U	UG/L
CARBON TETRACHLORIDE				5.0	13 U	UG/L
CHLOROBENZENE				5.0	13 U	UG/L
CHLOROETHANE				5.0	13 U	UG/L
CHLOROFORM				5.0	13 U	UG/L
CHLOROMETHANE				5.0	13 U	UG/L
DIBROMOCHLOROMETHANE				5.0	13 U	UG/L
, 1-DICHLOROETHANE				5.0	13 U	UG/L
, 2-DICHLOROETHANE				5.0	13 U	UG/L
,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
,2-DICHLOROPROPANE				5.0	13 U	UG/L
				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				10	25 U	UG/L
2 - HEXANONE					13 U	UG/L
METHYLENE CHLORIDE				5.0		UG/L
-METHYL-2-PENTANONE (MIBK)				10	25 U	
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
POLUENE				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	LI	MITS			
4-BROMOFLUOROBENZENE	(83	_	118	8)	94	%
TOLUENE-D8	(91		113		92	8
DIBROMOFLUOROMETHANE	(87		115		98	of

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

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled: Date Received: Subm	Order #:	569095	Sample Matrix: Analytical Run	
ANALYTE		PQL	RESULT	UNITS
DATE ANALYZED : 07/16/0 ANALYTICAL DILUTION: 1	02	-		
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
, 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
	QC LII			
SURROGATE RECOVERIES	ÃC TI	-17.12		
4-BROMOFLUOROBENZENE	(83 -	118 %)	94	8
TOLUENE-D8	*	113 %)	94	용
DIBROMOFLUOROMETHANE		115 %)	95	8

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

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received:

Order #: 569097 Submission #:

Sample Matrix: WATER Analytical Run 80311

Date Received:	Submission #:	AI.	larytical Kun					
ANALYTE		PQL	RESULT	UNITS				
	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-DICHLOROETHEN	NE	5.0	5.0 U	UG/L				
1,2-DICHLOROPROPANE		5.0	5.0 U	UG/L				
CIS-1,3-DICHLOROPROPEN		5.0	5.0 U	UG/L				
TRANS-1,3-DICHLOROPROPI	ENE	5.0	5.0 U	UG/L				
ETHYLBENZENE		5.0	5.0 U	UG/L				
2-HEXANONE		10	10 U	UG/L				
METHYLENE CHLORIDE	(T.D.)	5.0	5.0 U	UG/L UG/L				
4-METHYL-2-PENTANONE (M	MIBK)	10	10 U 5.0 U	UG/L				
STYRENE	22.5	5.0	5.0 U	UG/L				
1,1,2,2-TETRACHLOROETH	ANE	5.0	5.0 U	UG/L				
TETRACHLOROETHENE		5.0	5.0 U	UG/L				
TOLUENE		5.0 5.0	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 O-XYLENE		5.0	5.0 U	UG/L				
M+P-XYLENE		5.0	5.0 U	UG/L				
SURROGATE RECOVERIES	QC LIMIT	`S						
	(83 - 11	.8 %)	95	8				
4-BROMOFLUOROBENZENE	100 22							
4-BROMOFLUOROBENZENE TOLUENE-D8	•	.3 %)	93	8				



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

S	
CAS Contact	

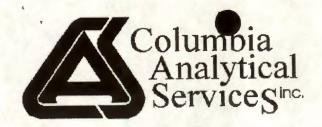
One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (716) 288-5380 • 800-695-7222 x11 • FAX (716) 288-8475 PAGE \_\_\_\_\_OF\_\_

Project Name Criffy IRM Project Manager	Project Number 10-000 51592. 00					ANALYSIS REQUESTED (Include Method Number and Container Preservative)																
Project Manager Ken Arm Stron 6	Report CC	Pa	IKO		PRE	SERVAT	IVE															
Project Name Griffin IRM Project Manager Ken Armstrong Company/Address 800 W. St. Cla Cleveland, Oh	iv Ave., ste	500			NTAINERS		3000	300	2083	12 1 NO 18082	270 SVO.	415	TERIZATI	No in the state of	DLVED SLVED	S. C. S. Con.	47	/	/	F0 11 22 3 4	Preservativo NONE HCL HNO3 H2SO4	ve Key
Phone # (216) 622-2400 Sampler's Signature	FAX# (216) 67 Sampler's Printed Nam	2-01			NUMBER OF CONTAINERS	SCANS VONS	GCMS 5624 78270 5004	38021	7 887 7 801 602 2 8081 CDES/ FOR	STARIO JOSE	TCLP COTAL	WASTE SVO	METAL COM	METAL COMMENT	Vori Comment	2562				8	MeOH NaHSC NaHSC Other	)4
CLIENT SAMPLE ID	FOR OFFICE USE ONLY	SAME	PLING	MATRIX	•										M				AL	TERNAL	E DESCRIP	HOIN
EFF-7-15-02		7-15-02	-12:15	WATER	3										X							
								+	-													
								+														
	1							+		-										-		
SPECIAL INSTRUCTIONS/COMMENTS Metals						-	24	RUSH (S		ES APPL	.Y)		_ I. Resu _ II. Res (LCS,	ORT RE ults Only ults + OC DUP, MS sults + Oc aries	Summa /MSD as	aries s require	d)	PO#		DICE IN	FORMATIO	ON ON
See QAPP						-	REQUES	TED RE	PORT DATE					a Validati				R	22		25	
SAMPLE RECEIPT: CONDITION/COO	OLER TEMP:			STODY SEA		' N											No	SUB	MISSION			
Bob Fabra	RECEIVED BY		RE	LINQUISHED	BY			R	RECEIVED	BY			1	RELINO	UISHE	D BY				RECE	IVED BY	
Signature Signature Printed Name	Signature Du Freny		gnature				Signature					Signa	iture						ature			
UKS	Heaturianga	7 Pri	inted Name				Printed Na Firm	ame				Firm	eg Name					Firm	led Name			
215-02 13:15	Date/Time	Da	ite/Time				Date/Time	,				Date/	Time		-				/Time	-	-	
Distribution: White - Return to Originator; Yellow	V - Lab Copy, Pink - Retained by Cli											-						-			SC	OC-0101-0

SOP No.: SMO-GEN Revision No. 1 Date: 01/17/02 Page 13 of 14

## **Cooler Receipt And Preservation Check Form**

Project/Client	URS			Submission N	Number	R2-	12825	•	
Cooler received on_	1/15/0Z by:	<del>अपे</del>		COURIER:	CAS	UPS	FEDEX	CD&L	CLIEN
<ol> <li>Were custod</li> <li>Did all bottle</li> <li>Did any VO.</li> <li>Were Ice or</li> <li>Where did th</li> </ol>	y seals on outside y papers properly es arrive in good of A vials have signi lce packs present the bottles originate of cooler(s) upon	filled of condition ficant and	out (in on (unl air bub	broken)?	.)?		YES NO YES NO YES NO YES NO CAS/RO	N/A	NT
Is the temp	erature within 0° - 6°	C?:		Yes Y	es	Yes	Ye	s Ye	es .
lf No, Exp	lain Below		6	No N		No	No	No	
Date/Tim	e Temperatures T	aken:	1	15/02 13	15	· · · · · · · · · · · · · · · · · · ·		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Thermomete	rD: 12-cm		Гетр	Blank Sam	ple Bot	le Co	ooler Temp	. IR. G	un
f out of Temperature,	Client Approval to	Dun Sar	nnlee						
. Air Samples Explain any discrepa	Cassettes / Tub			1	35011200		edlar® Bag		N/A
		YES	NO	Sample I.D.		Reagent		Vol. Added	
pН	Reagent								
12	NaOH				7				
2	HNO <sub>3</sub>						-	-	
2	H <sub>2</sub> SO <sub>4</sub>								
Residual Chlorine (+/-)	for TCN & Phenol								
5-11 pH slurry*	CLP SVOA								
5-9 pH slurry*	CLP* P/PCBs								
5-9** YES = All samples OK	P/PCBs (608 only)			rved at lab as list	-3	DC OV	to adjust pH		
Do not adjust pH! Report				ired, use NaOH			to adjust pri		
(7	C Vial pH Verification fested after Analysis) Following Samples Exhibited pH > 2	n							



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.

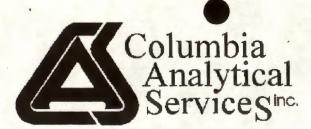
Sincerely,

COLUMBIA ANALYTICAL SERVICES

Mark Wilson

Client Service Manager

Enc.



1 Mustard ST. Suite 250 Rochester, NY 14609 (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 \_\_\_\_ pages

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

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



#### CASE NARRATIVE

This report contains analytical results for the following samples:

Submission #: R2213309

Lab ID

576780

Client ID

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.







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

#### 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

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 08/22/03	2		
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
	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		10 U	UG/L
ETHYLBENZENE	5.0	20 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	20 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10		UG/L
STYRENE	5.0	10 U	
1,1,2,2-TETRACHLOROETHANE	5.0	10 U	UG/L
TETRACHLOROETHENE	5.0	10 U	UG/L UG/L
TOLUENE	5.0	10 U	
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	8
TOLUENE-D8	(91 - 113 %)	101	ક
	(87 - 115 %)	102	8



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

Project Reference: Client Sample ID : METHOD BLANK

Date Sampled : Date Received: Subm	Order #: 580238 ission #:					
ANALYTE	PQL	RESULT	UNITS			
DATE ANALYZED : 08/22/0	2					
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			
CHLOROFORM	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			
	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	10	10 U	UG/L			
2-HEXANONE	5.0	5.0 U	UG/L			
METHYLENE CHLORIDE		10 U	UG/L			
4-METHYL-2-PENTANONE (MIBK)	10 5.0	5.0 U	UG/L			
STYRENE		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	5.00	06/11			
SURROGATE RECOVERIES	QC LIMITS					
4-BROMOFLUOROBENZENE	(83 - 118 %)	102	8			
TOLUENE-D8	(91 - 113 %)	104	8			
DIBROMOFLUOROMETHANE	(87 - 115 %)	101	ક			



# CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FURM

Sit#		
CAS Contact		

One Mustard St., Suite 250 • Rochester, NY 14609-0859 • (716) 288-5380 • 800-695-7222 x11 • FAX (716) 288-8475 PAGE \_\_\_\_\_OF \_\_\_ www.caslab.com Project Number ANALYSIS REQUESTED (include Method Number and Container Preservative) Griffin IRM PRESERVATIVE Catherine Palko Ken Amstrong Preservative Key 7 Preservative Ke 0. NONE 1. HCL 2. HNO<sub>3</sub> 3. H<sub>2</sub>SO<sub>4</sub> 4. NāOH 5. Zn. Acetate NUMBER OF CONTAINERS 634 St. Clair MeOH 7. NaHSO4 8. Other (216) 622-9083 REMARKS/ ALTERNATE DESCRIPTIO FOR OFFICE USE ONLY SAMPLING MATRIX DATE TIME CLIENT SAMPLE ID LAB ID 3 8-15-02 11:10 WATER EFF-8-15-02 INVOICE INFORMATION REPORT REQUIREMENTS TURNAROUND REQUIREMENTS SPECIAL INSTRUCTIONS/COMMENTS I, Results Only RUSH (SURCHARGES APPLY) Metals \_ 24 hr \_\_\_\_ 5 day II. Results + QC Summaries PO# (LCS, DUP, MS/MSD as required) STANDARD BILL TO: III. Results + QC and Calibration REQUESTED FAX DATE **Summaries** IV. Data Validation Report with Raw Data REQUESTED REPORT DATE V. Speicalized Forms / Custom Report See QAPP Edata \_\_\_\_ Yes \_\_\_\_ No CUSTODY SEALS: Y N SAMPLE RECEIPT: CONDITION/COOLER TEMP: RECEIVED BY RELINQUISHED BY RECEIVED BY RELINQUISHED BY RECEIVED BY RELINQUISHED BY Signature Signature Signature Printed Name Printed Name Printed Name Printed Name Firm Date/Time Date/Time Date/Time Date/Time

SOP No.: SMO-GEN Revision No. 1 Date: 01/17/02 Page 13 of 14

## Cooler Receipt And Preservation Check Form

Project/Client	URS			Submission Numbe	TRZ-	13309	reasonable <sup>9</sup>
Cooler received on_	e 15 02 by:	CON		COURIER: CAS	UPS	FEDEX	CD&L CLIENT
<ol> <li>Were custod</li> <li>Did all bottl</li> <li>Did any VO</li> <li>Were Ice or</li> <li>Where did th</li> </ol>	ly seals on outside ly papers properly es arrive in good co A vials have signif Ice packs present he bottles originate to of cooler(s) upon	filled ondition ficant and	out (inl n (unt ir bub	oroken)?		YES NO YES NO YES NO YES NO CAS/ROO	) N/A
Is the temp	erature within 0° - 6°	C?:	6	Yes Yes	Yes	Yes	Yes
lf No, Exp	lain Below		1	No No	No	No	No
Date/Tim	ne Temperatures Ta	aken:	اع	15/02 1200			
Thermomete	er ID: 18.6m	T	emp I	Blank Sample Bo	ottle Co	oler Temp	IR. Gun
If out of Temperature,	Client Approval to F	Run San	nples				
3. Were correct	e labels and tags ag t containers used for	or the t	ests in	dicated?		YES N	
Explain any discrep		es inta	ct	Canisters Pressuriz	ed Te	dlar® Bag	s Inflated N/A
		YES YES	NO	Canisters Pressuriz	ed Te		Vol. Added
				1			
Explain any discrep	ancies:			1			
Explain any discrep	ancies:			1			
Explain any discrep  pH  12	Reagent NaOH			1			
pH 12 2	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub>			1			
pH 12 2	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub>			1			
pH 12 2 Residual Chlorine (+/-	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol			1			
pH 12 2 Residual Chlorine (+/- 5-11 pH slurry*	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA			1			
pH  12  2  Residual Chlorine (+/- 5-11 pH slurry*  5-9 pH slurry*  5-9**  YES = All samples OK	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only) NO = Sam	YES	NO NO	Sample 1.D.	Reagent		
pH  12  2  Residual Chlorine (+/- 5-11 pH slurry*  5-9 pH slurry*  YES = All samples OK *Do not adjust pH! Repo	Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only) NO = Sam	YES	NO NO	Sample 1.D.	Reagent		

Appendix B Monitoring Well Groundwater Analytical Results



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.



