8 wells

34-12
7-31-01

Facility	Date	Doc ID#
	8/18/01	DIN

August 24, 2001

HDR

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

SEP 2001
Received
Solid Waste
Section

Re: Spring 2001 Semiannual Ground-Water Sampling Analytical and Landfill Gas Monitoring Results
Winston-Salem Construction and Demolition Landfill (No. 34-12)
Forsyth County, North Carolina
HDR Project No. 00162-128-018

Dear Mr. Rose:

HDR Engineering, Inc. of the Carolinas (HDR) is hereby submitting, on behalf of the Winston-Salem City/County Utilities Commission (the City), the ground-water analytical and landfill gas monitoring results for the Spring 2001 monitoring period (January through June 2001) at the C&D Landfill (the Landfill) located in Forsyth County, North Carolina.

Ground-water samples were collected from onsite detection monitoring wells MW-1R, MW-2R, MW-3R, MW-4R, MW-5R, MW-6R, MW-7, and MW-8 on July 31, 2001, for the eight Resource Conservation and Recovery Act metals (including mercury) and Appendix I volatile organic compound (VOC) analysis. A trip blank was also included for QA/QC purposes. Field measurements of pH, specific conductance, and temperature were also recorded during pre-sampling well purging. These measurements were recorded on field forms, which have been attached to the Report of Laboratory Analysis. Monitoring well construction record drawings for each monitoring well sampled are attached to this submittal. 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. Methane gas probe monitoring construction record drawings for each station are attached to this submittal.

The metals arsenic, barium, chromium, and lead were detected in the ground water during this round of sampling. The concentrations detected are reflective of the naturally-occurring trace metals typically present in the saprolite of this region. In addition, all of the trace metal concentrations for this period were below their respective 2L ground-water standards, with the exception of barium in MW-8 and lead in MW-3R, MW-7, and MW-8. These trace metals only slightly exceeded their respective 2L ground-water standards. As reflected by the Pre-sampling Well Purging forms, the presence of these trace metal detections is due to the slight lingering well turbidity in each well (especially monitoring well MW-8, which was sampled for the second time this period).

HDR Engineering, Inc. of the Carolinas

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No VOCs were detected in any of the ground-water monitoring wells this period. There were also no VOCs detected in the trip blank.

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 and summarizes 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, with the recent installation of monitoring wells MW-3R, MW-6R, and MW-8, is adequate to provide representative ground-water quality data and release detection determination for the Landfill.

Only a slight trace of methane (well below the regulatory limit of 5 percent in air) was detected at the site in the onsite methane monitoring stations. A copy of the Perimeter Gas Probe Monitoring Field Data Form is attached to this submittal.

The Phase III Construction Certification Report was submitted by HDR to North Carolina Department of Environment and Natural Resources (NCDENR), Solid Waste Section, February 1, 2001. This submittal was approved by NCDENR in a letter dated April 25, 2001. The new cell is not expected to be filled near MW-8 for approximately one year. Therefore, background analytical data will be continued over at least the next two sampling events before waste is placed in this phase of the Landfill.

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) 338-6832.

Sincerely,

HDR Engineering, Inc. of the Carolinas

John R. Isham, PG
Senior Hydrogeologist

JRI/jvd

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
Pre-Sampling Well Purging Forms
Monitoring Well Construction Record Drawings
Methane Gas Monitoring Construction Record Drawings
Ground-Water and Methane Gas Monitoring Well Locations

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

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-1R background

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/5/98	6/2/99	11/19/99	6/5/00	12/14/00	7/31/01
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.224	0.18	0.10	0.29	0.10	0.16	0.15	0.13	0.11	0.15	0.087
Cadmium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	<0.010	0.006	0.003	0.011	0.049	0.012	0.0078	0.0052	<0.002	0.0066	0.0066
Lead	0.006	<0.005	<0.005	0.012	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Mercury	0.0018	0.0002	<00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	<0.0002
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.001	<0.005	<0.005	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.005
Methyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5	<10	<10	<10	<10	<10
Acetone	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5	13	<5	<5	<5	<5
Carbon Disulfide	23	<5	<5	<5	<5	28	<5	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-1R (continued)

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/5/98	6/2/99	11/19/99	6/5/00	12/14/00	7/31/01
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-2R

