HDR ONE COMPANY Many Solutions

Perm/Co ID #	Date	Doc ID#
62	8 13 03	DIN

-No VOCs
-No metals > 2L stds.

34-12
12-9-02

February 28, 2003

MAR 2003

Mr. Larry Rose
North Carolina Department of Environment
and Natural Resources (NCDENR)
Division of Solid Waste Management
Solid Waste Section
P. O. Box 27687
Raleigh, NC 27611-7687

Re: Fall 2002 Semiannual Ground-Water Sampling Analytical
and Landfill Gas Monitoring Results
Winston-Salem Construction and Demolition (C&D) Landfill (No. 34-12)
Forsyth County, North Carolina
HDR Project No. 00162-516-018

Dear Mr. Rose:

HDR Engineering, Inc. of the Carolinas (HDR), on behalf of the Winston-Salem City/County Utility Commission (the City), is hereby submitting the ground water analytical and landfill gas monitoring results for the Fall 2002 monitoring period (June through December 2002) at the C&D Landfill (the Landfill) located in Forsyth County, North Carolina.

Ground-water samples were collected from on-site detection monitoring wells MW-1R, MW-2R, MW-3R, MW-4R, MW-5R, MW-6R, MW-7, and MW-8 on December 9, 2002, for the eight Resource Conservation and Recovery Act (RCRA) metals and Appendix I volatile organic compound (VOC) analysis. A trip and equipment blank were also included for Quality Assurance/Quality Control (QA/QC) purposes. Field measurements of pH, specific conductance, temperature, and redox potential (Eh) were also recorded during presampling well purging. These measurements were recorded on field forms, which have been attached to the Report of Laboratory Analysis. Based on past ground-water flow characteristics for the site, ground-water monitoring well MW-1R is hydraulically upgradient of the Landfill and, therefore, is considered as "background" for the site.

In addition, landfill gas monitoring was performed from the six permanent methane gas monitoring stations (MM-1 through MM-6) located around the perimeter of Phase I of the Landfill. Methane stations MM-2 and MM-4 are nested monitoring stations, while all other stations are constructed as a single monitoring point.

The metal concentrations detected are reflective of the naturally-occurring trace metals typically present in the saprolite of this region. In addition, the trace metal concentrations for this period were below their respective 2L ground-water standards at all the ground-water

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monitoring wells. As reflected by the Presampling Well Purging forms, the presence of these trace metal detections is due to the slight lingering well turbidity in each well.

No VOCs were detected this period in any of the ground-water monitoring wells.

The Report of Laboratory Analysis for this sampling event at the Landfill is attached to this letter (including the Chain-of-Custody Record and field purging forms). Table 1 is also attached to this report summarizing the results of all sampling events performed to date at the Landfill. The results of this recent sampling event indicate that the existing ground-water monitoring well network at the Landfill is adequate to provide representative ground-water quality data and release detection determination for the Landfill.

No trace of methane was detected in the on-site methane monitoring stations. A copy of the Perimeter Gas Probe Monitoring Field Data Form is attached to this submittal.

HDR is currently addressing comments to the construction permit application made by NCDENR in a letter dated November 6, 2002.

If you have any questions or comments concerning the information summarized in this letter or in the attached analytical data report, please do not hesitate to contact me at (704) 338-6777.

Sincerely,

Chris Randazzo
Staff Geologist

CR/jvd

cc: Edward Gibson, PE, Winston-Salem City/County Utility Commission

Attachments: Table 1, Summary of Ground-Water Analytical Results
Report of Laboratory Analysis (w/Chain-of-Custody Record)
Perimeter Gas Probe Monitoring Field Data Form
Presampling Well Purging Forms
Ground-Water and Methane Gas Monitoring Well Locations

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS

	MW-1R													
Parameter	01/17/1996	10/24/1996	05/13/1997	10/30/1997	05/05/1998	11/05/1998	06/02/1999	11/19/1999	06/05/2000	12/14/2000	07/11/2001	01/[illegible]/2001	04/[illegible]/2001	11/07/2002
Arsenic	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0058	ND	ND
Barium	0.224	0.18	0.1	0.29	0.1	0.16	0.15	0.13	0.11	0.15	0.087	0.28	0.13	0.1
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	ND	0.006	0.003	0.011	0.049	0.012	0.0078	0.0052	ND	0.0066	0.0066	0.022	0.005	0.0023
Lead	0.006	ND	ND	0.012	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND
Mercury	0.0018	0.0002	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	ND	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	23	ND	ND	ND	ND	28	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroporpane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	21	ND	ND
Trans-1,3-Dichloro-1-Propene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,4-Dichloro-2-Butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

See footnotes at end of tables.

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS

	MW-2R													
Parameter	01/17/1996	10/24/1996	05/13/1997	10/30/1997	05/05/1998	11/05/1998	06/02/1999	11/20/1999	06/05/2000	12/14/2000	07/31/2001	11/29/2001	04/17/2002	11/09/2002
Arsenic	ND	ND	ND	ND	ND	0.011	ND	ND	ND	ND	ND	ND	ND	ND
Barium	0.35	0.16	0.2	0.34	0.19	1.1	0.15	0.12	0.18	0.061	0.28	0.16	0.1	0.14
Cadmium	ND	ND	0.003	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0019
Chromium	0.012	0.009	0.004	0.043	0.034	0.21	0.0078	0.014	0.003	0.0039	0.016	0.016	ND	0.0021
Lead	0.026	0.008	0.014	0.031	0.019	0.068	ND	0.0069	0.0065	ND	0.0089	0.007	ND	ND
Mercury	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	ND	ND	ND	ND	ND	ND	13	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroporpane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,3-Dichloro-1-Propene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,4-Dichloro-2-Butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

See footnotes at end of tables.

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS

	MW-3R													
Parameter	01/17/1996	10/24/1996	05/13/1997	10/30/1997	05/05/1998	11/05/1998	06/02/1999	11/20/1999	06/05/2000	12/15/2000	07/31/2001	12/20/2001	04/17/2002	12/09/2002
Arsenic	ND	ND	ND	ND	ND	ND	-----	0.0059	ND	0.031	0.018	0.0084	0.0074	ND
Barium	1.23	0.79	0.8	0.62	0.86	1.4	-----	0.052	0.3	1.5	0.95	0.4	0.37	0.013
Cadmium	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Chromium	0.009	0.02	0.028	0.016	0.025	0.077	-----	0.024	ND	0.1	0.05	0.019	0.015	ND
Lead	0.015	0.015	0.027	0.026	0.032	0.039	-----	0.04	ND	0.08	0.053	0.035	0.021	ND
Mercury	0.0007	ND	ND	0.0002	ND	ND	-----	ND	ND	NA	ND	NA	ND	ND
Selenium	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Methyl Chloride	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Trans-1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroporpane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Trans-1,3-Dichloro-1-Propene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Trans-1,4-Dichloro-2-Butene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND

See footnotes at end of tables.

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS

	MW-4R													
Parimeter	01/17/1996	10/24/1996	05/13/1997	10/30/1997	05/05/1998	11/06/1998	06/02/1999	11/20/1999	06/05/2000	12/15/2000	07/31/2001	11/29/2001	04/17/2002	10/7/2002
Arsenic	ND	ND	ND	ND	ND	ND	ND	0.0075	ND	ND	0.0056	0.012	ND	ND
Barium	0.595	0.72	0.28	0.65	0.85	2	0.95	0.86	0.57	0.35	0.55	0.9	0.061	0.086
Cadmium	0.007	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.021	0.047	ND	0.035	0.13	0.3	0.11	0.06	ND	0.028	0.038	0.093	ND	0.005
Lead	0.017	0.016	0.012	0.029	0.043	0.076	0.05	0.04	0.0095	0.0081	0.014	0.036	ND	0.006
Mercury	0.0017	0.0003	ND	ND	ND	0.00021	ND	0.00036	ND	NA	ND	NA	ND	ND
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroporpane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,3-Dichloro-1-Propene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,4-Dichloro-2-Butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

See footnotes at end of tables.

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS

	MW-4B													
Parameter	01/17/1996	10/24/1996	05/13/1997	10/30/1997	05/05/1998	11/06/1998	06/02/1999	1/20/1999	06/05/2000	12/14/2000	07/31/2001	1/7/2001	04/17/2002	7/09/2002
Arsenic	ND	ND	ND	ND	0.005	ND	ND	ND	ND	0.005	ND	0.007	ND	ND
Barium	1	0.62	0.33	0.61	0.82	0.48	0.24	0.2	0.2	0.4	0.27	0.61	0.15	0.065
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.096	0.043	0.07	0.016	0.17	0.096	0.038	0.029	0.0081	0.082	0.049	0.14	0.023	0.0074
Lead	0.019	0.02	0.014	0.031	0.069	0.029	0.016	0.0082	ND	0.0076	0.0076	0.013	ND	ND
Mercury	0.0008	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	150	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	25	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroporpane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,3-Dichloro-1-Propene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,4-Dichloro-2-Butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

See footnotes at end of tables.

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS

	MW-6													
Parameter	01/17/1996	10/24/1996	05/13/1997	10/30/1997	05/05/1998	11/05/1998	06/02/1999	11/19/1999	06/05/2000	12/14/2000	07/31/2001	11/29/2001	04/17/2002	11/09/2002
Arsenic	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	0.016	ND	ND
Barium	1.4	0.59	0.3	0.26	0.36	0.16	-----	0.059	0.082	0.041	0.062	0.53	0.18	0.041
Cadmium	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Chromium	0.012	0.01	0.021	0.014	0.033	0.012	-----	0.0028	ND	0.0026	0.0041	0.095	0.026	0.0032
Lead	0.018	0.011	0.014	0.014	0.02	ND	-----	ND	0.0058	ND	ND	0.038	0.0076	ND
Mercury	0.0014	ND	ND	ND	ND	ND	-----	ND	ND	NA	ND	NA	ND	ND
Selenium	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Methyl Chloride	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Trans-1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroporpane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Trans-1,3-Dichloro-1-Propene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
Trans-1,4-Dichloro-2-Butene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	ND	ND	ND	ND	ND	ND	-----	ND	ND	ND	ND	ND	ND	ND

See footnotes at end of tables.

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS

	MW-1													
Parameter	01/17/1996	10/24/1996	05/13/1997	10/30/1997	05/05/1998	11/06/1998	06/02/1999	11/20/1999	06/05/2000	12/13/2000	07/31/2001	10/17/2001	04/17/2002	11/06/2002
Arsenic	ND	ND	ND	ND	ND	ND	0.0098	ND	ND	0.045	0.016	0.017	ND	ND
Barium	1.93	0.97	0.75	1.8	1.2	1.3	0.96	0.39	0.36	2.6	1.3	1.3	0.084	0.21
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	0.028	0.021	0.18	0.41	0.43	0.35	0.19	0.062	0.0025	0.58	0.21	0.27	0.0068	0.032
Lead	0.017	0.006	0.023	0.053	0.038	0.036	0.03	0.012	0.0087	0.063	0.026	0.036	ND	0.006
Mercury	0.0014	0.0004	ND	0.0002	ND	ND	ND	ND	ND	NA	ND	NA	ND	ND
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0026	ND
Methyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Iodide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichloromethane	ND	ND	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	9	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroporpane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,3-Dichloro-1-Propene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,4-Dichloro-2-Butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

See footnotes at end of tables.

TABLE 1
HISTORICAL GROUNDWATER ANALYTICAL RESULTS

	MW-8				
Parameter	12/15/2000	07/31/2001	11/29/2001	04/17/2002	12/09/2002
Arsenic	0.089	0.046	0.036	ND	ND
Barium	4.2	2.6	2.7	0.15	0.048
Cadmium	ND	ND	ND	ND	ND
Chromium	0.24	0.092	0.094	0.023	0.002
Lead	0.4	0.21	0.15	ND	ND
Mercury	NA	ND	NA	ND	ND
Selenium	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND
Methyl Chloride	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
Methyl Iodide	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND
Dichloromethane	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND
Trans-1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND
Methyl Ethyl Ketone	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
Bromochloromethane	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND
1,2-Dichloroporpane	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropene	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Trans-1,3-Dichloro-1-Propene	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
Tetrachloroethylene	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND
Trans-1,4-Dichloro-2-Butene	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	ND	ND	ND	ND	ND

NA - Not available
ND - Non Detect

All metals in ppm, all organics in ppb.
Highlighted cells indicate exceedances in 2L Standards.

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December 19, 2002

Mr. Chris Randazzo
HDR Engineering
128 S. Tryon St. Suite 1400
Charlotte, NC 28202

RE: Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Dear Mr. Randazzo:

Enclosed are the analytical results for sample(s) received by the laboratory on December 10, 2002. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report please feel free to contact me.