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 <a>12</a> 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.

Mulaul Filems

R2212150 URS Corporation Mark Wilson	DISKETTE DATE: 05/	REQUESTED: Y N_x_		DATE DUE	. 06/22/02		
URS Corporation	DATE: 05/						
				PROTOCO			
	CUSTODY	SEAL: PRESENT/ABSENT:		SHIPPING	No.:		
GRIFFIN IRM		CUSTODY: PRESENT/ABSEN					
CLIENT/EPA ID	MATRIX	REQUESTED PARAMETERS	DATE SAMPLED	DATE RECEIVED	pH (SOLIDS)		REMARKS AMPLE CONDITI
MW-1	WATER	95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
,	WATER	QC 95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
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	WATER	95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
	WATER	95-1	5/24/02	5/24/02			
Cooler Blank	WATER	95-1					
	MW-1 MW-2S MW-3 MW-4 MW-4(DUP) MW-5S MW-5D MW-6S MW-6D MW-7S MW-7D MW-9S MW-9D MW-10S MW-11D RW-01 RW-02 RW-03 RW-04 TRIP BLANK MW-10D Coaler- Blank	MW-1	MW-1 WATER 95-1  MW-2S WATER 95-1  MW-3 WATER 95-1  MW-4 WATER 95-1  MW-4(DUP) WATER 95-1  MW-5S WATER 95-1  MW-5D WATER 95-1  MW-6S WATER 95-1  MW-6D WATER 95-1  MW-7D WATER 95-1  MW-7D WATER 95-1  MW-9S WATER 95-1  MW-9S WATER 95-1  MW-10S WATER 95-1  RW-04 WATER 95-1  TRIP BLANK WATER 95-1	MW-1 WATER 95-1 5/24/02  MW-2S WATER 95-1 5/24/02  MW-3 WATER 95-1 5/24/02  MW-4 WATER 95-1 5/24/02  MW-4(DUP) WATER 95-1 5/24/02  MW-5S WATER 95-1 5/24/02  MW-5D WATER 95-1 5/24/02  MW-6S WATER 95-1 5/24/02  MW-6S WATER 95-1 5/24/02  MW-7S WATER 95-1 5/24/02  MW-7S WATER 95-1 5/24/02  MW-7D WATER 95-1 5/24/02  MW-9S WATER 95-1 5/24/02  MW-9S WATER 95-1 5/24/02  MW-10S WATER 95-1 5/24/02  MW-10S WATER 95-1 5/24/02  MW-10S WATER 95-1 5/24/02  MW-11D WATER 95-1 5/24/02  MW-11D WATER 95-1 5/24/02  RW-01 WATER 95-1 5/24/02  RW-02 WATER 95-1 5/24/02  RW-03 WATER 95-1 5/24/02  RW-04 WATER 95-1 5/24/02  RW-10 WATER 95-1 5/24/02  RW-04 WATER 95-1 5/24/02  RW-05 WATER 95-1 5/24/02  RW-06 WATER 95-1 5/24/02  RW-07 WATER 95-1 5/24/02  RW-08 WATER 95-1 5/24/02  RW-09 WATER 95-1 5/24/02	MW-1 WATER 95-1 5/24/02 5/24/02 MW-2S WATER 95-1 5/24/02 5/24/02 MW-3 WATER 95-1 5/24/02 5/24/02 MW-3 WATER 95-1 5/24/02 5/24/02 MW-4 WATER 95-1 5/24/02 5/24/02 MW-4(DUP) WATER 95-1 5/24/02 5/24/02 MW-5S WATER 95-1 5/24/02 5/24/02 MW-5S WATER 95-1 5/24/02 5/24/02 MW-5S WATER 95-1 5/24/02 5/24/02 MW-6S WATER 95-1 5/24/02 5/24/02 MW-6S WATER 95-1 5/24/02 5/24/02 MW-6D WATER 95-1 5/24/02 5/24/02 MW-7S WATER 95-1 5/24/02 5/24/02 MW-7S WATER 95-1 5/24/02 5/24/02 MW-7D WATER 95-1 5/24/02 5/24/02 MW-9S WATER 95-1 5/24/02 5/24/02 MW-9D WATER 95-1 5/24/02 5/24/02 MW-9D WATER 95-1 5/24/02 5/24/02 MW-10S WATER 95-1 5/24/02 5/24/02 MW-13D WATER 95-1 5/24/02 5/24/02 S/24/02 MW-10D	SAMPLECRECEIVED (SOLIDS)	SAMPLED   RECEIVED   SOLIDS   SOLIDS







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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CAS Contact		

www.casiab.com	Butter the state				_		_								-					
Project Name Griffin IRM	Project Number						Al	NALYSIS	REQUES	TED (II	nciude M	ethod Nu	ımber	and Co	ontaine	r Prese	ervative	e)		
Project Name Project Manager Ken Armstrung Company/Address URS	Report CC Cathetiv	e Pal	Ko		PRE	SERVATIVE														
Company/Address URS					RS RS	/	//		808	200	2 / 3	NO WILL	1	1	/	/	/	0. I	servative K NONE HCL	(ey
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Cleveland Ohir	44113				JF COI	529	188	501/6 ES/D	28/2	778	ARACON	2 0 A	Jess Jess	5	/ /	/	/	6.	Zn. Acetat MeOH NaHSO <sub>4</sub>	е
Phone # (216)622-2402 Sampler's Signature Bob Fabrian	(216)2	41-901	83		IBER (	800	300	2000	TALL S	NE C	2 4 2	100	18	2/			/		Other	_
Sampler's Signature  Bob Februar	(216)2 Sampler's Printed Name Bub Fab	ian			NUN	1000	8/00	S 8 8 8	ED SE	025	NA SA	MET	10 K	3/	/	//	ALT	REMA ERNATE [	ARKS/ DESCRIPTION	ON .
CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLIN	1G	MATRIX																
mw-1	555753	5.24.02 0	9:15	G. WATEK	3								X							
mw-2S	54		9:30		3								X							
mw-3	55	0	9:45		3								X							
mw-4	56	0	9:55		3								X							
mw-4 (DUA)	57	09	1:55		3								X							
mw-55	58	10	:20		3								X							
mw-50	59	lo	: 35		3								X							
mw-50 (MS)			:35		3								X							
mw-50 (msd)	V	V 10	:35	V	3								×							
SPECIAL INSTRUCTIONS/COMMENTS							TURNAR	OUND RE	QUIREME	NTS	R	EPORT R	EQUIRI	EMENT:	S		INVO	ICE INFO	RMATION	
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						_	_ 24 hr	48 h	r 5	day		Results + Q			٠,	PO#				
						REQ		DARD FAX DATE			111.	Results + C				BILLT	O:		**	
												Data Valida	tion Rep	ort with F	Raw Data					
						REG	UESTED	REPORT DA	TE			speicalized				7	22	21.	215	0
See QAPP	LER TEMP: 20		CLIC	TODY CE	ALC: N		/	lien	,_		E	data	Yes		No	SUBM	ISSION #			
SAMPLE RECEIPT: CONDITION/COO RELINQUISHED BY	RECEIVED BY	7		TODY SE				RECEIVE				RELINC	UISHE	D BY		-		RECEIVE	D BY	
Bob Fabran	15th Cold	en																		
Bob tabian	Signature Trian Colle	Signatu					ature				Signature					Signate				
Printed Name UZS	Printed Name	Printed	Name				ed Name				Printed Na	me					d Name			
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	Date/Time	Date/Ti	me			Date	/Time				Date/Time					Date/T	ime			0400 40

SR		-
CAS Contact		

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CAS Contact		

Project Name Griffin IRM Project Manager	Project Number						Al	NALYS	IS REQ	UESTE	D (inc	ciude i	Metho	d Nur	nber a	and C	ontair	ner Pre	eserva	tive)			٠
Project Manager	Report CC Catheriv	01	<b>L</b> -		PRE	SERVATIVE																	
Company Address	Cath eri	e rall	NO				1	-	-	2/	1	-	/2	> /	-	-		)	/	-	Prese	rvative I	Key
Project Manager Ken Armstrong Company/Address URS					ERS	/	/ /	1	/	74's	1045	/ =	ATIO	Parit	3/0	M	/	/	/	/	0. NO	ONE CL	
	eit Ave.				NUMBER OF CONTAINERS	GCMS VOA'S GCMS 004'S GCMC 0628	COLL	300	100 s	150 M	1500	ALS ALS	SERIE	15/2	SOLVE TS LE	) \		/		/	0. NO 1. HO 2. HI 3. Ho 4. No	SO <sub>4</sub> SOH ACETAL	te
800 West St. Cla Cleveland Ohio Phone # (216) 622-2402 Sampler's Signature Bob Fabran	44113				OF CC	045	100	1001/	500 187	1870	O ZO	HAB	40	The Tale	mann N	03	/	/ /	//	/	6. M	eOH aHSO <sub>4</sub>	O
(216) 622-2402	Sampler's Printed Nar Bob Fa	41-90	83		MBER	1508 1000 1000 1000 1000 1000 1000 1000	202	STIC	181 078	4A'S	100	STEC	TALS	7460	100	3/	/	/	/		8. 0	ther	_
Bob Fabian	Sampler's Printed Nar Bob Fa	bian			S	18,8	800	D A C	150	25	52/	ZO/	(List	ME	K	/_	/	1	1	ALTERN	REMAR NATE DE	KS/ SCRIPTI	ON
CLIENT SAMPLE ID	LAB ID	SAMP DATE	LING TIME	MATRIX																			
mw-65	555760	5.24.02			3										X			-	-				
mw-60	71		11:10		3										X			-	-				
mw-75	73		12:05	6.W.	3										X								
mw-7A	74		12:15	G.W.	3										X			-					
mw-95	76		12:20	6.W.	3										X		-	-					
mw-9D	77		12:35	6.w.	3										X								
mw-10S	78		12:50	G.W.	3										X								
mw-13D	79			G.W.	3										X		-						
mw-11D	80	V	13:30	G.w.	3								-		X		-						
SPECIAL INSTRUCTIONS/COMMENTS							TURNAF	ROUND	REQUIR	EMENT	S		REPO	ORT RE	QUIR	EMEN.	TS	T	IN	IVOICE	INFOR	MATION	
Metals									HARGES				I. Resul	Its Only									
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						050	STA	NDARD	TE				III. Res	ults + Q				BIL	L TO:				
						HEC		, nn un					Summa	ries				-					
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SAMPLE RECEIPT: CONDITION/CO	OLER TEMP: >		CU	STODY SEA	LS: Y	(N)	-	The	ent	-			Edata	_	_ Yes		No	50	Neeman	UIN #:			
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Project Name Griffin IRm	P	Project Number						AN	IALYS	IS REC	QUEST	ED (II	nclude	Meth	od Nu	mber	and C	ontain	er Pre	eservat	live)			Ą
Project Manager Ken Armstrong Company/Address	R	Catheri	ne P	alko		PRE	SERVATIVE																	
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RW-01	555	783	5-24.02	13:40	6.w.	3										X								
Rw-02		84			6. W.	3										X								
Rw-03		87		13:50		3										X								
Rw-04		89		13:55		3										X								
Trip Blank		91	V			3										X								
•																								-
																	-							
SPECIAL INSTRUCTIONS/COMMENTS				1			TL	JRNARC	DUND F	REQUIP	REMEN	TS		REPO	ORT RE	QUIRI	EMENT	S	T	IN	VOICE	NFORM	IATION	
Metals										HARGES			-	I. Resu	Its Only									
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							REQU	_ STAND		E			_	III. Res Summa		C and C	alibratio	n	BILI	L TO:				
							REQU	ESTED R	EPORT	DATE			_	IV. Data	ı Validati	ion Repo	ort with I	Raw Data	а					
See QAPP										_	,		-	V. Speid	calized F	forms / (	Custom	Report	2011		10.			
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SOP No.: SMO-GEN Revision No. 1 Date: 01/17/02 Page 13 of 14