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/5/98	6/2/99	11/20/99	6/5/00	12/14/00	7/31/01
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	0.011	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.35	0.16	0.20	0.34	0.19	1.1	0.15	0.12	0.18	0.061	0.28
Cadmium	<0.010	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	0.012	0.009	0.004	0.043	0.034	0.21	0.0078	0.014	0.003	0.0039	0.016
Lead	0.026	0.008	0.014	0.031	0.019	0.068	<0.005	0.0069	0.0065	<0.005	0.0089
Mercury	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	<0.0002
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.005	<0.005	0.006	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Methyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5	<10	<10	<10	<10	<10
Acetone	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5	13	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	86	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-2R (continued)

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/5/98	6/2/99	11/20/99	6/5/00	12/14/00	7/31/01
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-3R

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/5/98	6/2/99	11/20/99	6/5/00	12/15/00	7/31/01
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-----	0.0059	<0.005	0.031	0.018
Barium	1.23	0.79	0.80	0.62	0.86	1.4	-----	0.052	0.30	1.5	0.95
Cadmium	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	-----	<0.001	<0.001	<0.001	<0.001
Chromium	0.009	0.020	0.028	0.016	0.025	0.077	-----	0.024	<0.002	0.10	0.050
Lead	0.015	0.015	0.027	0.026	0.032	0.039	-----	0.040	<0.005	0.08	0.053
Mercury	0.0007	<0.0002	<0.0002	0.0002	<0.0002	<0.0002	-----	<0.0002	<0.0002	NA	<0.0002
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-----	<0.005	<0.005	<0.005	<0.005
Silver	<0.001	<0.005	<0.005	<0.005	<0.002	<0.002	-----	<0.002	<0.002	<0.002	<0.002
Methyl Chloride	<10	<10	<10	<10	<10	<10	-----	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10	-----	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10	-----	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10	-----	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5	-----	<10	<10	<10	<10
Acetone	<100	<100	<100	<100	<100	<100	-----	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100	-----	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50	-----	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100	-----	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50	-----	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-3R (continued)

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/5/98	6/2/99	11/20/99	6/5/00	12/15/00	7/31/01
2-Hexanone	<50	<50	<50	<50	<50	<50	-----	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-4R

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/6/98	6/2/99	11/20/99	6/5/00	12/15/00	7/31/01
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0075	<0.005	<0.005	0.0056
Barium	0.595	0.72	0.28	0.65	0.85	2.0	0.95	0.86	0.57	0.35	0.55
Cadmium	0.007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	0.021	0.047	<0.002	0.055	0.13	0.30	0.11	0.06	<0.002	0.028	0.038
Lead	0.017	0.016	0.012	0.029	0.043	0.076	0.050	0.04	0.0095	0.0081	0.014
Mercury	0.0017	0.0003	<0.0002	<0.0002	<0.0002	0.00021	<0.0002	0.00036	<0.0002	NA	<0.0002
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.001	<0.005	0.006	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Methyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5	<10	<10	<10	<10	<10
Acetone	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5	10	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-4R (continued)

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/6/98	6/2/99	11/20/99	6/5/00	12/15/00	7/31/01
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-5R

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/6/98	6/2/99	11/20/99	6/5/00	12/14/00	7/31/01
Arsenic	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	0.005	<0.005
Barium	1.00	0.62	0.33	0.61	0.82	0.48	0.24	0.20	0.20	0.40	0.27
Cadmium	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	0.096	0.043	0.070	0.016	0.17	0.096	0.038	0.029	0.0081	0.082	0.049
Lead	0.019	0.020	0.014	0.031	0.069	0.029	0.016	0.0082	<0.005	0.0076	0.0076
Mercury	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	NA	<0.0002
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.001	<0.005	<0.005	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Methyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5	<10	<10	<10	<10	<10
Acetone	<100	<100	<100	<100	<100	150	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5	10	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	25	<5	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-5R (continued)

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/6/98	6/2/99	11/20/99	6/5/00	12/14/00	7/31/01
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichlóro-2-Butene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-6R