Sincerely,

Bonnie Kamla

Bonnie Kamla
Bonnie.Kamla@pacelabs.com
Project Manager

Enclosures

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684014 | Project Sample Number: 9239322-001 | Date Collected: 12/09/02 13:00
Client Sample ID: MW-6R | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	12/16/02 14:24	DJR	7440-38-2		
Barium	0.041	mg/l	0.0050	12/16/02 14:24	DJR	7440-39-3		
Cadmium	ND	mg/l	0.0010	12/16/02 14:24	DJR	7440-43-9		
Chromium	0.0032	mg/l	0.0020	12/16/02 14:24	DJR	7440-47-3		
Lead	ND	mg/l	0.0050	12/16/02 14:24	DJR	7439-92-1		
Selenium	ND	mg/l	0.0050	12/16/02 14:24	DJR	7782-49-2		
Silver	ND	mg/l	0.0020	12/16/02 14:24	DJR	7440-22-4		
Date Digested	12/10/02			12/10/02				
Mercury, CVAAS, in Water	Method: EPA 7470							
Mercury	ND	mg/l	0.00020	12/17/02	LBG	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Method: EPA 8260							
Acetone	ND	ug/l	10.	12/14/02 09:38	RWS	67-64-1		
Acrylonitrile	ND	ug/l	25.	12/14/02 09:38	RWS	107-13-1		
Benzene	ND	ug/l	5.0	12/14/02 09:38	RWS	71-43-2		
Bromochloromethane	ND	ug/l	5.0	12/14/02 09:38	RWS	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	12/14/02 09:38	RWS	75-27-4		
Bromoform	ND	ug/l	5.0	12/14/02 09:38	RWS	75-25-2		
Bromomethane	ND	ug/l	5.0	12/14/02 09:38	RWS	74-83-9		
2-Butanone (MEK)	ND	ug/l	10.	12/14/02 09:38	RWS	78-93-3		
Carbon disulfide	ND	ug/l	10.	12/14/02 09:38	RWS	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	12/14/02 09:38	RWS	56-23-5		
Chlorobenzene	ND	ug/l	5.0	12/14/02 09:38	RWS	108-90-7		
Chloroethane	ND	ug/l	10.	12/14/02 09:38	RWS	75-00-3		
Chloroform	ND	ug/l	5.0	12/14/02 09:38	RWS	67-66-3		
Chloromethane	ND	ug/l	5.0	12/14/02 09:38	RWS	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	12/14/02 09:38	RWS	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	12/14/02 09:38	RWS	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	12/14/02 09:38	RWS	106-93-4		
Dibromomethane	ND	ug/l	5.0	12/14/02 09:38	RWS	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	12/14/02 09:38	RWS	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	12/14/02 09:38	RWS	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	12/14/02 09:38	RWS	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	12/14/02 09:38	RWS	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	12/14/02 09:38	RWS	107-06-2		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684014 | Project Sample Number: 9239322-001 | Date Collected: 12/09/02 13:00
Client Sample ID: MW-6R | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,1-Dichloroethene	ND	ug/l	5.0	12/14/02 09:38	RWS	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	12/14/02 09:38	RWS	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	12/14/02 09:38	RWS	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	12/14/02 09:38	RWS	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	12/14/02 09:38	RWS	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	12/14/02 09:38	RWS	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	12/14/02 09:38	RWS	100-41-4		
2-Hexanone	ND	ug/l	10.	12/14/02 09:38	RWS	591-78-6		
Iodomethane	ND	ug/l	10.	12/14/02 09:38	RWS	74-88-4		
Methylene chloride	ND	ug/l	5.0	12/14/02 09:38	RWS	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	10.	12/14/02 09:38	RWS	108-10-1		
Styrene	ND	ug/l	5.0	12/14/02 09:38	RWS	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	12/14/02 09:38	RWS	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	12/14/02 09:38	RWS	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	12/14/02 09:38	RWS	127-18-4		
Toluene	ND	ug/l	5.0	12/14/02 09:38	RWS	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	12/14/02 09:38	RWS	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	12/14/02 09:38	RWS	79-00-5		
Trichloroethene	ND	ug/l	5.0	12/14/02 09:38	RWS	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	12/14/02 09:38	RWS	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	12/14/02 09:38	RWS	96-18-4		
Vinyl acetate	ND	ug/l	10.	12/14/02 09:38	RWS	108-05-4		
Vinyl chloride	ND	ug/l	5.0	12/14/02 09:38	RWS	75-01-4		
m&p-Xylene	ND	ug/l	10.	12/14/02 09:38	RWS			
o-Xylene	ND	ug/l	5.0	12/14/02 09:38	RWS	95-47-6		
Toluene-d8 (S)	101	%		12/14/02 09:38	RWS	2037-26-5		
4-Bromofluorobenzene (S)	82	%		12/14/02 09:38	RWS	460-00-4		
Dibromofluoromethane (S)	117	%		12/14/02 09:38	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	113	%		12/14/02 09:38	RWS	17060-07-0		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684022 | Project Sample Number: 9239322-002 | Date Collected: 12/09/02 11:45
Client Sample ID: MW-1R | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	12/16/02 14:29	DJR	7440-38-2		
Barium	0.10	mg/l	0.0050	12/16/02 14:29	DJR	7440-39-3		
Cadmium	ND	mg/l	0.0010	12/16/02 14:29	DJR	7440-43-9		
Chromium	0.0023	mg/l	0.0020	12/16/02 14:29	DJR	7440-47-3		
Lead	ND	mg/l	0.0050	12/16/02 14:29	DJR	7439-92-1		
Selenium	ND	mg/l	0.0050	12/16/02 14:29	DJR	7782-49-2		
Silver	ND	mg/l	0.0020	12/16/02 14:29	DJR	7440-22-4		
Date Digested	12/10/02			12/10/02				
Mercury, CVAAS, in Water	Method: EPA 7470							
Mercury	ND	mg/l	0.00020	12/17/02	LBG	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Method: EPA 8260							
Acetone	ND	ug/l	10.	12/14/02 09:05	RWS	67-64-1		
Acrylonitrile	ND	ug/l	25.	12/14/02 09:05	RWS	107-13-1		
Benzene	ND	ug/l	5.0	12/14/02 09:05	RWS	71-43-2		
Bromochloromethane	ND	ug/l	5.0	12/14/02 09:05	RWS	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	12/14/02 09:05	RWS	75-27-4		
Bromoform	ND	ug/l	5.0	12/14/02 09:05	RWS	75-25-2		
Bromomethane	ND	ug/l	5.0	12/14/02 09:05	RWS	74-83-9		
2-Butanone (MEK)	ND	ug/l	10.	12/14/02 09:05	RWS	78-93-3		
Carbon disulfide	ND	ug/l	10.	12/14/02 09:05	RWS	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	12/14/02 09:05	RWS	56-23-5		
Chlorobenzene	ND	ug/l	5.0	12/14/02 09:05	RWS	108-90-7		
Chloroethane	ND	ug/l	10.	12/14/02 09:05	RWS	75-00-3		
Chloroform	ND	ug/l	5.0	12/14/02 09:05	RWS	67-66-3		
Chloromethane	ND	ug/l	5.0	12/14/02 09:05	RWS	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	12/14/02 09:05	RWS	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	12/14/02 09:05	RWS	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	12/14/02 09:05	RWS	106-93-4		
Dibromomethane	ND	ug/l	5.0	12/14/02 09:05	RWS	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	12/14/02 09:05	RWS	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	12/14/02 09:05	RWS	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	12/14/02 09:05	RWS	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	12/14/02 09:05	RWS	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	12/14/02 09:05	RWS	107-06-2		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684022 | Project Sample Number: 9239322-002 | Date Collected: 12/09/02 11:45
Client Sample ID: MW-1R | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,1-Dichloroethene	ND	ug/l	5.0	12/14/02 09:05	RWS	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	12/14/02 09:05	RWS	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	12/14/02 09:05	RWS	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	12/14/02 09:05	RWS	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	12/14/02 09:05	RWS	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	12/14/02 09:05	RWS	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	12/14/02 09:05	RWS	100-41-4		
2-Hexanone	ND	ug/l	10.	12/14/02 09:05	RWS	591-78-6		
Iodomethane	ND	ug/l	10.	12/14/02 09:05	RWS	74-88-4		
Methylene chloride	ND	ug/l	5.0	12/14/02 09:05	RWS	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	10.	12/14/02 09:05	RWS	108-10-1		
Styrene	ND	ug/l	5.0	12/14/02 09:05	RWS	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	12/14/02 09:05	RWS	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	12/14/02 09:05	RWS	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	12/14/02 09:05	RWS	127-18-4		
Toluene	ND	ug/l	5.0	12/14/02 09:05	RWS	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	12/14/02 09:05	RWS	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	12/14/02 09:05	RWS	79-00-5		
Trichloroethene	ND	ug/l	5.0	12/14/02 09:05	RWS	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	12/14/02 09:05	RWS	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	12/14/02 09:05	RWS	96-18-4		
Vinyl acetate	ND	ug/l	10.	12/14/02 09:05	RWS	108-05-4		
Vinyl chloride	ND	ug/l	5.0	12/14/02 09:05	RWS	75-01-4		
m&p-Xylene	ND	ug/l	10.	12/14/02 09:05	RWS			
o-Xylene	ND	ug/l	5.0	12/14/02 09:05	RWS	95-47-6		
Toluene-d8 (S)	102	%		12/14/02 09:05	RWS	2037-26-5		
4-Bromofluorobenzene (S)	84	%		12/14/02 09:05	RWS	460-00-4		
Dibromofluoromethane (S)	118	%		12/14/02 09:05	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	111	%		12/14/02 09:05	RWS	17060-07-0		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684030 | Project Sample Number: 9239322-003 | Date Collected: 12/09/02 14:15
Client Sample ID: MW-8 | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	12/16/02 14:33	DJR	7440-38-2		
Barium	0.048	mg/l	0.0050	12/16/02 14:33	DJR	7440-39-3		
Cadmium	ND	mg/l	0.0010	12/16/02 14:33	DJR	7440-43-9		
Chromium	0.0020	mg/l	0.0020	12/16/02 14:33	DJR	7440-47-3		
Lead	ND	mg/l	0.0050	12/16/02 14:33	DJR	7439-92-1		
Selenium	ND	mg/l	0.0050	12/16/02 14:33	DJR	7782-49-2		
Silver	ND	mg/l	0.0020	12/16/02 14:33	DJR	7440-22-4		
Date Digested	12/10/02			12/10/02				
Mercury, CVAAS, in Water	Method: EPA 7470							
Mercury	ND	mg/l	0.00020	12/17/02	LBG	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Method: EPA 8260							
Acetone	ND	ug/l	10.	12/14/02 09:22	RWS	67-64-1		
Acrylonitrile	ND	ug/l	25.	12/14/02 09:22	RWS	107-13-1		
Benzene	ND	ug/l	5.0	12/14/02 09:22	RWS	71-43-2		
Bromochloromethane	ND	ug/l	5.0	12/14/02 09:22	RWS	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	12/14/02 09:22	RWS	75-27-4		
Bromoform	ND	ug/l	5.0	12/14/02 09:22	RWS	75-25-2		
Bromomethane	ND	ug/l	5.0	12/14/02 09:22	RWS	74-83-9		
2-Butanone (MEK)	ND	ug/l	10.	12/14/02 09:22	RWS	78-93-3		
Carbon disulfide	ND	ug/l	10.	12/14/02 09:22	RWS	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	12/14/02 09:22	RWS	56-23-5		
Chlorobenzene	ND	ug/l	5.0	12/14/02 09:22	RWS	108-90-7		
Chloroethane	ND	ug/l	10.	12/14/02 09:22	RWS	75-00-3		
Chloroform	ND	ug/l	5.0	12/14/02 09:22	RWS	67-66-3		
Chloromethane	ND	ug/l	5.0	12/14/02 09:22	RWS	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	12/14/02 09:22	RWS	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	12/14/02 09:22	RWS	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	12/14/02 09:22	RWS	106-93-4		
Dibromomethane	ND	ug/l	5.0	12/14/02 09:22	RWS	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	12/14/02 09:22	RWS	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	12/14/02 09:22	RWS	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	12/14/02 09:22	RWS	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	12/14/02 09:22	RWS	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	12/14/02 09:22	RWS	107-06-2		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684030
Client Sample ID: MW-8