### Cooler Receipt And Preservation Check Form

oject/Client	UR	5_		Submission Number	12	1150	
ooler received on	124/22 by:2	B	7	COURIER: CAS		FEDEX	CD&L CLIEN
Did all bottle Did any VO Were Ice or Where did th	y seals on outside of papers properly is arrive in good control of the packs present?  The bottles originate of cooler(s) upon	filled ondition icant a	out (inl on (unb iir bub	oroken)?		YES NO YES NO YES NO YES NO CAS/RO	DN/A
	erature within 0° - 6° (			Yes Yes	Yes	Ye	Yes
If No, Expl				No No	No	No	No
-	e Temperatures Ta	aken:		5/24/02			150
Thermomete	r ID:	1	Temp I	Blank Sample Bo	ttle Co	oler Temp	. IR. Gun
ooler Breakdown: Were all bottle Did all bottle Were correct Air Samples	le labels complete labels and tags ag containers used for Cassettes / Tub	(i.e. a gree when the test Inta	nalysi ith cus tests in	ndicated? Canisters Pressuriza		-	10
ooler Breakdown: Were all bottle Did all bottle Were correct Air Samples	Date: le labels complete labels and tags ag containers used for	(i.e. a gree with or the tes Inta	nalysi ith cus tests in	s, preservation, etc. stody papers? ndicated? Canisters Pressuriz	ed Te	YES N	10
ooler Breakdown: Were all bottle Did all bottle Were correct Air Samples plain any discrepa	Date: le labels complete labels and tags ag containers used for Cassettes / Tub ancies:	(i.e. a gree when the test Inta	nalysi ith cus tests in	s, preservation, etc. stody papers? ndicated? Canisters Pressuriz		YES N	NO So Inflated N/A
ooler Breakdown: Were all bottle Did all bottle Were correct Air Samples plain any discrepa	Date: le labels complete labels and tags ag containers used for	(i.e. a gree with or the tes Inta	nalysi ith cus tests in	s, preservation, etc. stody papers? ndicated? Canisters Pressuriz	ed Te	YES N	NO So Inflated N/A
ooler Breakdown: Were all bottle Did all bottle Were correct Air Samples splain any discrepa	Date: le labels complete labels and tags ag containers used fo Cassettes / Tub ancies:  Reagent	(i.e. a gree with or the tes Inta	nalysi ith cus tests in	s, preservation, etc. stody papers? ndicated? Canisters Pressuriz	ed Te	YES N	NO So Inflated N/A
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poler Breakdown: Were all bottle Did all bottle Were correct Air Samples Aplain any discrepa	Date: le labels complete labels and tags ag containers used fo Cassettes / Tube ancies:  Reagent NaOH HNO <sub>3</sub>	(i.e. a gree with or the tes Inta	nalysi ith cus tests in	s, preservation, etc. stody papers? ndicated? Canisters Pressuriz	ed Te	YES N	NO So Inflated N/A
pH  12  2	Date: le labels complete labels and tags ag containers used fo Cassettes / Tube ncies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub>	(i.e. a gree with or the tes Inta	nalysi ith cus tests in	s, preservation, etc. stody papers? ndicated? Canisters Pressuriz	ed Te	YES N	NO So Inflated N/A
pH  12  2 Residual Chlorine (+/-)	Date: le labels complete labels and tags ag containers used fo Cassettes / Tube ncies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol	(i.e. a gree with or the tes Inta	nalysi ith cus tests in	s, preservation, etc. stody papers? ndicated? Canisters Pressuriz	ed Te	YES N	NO So Inflated N/A
pH  12  2  Residual Chlorine (+/-)	Date: le labels complete labels and tags ag containers used fo Cassettes / Tube ancies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA	(i.e. a gree with or the tes Inta	nalysi ith cus tests in	s, preservation, etc. stody papers? ndicated? Canisters Pressuriz	ed Te	YES N	NO So Inflated N/A
pH  12  2  Residual Chlorine (+/-) 5-9 pH slurry*	Date: le labels complete labels and tags ag containers used fo Cassettes / Tube ancies:  Reagent NaOH HNO <sub>3</sub> H <sub>2</sub> SO <sub>4</sub> for TCN & Phenol CLP SVOA CLP* P/PCBs P/PCBs (608 only) NO = Sam	yes	nalysi ith cus tests in ct	s, preservation, etc. stody papers? ndicated? Canisters Pressuriz	ed Te	YES N	NO So Inflated N/A

# Chain of Custody

Submission:	R2212150	Client: URS Cor	poration		
Lab ID:	555753	Matrix WATER			
Received into CA	AS-Rochester Cust	ody: 5/24/02	n salari na hina a hina a hina a hina a salari na salari na salari na hina a kana a salari na salari na salari		
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 CA	AS-Rochester Cust	tody: 5/24/02	· were some one or work a more many a propose and a construction of the construction o	ny paositra dia 2 Jan - Sarding and <sub>Pr</sub> incessor dia 2 da 10	
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 AS-Rochester Cus	Matrix WATER			
Container:	5557551		valuerron. ** Syrati DRV Later Later Spring springler in generalizer in green Africanser (springler in springler in spring	uudeen sa eeli karan oo ahaleetaa liisaan kasakiin kersaksiin kersaksiin keessi eeli kasaksii kalka ka kalka k	entropo-sentrale page, 1, hazare, - harvazzer, nace
		Dont	Storage Location	Purpose	Empty
Date of Custody 05/28/02 12:07	User	Dept Sample Management	Cooler 1	Storage	Empty
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 C/	AS-Rochester Cus	tody: 5/24/02	is vide accountmisser of museum planty for its presentation of the deletions in the instrument and the original confidence of the		pper nilane sografija de adamates la "Millio Massocoto de Problèsion
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 Corpo	oration		
Lab ID:	555757	Matrix WATER			
Received into CA	AS-Rochester Cust	tody: 5/24/02			part will be a part of the control o
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 CA	AS-Rochester Cus	tody: 5/24/02	alari di distantina da santa d		ngPrathatalasti 3-354° 2003-1996c 13-5° Barrak rivo
Container:	5557581				
Date of Custody	User	Dept	Storage Location	Purpose	Empt
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 CA	AS-Rochester Cust	tody: 5/24/02			
Container:	5557591				
Date of Custody	User	Dept	Storage Location	Purpose	Empt
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 CA	AS-Rochester Cust	ody: 5/24/02			
Container:	5557601	Leadureman's months one appropriate group designation enginetic. J.C.  As it was	resta raserment andre villet (* 1865). Medistratur (n. d. glipsingsfille (1864). Medistration (1864). School d	region as en en espagata de la companya de la comp	~ maxim /c/200941-00009/2/10 / White Navy Belleting Annual /
Date of Custody	User	Dept	Storage Location	Purpose	Empt
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	

5

Chain of	Custody				
Submission:	R2212150	Client: URS Corpo	ration		
Lab ID:	555771	Matrix WATER			
Received into CA	AS-Rochester Cust	ody: 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 CA	AS-Rochester Cust	tody: 5/24/02  Repent of the state of the st	entri ni Carattanian vi Asalas saanatahaa da panamanan pan Asamsaa nagari 20 metantari yapata raga fambasini fabilaan ta ta		
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 CA	AS-Rochester Cus	tody: 5/24/02	rige of management and all and a second and a	a valua a constituira de la constituir	navallate ovalenne kolonik skali objekt se ova
Container:	5557741				
Date of Custody	User	Dept	Storage Location	Purpose	Empty
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	

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

WATER

**GC/MS** Volatiles

GC/MS Volatiles

5/24/02

Matrix

Analysis

Storage

Cooler 1

Cooler 1

05/31/02 16:55

05/31/02 17:49

Container:

Lab ID:

dlipani

dlipani

555776

5557761

Received into CAS-Rochester Custody:

Chain o	f Custo	dy
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Submission:	R2212150	Client: URS Corpo	ration		
Lab ID:	555777	Matrix WATER			
Received into CA	S-Rochester Cus	stody: 5/24/02	resour **ELLCQN**LL-belleh normotions entretisentent van deposit versykke in occurringen kennen stellen op re		
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 CA	AS-Rochester Cu	stody: 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 CA	AS-Rochester Cu	stody: 5/24/02	ethylandi – hyy nunych 1988 og chastlikk hag skillik filmir Stepher (* 1888 begrid und chastlik 1970 (1988) begrid blede	gy vo salet a de filos o gallisti i u suspinium metti glavnik kallende en tri distributi ka ka ka	
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 Ca	AS-Rochester Cu	stody: 5/24/02	n metanana is is balan na Baha Bili Bili Bili Bili Bili Bili Bili Bil	n Ang pagamanga <mark>samp</mark> anan magamanga mang matang sampa sampa sa mada sa	annessel, friege: Stimutitioner, part, to descriptioner, train
Container:	5557801				
Date of Custody	User	Dept	Storage Location	Purpose	Empt
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 C	Custody
Submission:	R2212150

Submission:	R2212150	Client: URS Corp.	oration		
Lab ID:	555783	Matrix WATER			
Received into CA	S-Rochester Cust	ody: 5/24/02	usakija kaun siste pusiti se eniski isto palijali isto parijali isto premijujenje pre-presidentaki propinski poslaja poslaja.		amanusadalmiiyala Sarkk -ar v. V. zar alkalerine Sarkk ka z
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 CA	AS-Rochester Cus	tody: 5/24/02	er www.s.co.co.co.co.co.co.co.co.co.co.co.co.co.	ngen germann menangan pendalan sepangan pendalan pendalan pendalan pendalan pendalan pendalan pendalan pendala	nathaigh a' chlùingeach an Phòrnic Bheilineach (bh
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 AS-Rochester Cus	Matrix WATER			
Container:	5557871	ANTI-A TENNEN Ä PEREVENDEN ANDER HENRICH BERTHER I. BUTTUM HENRICH BERTHER ANDERSTEN VERVE VERVENDEN FRANKLISCHEN VERVE	nte, sai sai ya nenyan hililiga nafadalah saya dalah dalah dalah dalah kantara masan kantara dalah dalah dalah	k, salan er <mark>regilaturum esker (irr. 1984) en er salan e</mark> sker kan bas er det efter (irr. 1964) er 300 er 300 er	endostorem gradunatus. Tantatar-värjähi krahil
Date of Custody	User	Dent	Storage Location	Purpose	Empt
Date of Custody 05/28/02 12:07	User	Dept Sample Management	Storage Location Cooler 1	Purpose Storage	Empt
				7	
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	
05/28/02 12:07 06/01/02 11:46 Lab ID:	bcollom dlipani	Sample Management GC/MS Volatiles  Matrix WATER	Cooler 1	Storage	
05/28/02 12:07 06/01/02 11:46 Lab ID:	bcollom dlipani 555789	Sample Management GC/MS Volatiles  Matrix WATER	Cooler 1	Storage	Empt
05/28/02 12:07 06/01/02 11:46 <i>Lab ID:</i> Received into C/	bcollom dlipani  555789 AS-Rochester Cus	Sample Management GC/MS Volatiles  Matrix WATER	Cooler 1	Storage	
05/28/02 12:07 06/01/02 11:46  Lab ID: Received into C/ Container:	bcollom dlipani 555789 AS-Rochester Cus 5557891	Sample Management GC/MS Volatiles  Matrix WATER tody: 5/24/02	Cooler 1  Cooler 1	Storage  Analysis	agaza a princh draklandam (Sp. n. v. 40)
05/28/02 12:07 06/01/02 11:46  Lab ID: Received into C/ Container: Date of Custody	bcollom dlipani  555789 AS-Rochester Cus 5557891 User	Sample Management GC/MS Volatiles  Matrix WATER tody: 5/24/02  Dept	Cooler 1  Cooler 1  Storage Location	Storage  Analysis  Purpose	appear a Princh Meldiander (ISA-4-4-4)
05/28/02 12:07 06/01/02 11:46  Lab ID: Received into C/ Container: Date of Custody 05/28/02 12:07	bcollom dlipani  555789 AS-Rochester Cus 5557891 User bcollom	Sample Management GC/MS Volatiles  Matrix WATER tody: 5/24/02  Dept Sample Management	Cooler 1  Cooler 1  Storage Location  Cooler 1	Storage  Analysis  Purpose  Storage	appear a in-rond their diameters (IL-H-14 Add
05/28/02 12:07 06/01/02 11:46  Lab ID: Received into C/ Container: Date of Custody 05/28/02 12:07 06/01/02 11:46	bcollom dlipani  555789  AS-Rochester Cus 5557891 User bcollom dlipani	Sample Management GC/MS Volatiles  Matrix WATER tody: 5/24/02  Dept Sample Management GC/MS Volatiles	Cooler 1  Storage Location Cooler 1  Cooler 1	Storage  Analysis  Purpose  Storage  Analysis	agaza a princh draklandam (Sp. n. v. 40)