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/5/98	6/2/99	11/19/99	6/5/00	12/14/00	7/31/01
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-----	<0.005	<0.005	<0.005	<0.005
Barium	1.40	0.59	0.30	0.26	0.36	0.16	-----	0.059	0.082	0.041	0.062
Cadmium	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	-----	<0.001	<0.001	<0.001	<0.001
Chromium	0.012	0.010	0.021	0.014	0.033	0.012	-----	0.0028	<0.002	0.0026	0.0041
Lead	0.018	0.011	0.014	0.014	0.020	<0.005	-----	<0.005	0.0058	<0.005	<0.005
Mercury	0.0014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-----	<0.0002	<0.0002	NA	<0.0002
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	-----	<0.005	<0.005	<0.005	<0.005
Silver	<0.001	<0.005	<0.005	<0.005	<0.002	<0.002	-----	<0.002	<0.002	<0.002	<0.002
Methyl Chloride	<10	<10	<10	<10	<10	<10	-----	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10	-----	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10	-----	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10	-----	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5	-----	<10	<10	<10	<10
Acetone	<100	<100	<100	<100	<100	<100	-----	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100	-----	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50	-----	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100	-----	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50	-----	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-6R (continued)

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/5/98	6/2/99	11/19/99	6/5/00	12/14/00	7/31/01
2-Hexanone	<50	<50	<50	<50	<50	<50	-----	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5	-----	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-7

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/6/98	6/2/99	11/20/99	6/5/00	12/15/00	7/31/01
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0098	<0.005	<0.005	0.045	0.016
Barium	1.93	0.97	0.75	1.8	1.2	1.3	0.96	0.39	0.36	2.6	1.3
Cadmium	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	0.028	0.021	0.18	0.41	0.43	0.35	0.19	0.062	0.0025	0.58	0.21
Lead	0.017	0.006	0.023	0.053	0.038	0.036	0.03	0.012	0.0087	0.065	0.026
Mercury	0.0014	0.0004	<0.0002	0.0002	<0.002	<0.002	<0.0002	<0.0002	<0.0002	NA	<0.0002
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.001	<0.005	<0.005	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Methyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5	<10	<10	<10	<10	<10
Acetone	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5	10	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	9	<5	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-7 (continued)

Parameter	1/17/96	10/24/96	5/13/97	10/30/97	5/5/98	11/6/98	6/2/99	11/20/99	6/5/00	12/15/00	7/31/01
2-Hexanone	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5

TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-8

Parameter	12/15/00	7/31/01									
Arsenic	0.089	0.046									
Barium	4.2	2.6									
Cadmium	<0.001	<0.001									
Chromium	0.24	0.092									
Lead	0.40	0.21									
Mercury	NA	<0.0002									
Selenium	<0.005	<0.005									
Silver	<0.002	<0.002									
Methyl Chloride	<10	<10									
Vinyl Chloride	<10	<10									
Bromomethane	<10	<10									
Chloroethane	<10	<10									
Trichlorofluoromethane	<5	<5									
Acetone	<100	<100									
1,1-Dichloroethene	<5	<5									
Methyl Iodide	<5	<5									
Acrylonitrile	<100	<100									
Dichloromethane	<5	<5									
Carbon Disulfide	<5	<5									
Trans-1,1-Dichloroethene	<5	<5									
1,1-Dichloroethane	<5	<5									
Vinyl Acetate	<50	<50									
Methyl Ethyl Ketone	<100	<100									
Cis-1,2-Dichloroethene	<5	<5									
Chloroform	<5	<5									
Bromochloromethane	<5	<5									
1,1,1-Trichloroethane	<5	<5									
1,2-Dichloroethane	<5	<5									
Carbon Tetrachloride	<5	<5									
Benzene	<5	<5									
Trichloroethene	<5	<5									
1,2-Dichloroporpane	<5	<5									
Dibromomethane	<5	<5									
Bromodichloromethane	<5	<5									
4-Methyl-2-Pentanone	<50	<50									
Cis-1,3-Dichloropropene	<5	<5									
Toluene	<5	<5									
Trans-1,3-Dichloro-1-Propene	<5	<5									
1,1,2-Trichloroethane	<5	<5									