Project Sample Number: 9239322-003
Matrix: Water

Date Collected: 12/09/02 14:15
Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,1-Dichloroethene	ND	ug/l	5.0	12/14/02 09:22	RWS	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	12/14/02 09:22	RWS	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	12/14/02 09:22	RWS	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	12/14/02 09:22	RWS	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	12/14/02 09:22	RWS	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	12/14/02 09:22	RWS	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	12/14/02 09:22	RWS	100-41-4		
2-Hexanone	ND	ug/l	10.	12/14/02 09:22	RWS	591-78-6		
Iodomethane	ND	ug/l	10.	12/14/02 09:22	RWS	74-88-4		
Methylene chloride	ND	ug/l	5.0	12/14/02 09:22	RWS	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	10.	12/14/02 09:22	RWS	108-10-1		
Styrene	ND	ug/l	5.0	12/14/02 09:22	RWS	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	12/14/02 09:22	RWS	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	12/14/02 09:22	RWS	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	12/14/02 09:22	RWS	127-18-4		
Toluene	ND	ug/l	5.0	12/14/02 09:22	RWS	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	12/14/02 09:22	RWS	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	12/14/02 09:22	RWS	79-00-5		
Trichloroethene	ND	ug/l	5.0	12/14/02 09:22	RWS	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	12/14/02 09:22	RWS	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	12/14/02 09:22	RWS	96-18-4		
Vinyl acetate	ND	ug/l	10.	12/14/02 09:22	RWS	108-05-4		
Vinyl chloride	ND	ug/l	5.0	12/14/02 09:22	RWS	75-01-4		
m&p-Xylene	ND	ug/l	10.	12/14/02 09:22	RWS			
o-Xylene	ND	ug/l	5.0	12/14/02 09:22	RWS	95-47-6		
Toluene-d8 (S)	98	%		12/14/02 09:22	RWS	2037-26-5		
4-Bromofluorobenzene (S)	81	%		12/14/02 09:22	RWS	460-00-4		
Dibromofluoromethane (S)	128	%		12/14/02 09:22	RWS	1868-53-7	1	
1,2-Dichloroethane-d4 (S)	112	%		12/14/02 09:22	RWS	17060-07-0		

Date: 12/19/02

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684048
Client Sample ID: MW-5R

Project Sample Number: 9239322-004
Matrix: Water

Date Collected: 12/09/02 14:50
Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	12/16/02 14:38	DJR	7440-38-2		
Barium	0.065	mg/l	0.0050	12/16/02 14:38	DJR	7440-39-3		
Cadmium	ND	mg/l	0.0010	12/16/02 14:38	DJR	7440-43-9		
Chromium	0.0074	mg/l	0.0020	12/16/02 14:38	DJR	7440-47-3		
Lead	ND	mg/l	0.0050	12/16/02 14:38	DJR	7439-92-1		
Selenium	ND	mg/l	0.0050	12/16/02 14:38	DJR	7782-49-2		
Silver	ND	mg/l	0.0020	12/16/02 14:38	DJR	7440-22-4		
Date Digested	12/10/02			12/10/02				
Mercury, CVAAS, in Water	Method: EPA 7470							
Mercury	ND	mg/l	0.00020	12/17/02	LBG	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Method: EPA 8260							
Acetone	ND	ug/l	10.	12/16/02 19:06	RWS	67-64-1		
Acrylonitrile	ND	ug/l	25.	12/16/02 19:06	RWS	107-13-1		
Benzene	ND	ug/l	5.0	12/16/02 19:06	RWS	71-43-2		
Bromochloromethane	ND	ug/l	5.0	12/16/02 19:06	RWS	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	12/16/02 19:06	RWS	75-27-4		
Bromoform	ND	ug/l	5.0	12/16/02 19:06	RWS	75-25-2		
Bromomethane	ND	ug/l	5.0	12/16/02 19:06	RWS	74-83-9		
2-Butanone (MEK)	ND	ug/l	10.	12/16/02 19:06	RWS	78-93-3		
Carbon disulfide	ND	ug/l	10.	12/16/02 19:06	RWS	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	12/16/02 19:06	RWS	56-23-5		
Chlorobenzene	ND	ug/l	5.0	12/16/02 19:06	RWS	108-90-7		
Chloroethane	ND	ug/l	10.	12/16/02 19:06	RWS	75-00-3		
Chloroform	ND	ug/l	5.0	12/16/02 19:06	RWS	67-66-3		
Chloromethane	ND	ug/l	5.0	12/16/02 19:06	RWS	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	12/16/02 19:06	RWS	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	12/16/02 19:06	RWS	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	12/16/02 19:06	RWS	106-93-4		
Dibromomethane	ND	ug/l	5.0	12/16/02 19:06	RWS	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	12/16/02 19:06	RWS	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	12/16/02 19:06	RWS	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	12/16/02 19:06	RWS	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	12/16/02 19:06	RWS	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	12/16/02 19:06	RWS	107-06-2		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684048 | Project Sample Number: 9239322-004 | Date Collected: 12/09/02 14:50
Client Sample ID: MW-5R | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,1-Dichloroethene	ND	ug/l	5.0	12/16/02 19:06	RWS	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 19:06	RWS	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 19:06	RWS	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	12/16/02 19:06	RWS	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 19:06	RWS	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 19:06	RWS	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	12/16/02 19:06	RWS	100-41-4		
2-Hexanone	ND	ug/l	10.	12/16/02 19:06	RWS	591-78-6		
Iodomethane	ND	ug/l	10.	12/16/02 19:06	RWS	74-88-4		
Methylene chloride	ND	ug/l	5.0	12/16/02 19:06	RWS	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	10.	12/16/02 19:06	RWS	108-10-1		
Styrene	ND	ug/l	5.0	12/16/02 19:06	RWS	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 19:06	RWS	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 19:06	RWS	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	12/16/02 19:06	RWS	127-18-4		
Toluene	ND	ug/l	5.0	12/16/02 19:06	RWS	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	12/16/02 19:06	RWS	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	12/16/02 19:06	RWS	79-00-5		
Trichloroethene	ND	ug/l	5.0	12/16/02 19:06	RWS	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	12/16/02 19:06	RWS	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	12/16/02 19:06	RWS	96-18-4		
Vinyl acetate	ND	ug/l	10.	12/16/02 19:06	RWS	108-05-4		
Vinyl chloride	ND	ug/l	5.0	12/16/02 19:06	RWS	75-01-4		
m&p-Xylene	ND	ug/l	10.	12/16/02 19:06	RWS			
o-Xylene	ND	ug/l	5.0	12/16/02 19:06	RWS	95-47-6		
Toluene-d8 (S)	93	%		12/16/02 19:06	RWS	2037-26-5		
4-Bromofluorobenzene (S)	94	%		12/16/02 19:06	RWS	460-00-4		
Dibromofluoromethane (S)	103	%		12/16/02 19:06	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	90	%		12/16/02 19:06	RWS	17060-07-0		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684055 | Project Sample Number: 9239322-005 | Date Collected: 12/09/02 16:00
Client Sample ID: MW-4R | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	12/16/02 14:43	DJR	7440-38-2		
Barium	0.086	mg/l	0.0050	12/16/02 14:43	DJR	7440-39-3		
Cadmium	ND	mg/l	0.0010	12/16/02 14:43	DJR	7440-43-9		
Chromium	0.0050	mg/l	0.0020	12/16/02 14:43	DJR	7440-47-3		
Lead	0.0060	mg/l	0.0050	12/16/02 14:43	DJR	7439-92-1		
Selenium	ND	mg/l	0.0050	12/16/02 14:43	DJR	7782-49-2		
Silver	ND	mg/l	0.0020	12/16/02 14:43	DJR	7440-22-4		
Date Digested	12/10/02			12/10/02				
Mercury, CVAAS, in Water	Method: EPA 7470							
Mercury	ND	mg/l	0.00020	12/17/02	LBG	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Method: EPA 8260							
Acetone	ND	ug/l	10.	12/16/02 19:22	RWS	67-64-1		
Acrylonitrile	ND	ug/l	25.	12/16/02 19:22	RWS	107-13-1		
Benzene	ND	ug/l	5.0	12/16/02 19:22	RWS	71-43-2		
Bromochloromethane	ND	ug/l	5.0	12/16/02 19:22	RWS	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	12/16/02 19:22	RWS	75-27-4		
Bromoform	ND	ug/l	5.0	12/16/02 19:22	RWS	75-25-2		
Bromomethane	ND	ug/l	5.0	12/16/02 19:22	RWS	74-83-9		
2-Butanone (MEK)	ND	ug/l	10.	12/16/02 19:22	RWS	78-93-3		
Carbon disulfide	ND	ug/l	10.	12/16/02 19:22	RWS	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	12/16/02 19:22	RWS	56-23-5		
Chlorobenzene	ND	ug/l	5.0	12/16/02 19:22	RWS	108-90-7		
Chloroethane	ND	ug/l	10.	12/16/02 19:22	RWS	75-00-3		
Chloroform	ND	ug/l	5.0	12/16/02 19:22	RWS	67-66-3		
Chloromethane	ND	ug/l	5.0	12/16/02 19:22	RWS	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	12/16/02 19:22	RWS	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	12/16/02 19:22	RWS	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	12/16/02 19:22	RWS	106-93-4		
Dibromomethane	ND	ug/l	5.0	12/16/02 19:22	RWS	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	12/16/02 19:22	RWS	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	12/16/02 19:22	RWS	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	12/16/02 19:22	RWS	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	12/16/02 19:22	RWS	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	12/16/02 19:22	RWS	107-06-2		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684055
Client Sample ID: MW-4R

Project Sample Number: 9239322-005
Matrix: Water

Date Collected: 12/09/02 16:00
Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,1-Dichloroethene	ND	ug/l	5.0	12/16/02 19:22	RWS	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 19:22	RWS	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 19:22	RWS	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	12/16/02 19:22	RWS	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 19:22	RWS	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 19:22	RWS	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	12/16/02 19:22	RWS	100-41-4		
2-Hexanone	ND	ug/l	10.	12/16/02 19:22	RWS	591-78-6		
Iodomethane	ND	ug/l	10.	12/16/02 19:22	RWS	74-88-4		
Methylene chloride	ND	ug/l	5.0	12/16/02 19:22	RWS	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	10.	12/16/02 19:22	RWS	108-10-1		
Styrene	ND	ug/l	5.0	12/16/02 19:22	RWS	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 19:22	RWS	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 19:22	RWS	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	12/16/02 19:22	RWS	127-18-4		
Toluene	ND	ug/l	5.0	12/16/02 19:22	RWS	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	12/16/02 19:22	RWS	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	12/16/02 19:22	RWS	79-00-5		
Trichloroethene	ND	ug/l	5.0	12/16/02 19:22	RWS	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	12/16/02 19:22	RWS	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	12/16/02 19:22	RWS	96-18-4		
Vinyl acetate	ND	ug/l	10.	12/16/02 19:22	RWS	108-05-4		
Vinyl chloride	ND	ug/l	5.0	12/16/02 19:22	RWS	75-01-4		
m&p-Xylene	ND	ug/l	10.	12/16/02 19:22	RWS			
o-Xylene	ND	ug/l	5.0	12/16/02 19:22	RWS	95-47-6		
Toluene-d8 (S)	97	%		12/16/02 19:22	RWS	2037-26-5		
4-Bromofluorobenzene (S)	88	%		12/16/02 19:22	RWS	460-00-4		
Dibromofluoromethane (S)	101	%		12/16/02 19:22	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	92	%		12/16/02 19:22	RWS	17060-07-0		

Date: 12/19/02

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684063 | Project Sample Number: 9239322-006 | Date Collected: 12/09/02 15:20
Client Sample ID: MW-7 | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	12/16/02 14:48	DJR	7440-38-2		
Barium	0.21	mg/l	0.0050	12/16/02 14:48	DJR	7440-39-3		
Cadmium	ND	mg/l	0.0010	12/16/02 14:48	DJR	7440-43-9		
Chromium	0.032	mg/l	0.0020	12/16/02 14:48	DJR	7440-47-3		
Lead	0.0060	mg/l	0.0050	12/16/02 14:48	DJR	7439-92-1		
Selenium	ND	mg/l	0.0050	12/16/02 14:48	DJR	7782-49-2		
Silver	ND	mg/l	0.0020	12/16/02 14:48	DJR	7440-22-4		
Date Digested	12/10/02			12/10/02				
Mercury, CVAAS, in Water	Method: EPA 7470							
Mercury	ND	mg/l	0.00020	12/17/02	LBG	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Method: EPA 8260							
Acetone	ND	ug/l	10.	12/16/02 19:39	RWS	67-64-1		
Acrylonitrile	ND	ug/l	25.	12/16/02 19:39	RWS	107-13-1		
Benzene	ND	ug/l	5.0	12/16/02 19:39	RWS	71-43-2		
Bromochloromethane	ND	ug/l	5.0	12/16/02 19:39	RWS	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	12/16/02 19:39	RWS	75-27-4		
Bromoform	ND	ug/l	5.0	12/16/02 19:39	RWS	75-25-2		
Bromomethane	ND	ug/l	5.0	12/16/02 19:39	RWS	74-83-9		
2-Butanone (MEK)	ND	ug/l	10.	12/16/02 19:39	RWS	78-93-3		
Carbon disulfide	ND	ug/l	10.	12/16/02 19:39	RWS	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	12/16/02 19:39	RWS	56-23-5		
Chlorobenzene	ND	ug/l	5.0	12/16/02 19:39	RWS	108-90-7		
Chloroethane	ND	ug/l	10.	12/16/02 19:39	RWS	75-00-3		
Chloroform	ND	ug/l	5.0	12/16/02 19:39	RWS	67-66-3		
Chloromethane	ND	ug/l	5.0	12/16/02 19:39	RWS	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	12/16/02 19:39	RWS	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	12/16/02 19:39	RWS	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	12/16/02 19:39	RWS	106-93-4		
Dibromomethane	ND	ug/l	5.0	12/16/02 19:39	RWS	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	12/16/02 19:39	RWS	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	12/16/02 19:39	RWS	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	12/16/02 19:39	RWS	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	12/16/02 19:39	RWS	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	12/16/02 19:39	RWS	107-06-2		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684063
Client Sample ID: MW-7