## Chain of Custody

Submission:	R2212150	Client: URS Corp	oration		
Lab ID:	555791	Matrix WATER			
Received into CA	AS-Rochester Cust	ody: 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 CA	AS-Rochester Cust	ody: 5/24/02	MANUA 2001-10 YUNIO 1948 YUNIO 1948 SEARIN SAARIN SAARIN SAARIN SAARIN SAARIN SAARIN SAARIN SAARIN SAARIN SAAR	nassunnas armanias maismagili dinesas plantala palatina del mediane e del menero de menero.	ki shiki tira katiki ka
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 CA	AS-Rochester Cust	ody: 5/24/02	alling hader siz visio 1990 ille kilostransi overenegami essis 550 till kilostran apek vi visio allipian ketakkingallingi daskini		ne stale occupento rouge of novella "Brack" incluso vice and evaluate interessione.
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	dlinani	GC/MS Volatiles	Cooler 1	Storage	

Submission:	R2212150	Client: URS Corpor	ration		
Lab ID:	555791	Matrix WATER			
Received into CA	AS-Rochester Cust	ody: 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 CA	AS-Rochester Cus	tody: 5/24/02			
Container:	5562671				
Date of Custody	User	Dept	Storage Location	Purpose	Empt
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 C	AS-Rochester Cus	tody: 5/24/02	arto valunto menterenente estre ellos este ellos este ellos este ellos este ellos este ellos este ellos ellos		
Container:	5562681	N. A. C.			
Date of Custody	User	Dept	Storage Location	Purpose	Emp
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	

GC/MS Volatiles

GC/MS Volatiles

Cooler 1

Cooler 1

Analysis

Storage

06/01/02 12:37

06/03/02 11:19

06/03/02 17:23

dlipani

dlipani

dlipani

## Chain of Custody

Submission:	R2212150	Client: URS Corp	oration		
Lab ID:	555753	Matrix WATER			
Received into CA	S-Rochester Cust	ody: 5/24/02			
Container:	5557531		vi vi ya wana ka		Annuageures (in security in the collection in a first principal point
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 CA	S-Rochester Cust	ody: 5/24/02			
Container:	5557541	Ado Valentidado (Suppl States	re perver sum. I speciely consideration of the sum of t	оду, 1844-й финация и под	Ro-Natill Scientific Control C
Date of Custody	User	Dept	Storage Location	Purpose	Empt
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 CA	S-Rochester Cust	ody: 5/24/02			· Allen p. 40. Annih Allendrich Control and Annih
Container:	5557551				
Date of Custody	User	Dept	Storage Location	Purpose	Empt
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 CA	S-Rochester Cust	ody: 5/24/02			
Container:	5557561		11121		
Date of Custody	User	Dept	Storage Location	Purpose	Empt
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	
08/01/02 11:46	dlinani	GC/MS Volatiles	Cooler 1	Analysis	

15

## Chain of Custody

Submission:	R2212150	Client: URS Corpo	ration		
Lab ID:	555757	Matrix WATER			
Received into CA	AS-Rochester Cust	ody: 5/24/02			
Container:	5557571	a palantana ngangangan ngangan ngangangan ngangangan ngangangan ngangangan ngangangan ngangangangan ngangangan			
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 CA	AS-Rochester Cust	ody: 5/24/02	Age of the change greated and the change of a proper particular and the change of the		
Container:	5557581	7 - 1 1 1 1 1 1			
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 CA	AS-Rochester Cust	ody: 5/24/02		continuos de la continuo della conti	Marine Co.
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 CA	AS-Rochester Cust	ody: 5/24/02	,		
Container:	5557601	re een vermeen verde dissessing trooper een verveer soort. Topen dissessibilitielistelistelistelistelistelistelist			
Date of Custody	User	Dept	Storage Location	Purpose	Empt
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	

Submission:	R2212150	Client: URS Corpor	ration		
Lab ID:	555771	Matrix WATER			
Received into CA	AS-Rochester Cust	tody: 5/24/02			
Container:	5557711	return e a tras de se seus la desta de la tras de la tr			
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	diipani	GC/MS Volatiles	Cooler 1	Storage	
Lab ID:	555773	Matrix WATER			
Received into CA	AS-Rochester Cus	tody: 5/24/02	ndr da au fear gain an heil an deal an heil an deal an heil an deal an deal an deal an deal an deal an deal an		russiganur reits. Feltre Spin eighte Leit Föllggarup Ferspillung
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: Received into CA	555774 AS-Rochester Cus	Matrix WATER tody: 5/24/02			
Container:	5557741	re- paper - Constituti o vinci pub selle editerralisma della erandicale representa en constituti en constituti	рін ка, донаш проводуродня літерація по проводня провод по под под под под под под под под по	gyan, ang makandiganakan manandi digunakan dan dan panda ang mananan yan da dan manadan	ator confessor or hartest an attended the attack of the con-
		D	Storage Location	Durnoce	Empty
Date of Custody 05/28/02 12:07	User	Dept Sample Management	Cooler 1	Purpose Storage	Empt
		GC/MS Volatiles	Cooler 1	Analysis	
05/31/02 16:55	dlipani	GC/MS Volatiles	Cooler 1	Storage	
05/31/02 17:49	dlipani	QC/IMQ Anignies	COOKE 1	ound go	
Lab ID:	555776	Matrix WATER			
Received into C	AS-Rochester Cus	stody: 5/24/02		ing kangan sa Andrian kanangan papa dagai sa kanandahan da Andria Kanandah dagai da Andria	
Container:	5557761				
Date of Custody	User	Dept	Storage Location	Purpose	Empt
05/28/02 12:07	bcollom	Sample Management	Cooler 1	Storage	

**GC/MS** Volatiles

GC/MS Volatiles

Cooler 1

Cooler 1

Analysis Storage

05/31/02 16:55

05/31/02 17:49

dlipani

dlipani

Chain	of Ci	ustody
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Submission:	R2212150	Client: URS Corpo	oration		
Lab ID:	555777	Matrix WATER			
Received into CA	AS-Rochester Cus	stody: 5/24/02	an transfer to communication of the section of the		
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 CA	AS-Rochester Cus	stody: 5/24/02			
Container:	5557781	groups — A. Turvelper states, embredar-vällyvishindashanda sitten van van valletashinass. — as garann		international control of the state of the st	
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 CA	AS-Rochester Cu	stody: 5/24/02		AND THE RESIDENCE OF THE PARTY	
Container:	5557791	4400.0	And the second s	And the second s	
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 CA	AS-Rochester Cu	stody: 5/24/02	a ser yerken e dessa centra ger vala kan kepir urisa serken ye. Jakob kesakan serken serken serken serken serk		
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	

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Monday, June 24, 2002

chain of	Custody				
Submission:	R2212150	Client: URS Corpo	oration		
Lab ID:	555783	Matrix WATER			
Received into CA	S-Rochester Cust	tody: 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 CA	AS-Rochester Cust				
Received into CA  Container:	AS-Rochester Cust		korraky- olytik eti siik persep- eseny siiteleperirikassiissiissii iti elevitokassiissiissii eseni eesti irrita	o-ол до достов на принципания и менения на менения на менения на менения менения на менения менения на менения	Mit was a support to the "support to the "support to the support to the support to the support to the support
as quideal impersonate, huigh l'unique un equalique de prime a deni hanc dése des vides formés destina	tamingus dinasangkangkangkangkangkangkangkangkangkangk		Storage Location	Purpose	Empty
Container:	5557841	tody: 5/24/02	Storage Location Cooler 1	Purpose Storage	Empty
Container: Date of Custody	5557841 User	tody: 5/24/02  Dept			Empty
Container: Date of Custody 05/28/02 12:07 06/01/02 11:46	5557841 User bcollom	Dept Sample Management	Cooler 1	Storage	Empty
Container: Date of Custody 05/28/02 12:07 06/01/02 11:46  Lab ID:	5557841 User bcollom dlipani	Dept Sample Management GC/MS Volatiles  Matrix WATER	Cooler 1	Storage	Empty
Container: Date of Custody 05/28/02 12:07 06/01/02 11:46  Lab ID:	5557841 User bcollom dlipani	Dept Sample Management GC/MS Volatiles  Matrix WATER	Cooler 1	Storage	Empty
Container: Date of Custody 05/28/02 12:07 06/01/02 11:46  Lab ID: Received into CA	5557841 User bcollom dlipani  555787 AS-Rochester Cust	Dept Sample Management GC/MS Volatiles  Matrix WATER	Cooler 1	Storage	Empty
Container:  Date of Custody 05/28/02 12:07 06/01/02 11:46  Lab ID: Received into CA  Container:	5557841 User boollom dlipani  555787 AS-Rochester Cust	Dept Sample Management GC/MS Volatiles  Matrix WATER tody: 5/24/02	Cooler 1  Cooler 1	Storage Analysis	

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**Empty** 

Purpose

Storage

Analysis

Storage

Analysis

Storage

Storage Location

Cooler 1

Cooler 1

Cooler 1

Cooler 1

Cooler 1

Lab ID:

Container:

05/28/02 12:07

06/01/02 11:46

06/01/02 12:37

06/03/02 11:19

06/03/02 17:23

Date of Custody

555789

Received into CAS-Rochester Custody:

5557891

User

bcollom

dlipani

dlipani

dlipani

dlipani

Matrix

Dept

5/24/02

Sample Management

**GC/MS** Volatiles

GC/MS Volatiles

GC/MS Volatiles

GC/MS Volatiles

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

Castomer Sample	Laboratory Sample	Analytical Requirements* 95ASP PROTOCOL						
Carle	Code	*VOA GC/MS	*BNA GC/MS	*VOA GC	*PEST PCB	*METALS	*OTHER	
MW-1	555753	X						
MW-2S	555754	X						
MW-3	555755	Х						
MW-4	555756	X						
MW-4(DUP)	555757	Х						
MW-5	555758	Х						
MW-5D	555759	X						
_ MW-6S	555760	Х						
MW-6D	555771	Х						
MW-7S	555773	X						
MW-7D	555774	Х						
MW-9S	555776	Х						
MW-9D	555777	Х						
MW-10S	555778	Х						
MW-13D	555779	Х						
_ MW-11D	555780	Х						
RW-01	555783	Х						
RW-02	555784	Х					=	
RW-03	555787	X						
RS-04	555789	X						
TRIP BLANK	555791	X						
MW-10D	556267	Х						
				1016 10				
					-			
•								

\* neck Appropriate Boxes

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

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

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

LABORATORY	MATRIX	DATE	DATE REC'D	LOW LEVEL	DATE
SAMPLE ID		COLLECTED	AT LAB	MED LEVEL	ANALYZED
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/CONG 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.