Project Sample Number: 9239322-006
Matrix: Water

Date Collected: 12/09/02 15:20
Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,1-Dichloroethene	ND	ug/l	5.0	12/16/02 19:39	RWS	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 19:39	RWS	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 19:39	RWS	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	12/16/02 19:39	RWS	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 19:39	RWS	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 19:39	RWS	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	12/16/02 19:39	RWS	100-41-4		
2-Hexanone	ND	ug/l	10.	12/16/02 19:39	RWS	591-78-6		
Iodomethane	ND	ug/l	10.	12/16/02 19:39	RWS	74-88-4		
Methylene chloride	ND	ug/l	5.0	12/16/02 19:39	RWS	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	10.	12/16/02 19:39	RWS	108-10-1		
Styrene	ND	ug/l	5.0	12/16/02 19:39	RWS	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 19:39	RWS	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 19:39	RWS	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	12/16/02 19:39	RWS	127-18-4		
Toluene	ND	ug/l	5.0	12/16/02 19:39	RWS	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	12/16/02 19:39	RWS	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	12/16/02 19:39	RWS	79-00-5		
Trichloroethene	ND	ug/l	5.0	12/16/02 19:39	RWS	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	12/16/02 19:39	RWS	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	12/16/02 19:39	RWS	96-18-4		
Vinyl acetate	ND	ug/l	10.	12/16/02 19:39	RWS	108-05-4		
Vinyl chloride	ND	ug/l	5.0	12/16/02 19:39	RWS	75-01-4		
m&p-Xylene	ND	ug/l	10.	12/16/02 19:39	RWS			
o-Xylene	ND	ug/l	5.0	12/16/02 19:39	RWS	95-47-6		
Toluene-d8 (S)	95	%		12/16/02 19:39	RWS	2037-26-5		
4-Bromofluorobenzene (S)	94	%		12/16/02 19:39	RWS	460-00-4		
Dibromofluoromethane (S)	107	%		12/16/02 19:39	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	96	%		12/16/02 19:39	RWS	17060-07-0		

Date: 12/19/02

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684071 | Project Sample Number: 9239322-007 | Date Collected: 12/09/02 15:35
Client Sample ID: MW-3R | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	12/16/02 15:03	DJR	7440-38-2		
Barium	0.13	mg/l	0.0050	12/16/02 15:03	DJR	7440-39-3		
Cadmium	ND	mg/l	0.0010	12/16/02 15:03	DJR	7440-43-9		
Chromium	ND	mg/l	0.0020	12/16/02 15:03	DJR	7440-47-3		
Lead	ND	mg/l	0.0050	12/16/02 15:03	DJR	7439-92-1		
Selenium	ND	mg/l	0.0050	12/16/02 15:03	DJR	7782-49-2		
Silver	ND	mg/l	0.0020	12/16/02 15:03	DJR	7440-22-4		
Date Digested	12/10/02			12/10/02				
Mercury, CVAAS, in Water	Method: EPA 7470							
Mercury	ND	mg/l	0.00020	12/17/02	LBG	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Method: EPA 8260							
Acetone	ND	ug/l	10.	12/16/02 19:55	RWS	67-64-1		
Acrylonitrile	ND	ug/l	25.	12/16/02 19:55	RWS	107-13-1		
Benzene	ND	ug/l	5.0	12/16/02 19:55	RWS	71-43-2		
Bromochloromethane	ND	ug/l	5.0	12/16/02 19:55	RWS	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	12/16/02 19:55	RWS	75-27-4		
Bromoform	ND	ug/l	5.0	12/16/02 19:55	RWS	75-25-2		
Bromomethane	ND	ug/l	5.0	12/16/02 19:55	RWS	74-83-9		
2-Butanone (MEK)	ND	ug/l	10.	12/16/02 19:55	RWS	78-93-3		
Carbon disulfide	ND	ug/l	10.	12/16/02 19:55	RWS	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	12/16/02 19:55	RWS	56-23-5		
Chlorobenzene	ND	ug/l	5.0	12/16/02 19:55	RWS	108-90-7		
Chloroethane	ND	ug/l	10.	12/16/02 19:55	RWS	75-00-3		
Chloroform	ND	ug/l	5.0	12/16/02 19:55	RWS	67-66-3		
Chloromethane	ND	ug/l	5.0	12/16/02 19:55	RWS	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	12/16/02 19:55	RWS	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	12/16/02 19:55	RWS	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	12/16/02 19:55	RWS	106-93-4		
Dibromomethane	ND	ug/l	5.0	12/16/02 19:55	RWS	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	12/16/02 19:55	RWS	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	12/16/02 19:55	RWS	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	12/16/02 19:55	RWS	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	12/16/02 19:55	RWS	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	12/16/02 19:55	RWS	107-06-2		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684071 | Project Sample Number: 9239322-007 | Date Collected: 12/09/02 15:35
Client Sample ID: MW-3R | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,1-Dichloroethene	ND	ug/l	5.0	12/16/02 19:55	RWS	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 19:55	RWS	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 19:55	RWS	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	12/16/02 19:55	RWS	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 19:55	RWS	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 19:55	RWS	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	12/16/02 19:55	RWS	100-41-4		
2-Hexanone	ND	ug/l	10.	12/16/02 19:55	RWS	591-78-6		
Iodomethane	ND	ug/l	10.	12/16/02 19:55	RWS	74-88-4		
Methylene chloride	ND	ug/l	5.0	12/16/02 19:55	RWS	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	10.	12/16/02 19:55	RWS	108-10-1		
Styrene	ND	ug/l	5.0	12/16/02 19:55	RWS	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 19:55	RWS	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 19:55	RWS	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	12/16/02 19:55	RWS	127-18-4		
Toluene	ND	ug/l	5.0	12/16/02 19:55	RWS	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	12/16/02 19:55	RWS	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	12/16/02 19:55	RWS	79-00-5		
Trichloroethene	ND	ug/l	5.0	12/16/02 19:55	RWS	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	12/16/02 19:55	RWS	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	12/16/02 19:55	RWS	96-18-4		
Vinyl acetate	ND	ug/l	10.	12/16/02 19:55	RWS	108-05-4		
Vinyl chloride	ND	ug/l	5.0	12/16/02 19:55	RWS	75-01-4		
m&p-Xylene	ND	ug/l	10.	12/16/02 19:55	RWS			
o-Xylene	ND	ug/l	5.0	12/16/02 19:55	RWS	95-47-6		
Toluene-d8 (S)	96	%		12/16/02 19:55	RWS	2037-26-5		
4-Bromofluorobenzene (S)	91	%		12/16/02 19:55	RWS	460-00-4		
Dibromofluoromethane (S)	102	%		12/16/02 19:55	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	93	%		12/16/02 19:55	RWS	17060-07-0		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684089
Client Sample ID: MW-2R

Project Sample Number: 9239322-008
Matrix: Water

Date Collected: 12/09/02 16:30
Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	12/16/02 15:07	DJR	7440-38-2		
Barium	0.14	mg/l	0.0050	12/16/02 15:07	DJR	7440-39-3		
Cadmium	0.0019	mg/l	0.0010	12/16/02 15:07	DJR	7440-43-9		
Chromium	0.0021	mg/l	0.0020	12/16/02 15:07	DJR	7440-47-3		
Lead	ND	mg/l	0.0050	12/16/02 15:07	DJR	7439-92-1		
Selenium	ND	mg/l	0.0050	12/16/02 15:07	DJR	7782-49-2		
Silver	ND	mg/l	0.0020	12/16/02 15:07	DJR	7440-22-4		
Date Digested	12/10/02			12/10/02				
Mercury, CVAAS, in Water	Method: EPA 7470							
Mercury	ND	mg/l	0.00020	12/17/02	LBG	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Method: EPA 8260							
Acetone	ND	ug/l	10.	12/16/02 20:11	RWS	67-64-1		
Acrylonitrile	ND	ug/l	25.	12/16/02 20:11	RWS	107-13-1		
Benzene	ND	ug/l	5.0	12/16/02 20:11	RWS	71-43-2		
Bromochloromethane	ND	ug/l	5.0	12/16/02 20:11	RWS	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	12/16/02 20:11	RWS	75-27-4		
Bromoform	ND	ug/l	5.0	12/16/02 20:11	RWS	75-25-2		
Bromomethane	ND	ug/l	5.0	12/16/02 20:11	RWS	74-83-9		
2-Butanone (MEK)	ND	ug/l	10.	12/16/02 20:11	RWS	78-93-3		
Carbon disulfide	ND	ug/l	10.	12/16/02 20:11	RWS	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	12/16/02 20:11	RWS	56-23-5		
Chlorobenzene	ND	ug/l	5.0	12/16/02 20:11	RWS	108-90-7		
Chloroethane	ND	ug/l	10.	12/16/02 20:11	RWS	75-00-3		
Chloroform	ND	ug/l	5.0	12/16/02 20:11	RWS	67-66-3		
Chloromethane	ND	ug/l	5.0	12/16/02 20:11	RWS	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	12/16/02 20:11	RWS	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	12/16/02 20:11	RWS	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	12/16/02 20:11	RWS	106-93-4		
Dibromomethane	ND	ug/l	5.0	12/16/02 20:11	RWS	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	12/16/02 20:11	RWS	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	12/16/02 20:11	RWS	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	12/16/02 20:11	RWS	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	12/16/02 20:11	RWS	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	12/16/02 20:11	RWS	107-06-2		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684089 | Project Sample Number: 9239322-008 | Date Collected: 12/09/02 16:30
Client Sample ID: MW-2R | Matrix: Water | Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
1,1-Dichloroethene	ND	ug/l	5.0	12/16/02 20:11	RWS	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 20:11	RWS	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 20:11	RWS	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	12/16/02 20:11	RWS	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 20:11	RWS	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 20:11	RWS	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	12/16/02 20:11	RWS	100-41-4		
2-Hexanone	ND	ug/l	10.	12/16/02 20:11	RWS	591-78-6		
Iodomethane	ND	ug/l	10.	12/16/02 20:11	RWS	74-88-4		
Methylene chloride	ND	ug/l	5.0	12/16/02 20:11	RWS	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	10.	12/16/02 20:11	RWS	108-10-1		
Styrene	ND	ug/l	5.0	12/16/02 20:11	RWS	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 20:11	RWS	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 20:11	RWS	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	12/16/02 20:11	RWS	127-18-4		
Toluene	ND	ug/l	5.0	12/16/02 20:11	RWS	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	12/16/02 20:11	RWS	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	12/16/02 20:11	RWS	79-00-5		
Trichloroethene	ND	ug/l	5.0	12/16/02 20:11	RWS	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	12/16/02 20:11	RWS	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	12/16/02 20:11	RWS	96-18-4		
Vinyl acetate	ND	ug/l	10.	12/16/02 20:11	RWS	108-05-4		
Vinyl chloride	ND	ug/l	5.0	12/16/02 20:11	RWS	75-01-4		
m&p-Xylene	ND	ug/l	10.	12/16/02 20:11	RWS			
o-Xylene	ND	ug/l	5.0	12/16/02 20:11	RWS	95-47-6		
Toluene-d8 (S)	94	%		12/16/02 20:11	RWS	2037-26-5		
4-Bromofluorobenzene (S)	89	%		12/16/02 20:11	RWS	460-00-4		
Dibromofluoromethane (S)	110	%		12/16/02 20:11	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	99	%		12/16/02 20:11	RWS	17060-07-0		

Date: 12/19/02

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Phone: 704.875.9092
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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684097
Client Sample ID: TRIP BLANK

Project Sample Number: 9239322-009
Matrix: Water

Date Collected: 12/09/02 00:00
Date Received: 12/10/02 10:30

GC/MS Volatiles

GC/MS VOCs by 8260 — Method: EPA 8260

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Acetone	17.	ug/l	10.	12/16/02 20:28	RWS	67-64-1	2	
Acrylonitrile	ND	ug/l	25.	12/16/02 20:28	RWS	107-13-1		
Benzene	ND	ug/l	5.0	12/16/02 20:28	RWS	71-43-2		
Bromochloromethane	ND	ug/l	5.0	12/16/02 20:28	RWS	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	12/16/02 20:28	RWS	75-27-4		
Bromoform	ND	ug/l	5.0	12/16/02 20:28	RWS	75-25-2		
Bromomethane	ND	ug/l	5.0	12/16/02 20:28	RWS	74-83-9		
2-Butanone (MEK)	ND	ug/l	10.	12/16/02 20:28	RWS	78-93-3		
Carbon disulfide	ND	ug/l	10.	12/16/02 20:28	RWS	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	12/16/02 20:28	RWS	56-23-5		
Chlorobenzene	ND	ug/l	5.0	12/16/02 20:28	RWS	108-90-7		
Chloroethane	ND	ug/l	10.	12/16/02 20:28	RWS	75-00-3		
Chloroform	ND	ug/l	5.0	12/16/02 20:28	RWS	67-66-3		
Chloromethane	ND	ug/l	5.0	12/16/02 20:28	RWS	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	12/16/02 20:28	RWS	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	12/16/02 20:28	RWS	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	12/16/02 20:28	RWS	106-93-4		
Dibromomethane	ND	ug/l	5.0	12/16/02 20:28	RWS	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	12/16/02 20:28	RWS	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	12/16/02 20:28	RWS	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	12/16/02 20:28	RWS	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	12/16/02 20:28	RWS	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	12/16/02 20:28	RWS	107-06-2		
1,1-Dichloroethene	ND	ug/l	5.0	12/16/02 20:28	RWS	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 20:28	RWS	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	12/16/02 20:28	RWS	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	12/16/02 20:28	RWS	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 20:28	RWS	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	12/16/02 20:28	RWS	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	12/16/02 20:28	RWS	100-41-4		
2-Hexanone	ND	ug/l	10.	12/16/02 20:28	RWS	591-78-6		
Iodomethane	ND	ug/l	10.	12/16/02 20:28	RWS	74-88-4		
Methylene chloride	8.8	ug/l	5.0	12/16/02 20:28	RWS	75-09-2	2	
4-Methyl-2-pentanone (MIBK)	ND	ug/l	10.	12/16/02 20:28	RWS	108-10-1		
Styrene	ND	ug/l	5.0	12/16/02 20:28	RWS	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 20:28	RWS	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	12/16/02 20:28	RWS	79-34-5		

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

Lab Sample No: 922684097
Client Sample ID: TRIP BLANK

Project Sample Number: 9239322-009
Matrix: Water

Date Collected: 12/09/02 00:00
Date Received: 12/10/02 10:30

Parameters	Results	Units	Report Limit	Analyzed	By	CAS No.	Qual	RegLmt
Tetrachloroethene	ND	ug/l	5.0	12/16/02 20:28	RWS	127-18-4		
Toluene	ND	ug/l	5.0	12/16/02 20:28	RWS	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	12/16/02 20:28	RWS	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	12/16/02 20:28	RWS	79-00-5		
Trichloroethene	ND	ug/l	5.0	12/16/02 20:28	RWS	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	12/16/02 20:28	RWS	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	12/16/02 20:28	RWS	96-18-4		
Vinyl acetate	ND	ug/l	10.	12/16/02 20:28	RWS	108-05-4		
Vinyl chloride	ND	ug/l	5.0	12/16/02 20:28	RWS	75-01-4		
m&p-Xylene	ND	ug/l	10.	12/16/02 20:28	RWS			
o-Xylene	ND	ug/l	5.0	12/16/02 20:28	RWS	95-47-6		
Toluene-d8 (S)	99	%		12/16/02 20:28	RWS	2037-26-5		
4-Bromofluorobenzene (S)	94	%		12/16/02 20:28	RWS	460-00-4		
Dibromofluoromethane (S)	109	%		12/16/02 20:28	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	99	%		12/16/02 20:28	RWS	17060-07-0		

Date: 12/19/02

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

PARAMETER FOOTNOTES

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate
[1]	The surrogate and/or spike recovery was outside acceptance limits.
[2]	Common laboratory contaminant.

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

QC Batch: 67543 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 922684014 922684022 922684030

METHOD BLANK: 922695572
Associated Lab Samples: 922684014 922684022 922684030

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Acetone	ug/l	ND	10.	
Acrylonitrile	ug/l	ND	25.	
Benzene	ug/l	ND	5.0	
Bromochloromethane	ug/l	ND	5.0	
Bromodichloromethane	ug/l	ND	5.0	
Bromoform	ug/l	ND	5.0	
Bromomethane	ug/l	ND	5.0	
2-Butanone (MEK)	ug/l	ND	10.	
Carbon disulfide	ug/l	ND	10.	
Carbon tetrachloride	ug/l	ND	5.0	
Chlorobenzene	ug/l	ND	5.0	
Chloroethane	ug/l	ND	10.	
Chloroform	ug/l	ND	5.0	
Chloromethane	ug/l	ND	5.0	
1,2-Dibromo-3-chloropropane	ug/l	ND	5.0	
Dibromochloromethane	ug/l	ND	5.0	
1,2-Dibromoethane (EDB)	ug/l	ND	5.0	
Dibromomethane	ug/l	ND	5.0	
1,2-Dichlorobenzene	ug/l	ND	5.0	
1,4-Dichlorobenzene	ug/l	ND	5.0	
trans-1,4-Dichloro-2-butene	ug/l	ND	5.0	
1,1-Dichloroethane	ug/l	ND	5.0	
1,2-Dichloroethane	ug/l	ND	5.0	
1,1-Dichloroethene	ug/l	ND	5.0	
cis-1,2-Dichloroethene	ug/l	ND	5.0	
trans-1,2-Dichloroethene	ug/l	ND	5.0	
1,2-Dichloropropane	ug/l	ND	5.0	
cis-1,3-Dichloropropene	ug/l	ND	5.0	
trans-1,3-Dichloropropene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
2-Hexanone	ug/l	ND	10.	

Date: 12/19/02

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

METHOD BLANK: 922695572
Associated Lab Samples: 922684014 922684022 922684030

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Iodomethane	ug/l	ND	10.	
Methylene chloride	ug/l	ND	5.0	
4-Methyl-2-pentanone (MIBK)	ug/l	ND	10.	
Styrene	ug/l	ND	5.0	
1,1,1,2-Tetrachloroethane	ug/l	ND	5.0	
1,1,2,2-Tetrachloroethane	ug/l	ND	5.0	
Tetrachloroethene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
1,1,1-Trichloroethane	ug/l	ND	5.0	
1,1,2-Trichloroethane	ug/l	ND	5.0	
Trichloroethene	ug/l	ND	5.0	
Trichlorofluoromethane	ug/l	ND	10.	
1,2,3-Trichloropropane	ug/l	ND	5.0	
Vinyl acetate	ug/l	ND	10.	
Vinyl chloride	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	104		
4-Bromofluorobenzene (S)	%	87		
Dibromofluoromethane (S)	%	107		
1,2-Dichloroethane-d4 (S)	%	104		

LABORATORY CONTROL SAMPLE: 922695580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Acetone	ug/l	100.00	106.5	106	
Acrylonitrile	ug/l	250.00	631.5	253	1
Benzene	ug/l	50.00	43.76	88	
Bromochloromethane	ug/l	50.00	42.07	84	
Bromodichloromethane	ug/l	50.00	39.48	79	
Bromoform	ug/l	50.00	33.47	67	
Bromomethane	ug/l	50.00	53.59	107	
2-Butanone (MEK)	ug/l	100.00	78.75	79	
Carbon disulfide	ug/l	100.00	100.4	100	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

LABORATORY CONTROL SAMPLE: 922695580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Carbon tetrachloride	ug/l	50.00	46.36	93	
Chlorobenzene	ug/l	50.00	42.88	86	
Chloroethane	ug/l	50.00	58.01	116	
Chloroform	ug/l	50.00	45.65	91	
Chloromethane	ug/l	50.00	57.24	114	
1,2-Dibromo-3-chloropropane	ug/l	50.00	45.02	90	
Dibromochloromethane	ug/l	50.00	37.66	75	
1,2-Dibromoethane (EDB)	ug/l	50.00	38.28	77	
Dibromomethane	ug/l	50.00	39.56	79	
1,2-Dichlorobenzene	ug/l	50.00	42.30	85	
1,4-Dichlorobenzene	ug/l	50.00	40.77	82	
trans-1,4-Dichloro-2-butene	ug/l	50.00	32.49	65	
1,1-Dichloroethane	ug/l	50.00	50.13	100	
1,2-Dichloroethane	ug/l	50.00	42.96	86	
1,1-Dichloroethene	ug/l	50.00	61.67	123	
cis-1,2-Dichloroethene	ug/l	50.00	47.26	94	
trans-1,2-Dichloroethene	ug/l	50.00	81.71	163	1
1,2-Dichloropropane	ug/l	50.00	45.17	90	
cis-1,3-Dichloropropene	ug/l	50.00	40.50	81	
trans-1,3-Dichloropropene	ug/l	50.00	40.01	80	
Ethylbenzene	ug/l	50.00	43.32	87	
2-Hexanone	ug/l	100.00	71.50	72	
Iodomethane	ug/l	100.00	103.1	103	
Methylene chloride	ug/l	50.00	62.54	125	
4-Methyl-2-pentanone (MIBK)	ug/l	100.00	72.54	72	
Styrene	ug/l	50.00	43.67	87	
1,1,1,2-Tetrachloroethane	ug/l	50.00	41.32	83	
1,1,2,2-Tetrachloroethane	ug/l	50.00	41.51	83	
Tetrachloroethene	ug/l	50.00	55.96	112	
Toluene	ug/l	50.00	44.48	89	
1,1,1-Trichloroethane	ug/l	50.00	48.51	97	
1,1,2-Trichloroethane	ug/l	50.00	41.30	83	
Trichloroethene	ug/l	50.00	45.10	90	
Trichlorofluoromethane	ug/l	50.00	54.84	110	
1,2,3-Trichloropropane	ug/l	50.00	39.37	79	
Vinyl acetate	ug/l	100.00	98.31	98	
Vinyl chloride	ug/l	50.00	56.71	113	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

LABORATORY CONTROL SAMPLE: 922695580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
m&p-Xylene	ug/l	100.00	88.43	88	
o-Xylene	ug/l	50.00	44.49	89	
Toluene-d8 (S)				102	
4-Bromofluorobenzene (S)				91	
Dibromofluoromethane (S)				101	
1,2-Dichloroethane-d4 (S)				98	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922695598 922695606

Parameter	Units	922692538 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	45.72	45.83	91	92	0	
Chlorobenzene	ug/l	0	50.00	45.85	46.16	92	92	1	
1,1-Dichloroethene	ug/l	0	50.00	59.48	56.48	119	113	5	
Toluene	ug/l	0	50.00	45.72	45.65	91	91	0	
Trichloroethene	ug/l	0	50.00	44.14	43.80	88	88	1	
Toluene-d8 (S)						101	102		
4-Bromofluorobenzene (S)						92	67		2
Dibromofluoromethane (S)						103	103		
1,2-Dichloroethane-d4 (S)						102	105		

SAMPLE DUPLICATE: 922695614

Parameter	Units	922684014 Result	DUP Result	RPD	Footnotes
Acetone	ug/l	ND	ND	NC	
Acrylonitrile	ug/l	ND	ND	NC	
Benzene	ug/l	ND	ND	NC	
Bromochloromethane	ug/l	ND	ND	NC	
Bromodichloromethane	ug/l	ND	ND	NC	
Bromoform	ug/l	ND	ND	NC	
Bromomethane	ug/l	ND	ND	NC	
2-Butanone (MEK)	ug/l	ND	ND	NC	
Carbon disulfide	ug/l	ND	ND	NC	
Carbon tetrachloride	ug/l	ND	ND	NC	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