Lab Name:	CAS/R	ОСН		Contract: URS	MW-1
Lab Code:	10145	Ca	se No.: R2-121	50 SAS No.:	SDG No.: MW-1
Matrix: (soil/	water)	WATER	_	Lab Sample	ID: 555753 1.0
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:	I3613.D
Level: (low/	med)	LOW		Date Receive	ed: 05/24/02
% Moisture:	not dec.			Date Analyze	ed: 05/31/02
GC Column:	RTX5	02. ID: 0.	53 (mm)	Dilution Facto	or: 1.0
Soil Extract	Volume		_ (uL)	Soil Aliquot V	/olume: (uL

#### CONCENTRATION UNITS:

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	Ü
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

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	CAS/RO	OCH		3	Contract:	URS		NVV-1	
Lab Code:	10145	(	Case No.:	R2-12150	SAS No	o.:	SDG No.:	MW-1	
Matrix: (soil/	water)	WATER			Lal	b Sample I	D: 555753 1	.0	
Sample wt/v	ol:	5.0	(g/ml)	ML	Lal	b File ID:	13613.D		
Level: (low/i	med)	LOW			Da	te Receive	d: 05/24/02		
% Moisture:	not dec.				Da	te Analyze	d: <u>05/31/02</u>		
GC Column:	RTX5	02. ID:	0.53 (n	nm)	Dil	ution Facto	or: 1.0		
Soil Extract	Volume		(uL)		So	il Aliquot V	olume:		(uL)
				CON	CENTRA	TION UNIT			
Number TIC:	s found:	2		(ug/l	L or ug/Kg)	UG/L			
CAS NO.		СОМРО	DUND			RT	EST. CONC		Q

FORM I VOA-TIC

unknown freon unknown freon

2/12/02

### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA S	SAMPL	E NO
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Lab Name:	CAS/RC	ОСН		Contract: URS	MW-2S	
Lab Code:	10145	c	ase No.: R2-1215	0 SAS No.:	SDG No.: MW-1	
Matrix: (soil/	water)	WATER		Lab Sample	ID: 555754 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:	I3632.D	
Level: (low/i	med)	LOW		Date Receiv	ed: 05/24/02	
% Moisture:	not dec.			Date Analyz	ed: 06/01/02	
GC Column:	RTX5	02. ID: <u>(</u>	0.53 (mm)	Dilution Fact	tor: 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	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

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-2S

Lab Name:	CAS/RC	OCH		Contract: URS	
Lab Code:	10145		Case No.: R2-12150	SAS No.: S	SDG No.: MW-1
Matrix: (soil/	water)	WATE	R_	Lab Sample ID:	555754 1.0
Sample wt/v	ol:	5.0	(g/ml) <u>ML</u>	Lab File ID:	13632.D
Level: (low/i	med)	LOW		Date Received:	05/24/02
% Moisture:	not dec.			Date Analyzed:	06/01/02
GC Column:	RTX5	02. ID:	0.53 (mm)	Dilution Factor:	1.0
Soil Extract	Volume		(uL)	Soil Aliquot Vol	ume: (uL

**CONCENTRATION UNITS:** 

(ug/L or ug/Kg)

UG/L

Number TICs found: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q	
4.	unknown freon	3.83		J	*
2	unknown freon	3.98	10 mg	J	ľ

P/2/02

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

### VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA	SAM	PIF	NO
EFA	OMIV		INO.

Lab Name: CAS/R		AS/ROCH (			Contract: URS	MW-3
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/v	ol:	5.0	(g/ml)	ML	Lab File ID:	I3614.D
Level: (low/	med)	LOW			Date Received	1: 05/24/02
% Moisture:	not dec.				Date Analyzed	1: 05/31/02
GC Column:	RTX5	02. ID:	0.53 (n	nm)	Dilution Factor	: 1.0

### CONCENTRATION UNITS:

Soil Aliquot Volume:

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

### VOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO. TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	CAS/RO	OCH		Contract: URS	3	inter C	
Lab Code:	10145		Case No.: R2-12150	SAS No.:	sı	DG No.: MW-1	
Matrix: (soil/	water)	WATE	R	Lab San	nple ID:	555755 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File	ID:	13614.D	
Level: (low/	med)	LOW		Date Re	ceived:	05/24/02	100
% Moisture:	not dec.		-	Date An	alyzed:	05/31/02	
GC Column:	RTX5	02. ID:	0.53 (mm)	Dilution	Factor:	1.0	
Soil Extract	Volume		(uL)	Soil Aliq	uot Volu	me:	(uL)
			000	ICENTRATION	I INITS:		

(ug/L or ug/Kg)

UG/L

Number TICs found:

CAS NO.	COMPOUND	RT	EST. CONC.	Q
4	unknown freon	3.83	· construction of construction of Branch	operated asse
2.	unknown-freen	3.96	19	Same Single Pr



### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

<b>EPA</b>	SAL	MPL	E	NO
	0, 11	All P		140

Lab Name:	CAS/RO	ОСН		Contract:	URS	MW-4	
Lab Code:	10145	Cas	se No.: R2-12150	SAS No	o.: S	DG No.: MW-1	
Matrix: (soil/	water)	WATER		La	b Sample ID:	555756 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	La	b File ID:	13633.D	
Level: (low/	med)	LOW		Da	te Received:	05/24/02	
% Moisture:	not dec.			Da	te Analyzed:	06/01/02	
GC Column:	RTX5	02. ID: 0.5	3 (mm)	Dil	lution Factor:	1.0	
Soil Extract	Volume		(uL)	So	il Aliquot Volu	ume:	(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	US
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

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

	EPA	SA	MP	LE	NO
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Lab Name: CA	AS/ROCH	Contract: URS	MW-4
Lab Code: 10	145 Case No.: R2-12	150 SAS No.: S	DG No.: MW-1
Matrix: (soil/wate	er) WATER	Lab Sample ID:	555756 1.0
Sample wt/vol:	5.0 (g/ml) ML	Lab File ID:	13633.D
Level: (low/med	) LOW	Date Received:	05/24/02
% Moisture: not	dec	Date Analyzed:	06/01/02
GC Column: F	RTX502. ID: 0.53 (mm)	Dilution Factor:	1.0
Soil Extract Volu	ıme (uL)	Soil Aliquot Volu	ıme: (uL)
Number TICs for		CONCENTRATION UNITS: ug/L or ug/Kg) UG/L	_
CAS NO.	COMPOUND		ST. CONC. Q

7/2/02

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name:	CAS/RO	DCH		Contract:	URS	WWW-4 DOF	
Lab Code:	10145		Case No.: R2-12150	SAS No	.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATER	2	Lal	Sample ID:	555757 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lal	File ID:	I3634.D	
Level: (low/r	med)	LOW		Da	te Received:	05/24/02	
% Moisture:	not dec.			Da	te Analyzed:	06/01/02	
GC Column:	RTX5	02. ID:	0.53 (mm)	Dile	ution Factor:	1.0	
Soil Extract	Volume		(uL)	Soi	l Aliquot Volu	ıme:	(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	US
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

FORM I VOA

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## 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.:S	DG No.: MW-1	
Matrix: (soil/	water) WATE	R	Lab Sample ID:	555757 1.0	
Sample wt/v	ol: <u>5.0</u>	(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 Volu	ıme:	(uL)
		CON	NCENTRATION UNITS:		
		(ug/	L or ug/Kg) UG/L		

Number TICs found:

unknown freon

CAS NO.

	1		
COMPOUND	RT	EST. CONC.	Q
unknown freon	3.83	10	assaultanes

7/12/02

#### 1A

#### **VOLATILE ORGANICS ANALYSIS DATA SHEET**

EPA SAMPLE NO.

MW-5	S
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Lab Name:	CAS/RC	OCH			Contract:	URS	10104-03	
Lab Code: 10145		Case No.: R		R2-12150	SAS No.:		SDG No.: MW-1	
Matrix: (soil/	water)	WATE	R_		La	b Sample ID:	555758 1.0	
Sample wt/vo	ol:	5.0	(g/ml)	ML	Lai	b File ID:	13635.D	
Level: (low/r	ned)	LOW			Da	te Received:	05/24/02	
% Moisture:	not dec.				Da	te Analyzed:	06/01/02	
GC Column:	RTX50	02. ID:	0.53 (n	nm)	Dil	ution Factor:	1.0	
Soil Extract \	/olume		(uL)		So	il Aliquot Volu	ıme:	(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	US
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

7/12/02

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MV		

Lab Name:	CAS/RO	DCH		_ Contract:	URS			
Lab Code:	10145	Cas	e No.: R2-1215	O SAS No.	:s	DG No.:	MW-1	
Matrix: (soil/	water)	WATER		Lab	Sample ID:	555758	1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab	File ID:	13635.D		
Level: (low/	med)	LOW		Date	e Received:	05/24/0	2	
% Moisture:	not dec.			Date	e Analyzed:	06/01/02	2	
GC Column:	RTX5	02. ID: 0.5	3 (mm)	Dilu	tion Factor:	1.0		
Soil Extract Volume (uL)			_ (uL)	Soil	Aliquot Volu	ume:		(uL)
			C	DICENTRATI	ON UNITS:			
Number TIC	s found:	2	_ (u	g/L or ug/Kg)	UG/L			

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown freon	3.83	······································	J***
· ·	unknown freon	3.98	· · · · · · · · · · · · · · · · · · ·	e a age

PR2102

### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name:	CAS/ROCH			Contract: URS		MW-5D
Lab Code:	10145	Ca	se No.: R2-12150	SAS No.:	SDG No	.: MW-1
Matrix: (soil/	water)	WATER	-	Lab Sampl	le ID: 55575	9 1.0
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID	13605.	D
Level: (low/	med)	LOW	_	Date Rece	ived: 05/24/	02
% Moisture:	not dec.			Date Analy	zed: 05/31/	02
GC Column:	RTX5	02. ID: 0.	53 (mm)	Dilution Fa	ctor: 1.0	
Soil Extract	Volume		(uL)	Soil Aliquo	t 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

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPLE	NO
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Lab Name:	CAS/RC	ОСН			Contra	ct:	URS		MAA-9D	
Lab Code:	10145		Case No.: R2-	12150	SAS	No.	•	SDG No.:	MW-1	
Matrix: (soil/	water)	WATER	2			Lab	Sample II	D: <u>555759</u>	1.0	
Sample wt/v	ol:	5.0	(g/ml) ML			Lab	File ID:	13605.D		, 11
Level: (low/	med)	LOW				Date	e Receive	d: 05/24/0	2	
% Moisture:	not dec.					Date	e Analyzed	1: 05/31/0	2	
GC Column:	RTX5	02. ID:	0.53 (mm)			Dilu	tion Facto	r: 1.0		
Soil Extract Volume		(uL)			Soil	Aliquot Vo	olume:		(uL)	
				CON	CENT	RAT	ION UNITS	S:		
Number TIC	s found:	0		(ug/L	or ug/	Kg)	UG/L			
CAS NO.		COMP	OUND				RT	EST. CON	c.	Q

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

<b>EPA</b>	SAMPL	E NO
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Lab Name:	CAS/RO	осн		Contract: URS	MVV-6S	
Lab Code:	10145	Ca	se No.: R2-12150	SAS No.: S	SDG No.: MW-1	
Matrix: (soil/	water)	WATER	_	Lab Sample ID:	555760 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:	I3615.D	
Level: (low/i	med)	LOW		Date Received:	05/24/02	
% Moisture:	not dec.			Date Analyzed:	05/31/02	
GC Column:	RTX5	02. ID: 0.	53 (mm)	Dilution Factor:	1.0	
Soil Extract	Volume		_ (uL)	Soil Aliquot Vol	ume:	(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	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

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

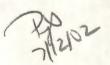
Lab Name: CAS/R	осн	Contract: URS	MW-6S
Lab Code: 10145	Case No.: R2-12	150 SAS No.:S	DG No.: MW-1
Matrix: (soil/water)	WATER	Lab Sample ID:	555760 1.0
Sample wt/vol:	5.0 (g/ml) ML	Lab File ID:	I3615.D
Level: (low/med)	LOW	Date Received:	05/24/02
% Moisture: not dec.		Date Analyzed:	05/31/02
GC Column: RTX5	02. ID: 0.53 (mm)	Dilution Factor:	1.0
Soil Extract Volume	(uL)	Soil Aliquot Volu	ıme: (uL)
		CONCENTRATION UNITS:	
Number TICs found:		2 (ug/L or ug/Kg) UG/L	
CAS NO.	COMPOUND	RT ES	ST. CONC. Q

3.83

3.98

unknown freon

unknown freen



#### 1/

Lab Name:

#### **VOLATILE ORGANICS ANALYSIS DATA SHEET**

EPA SAMPLE NO.

		MW-6D
CAS/ROCH	Contract: URS	MAA-OD

 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:

	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	9	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-Dichloroproper	ne	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	and Charles	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-Tetrachloroethan	е	10	U	

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## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	CAS/RO	ОСН		Contract: URS	MAA-OD	
Lab Code:	10145	c	ase No.: R2-1215	0 SAS No.:	SDG No.: MW-1	
Matrix: (soil/	water)	WATER		Lab Samp	ole ID: 555771 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File II	D: 13616.D	
Level: (low/	med)	LOW		Date Rec	eived: 05/24/02	
% Moisture:	not dec.			Date Anal	lyzed: 05/31/02	
GC Column:	RTX5	02. ID: 0	).53 (mm)	Dilution F	actor: 1.0	
Soil Extract	Volume		(uL)	Soil Alique	ot Volume:	(uL)

**CONCENTRATION UNITS:** 

(ug/L or ug/Kg)

UG/L

Number TICs found: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown froon	3.83	8	<b></b>
2.	unknown-froon	3.97	9	and the first of the same of t



<b>EPA</b>	SAMPL	E	NO.
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Lab Name:	CAS/RO	осн		Contract: UF	RS	MW-7S	
Lab Code:	10145	C	ase No.: R2-12150	SAS No.:	SI	DG No.: MW-1	
Matrix: (soil/	water)	WATER		Lab Sa	ample ID:	555773 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab Fi	le ID:	I3617.D	
Level: (low/	med)	LOW		Date F	Received:	05/24/02	
% Moisture:	not dec.			Date A	Analyzed:	05/31/02	
GC Column:	RTX5	02. ID: 0	.53 (mm)	Dilutio	n Factor:	1.0	
Soil Extract	Volume		(uL)	Soil Al	liquot Volu	ime:	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
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

# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-7S

Lab Name: C/	AS/ROCH		Contract: URS	<u> </u>	
Lab Code: 10	0145 Ca	ase No.: R2-12150	SAS No.:	SDG No.: M\	N-1
Matrix: (soil/wat	er) WATER		Lab San	ple ID: 555773 1.0	
Sample wt/vol:	5.0	(g/ml) <u>ML</u>	Lab File	ID: <u>I3617.D</u>	
Level: (low/med	d) <u>LOW</u>	_	Date Re	ceived: 05/24/02	
% Moisture: not	dec.		Date An	alyzed: 05/31/02	
GC Column:	RTX502. ID: 0	.53 (mm)	Dilution	Factor: 1.0	
Soil Extract Vol	ume	(uL)	Soil Aliq	uot Volume:	(uL)
		CON	ICENTRATION	UNITS:	
Number TICs fo	ound: 2	(ug/l	_ or ug/Kg)	JG/L	
CAS NO.	COMPO	UND	RT	EST. CONC.	Q

CAS NO.	COMPOUND	RT	EST. CONC.	Q	0
1.	-unknown freon	3.83		J	]6
-2	unknown-freon	3.96	en seconocossous senes se se 7 censesos	ال السام	1

1/2/02

'95-1

EPA SAMPLE NO.