SAMPLE DUPLICATE: 922695614

Parameter	Units	922684014 Result	DUP Result	RPD	Footnotes
Chlorobenzene	ug/l	ND	ND	NC	
Chloroethane	ug/l	ND	ND	NC	
Chloroform	ug/l	ND	ND	NC	
Chloromethane	ug/l	ND	ND	NC	
1,2-Dibromo-3-chloropropane	ug/l	ND	ND	NC	
Dibromochloromethane	ug/l	ND	ND	NC	
1,2-Dibromoethane (EDB)	ug/l	ND	ND	NC	
Dibromomethane	ug/l	ND	ND	NC	
1,2-Dichlorobenzene	ug/l	ND	ND	NC	
1,4-Dichlorobenzene	ug/l	ND	ND	NC	
trans-1,4-Dichloro-2-butene	ug/l	ND	ND	NC	
1,1-Dichloroethane	ug/l	ND	ND	NC	
1,2-Dichloroethane	ug/l	ND	ND	NC	
1,1-Dichloroethene	ug/l	ND	ND	NC	
cis-1,2-Dichloroethene	ug/l	ND	ND	NC	
trans-1,2-Dichloroethene	ug/l	ND	ND	NC	
1,2-Dichloropropane	ug/l	ND	ND	NC	
cis-1,3-Dichloropropene	ug/l	ND	ND	NC	
trans-1,3-Dichloropropene	ug/l	ND	ND	NC	
Ethylbenzene	ug/l	ND	ND	NC	
2-Hexanone	ug/l	ND	ND	NC	
Iodomethane	ug/l	ND	ND	NC	
Methylene chloride	ug/l	ND	ND	NC	
4-Methyl-2-pentanone (MIBK)	ug/l	ND	ND	NC	
Styrene	ug/l	ND	ND	NC	
1,1,1,2-Tetrachloroethane	ug/l	ND	ND	NC	
1,1,2,2-Tetrachloroethane	ug/l	ND	ND	NC	
Tetrachloroethene	ug/l	ND	ND	NC	
Toluene	ug/l	ND	ND	NC	
1,1,1-Trichloroethane	ug/l	ND	ND	NC	
1,1,2-Trichloroethane	ug/l	ND	ND	NC	
Trichloroethene	ug/l	ND	ND	NC	
Trichlorofluoromethane	ug/l	ND	ND	NC	
1,2,3-Trichloropropane	ug/l	ND	ND	NC	
Vinyl acetate	ug/l	ND	ND	NC	
Vinyl chloride	ug/l	ND	ND	NC	
m&p-Xylene	ug/l	ND	ND	NC	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

SAMPLE DUPLICATE: 922695614

Parameter	Units	922684014 Result	DUP Result	RPD	Footnotes
o-Xylene	ug/l	ND	ND	NC	
Toluene-d8 (S)	%	101	101		
4-Bromofluorobenzene (S)	%	82	82		
Dibromofluoromethane (S)	%	117	119		
1,2-Dichloroethane-d4 (S)	%	113	110		

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

QC Batch: 67616
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 922684048 922684055 922684063 922684071 922684089 922684097

METHOD BLANK: 922699368
Associated Lab Samples: 922684048 922684055 922684063 922684071 922684089 922684097

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Acetone	ug/l	ND	10.	
Acrylonitrile	ug/l	ND	25.	
Benzene	ug/l	ND	5.0	
Bromochloromethane	ug/l	ND	5.0	
Bromodichloromethane	ug/l	ND	5.0	
Bromoform	ug/l	ND	5.0	
Bromomethane	ug/l	ND	5.0	
2-Butanone (MEK)	ug/l	ND	10.	
Carbon disulfide	ug/l	ND	10.	
Carbon tetrachloride	ug/l	ND	5.0	
Chlorobenzene	ug/l	ND	5.0	
Chloroethane	ug/l	ND	10.	
Chloroform	ug/l	ND	5.0	
Chloromethane	ug/l	ND	5.0	
1,2-Dibromo-3-chloropropane	ug/l	ND	5.0	
Dibromochloromethane	ug/l	ND	5.0	
1,2-Dibromoethane (EDB)	ug/l	ND	5.0	
Dibromomethane	ug/l	ND	5.0	
1,2-Dichlorobenzene	ug/l	ND	5.0	
1,4-Dichlorobenzene	ug/l	ND	5.0	
trans-1,4-Dichloro-2-butene	ug/l	ND	5.0	
1,1-Dichloroethane	ug/l	ND	5.0	
1,2-Dichloroethane	ug/l	ND	5.0	
1,1-Dichloroethene	ug/l	ND	5.0	
cis-1,2-Dichloroethene	ug/l	ND	5.0	
trans-1,2-Dichloroethene	ug/l	ND	5.0	
1,2-Dichloropropane	ug/l	ND	5.0	
cis-1,3-Dichloropropene	ug/l	ND	5.0	
trans-1,3-Dichloropropene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

METHOD BLANK: 922699368
Associated Lab Samples: 922684048 922684055 922684063 922684071 922684089 922684097

Parameter	Units	Blank Result	Reporting Limit	Footnotes
2-Hexanone	ug/l	ND	10.	
Iodomethane	ug/l	ND	10.	
Methylene chloride	ug/l	ND	5.0	
4-Methyl-2-pentanone (MIBK)	ug/l	ND	10.	
Styrene	ug/l	ND	5.0	
1,1,1,2-Tetrachloroethane	ug/l	ND	5.0	
1,1,2,2-Tetrachloroethane	ug/l	ND	5.0	
Tetrachloroethene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
1,1,1-Trichloroethane	ug/l	ND	5.0	
1,1,2-Trichloroethane	ug/l	ND	5.0	
Trichloroethene	ug/l	ND	5.0	
Trichlorofluoromethane	ug/l	ND	10.	
1,2,3-Trichloropropane	ug/l	ND	5.0	
Vinyl acetate	ug/l	ND	10.	
Vinyl chloride	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	102		
4-Bromofluorobenzene (S)	%	96		
Dibromofluoromethane (S)	%	98		
1,2-Dichloroethane-d4 (S)	%	89		

LABORATORY CONTROL SAMPLE: 922699376

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Acetone	ug/l	100.00	110.1	110	
Acrylonitrile	ug/l	250.00	406.8	163	
Benzene	ug/l	50.00	44.34	89	
Bromochloromethane	ug/l	50.00	44.58	89	
Bromodichloromethane	ug/l	50.00	40.90	82	
Bromoform	ug/l	50.00	43.50	87	
Bromomethane	ug/l	50.00	44.16	88	
2-Butanone (MEK)	ug/l	100.00	72.14	72	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

LABORATORY CONTROL SAMPLE: 922699376

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Carbon disulfide	ug/l	100.00	89.13	89	
Carbon tetrachloride	ug/l	50.00	41.22	82	
Chlorobenzene	ug/l	50.00	45.12	90	
Chloroethane	ug/l	50.00	43.23	86	
Chloroform	ug/l	50.00	45.20	90	
Chloromethane	ug/l	50.00	42.64	85	
1,2-Dibromo-3-chloropropane	ug/l	50.00	41.98	84	
Dibromochloromethane	ug/l	50.00	43.06	86	
1,2-Dibromoethane (EDB)	ug/l	50.00	45.59	91	
Dibromomethane	ug/l	50.00	45.73	92	
1,2-Dichlorobenzene	ug/l	50.00	44.74	90	
1,4-Dichlorobenzene	ug/l	50.00	40.98	82	
trans-1,4-Dichloro-2-butene	ug/l	50.00	23.26	46	
1,1-Dichloroethane	ug/l	50.00	53.19	106	
1,2-Dichloroethane	ug/l	50.00	45.70	91	
1,1-Dichloroethene	ug/l	50.00	48.55	97	
cis-1,2-Dichloroethene	ug/l	50.00	37.36	75	
trans-1,2-Dichloroethene	ug/l	50.00	52.42	105	
1,2-Dichloropropane	ug/l	50.00	46.43	93	
cis-1,3-Dichloropropene	ug/l	50.00	44.92	90	
trans-1,3-Dichloropropene	ug/l	50.00	45.13	90	
Ethylbenzene	ug/l	50.00	43.83	88	
2-Hexanone	ug/l	100.00	102.3	102	
Iodomethane	ug/l	100.00	94.98	95	
Methylene chloride	ug/l	50.00	53.99	108	
4-Methyl-2-pentanone (MIBK)	ug/l	100.00	96.47	96	
Styrene	ug/l	50.00	47.45	95	
1,1,1,2-Tetrachloroethane	ug/l	50.00	43.95	88	
1,1,2,2-Tetrachloroethane	ug/l	50.00	48.56	97	
Tetrachloroethene	ug/l	50.00	40.56	81	
Toluene	ug/l	50.00	44.88	90	
1,1,1-Trichloroethane	ug/l	50.00	44.35	89	
1,1,2-Trichloroethane	ug/l	50.00	47.74	96	
Trichloroethene	ug/l	50.00	43.85	88	
Trichlorofluoromethane	ug/l	50.00	42.26	84	
1,2,3-Trichloropropane	ug/l	50.00	46.80	94	
Vinyl acetate	ug/l	100.00	125.7	126	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

LABORATORY CONTROL SAMPLE: 922699376

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Vinyl chloride	ug/l	50.00	44.69	89	
m&p-Xylene	ug/l	100.00	89.42	89	
o-Xylene	ug/l	50.00	46.33	93	
Toluene-d8 (S)				101	
4-Bromofluorobenzene (S)				102	
Dibromofluoromethane (S)				103	
1,2-Dichloroethane-d4 (S)				105	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922699384 922699392

Parameter	Units	922684063 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	35.52	46.32	71	93	26	3
Chlorobenzene	ug/l	0	50.00	38.69	47.58	77	95	21	3
1,1-Dichloroethene	ug/l	0	50.00	39.69	59.25	79	118	40	3
Toluene	ug/l	0	50.00	35.17	43.71	70	87	22	3
Trichloroethene	ug/l	0	50.00	38.10	50.10	76	100	27	3
Toluene-d8 (S)						97	96		
4-Bromofluorobenzene (S)						100	99		
Dibromofluoromethane (S)						98	98		
1,2-Dichloroethane-d4 (S)						93	92		

SAMPLE DUPLICATE: 922699400

Parameter	Units	922685839 Result	DUP Result	RPD	Footnotes
Acetone	ug/l	ND	ND	NC	
Acrylonitrile	ug/l	ND	ND	NC	
Benzene	ug/l	830.0	890.0	7	
Bromochloromethane	ug/l	ND	ND	NC	
Bromodichloromethane	ug/l	ND	ND	NC	
Bromoform	ug/l	ND	ND	NC	
Bromomethane	ug/l	ND	ND	NC	
2-Butanone (MEK)	ug/l	ND	ND	NC	
Carbon disulfide	ug/l	ND	ND	NC	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

SAMPLE DUPLICATE: 922699400

Parameter	Units	922685839 Result	DUP Result	RPD	Footnotes
Carbon tetrachloride	ug/l	ND	ND	NC	
Chlorobenzene	ug/l	ND	ND	NC	
Chloroethane	ug/l	ND	ND	NC	
Chloroform	ug/l	ND	ND	NC	
Chloromethane	ug/l	ND	ND	NC	
1,2-Dibromo-3-chloropropane	ug/l	ND	ND	NC	
Dibromochloromethane	ug/l	ND	ND	NC	
1,2-Dibromoethane (EDB)	ug/l	ND	ND	NC	
Dibromomethane	ug/l	ND	ND	NC	
1,2-Dichlorobenzene	ug/l	ND	ND	NC	
1,4-Dichlorobenzene	ug/l	ND	ND	NC	
trans-1,4-Dichloro-2-butene	ug/l	ND	ND	NC	
1,1-Dichloroethane	ug/l	ND	ND	NC	
1,2-Dichloroethane	ug/l	ND	ND	NC	
1,1-Dichloroethene	ug/l	ND	ND	NC	
cis-1,2-Dichloroethene	ug/l	ND	ND	NC	
trans-1,2-Dichloroethene	ug/l	ND	ND	NC	
1,2-Dichloropropane	ug/l	ND	ND	NC	
cis-1,3-Dichloropropene	ug/l	ND	ND	NC	
trans-1,3-Dichloropropene	ug/l	ND	ND	NC	
Ethylbenzene	ug/l	740.0	780.0	6	
2-Hexanone	ug/l	ND	ND	NC	
Iodomethane	ug/l	ND	ND	NC	
Methylene chloride	ug/l	ND	ND	NC	
4-Methyl-2-pentanone (MIBK)	ug/l	ND	ND	NC	
Styrene	ug/l	ND	ND	NC	
1,1,1,2-Tetrachloroethane	ug/l	ND	ND	NC	
1,1,2,2-Tetrachloroethane	ug/l	ND	ND	NC	
Tetrachloroethene	ug/l	ND	ND	NC	
Toluene	ug/l	4000	4200	6	4
1,1,1-Trichloroethane	ug/l	ND	ND	NC	
1,1,2-Trichloroethane	ug/l	ND	ND	NC	
Trichloroethene	ug/l	ND	ND	NC	
Trichlorofluoromethane	ug/l	ND	ND	NC	
1,2,3-Trichloropropane	ug/l	ND	ND	NC	
Vinyl acetate	ug/l	ND	ND	NC	
Vinyl chloride	ug/l	ND	ND	NC	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