Lab Name:	CAS/RO	ОСН		Contract: URS	MW-7D	
Lab Code:	10145	Ca	se No.: R2-12150	SAS No.:	SDG No.: MW-1	
Matrix: (soil/	water)	WATER		Lab Sample II	D: 555774 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:	13618.D	
Level: (low/	med)	LOW		Date Received	d: 05/24/02	
% Moisture:	not dec.			Date Analyzed	d: 05/31/02	
GC Column	RTX5	02. ID: 0.	53 (mm)	Dilution Facto	r: 1.0	
Soil Extract	Volume		_ (uL)	Soil Aliquot Ve	olume:	(uL

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

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	CAS/RC	СН			Contra	act: UF	RS		/IVV-/D	
Lab Code:	10145		Case No.	: R2-12150	SAS	8 No.: _	s	DG No.:	MW-1	
Matrix: (soil/	water)	WATE	R			Lab Sa	imple ID:	555774	1.0	
Sample wt/ve	ol:	5.0	(g/m	nl) ML		Lab Fil	e ID:	I3618.D		
Level: (low/r	med)	LOW				Date R	eceived:	05/24/02	2	
% Moisture:	not dec.					Date A	nalyzed:	05/31/02	2	
GC Column:	RTX50	2. ID:	0.53	(mm)		Dilution	Factor:	1.0		
Soil Extract \	Volume _		(uL)	)		Soil Ali	quot Volu	me:		(uL)
•							UNITS:			
Number TICs	s found:	2		(ug/	L or ug/	Ny)	UG/L			

CAS NO.	COMPOUND	RT	EST. CONC.	Q
1.	unknown-freon	3.83		
-2		3.96	8	r sample day from a sec

7/12/02

	- A	0	A B	AL POST	-	BIC	×
Description 1	PA	-	A 10	$n \cup 1$	_	DAIL	1

Lab Name:	CAS/RO	ОСН	-	Contract: URS	MW-95	
Lab Code:	10145	Cas	se No.: R2-12150	SAS No.:S	SDG No.: MW-1	
Matrix: (soil/	water)	WATER		Lab Sample ID:	555776 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:	I3619.D	
Level: (low/r	med)	LOW		Date Received:	05/24/02	
% Moisture:	not dec.			Date Analyzed:	05/31/02	
GC Column:	RTX50	02. ID: 0.5	53 (mm)	Dilution Factor:	1.0	
Soil Extract \	Volume		_ (uL)	Soil Aliquot Vol	ume:	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
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

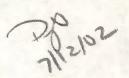
# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-9S

Lab Name:	CAS/RO	OCH		Contract:	URS			
Lab Code:	10145	Cas	se No.: R2-12	150 SAS N	o.: S	SDG No.:	MW-1	
Matrix: (soil/	water)	WATER		La	ab Sample ID:	555776 1	1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	La	ab File ID:	I3619.D		
Level: (low/	med)	LOW		Da	ate Received:	05/24/02		
% Moisture:	not dec.			Da	ate Analyzed:	05/31/02		
GC Column:	RTX5	02. ID: 0.5	53 (mm)	Di	ilution Factor:	1.0		
Soil Extract	Volume		_ (uL)	Se	oil Aliquot Vol	ume:		(uL)
					TION UNITS:			
Number TIC	s found:	2	_	ug/L or ug/Kg	) <u>UG/L</u>			

CAS NO.	COMPOUND	RT	EST. CONC.	Q
4	unknown freen	3.83	8	
2.	unknown freon	3.96	name of the same o	· · · · · · · · · · · · · · · · · · ·



EPA SAMPLE NO.

Lab Name:	CAS/RC	ОСН			Contract:	URS	MA-aD	
Lab Code:	10145		Case No.:	R2-12150	SAS No	.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATE	R		Lal	Sample ID:	555777 1.0	
Sample wt/v	ol:	5.0	(g/ml)	ML	Lal	File ID:	13620.D	
Level: (low/r	med)	LOW			Da	te Received:	05/24/02	
% Moisture:	not dec.				Da	te Analyzed:	05/31/02	
GC Column:	RTX50	02. ID:	0.53 (m	nm)	Dile	ution Factor:	1.0	
Soil Extract \	Volume .		(uL)		Soi	l Aliquot Volu	ıme:	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
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

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

<b>EPA</b>	SA	MF	LE	NO

MW-9D

Lab Name:	CAS/R	OCH		Contract:	URS		
Lab Code:	10145	Cas	se No.: R2-12150	SAS No	.:	SDG No.: M	IW-1
Matrix: (soil/	water)	WATER		Lal	Sample ID	): <u>555777</u> 1.0	)
Sample wt/v	ol:	5.0	(g/ml) ML	Lal	File ID:	13620.D	30.000.1300.
Level: (low/	med)	LOW		Da	te Received	1: 05/24/02	
% Moisture:	not dec.	39.11		Da	te Analyzed	: 05/31/02	
GC Column	: RTX5	02. ID: 0.5	3 (mm)	Dile	ution Factor	: 1.0	
Soil Extract	Volume		_ (uL)	Soi	il Aliquot Vo	olume:	(uL)
Number TIC	s found:	2		NCENTRAT 'L or ug/Kg)	TION UNITS UG/L	3: 	
CAS NO.		COMPOU	IND		RT E	EST. CONC.	Q
-1	11.000 TO 10.00 TO 10	-unknown-fi	eon	residence of relief of the first to	3.63	6	The second secon

unknown freen

PA12102

EPA SAMPLE	NO	E	PAS	EP	
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MW-1	08
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Lab Name:	CAS/RC	ОСН		Contract:	URS	MW-10S	
Lab Code:	10145	C	ase No.: R2-1215	0 SAS No	o.: s	SDG No.: MW-1	
Matrix: (soil/	water)	WATER	_	La	b Sample ID:	555778 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML		b File ID:	13628.D	
Level: (low/s	med)	LOW		Da	ate Received:	05/24/02	
% Moisture:	not dec.			Da	ate Analyzed:	06/01/02	
GC Column:	RTX50	02. ID: 0	.53 (mm)	Dil	lution Factor:	1.0	
Soil Extract	Volume		(uL)	So	oil Aliquot Vol	ume:	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
67-64-1	Acetone	10	UZ
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		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

# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

<b>EPA</b>	SAMPL	E NO
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Lab Name:	CAS/ROCH		Contrac	t: URS	M	W-10S
Lab Code:	10145	Case No.: R2-1	<del></del>		SDG No.:	 MW-1
Matrix: (soil/					056 113 e ID: 555778 1	
		0.53		ab Gampi ab File ID		-
Sample wt/v		(g/ml) <u>ML</u>			ved: 05/24/0	
Level: (low/	<u></u>					
% Moisture:		0.50 ( )			zed: <u>06/01/02</u>	
	RTX502. ID	<del></del> , , ,		Dilution Fa		
Soil Extract \	Volume	(uL)		Soil Aliquot	Volume:	(uL)
			CONCENTR	ATION UN	IITS:	
Number TIC	s found:	0	(ug/L or ug/K	g) UG	6/L	
CAS NO.	CON	IPOUND		RT	EST. CONC	. Q

<b>EPA</b>	SAN	<b>IPL</b>	E	NO
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Lab Name:	CAS/R	ОСН		Contract: URS	MW-13D	
Lab Code:	10145	Ca	se No.: R2-12150	SAS No.:S	DG No.: MW-1	
Matrix: (soil/	water)	WATER	_	Lab Sample ID:	555779 1.0	
Sample wt/v	ol:	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:	RTX5	02. ID: 0.	53 (mm)	Dilution Factor:	1.0	
Soil Extract	Volume		(uL)	Soil Aliquot Volu	ume:	(uL

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
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	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

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO	
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Lab Name: CAS/ROCH	Contract: URS MW-13D
Lab Code: 10145 Case No.: R	2-12150 SAS No.: SDG No.: MW-1
Matrix: (soil/water) WATER	Lab Sample ID: 555779 1.0
Sample wt/vol: 5.0 (g/ml) N	AL Lab File ID: 13629.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	n) Dilution Factor: 1.0
Soil Extract Volume (uL)	Soil Aliquot Volume: (uL
Number TICs found: 0	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L
CAS NO. COMPOUND	RT EST. CONC. Q

#### 1A

### VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

_ab Name:	CAS/R	ОСН			Contract:	URS	MW-11D	
_ab Code:	10145	Cas	e No.:	R2-12150	SAS No	.:	SDG No.: MW-1	
Matrix: (soil/	water)	WATER			Lal	Sample ID	: 555780 1.0	
Sample wt/v	ol:	5.0	(g/ml)	ML	Lal	File ID:	13630.D	
_evel: (low/	med)	LOW			Da	te Received	05/24/02	
% Moisture:	not dec.				Da	te Analyzed:	06/01/02	
GC Column:	RTX5	02. ID: 0.5	3 (n	nm)	Dile	ution Factor:	1.0	
Soil Extract	Volume		(uL)		Soi	l Aliquot Vol	ume:	(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	US
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

2/2/02

### VOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO. TENTATIVELY IDENTIFIED COMPOUNDS

-	an i		-4	4	_
- 104	mu	ns.	-1	ъ	
- 83	ш	м.			_

Lab Name:	CAS/ROCH	1	Contract: URS		
Lab Code:	10145	Case No.: R2-121	50 SAS No.:	SDG No.: MW	-1
Matrix: (soil/	water) W	ATER	Lab Sample II	D: 555780 1.0	
Sample wt/v	ol: <u>5.</u>	0 (g/ml) ML	Lab File ID:	13630.D	
Level: (low/r	med) LC	OW	Date Receive	d: 05/24/02	
% Moisture:	not dec.		Date Analyzed	d: 06/01/02	
GC Column:	RTX502.	ID: 0.53 (mm)	Dilution Facto	r: 1.0	
Soil Extract	Volume	(uL)	Soil Aliquot V	olume:	(uL)
Number TIC	s found:		ONCENTRATION UNIT	S:	
CAS NO.		OMPOUND	RT	EST. CONC.	Q

EPA SAMPLE NO.

Lab Name:	CAS/ROCH		Contract: URS	KVV-01	
Lab Code:	10145	Case No.: R2-12150	SAS No.:	SDG No.: MW-1	
Matrix: (soil/	water) WAT	TER	Lab Sample	ID: 555783 1.0	
Sample wt/ve	ol: 5.0	(g/ml) ML	Lab File ID:	I3648.D	
Level: (low/r	med) LOW	1	Date Receiv	red: 05/24/02	
% Moisture:	not dec.		Date Analyz	ed: 06/03/02	
GC Column:	RTX502. II	D: <u>0.53</u> (mm)	Dilution Fac	tor: 1.0	
Soil Extract	Volume	(uL)	Soil Aliquot	Volume:	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
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	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

# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO	EPA SAMPLE NO	C
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Lab Name: CA	S/ROCH	- 18 TO 18 TO 18	Contract:	URS	R	W-01
Lab Code: 101	45	Case No.: R2-1	2150 SAS No	).: ;	SDG No.:	MW-1
Matrix: (soil/wate	r) WATE	R_	Lal	b Sample ID	: 555783 1	0.0
Sample wt/vol:	5.0	(g/ml) ML	Lal	File ID:	13648.D	
Level: (low/med)	LOW	24 mg 24	Da	te Received	: 05/24/0	2
% Moisture: not o	lec.		Da	te Analyzed	: 06/03/02	
GC Column: R	TX502. ID:	0.53 (mm)	Dil	ution Factor	: 1.0	
Soil Extract Volum	me	(uL)	So	il Aliquot Vo	lume:	(uL)
Number TICs fou	nd: <u>1</u>		CONCENTRAT (ug/L or ug/Kg)		:	
CAS NO.	сом	POUND		RT E	ST. CONC	. Q



<b>EPA</b>	SAM	<b>IPL</b>	E	NC
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Lab Name:	CAS/R	осн		Contract: URS	RW-02	
Lab Code:	10145	Ca	se No.: R2-12150	SAS No.:	DG No.: MW-1	
Matrix: (soil/	water)	WATER	_	Lab Sample ID:	555784 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:	13636.D	
Level: (low/	med)	LOW	_	Date Received:	05/24/02	
% Moisture:	not dec.			Date Analyzed:	06/01/02	
GC Column:	RTX5	02. ID: 0.	53 (mm)	Dilution Factor:	1.0	
Soil Extract	Volume		_ (uL)	Soil Aliquot Vol	ume:	(uL)

CAS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
74-83-9	Bromomethane	10	U
75-00-3	Chloroethane	10	U
67-64-1	Acetone	10	US
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

#### 1E VOLATILE ORGANICS ANALYSIS DATA SHEET EPA SAMPLE NO. TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name:	CAS/RC	СН		Contra	act:	URS			<b>KVV-UZ</b>	
Lab Code:	10145	Cas	se No.: R2-1	2150 SAS	S No	).:	 _ SD	G No.:	MW-1	
Matrix: (soil/v	vater)	WATER			La	b Sample	ID:	555784	1.0	
Sample wt/vo	ol:	5.0	(g/ml) ML		Lal	b File ID:	اِ	3636.D		
Level: (low/n	ned)	LOW			Da	te Receiv	/ed: _	05/24/0	12	
% Moisture: r	not dec.				Da	te Analyz	ed: 0	06/01/02	2	
GC Column:	RTX50	02. ID: 0.5	3 (mm)		Dil	ution Fac	tor: _	1.0		
Soil Extract \	/olume		_ (uL)		So	il Aliquot	Volur	ne:		(uL)
				CONCENT	RA1	ION UNI	TS:			
Number TICs	found:	0	_	(ug/L or ug/	(Kg)	UG/	L			
CAS NO.		COMPOU	ND			RT	EST	Γ. CONC	<b>3</b> .	Q

#### 1/

### VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name:	CAS/R	ОСН			Contract:	URS	RW-03	
Lab Code:	10145		Case No.:	R2-12150	SAS No	.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATER			Lat	Sample ID:	555787 1.0	
Sample wt/v	ol:	5.0	(g/ml)	ML	Lat	File ID:	13638.D	
Level: (low/r	med)	LOW			Dai	te Received:	05/24/02	
% Moisture:	not dec.					te Analyzed:		
GC Column:	RTX5	02. ID:	0.53 (m	nm)	Dile	ution Factor:	1.0	
Soil Extract \	Volume		(uL)		Soi	Aliquot Volu	ıme:	(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	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

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## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

<b>EPA</b>	SA	MP	LE	NO
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RW-03

Lab Name:	CAS/RC	CH		Contract:	URS		VV-03	
Lab Code:	10145	Cas	e No.: R2-12150	SAS No	o.:	SDG No.: L	MW-1	_
Matrix: (soil/wa	ater)	WATER		La	b Sample ID	: 555787 1	.0	
Sample wt/vol	<b>i</b> :	5.0	(g/ml) ML	_ La	b File ID:	13638.D		
Level: (low/m	ed)	LOW		Da	ate Received	: 05/24/0	2	
% Moisture: no	ot dec.			Da	ate Analyzed	: 06/01/02		
GC Column:	RTX50	)2. ID: 0.5	3 (mm)	Di	lution Factor	: 1.0		
Soil Extract Vo	olume		_ (uL)	So	oil Aliquot Vo	lume:	(	uL)
Number TICs	found:	2		NCENTRA /L or ug/Kg	TION UNITS ) UG/L	): 		
CAS NO.		COMPOU	ND		RT E	ST. CONC	. Q	
2			eonstrates estado de decido de la composição de la compos		0.00		0	



<b>EPA</b>	SAL	MPI	F	NO
EFA	SAI	VILL	_	INO

_ab Name:	CAS/RC	осн		Contract: URS		RW	-04
_ab Code:	10145	Case	No.: R2-12150	SAS No.:	s	DG No.: M	N-1
Matrix: (soil/	water)	WATER		Lab Sample	ID:	555789 2.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:		I3649.D	
_evel: (low/	med)	LOW		Date Receiv	ved:	05/24/02	
% Moisture:	not dec.			Date Analyz	zed:		
GC Column:	RTX5	02. ID: 0.53	3_ (mm)	Dilution Fac	tor:	4.0 2.0	DE 6/21/0
Soil Extract	Volume		(uL)	Soil Aliquot	Volu	ıme:	(uL)

### CONCENTRATION UNITS:

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

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## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPL	E NO
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					001100		-	101.01	
Lab Name:	CAS/RC	ОСН		Contrac	t: URS		R	W-04	
Lab Code:	10145		Case No.: R2-12	150 SAS	No.:	_ SDG N	10.:	MW-1	
Matrix: (soil/v	vater)	WATE	R	1	Lab Sample	e ID: 555	789 2	2.0	_
Sample wt/vo	oł:	5.0	(g/ml) ML	War	Lab File ID:	1364	19.D		
Level: (low/n	ned)	LOW			Date Recei	ved: <u>05/</u>	24/0	2	_
% Moisture: r	not dec.				Date Analy:				_
GC Column:	RTX50	02. ID:	0.53 (mm)	1	Dilution Fac	ctor: - <del>1:0</del> -	2.0	E) 6/	121/02
Soil Extract V	/olume		(uL)		Soil Aliquot				_ (uL)
			(	CONCENTR	ATION UN	ITS:			
Number TICs	found:	0		(ug/L or ug/K	(g) <u>UG</u>	/L			
CAS NO.		COMF	POUND		RT	EST. C	ONC		Q

EPA SAMPLE NO.

Lab Name:	CAS/RO	OCH			Contract:	URS	RVV-04DL	,
Lab Code:	10145		Case No.:	R2-12150	SAS No	.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATE	R		Lat	Sample ID:	555789 5.0	
Sample wt/ve	ol:	5.0	(g/ml)	ML	Lat	File ID:	13650.D	
Level: (low/r	med)	LOW			Dat	e Received:	05/24/02	
% Moisture:	not dec.				Dat	e Analyzed:	06/03/02	
GC Column:	RTX50	22. ID:	0.53 (m	ım)	Dile	ution Factor:	5.0	
Soil Extract	Volume	1	(uL)		Soi	Aliquot Volu	ıme:	(uL

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 tetrachforide	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	Ù
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

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	CAS/RO	ОСН		Contract:	URS	F	R	W-04DL	
Lab Code:	10145	Case No	.: R2-12150	SAS No		s	DG No.:	MW-1	
Matrix: (soil/	water)	WATER		Lat	Sample	ID:	555789	5.0	
Sample wt/v	ol:	5.0 (g/r	nl) ML	Lat	File ID:		13650.D		
Level: (low/i	med)	LOW		Dat	te Receiv	/ed:	05/24/	02	
% Moisture:	not dec.	1		Dat	te Analyz	zed:	06/03/02	2	
GC Column:	RTX5	02. ID: 0.53	(mm)	Dile	ution Fac	tor:	5.0		
Soil Extract	Volume	(ul	-)	Soi	l Aliquot	Volu	me:		(uL)
Number TICs	s found:	0		NCENTRAT L or ug/Kg)	111				
CAS NO.		COMPOUND		1353	RT	ES	ST. CON	2.	Q
			X					Phylin I was a series of the s	2
	/							7112	

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### **VOLATILE ORGANICS ANALYSIS DATA SHEET**

	-	ADI E	NIO
EPA	SAN	<b>IPLE</b>	NO.

TRIP BLANK

Lab Name:	CAS/RC	ОСН		Contract:	URS	TRIP BLAN	
Lab Code:	10145	Cas	se No.: R2-1215	0 SAS No	o.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATER		La	b Sample ID:	555791 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	_ La	b File ID:	13640.D	
Level: (low/	med)	LOW		Da	ate Received:	05/24/02	
% Moisture:	not dec.			Da	ate Analyzed:	06/01/02	
GC Column:	RTX50	02. ID: 0.5	53 (mm)	Di	lution Factor:	1.0	
Soil Extract	Volume		_ (uL)	So	oil Aliquot Volu	ume:	(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	US
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		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

7A2102

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

10

10

TRIP BLANK

Lab Name:	CAS/RC	OCH		Contract: URS		
Lab Code:	10145	Case No.: R2	2-12150	SAS No.:	SDG No.: M	W-1
Matrix: (soil/v	water)	WATER		Lab Sample II	D: <u>555791 1.0</u>	
Sample wt/vo	ol:	5.0 (g/ml) M	IL	Lab File ID:	13640.D	
Level: (low/r	med)	LOW		Date Receive	1: 05/24/02	
% Moisture:	not dec.			Date Analyzed	d: 06/01/02	
GC Column:	RTX5	02. ID: <u>0.53</u> (mm)	)	Dilution Facto	r: 1.0	
Soil Extract Volume (uL)				Soil Aliquot Ve	olume:	(uL)
Number TICs	s found:	2		CENTRATION UNITS	S:	
CAS NO		COMPOLIND		RT I	EST CONC	0

3.83

3.97

unknown freon

unknown freon

1.

#### 1A

#### **VOLATILE ORGANICS ANALYSIS DATA SHEET**

	O	NI E NIO
	CABAL	21 F N( )
LEA	SAIVII	PLE NO

Lab Name:	CAS/RO	OCH		Contract:	URS	MW-10D	
Lab Code:	10145	Cas	se No.: R2-12150	SAS No	o.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATER		La	b Sample ID:	556267 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	La	b File ID:	I3651.D	
Level: (low/	med)	LOW		Da	te Received:	05/24/02	
% Moisture:	not dec.			Da	te Analyzed:	06/03/02	
GC Column:	RTX5	02. ID: 0.5	53 (mm)	Dil	ution Factor:	1.0	
Soil Extract	Volume		_ (uL)	So	il Aliquot Volu	ıme:	(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	US
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

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name:	CAS/RO	ОСН		Contract:	URS	MW-10D	
Lab Code:	10145	Cas	se No.: R2-12150	SAS No	o.: §	SDG No.: MW-1	
Matrix: (soil/	water)	WATER		Lal	b Sample ID:	556267 1.0	
Sample wt/v	ol:	5.0	(g/ml) ML	Lal	b File ID:	13651.D	
Level: (low/	med)	LOW		Da	te Received:	05/24/02	
% Moisture:	not dec.			Da	te Analyzed:	06/03/02	
GC Column:	RTX5	02. ID: 0.5	i3 (mm)	Dil	ution Factor:	1.0	
Soil Extract	Volume		_ (uL)	So	il Aliquot Vol	ume:	(uL)

#### **CONCENTRATION UNITS:**

(ug/L or ug/Kg)

UG/L

Number TICs found: 2

CAS NO.	COMPOUND	RT	EST. CONC.	Q
4	unknown freon	3.81	20	
2.	unknown-freon	3.95	story and the state of the stat	سبب ال بنيسين

Phone

#### 1A

#### **VOLATILE ORGANICS ANALYSIS DATA SHEET**

EPA SAMPLE NO.

COOLER BLK

Lab Name:	CAS/RC	OCH		Contract:	URS		
Lab Code:	10145	Case No.:	R2-12150	SAS No	.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATER		Lal	Sample ID:	556268 1.0	
Sample wt/ve	ol:	5.0 (g/ml	) ML	Lai	File ID:	13653.D	
Level: (low/r	med)	LOW		Da	te Received:	05/24/02	
% Moisture:	not dec.			Da	te Analyzed:	06/03/02	
GC Column:	RTX50	02. ID: 0.53 (	mm)	Dili	ution Factor:	1.0	
Soil Extract \	/olume	(uL)		Soi	Aliquot Volu	ıme:	(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	UI
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

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'95-1

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# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

COOLER BLK Lab Name: CAS/ROCH Contract: URS SAS No.: SDG No.: MW-1 10145 Case No.: R2-12150 Lab Code: WATER Lab Sample ID: 556268 1.0 Matrix: (soil/water) 5.0 (g/ml) ML Sample wt/vol: Lab File ID: 13653.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	SMC1	SMC2	SMC3	TOT
	SAMPLE NO.	#	#	#	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

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

# Column to be used to flag recovery values

D System Monitoring Compound diluted out

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

### 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

(A) 6/21/02

RPD: 1 out of 5 outside limits NA

Spike Recovery: 1 out of 10 outside limits & out of 5 outside limits

COMMENTS:

EPA SAMPLE NO.