SAMPLE DUPLICATE: 922699400

Parameter	Units	922685839 Result	DUP Result	RPD	Footnotes
m&p-Xylene	ug/l	4000	4300	7	
o-Xylene	ug/l	2500	2700	6	
Toluene-d8 (S)	%	98	97		
4-Bromofluorobenzene (S)	%	100	97		
Dibromofluoromethane (S)	%	104	108		
1,2-Dichloroethane-d4 (S)	%	94	97		

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

QC Batch: 67376 — Analysis Method: EPA 7470
QC Batch Method: EPA 7470 — Analysis Description: Mercury, CVAAS, in Water
Associated Lab Samples: 922684014 922684022 922684030 922684048 922684055 922684063 922684071 922684089

METHOD BLANK: 922688528
Associated Lab Samples: 922684014 922684022 922684030 922684048 922684055 922684063 922684071 922684089

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Mercury	mg/l	ND	0.0002	

LABORATORY CONTROL SAMPLE: 922688536

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Mercury	mg/l	0.0050	0.0048	95	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922688544 922688551

Parameter	Units	922684014 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Mercury	mg/l	0	0.0050	0.0050	0.0050	101	100	0	

SAMPLE DUPLICATE: 922688569

Parameter	Units	922684022 Result	DUP Result	RPD	Footnotes
Mercury	mg/l	ND	ND	NC	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

QC Batch: 67288 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: Metals by Trace ICP
Associated Lab Samples: 922684014 922684022 922684030 922684048 922684055 922684063 922684071 922684089

METHOD BLANK: 922685417
Associated Lab Samples: 922684014 922684022 922684030 922684048 922684055 922684063 922684071 922684089

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Arsenic	mg/l	ND	0.0050	
Barium	mg/l	ND	0.0050	
Cadmium	mg/l	ND	0.0010	
Chromium	mg/l	ND	0.0020	
Lead	mg/l	ND	0.0050	
Selenium	mg/l	ND	0.0050	
Silver	mg/l	ND	0.0020	

LABORATORY CONTROL SAMPLE: 922685425

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Arsenic	mg/l	0.2500	0.2790	112	
Barium	mg/l	0.2500	0.2830	113	
Cadmium	mg/l	0.2500	0.2740	110	
Chromium	mg/l	0.2500	0.2750	110	
Lead	mg/l	0.2500	0.2760	110	
Selenium	mg/l	0.2500	0.2780	111	
Silver	mg/l	0.2500	0.2810	112	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922685433 922685441

Parameter	Units	922685169 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Arsenic	mg/l	0.00007	0.2500	0.2820	0.2780	113	111	1	
Barium	mg/l	0.02630	0.2500	0.3130	0.3060	115	112	2	
Cadmium	mg/l	0	0.2500	0.2770	0.2700	111	108	3	

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QUALITY CONTROL DATA

Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922685433 922685441

Parameter	Units	922685169 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Chromium	mg/l	0.00031	0.2500	0.2770	0.2710	111	108	2	
Lead	mg/l	0.00120	0.2500	0.2760	0.2700	110	108	2	
Selenium	mg/l	0.00001	0.2500	0.2800	0.2760	112	110	1	
Silver	mg/l	0.00019	0.2500	0.2830	0.2770	113	111	2	

SAMPLE DUPLICATE: 922685458

Parameter	Units	922685235 Result	DUP Result	RPD	Footnotes
Arsenic	mg/l	ND	ND	NC	
Barium	mg/l	0.2800	0.3100	11	
Cadmium	mg/l	ND	ND	NC	
Chromium	mg/l	0.00800	0.00960	18	
Lead	mg/l	0.00700	0.00700	0	
Selenium	mg/l	ND	ND	NC	
Silver	mg/l	ND	ND	NC	

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Lab Project Number: 9239322
Client Project ID: WS-OSR 00162-516-018-01

QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines, unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	Recovery falls outside of QC limits, however, this compound is not found in the associated samples.
[2]	The surrogate and/or spike recovery was outside acceptance limits.
[3]	RPD value was outside of control limits, however % Recoveries were acceptable. Samples for QC batch accepted based on % recoveries and completeness of QC data.
[4]	Compound concentration exceeds the calibration range of the instrument (CLP E-Flag).

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Laboratory Certification IDs
LA Wastewater 04034
VA Drinking Water 213
FL NELAP E87627

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical™
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The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

676116

Page: 1 of 1

Required Client Information: Section A

Company: HDR Engineering
Address: 128 S. Tryon St
Charlotte, NC 28202
Phone: 704.338.6700 Fax: 704.338.6760

Required Client Information: Section B

Report To: C. Randazzo
Copy To:
Invoice To: (Same)
P.O.
Project Name: W.S. - OSR
Project Number: 00162-516-018-01

Client Information (Check quote/contract):
Requested Due Date: *TAT: Routine

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client: Section C

Quote Reference:
Project Manager:
Project #: 92 39322
Profile #:

Section D Required Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

Requested Analysis: RCRA METALS, HAPS & VOCS

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm/dd/yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Remarks / Lab ID
1	MW-6R	WT	12/9/02	13:00	5			1	4					XX 9226940 14
2	MW-1R			11:45										XX 9226940 02
3	MW-8			14:15										XX 9226940 30
4	MW-5R (OR)			14:50										XX 9226940 43
5	MW-4R			16:00										XX 9226940 55
6	MW-7			15:20										XX 9226940 63
7	MW-3R			15:35										XX 9226940 71
8	MW-2R			16:50										XX 9226940 89
9	TRIP BLANK								2					X 9226940 97
10														
11														
12														

MANY SAMPLE CONTAINERS ARE MIS-LABELED WITH A "W" BEFORE THE WELL NUMBER; PLEASE IGNORE THIS EXTRA "W".

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
19	Chris Randazzo / HDR	12/10/02	1030		12/10	1030

SAMPLE CONDITION

Temp in °C	1.2
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

Additional Comments:

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Chris Randazzo
SIGNATURE of SAMPLER:
DATE Signed: (MM / DD / YY) 12/10/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0402

PERIMETER GAS PROBE MONITORING
FIELD DATA FORM

FORM 1

Date: 12/9/2002	Inspector: C.Randazzo	Site Name: Old Salisbury Road C&D Landfill	Instrument (%)-S/No.: Gas Port Instrument (%)-M/No.:

Temperature @ Start: 38 Weather: Party cloudy

Temperature @ End: 37 Barometric Pressure: NA

Legend: T = Trace CO = Carbon monoxide
W = Water NA = No reading taken
ppm = Parts per million
LEL = Lower explosive limit

MM #	Time	Static Pressure	Methane (%/ppm)	Oxygen (%)	CO (%)	Remarks
1	1630	NA	0 / 0.0	18.5	0	
2S	1150	NA	0 / 0.0	20.8	0	
2D	1155	NA	0 / 0.0	20.8	0	
3	1300	NA	0 / 0.0	21.1	0	
4S	1200	NA	0 / 0.0	20.7	0	
4D	1205	NA	0 / 0.0	20.8	0	
5	1505	NA	0 / 0.0	18.5	0	
6	1550	NA	0 / 0.0	18.4	0	

PERIMETER GAS PROBE MONITORING
FIELD DATA FORM

FORM 1

Date: 4/17/2002	Inspector: C.Randazzo	Site Name: Old Salisbury Road C&D Landfill	Instrument (%)-S/No.: Gas Port Instrument (%)-M/No.:

Temperature @ Start: 80°F Temperature @ End: 80°F	Weather: Clear Barometric Pressure: NA	Legend: T = Trace CO = Carbon monoxide W = Water NA = No reading taken ppm = Parts per million LEL = Lower explosive limit

MM #	Time	Static Pressure	Methane (%/ppm)	Oxygen (%)	CO_2 (ppm)	Remarks
1	0930	NA	0 / 0.0	19.6	0	
2S	1040	NA	0 / 0.0	19.9	0	
2D	1045	NA	0 / 0.0	20.0	0	
3	1330	NA	0 / 0.0	21.0	0	CO peak @ 1 ppm
4S	1500	NA	0 / 0.0	21.1	0	
4D	1505	NA	0 / 0.0	21.1	0	CO peak @ 1 ppm
5	1415	NA	0 / 0.0	18.9	0	
6	1450	NA	0 / 0.0	18.2	0	

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S DSR
WELL NUMBER MW-1R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 62.30 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-S16-018-01
DATE 12/9/02 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 40
WEATHER CONDITIONS Sl. Cloudy
HNU/OVA READING _____
METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
Disposable Bailer.

WITHDRAWAL OF WELL VOLUMES

FLUSHING	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
WATER LEVEL BEFORE	42.50				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	3.5	7.0	10.5	
WELL VOLUMES REMOVED	0	1	2	3	

FIELD ANALYSIS					
WATER TEMPERATURE (°C)	15.0	15.1	15.2	15.1	
SAMPLE (pH)	5.82	5.83	5.78	5.78	
Eh (mV)	66.8	66.8	69.4	69.4	
CONDUCTIVITY (mS, µS)	82.2 uS	83.7 uS	85.1 uS	88.1 uS	
BUFFER (4,7)	✓	✓	✓	✓	
ODOR (FAINT, MODERATE, STRONG)	NONE	NONE	NONE	NONE	
COLOR	CLEAR	CLEAR	CLEAR	CLEAR	
OTHER (RELATIVE TURBIDITY)	V.LOW	V.LOW	V.LOW	V.LOW	

COMMENTS
TEAM I.D. Josh McSwain, Chris Rendazzo

WELL VOLUME CALCULATIONS (1cf = 7.48 gal)
$\pi r^2 \times h$ = WELL VOLUME IN FT^3
π = 3.14

r = RADIUS IN INCHES/12 = RADIUS IN FEET
h = HEIGHT OF WATER COLUMN IN WELL IN FEET
CONVERSION FROM FT^3 TO GALLONS = 7.48 gal/ft^3

WELL RADIUS = 1 IN/12 = 0.083 FT
h = 62.30 (WELL DEPTH) − 42.50 (DEPTH TO WATER) = 19.80 FT = h
3.14 × 0.0069 (r^2) × h = 0.43 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 3.2

WELLPURG.DWG

HDR

HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S DSR

WELL NUMBER MW-2R

WELL INSIDE DIAMETER 2 INCHES

DEPTH OF BOTTOM 24.64 FEET

LENGTH OF GRAVEL PACK _____ FEET

DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-516-018-01

DATE 12/9/02 PAGE 1 OF 1 39

AIR TEMPERATURE (FAHRENHEIT) _____

WEATHER CONDITIONS Cloudy

HNU/OVA READING _____

METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED

Disposable Bailer.

WITHDRAWAL OF WELL VOLUMES

FLUSHING	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
WATER LEVEL BEFORE	9.95				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	2.5	5.0	7.5	
WELL VOLUMES REMOVED	0	1	2	3	

FIELD ANALYSIS					
WATER TEMPERATURE (°C)	14.0	13.6	13.9	13.8	
SAMPLE (pH)	5.73	5.67	5.59	5.55	
Eh (mV)	72.4	73.7	77.3	79.1	
CONDUCTIVITY (mS, µS)	140.7uS	148.9uS	157.4uS	158.3uS	
BUFFER (4,7)	✓	✓	✓	✓	
ODOR (FAINT, MODERATE, STRONG)	NONE	NONE	NONE	NONE	
COLOR	CLEAR	Clear	Clear	Clear	
OTHER (RELATIVE TURBIDITY)	LOW	LOW	LOW	LOW	

COMMENTS

TEAM I.D. Josh McSwain, Chris Rendazzo

WELL VOLUME CALCULATIONS (1cf = 7.48 gal)

$\pi r^2 \times h$ = WELL VOLUME IN FT^3

π = 3.14

r = RADIUS IN INCHES/12 = RADIUS IN FEET

h = HEIGHT OF WATER COLUMN IN WELL IN FEET

CONVERSION FROM FT^3 TO GALLONS = 7.48 gal/ft^3

WELL RADIUS = 1 IN/12 = 0.083 FT

h = 24.64 (WELL DEPTH) − 9.95 (DEPTH TO WATER) = 14.69 FT = h

3.14 × 0.0069 (r^2) × h = 0.31 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 2.4

WELLPURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S DSR
WELL NUMBER MW-3R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 31.15 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-516-018-01
DATE 12/9/02 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 40
WEATHER CONDITIONS Cloudy
HNU/OVA READING _____
METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
Disposable Bailer.