Lab Name:	CAS/RO	СН		Contract:	URS	VBLRUIWS	,
Lab Code:	10145	C	ase No.: R2-12150	SAS No	o.: s	SDG No.: MW-1	
Matrix: (soil/	water)	WATER	_	La	b Sample ID:	VBLK01MS	
Sample wt/ve	ol:	5.0	(g/ml) ML	Lal	b File ID:	13604.D	
Level: (low/r	ned)	LOW		Da	te Received:		
% Moisture:	not dec.			Da	te Analyzed:	05/31/02	
GC Column:	RTX50	2. ID: 0	.53 (mm)	Dil	ution Factor:	1.0	
Soil Extract \	/olume _		(uL)	So	il Aliquot Vol	ume:	(uL)

AS NO.	COMPOUND (ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	10	U
75-01-4	Vinyl chloride	10	U
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

### 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	SPłKE 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 PD 6/21/02	
Spike Recovery: 1 out of 10 outside limits & out of 5 outside limits	
COMMENTS:	

### **VOLATILE ORGANICS ANALYSIS DATA SHEET**

EPA SAMPLE NO.

Lab Name: CAS/ROCH Contract: URS

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	Carl on 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

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	
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\* Values outside of QC limits

RPD: 1 out of 5 outside limits N/A

Spike Recovery: 1-out of 10 outside limits \$ out of 5 outside limits

COMMENTS:

# 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name:	CAS/RO	ОСН		Contract: URS	VBLK03MS	5
Lab Code:	10145	Ca	se No.: R2-12150	SAS No.:	DG No.: MW-1	
Matrix: (soil/	water)	WATER	_	Lab Sample ID:	VBLK03MS	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:	13647.D	
Level: (low/i	med)	LOW	_	Date Received:		
% Moisture:	not dec.			Date Analyzed:	06/03/02	
GC Column:	RTX50	02. ID: 0.	53 (mm)	Dilution Factor:	1.0	
Soil Extract	Volume		_ (uL)	Soil Aliquot Volu	ume:	(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-Dichloroether	ne	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-Dichloroprope		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-Tetrachloroethai	ne	10	U

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

Lab Name: CAS/ROCH Contract: URS

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

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

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

RPD: 1 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS:

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

### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MW-5DMS

Lab Name:	CAS/RO	OCH		Contract: URS	WILL OF HIS	
Lab Code:	10145		Case No.: R2-12150	SAS No.:	SDG No.: MW-1	
Matrix: (soil/	water)	WATER	2	Lab Sample	ID: 555759 1.0 MS	
Sample wt/ve	ol:	5.0	(g/ml) ML	Lab File ID:	I3606.D	
Level: (low/r	med)	LOW		Date Receiv	/ed: 05/24/02	
% Moisture:	not dec.			Date Analyz	zed: 05/31/02	
GC Column:	RTX5	02. ID:	0.53 (mm)	Dilution Fac	tor: 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	1
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

'95-1

#### 1A

### **VOLATILE ORGANICS ANALYSIS DATA SHEET**

EPA SAMPLE NO.

MW-5DMSD

Lab Name:	CAS/RO	OCH			Contract:	URS		
Lab Code:	10145		Case No.:	R2-12150	SAS No	o.: s	DG No.: MW-1	
Matrix: (soil/	water)	WATE	R		La	b Sample ID:	555759 1.0 MS	
Sample wt/v	ol:	5.0	(g/ml)	ML	La	b File ID:	13607.D	
Level: (low/	med)	LOW			Da	te Received:	05/24/02	
% Moisture:	not dec.				Da	te Analyzed:	05/31/02	
GC Column:	RTX5	02. ID:	0.53 (n	nm)	Dil	ution Factor:	1.0	
Soil Extract	Volume		(uL)		So	il Aliquot Volu	ume:	(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

## **VOLATILE METHOD BLANK SUMMARY**

EPA SAMPLE NO.

Lab Name:	CAS/ROCH	Contract:	URS	VBLK01

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

Lab File ID: 13603.D Lab Sample ID: VBLK01

Date Analyzed: 05/31/02 Time Analyzed: 11:58

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

Instrument ID: GCMS#1

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

	EPA	LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	VBLK01MS	VBLK01MS	13604.D	12:38
02	MW-5D	555759 1.0	13605.D	13:24
03	MW-5DMS	555759 1.0 MS	13606.D	14:04
04	MW-5DMSD	555759 1.0 MSD	13607.D	14:39
05	MW-1	555753 1.0	I3613.D	18:14
)6	MW-3	555755 1.0	I3614.D	18:49
7	MW-6S	555760 1.0	I3615.D	19:23
180	MW-6D	555771 1.0	I3616.D	19:57
9	MW-7S	555773 1.0	I3617.D	20:32
10	MW-7D	555774 1.0	13618.D	21:06
1	MW-9S	555776 1.0	I3619.D	21:41
12	MW-9D	555777 1.0	13620.D	22:15

COMMENTS	
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# 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name:	CAS/R	ОСН			Contract:	URS	ABEKOI	
Lab Code:	10145		Case No.:	R2-12150	SAS No	o.: s	SDG No.: MW-1	
Matrix: (soil/	water)	WATE	R		Lal	Sample ID:	VBLK01	
Sample wt/v	ol:	5.0	(g/ml)	ML	Lal	b File ID:	13603.D	
Level: (low/	med)	LOW			Da	te Received:		
% Moisture:	not dec.				Da	te Analyzed:	05/31/02	
GC Column:	RTX5	02. ID:	0.53 (n	nm)	Dil	ution Factor:	1.0	
Soil Extract	Volume		(uL)		So	il Aliquot Volu	ime.	Aul Y

### 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

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1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

Lab Name: C	AS/ROCH		Contract: URS	\	/BLK01
Lab Code: 10	0145	Case No.: R2-12	150 SAS No.:	SDG No.:	MW-1
Matrix: (soil/wat	er) WATE	R	Lab Samp	ole ID: VBLK0	1
Sample wt/vol:	5.0	(g/ml) ML	Lab File II	D: 13603.D	)
Level: (low/med	d) LOW		Date Rece	eived:	
% Moisture: not	dec.		Date Anal	yzed: 05/31/0	2
GC Column:	RTX502. ID:	0.53 (mm)	Dilution F	actor: 1.0	
Soil Extract Vol	ume	(uL)	Soil Alique	ot Volume:	(uL)
Number TICs fo	ound: 0	(	CONCENTRATION U	NITS: G/L	
CAS NO.		POUND	RT	EST. CON	

## **VOLATILE METHOD BLANK SUMMARY**

EPA SAMPLE NO.

VBLK02

Lab Name: CAS/ROCH

Contract: URS

Lab Code:

10145

Case No.: R2-12150

SAS No.: SDG No.: MW-1

Lab File ID:

13626.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	LAB	LAB	TIME
	SAMPLE NO.	SAMPLE ID	FILE ID	ANALYZED
01	VBLK02MS	VBLK02MS	I3627.D	11:22
02	MW-10S	555778 1.0	13628.D	11:59
03	MW-13D	555779 1.0	13629.D	12:33
04	MW-11D	555780 1.0	13630.D	13:08
05	MW-2S	555754 1.0	I3632.D	14:17
06	MW-4	555756 1.0	13633.D	14:51
07	MW-4 DUP	555757 1.0	13634.D	15:25
08	MW-5S	555758 1.0	13635.D	16:00
09	RW-02	555784 1.0	13636.D	16:34
10	RW-03	555787 1.0	13638.D	17:43
11	TRIP BLANK	555791 1.0	13640.D	18:52

COMMENTS

### 1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

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EPA	- 4	ושתא		DIC 1

_ab Name:	CAS/ROCH			Contract: URS	VBLK02	
Lab Code:	10145	Cas	se No.: R2-12150	SAS No.:	SDG No.: MW-1	
Matrix: (soil/	water)	WATER		Lab Sample	ID: VBLK02	
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:	13626.D	
_evel: (low/	med)	LOW		Date Receive	ed:	
% Moisture:	not dec.			Date Analyze	ed: 06/01/02	
GC Column:	RTX5	02. ID: 0.5	53 (mm)	Dilution Facto	or: 1.0	
Soil Extract	Volume		(uL)	Soil Aliquot V	/olume:	(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 :	SAMP	LE NO
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Lab Name:	CAS/RC	OCH		Contract:	URS		DLRU2	
Lab Code:	10145		Case No.: R2-12	150 SAS No	).: \$	SDG No.:	MW-1	
Matrix: (soil/	water)	WATER		La	b Sample ID	: VBLK02		
Sample wt/v	ol:	5.0	(g/ml) ML	Lai	b File ID:	13626.D		
Level: (low/	med)	LOW		Da	te Received:			
% Moisture:	not dec.			Da	te Analyzed:	06/01/02		
GC Column:	RTX5	02. ID:	0.53 (mm)	Dil	ution Factor:	1.0		
Soil Extract Volume			(uL)	So	il Aliquot Vol	ume:		(uL)
				CONCENTRAT				
Number TIC:	s found:	0		ug/L or ug/Kg)	UG/L			
CAS NO.		COMPO	DUND		RT E	ST. CONC		Q

### **VOLATILE METHOD BLANK SUMMARY**

EPA SAMPLE NO.

03

Time Analyzed: 11:18

Lab Name:	CAS/ROCH	Co	ntract:	URS	VBLK

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

Lab File ID: 13646.D Lab Sample ID: VBLK03

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

Instrument ID: GCMS#1

Date Analyzed: 06/03/02

### 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	13648.D	13:00
03	RW-04	555789 2.0	13649.D	13:45
04	RW-04DL	555789 5.0	13650.D	14:29
05	MW-10D	556267 1.0	I3651.D	15:08
06	COOLER BLK	556268 1.0	13653.D	16:38

COMMENTS

# 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

<b>EPA</b>	SAI	MPL	E	NC

Lab Name:	CAS/RO	DCH		Contract: URS	VBLKUS
Lab Code:	10145		Case No.: R2-12150	SAS No.:	SDG No.: MW-1
Matrix: (soil/	water)	WATER	2	Lab Sample II	D: VBLK03
Sample wt/v	ol:	5.0	(g/ml) ML	Lab File ID:	I3646.D
Level: (low/	med)	LOW		Date Received	d:
% Moisture:	not dec.			Date Analyzed	1: 06/03/02
GC Column:	RTX5	02. ID:	0.53 (mm)	Dilution Facto	r: <u>1.0</u>
Soil Extract	Volume		(uL)	Soil Aliquot Vo	olume: (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 S	MA	PLE	NC
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Lab Name:	CAS/ROCH		Contract: URS	V	BLK03
Lab Code:	10145	Case No.: R2-1215	50 SAS No.:	SDG No.:	MW-1
Matrix: (soil/	water) WAT	ER	Lab Sam	ple ID: VBLK03	
Sample wt/v	ol: <u>5.0</u>	(g/ml) ML	Lab File I	D: <u>13646.D</u>	
Level: (low/	med) LOW		Date Rec	eived:	
% Moisture:	not dec.	-	Date Ana	lyzed: 06/03/02	
GC Column:	RTX502. IE	0: <u>0.53</u> (mm)	Dilution F	actor: 1.0	
Soil Extract	Volume	(uL)	Soil Aliqu	ot Volume:	(uL)
		co	DICENTRATION U	NITS:	
Number TIC:	s found:	O (ug	g/L or ug/Kg) U	G/L	
CAS NO.	COM	MPOUND	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 #	RT #	IS2 AREA #	RT #	IS3 AREA #	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.

<sup>\*</sup> 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): 13625.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
7	MW-4	180110	12.64	811380	14.69	642614	21.83
180	MW-4 DUP	179714	12.63	801173	14.71	628552	21.83
9	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
2	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.

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

# 8A VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Contract: URS Lab Name: CAS/ROCH SDG No.: MW-1 SAS No.: Lab Code: 10145 Case No.: R2-12150 Date Analyzed: 06/03/02 Lab File ID (Standard): 13645.D Time Analyzed: 10:34 Instrument ID: GCMS#1 Heated Purge: (Y/N) GC Column: RTX502.2 ID: 0.53

	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.						
1 VBLK03	206039	12.59	915410	14.66	732707	21.78
2 VBLK03MS	197077	12.65	889081	14.71	701811	21.83
3 RW-01	198130	12.60	888686	14.67	708183	21.79
RW-04	199123	12.61	888548	14.68	705035	21.78
RW-04DL	195441	12.62	868822	14.68	698989	21.80
MW-10D	186068	12.60	860264	14.66	681350	21.78
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.

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

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# 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:

- Interim Remedial Measure Program Appendix B: Quality Assurance Project Plan (QAPP). July 1996. Prepared by Woodward-Clyde Consultants.
- CLP Organics Data Review and Preliminary Review. S.O.P. No. HW-6, Revision 11, June 1996. Prepared by USEPA Region II.

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

The criteria evaluated included the following:

### 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

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- 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

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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".

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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  $\mu$ g/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.

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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  $\forall 30$  seconds from the associated continuing calibration standard retention times.

All VOC analyses reported for the groundwater samples had acceptable internal standard area counts and retention times. Validation of the I.S. data also included verification of retention

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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

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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.