WITHDRAWAL OF WELL VOLUMES

	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
FLUSHING					
WATER LEVEL BEFORE	26.52				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	1	2	3	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	14.1	14.0	14.3	14.1	
SAMPLE (pH)	5.70	5.81	5.75	5.74	
Eh (mV)	70.0	67.5	71.1	71.5	
CONDUCTIVITY (mS, µS)	112µS	101	92	89	
BUFFER (4,7)	/	/	/	/	
ODOR (FAINT, MODERATE, STRONG)	None	None	None	None	
COLOR	Cloudy	Cloudy	Cloudy	Cloudy	
OTHER (RELATIVE TURBIDITY)	Med	Med	Med	Low	

COMMENTS
TEAM I.D. Josh McSwain, Chris Rendazzo

WELL VOLUME CALCULATIONS (1cf = 7.48 gal)
$\pi r^2 \times h$ = WELL VOLUME IN FT^3
π = 3.14

r = RADIUS IN INCHES/12 = RADIUS IN FEET
h = HEIGHT OF WATER COLUMN IN WELL IN FEET
CONVERSION FROM FT^3 TO GALLONS = 7.48 gal/ft^3

WELL RADIUS = 1 IN/12 = 0.083 FT
h = 31.15 (WELL DEPTH) - 26.52 (DEPTH TO WATER) = 4.63 FT = h
3.14 x 0.0069 (r^2) x h = 0.10 FT^3 x 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 0.8

WELLPURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S DSR
WELL NUMBER MW-4R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 21.25 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-516-018-01
DATE 12/9/02 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 39
WEATHER CONDITIONS Cloudy
HNU/OVA READING _____
METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
Disposable Bailer.

WITHDRAWAL OF WELL VOLUMES

	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
FLUSHING					
WATER LEVEL BEFORE	12.43				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	1.5	3.0	4.5	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	14.2	13.8	13.1	13.1	
SAMPLE (pH)	6.10	5.81	5.49	5.61	
Eh (mV)	71.1	60.8	55.1	58.5	
CONDUCTIVITY (mS, µS)	130.1	149.2	151.1	150.0	
BUFFER (4,7)	/	/	/	/	
ODOR (FAINT, MODERATE, STRONG)	None	None	None	None	
COLOR	Cloudy	Cloudy	Cloudy	Cloudy	
OTHER (RELATIVE TURBIDITY)	med	med	med	Low	

COMMENTS
TEAM I.D. Josh McSwain, Chris Rendazzo

WELL VOLUME CALCULATIONS (1cf = 7.48 gal)
$\pi r^2 \times h$ = WELL VOLUME IN FT^3
π = 3.14

r = RADIUS IN INCHES/12 = RADIUS IN FEET
h = HEIGHT OF WATER COLUMN IN WELL IN FEET
CONVERSION FROM FT^3 TO GALLONS = 7.48 gal/ft^3

WELL RADIUS = 1 IN/12 = 0.083 FT
h = 21.25 (WELL DEPTH) − 12.43 (DEPTH TO WATER) = 8.82 FT = h
3.14 × 0.0069 (r^2) × h = 0.19 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 1.45

WELLPURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S DSR
WELL NUMBER MW-5R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 31.90 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-516-018-01
DATE 12/9/02 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 40
WEATHER CONDITIONS Cloudy
HNU/OVA READING _____
METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
Disposable Bailer.

WITHDRAWAL OF WELL VOLUMES

FLUSHING	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
WATER LEVEL BEFORE	13.05				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	3.5	7	10.5	
WELL VOLUMES REMOVED	0	1	2	3	

FIELD ANALYSIS					
WATER TEMPERATURE (°C)	14.6	15.1	15.4	15.4	
SAMPLE (pH)	5.92	5.93	5.96	5.96	
Eh (mV)	63.8	62.7	61.8	62.5	
CONDUCTIVITY (mS, µS)	149.3uS	156.8uS	157.0uS	158.1uS	
BUFFER (4,7)	✓	✓	✓	✓	
ODOR (FAINT, MODERATE, STRONG)	NONE	NONE	NONE	NONE	
COLOR	Clear	Clear	Clear	Clear	
OTHER (RELATIVE TURBIDITY)	V.LOW	V.LOW	V.LOW	V.LOW	

COMMENTS
TEAM I.D. Josh McSwain, Chris Rendazzo

WELL VOLUME CALCULATIONS (1cf = 7.48 gal)
$\pi r^2 \times h$ = WELL VOLUME IN FT^3
π = 3.14

r = RADIUS IN INCHES/12 = RADIUS IN FEET
h = HEIGHT OF WATER COLUMN IN WELL IN FEET
CONVERSION FROM FT^3 TO GALLONS = 7.48 gal/ft^3

WELL RADIUS = 1 IN/12 = 0.083 FT
h = 31.90 (WELL DEPTH) − 13.05 (DEPTH TO WATER) = 18.85 FT = h
3.14 × 0.0069 (r^2) × h = 0.41 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 3.1

WELLPURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S DSR
WELL NUMBER MW-6R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 75.30 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-516-018-01
DATE 12/9/02 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 39
WEATHER CONDITIONS Cloudy
HNU/OVA READING _____
METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
Disposable Bailer.

WITHDRAWAL OF WELL VOLUMES

FLUSHING	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
WATER LEVEL BEFORE	53.27				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	4	8	12	
WELL VOLUMES REMOVED	0	1	2	3	

FIELD ANALYSIS					
WATER TEMPERATURE (°C)	14.5	14.4	14.5	14.4	
SAMPLE (pH)	6.17	6.15	6.10	61.1	
Eh (mV)	52.4	52.8	55.1	57.8	
CONDUCTIVITY (mS, µS)	60.6µS	59.5µS	60.1µS	61.2µS	
BUFFER (4,7)	✓	✓	✓	✓	
ODOR (FAINT, MODERATE, STRONG)	NONE	NONE	NONE	NONE	
COLOR	Clear	Clear	CLEAR	CLEAR	
OTHER (RELATIVE TURBIDITY)	V. LOW	V. LOW	V. LOW	V LOW	

COMMENTS
TEAM I.D. Josh McSwain, Chris Rendazzo

WELL VOLUME CALCULATIONS (1cf = 7.48 gal)
$\pi r^2 \times h$ = WELL VOLUME IN FT^3
π = 3.14

r = RADIUS IN INCHES/12 = RADIUS IN FEET
h = HEIGHT OF WATER COLUMN IN WELL IN FEET
CONVERSION FROM FT^3 TO GALLONS = 7.48 gal/ft^3

WELL RADIUS = 1 IN/12 = 0.083 FT
h = 75.30 (WELL DEPTH) − 53.22 (DEPTH TO WATER) = 22.08 FT = h
3.14 × 0.0069 (r^2) × h = 0.5 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 3.6

WELLPURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S OSR
WELL NUMBER MW-~~W~~7
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 46.85 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-516-018-01
DATE 12/9/02 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 40
WEATHER CONDITIONS Cloudy
HNU/OVA READING _____
METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
Disposable Bailer.

WITHDRAWAL OF WELL VOLUMES

	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
FLUSHING					
WATER LEVEL BEFORE	41.45				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	1	2	3	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	13.4	13.1	12.9	12.9	
SAMPLE (pH)	6.01	6.10	6.07	6.05	
Eh (mV)	58.5	59.0	58.1	58.0	
CONDUCTIVITY (mS, µS)	97.2uS	95.3	92.3	90.7	
BUFFER (4,7)	✓	✓	✓	✓	
ODOR (FAINT, MODERATE, STRONG)	None	None	None	None	
COLOR	Cloudy	Cloudy	Cloudy	Cloudy	
OTHER (RELATIVE TURBIDITY)	Low	Low	Low	Low	

COMMENTS
TEAM I.D. Josh McSwain, Chris Rendazzo

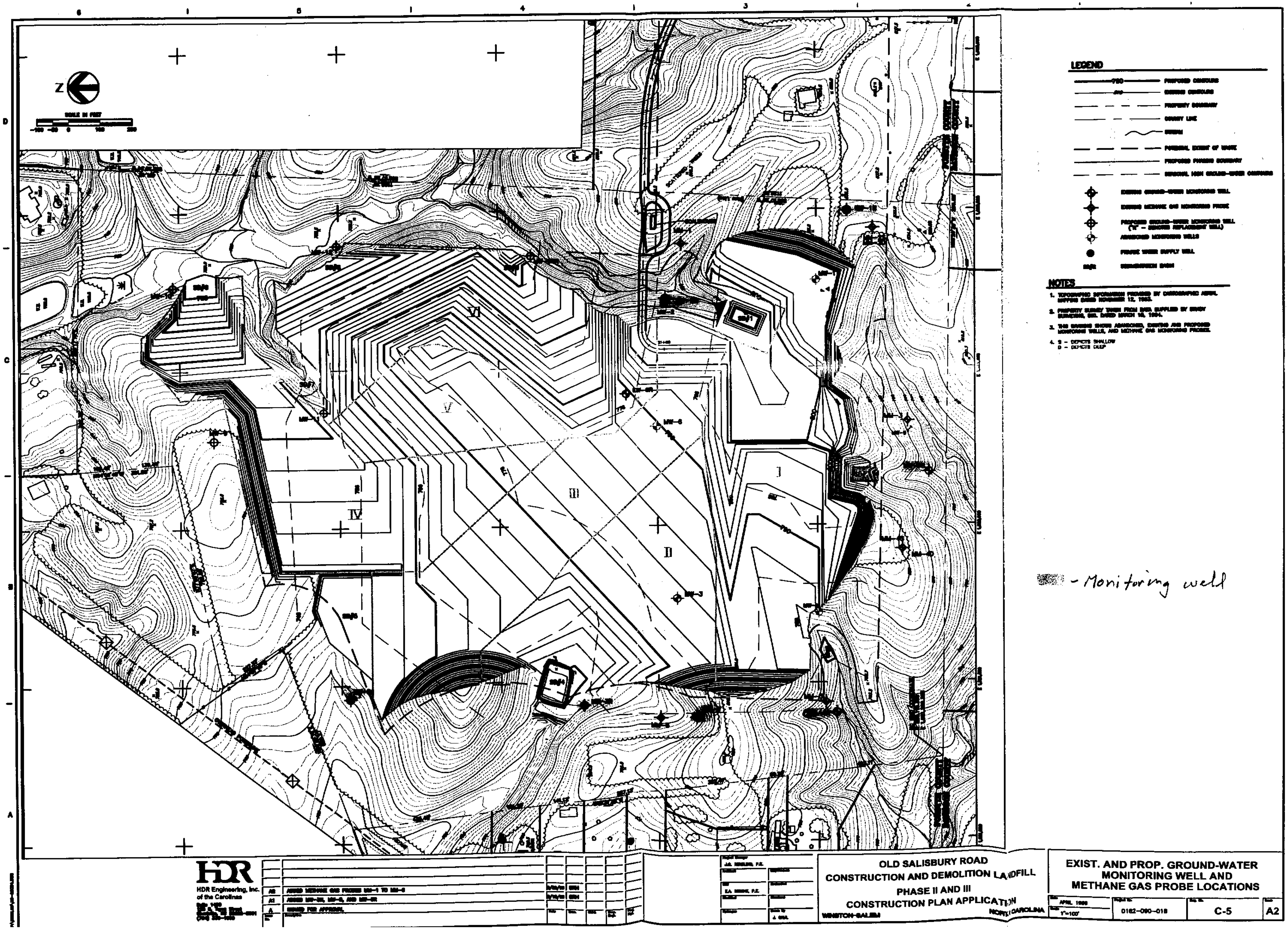
WELL VOLUME CALCULATIONS (1cf = 7.48 gal)
$\pi r^2 \times h$ = WELL VOLUME IN FT^3
π = 3.14

r = RADIUS IN INCHES/12 = RADIUS IN FEET
h = HEIGHT OF WATER COLUMN IN WELL IN FEET
CONVERSION FROM FT^3 TO GALLONS = 7.48 gal/ft^3

WELL RADIUS = 1 IN/12 = 0.083 FT
h = 46.85 (WELL DEPTH) − 41.45 (DEPTH TO WATER) = 5.4 FT = h
3.14 × 0.0069 (r^2) × h = 0.12 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 0.9

WELLPURG.DWC

gal/FT^3 = 1 WELL VOLUME IN GAL = 1.1



LEGEND
NOTES
4. S - DEPICTS SHALLOW
D - DEPICTS DEEP
- Monitoring well
HDR
HDR Engineering, Inc. of the Carolinas
OLD SALISBURY ROAD
CONSTRUCTION AND DEMOLITION LANDFILL
PHASE II AND III
CONSTRUCTION PLAN APPLICATION
WINSTON-SALEM
NORTH CAROLINA
EXIST. AND PROP. GROUND-WATER
MONITORING WELL AND
METHANE GAS PROBE LOCATIONS
1"=100'
C-5
A2