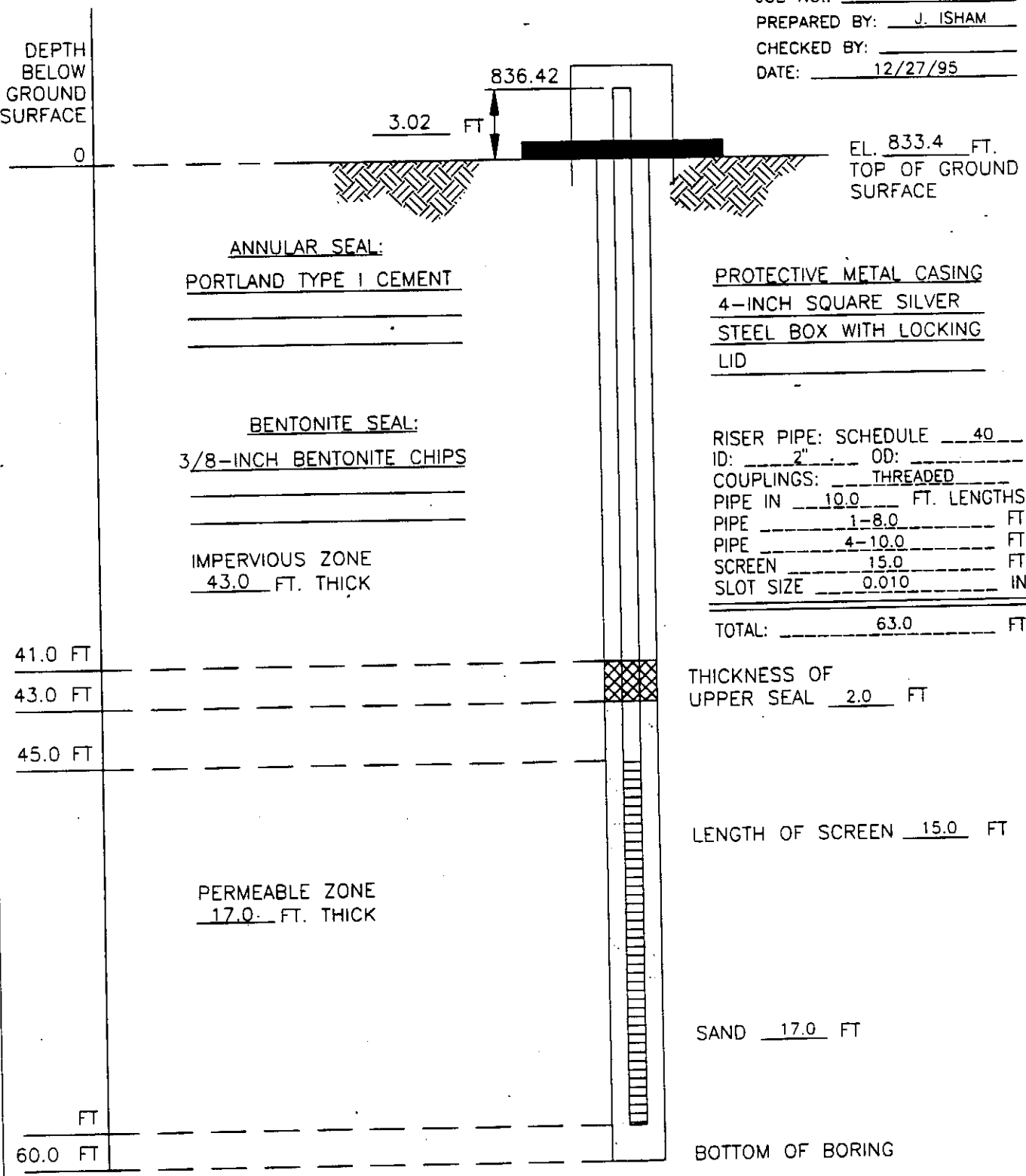
TABLE 1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
MW-8 (continued)

Parameter	12/15/00	7/31/01									
2-Hexanone	<50	<50									
Dibromochloromethane	<5	<5									
Tetrachloroethylene	<5	<5									
1,2-Dibromoethane	<5	<5									
Chlorobenzene	<5	<5									
1,1,1,2-Tetrachloroethane	<5	<5									
Ethylbenzene	<5	<5									
Xylenes (total)	<5	<5									
Styrene	<5	<5									
Bromoform	<5	<5									
1,1,2,2-Tetrachloroethane	<5	<5									
1,2,3-Trichloropropane	<5	<5									
Trans-1,4-Dichloro-2-Butene	<5	<5									
1,4-Dichlorobenzene	<5	<5									
1,2-Dichlorobenzene	<5	<5									
1,2-Dibromo-3-Chloropropane	<5	<5									

NA – Not available

MONITORING WELL INSTALLATION DIAGRAM

LOCATION: WINSTON-SALEM C&D
WELL NO.: MW-1R
BORING NO.:
JOB NO.: 00162-082-018
PREPARED BY: J. ISHAM
CHECKED BY:
DATE: 12/27/95



REMARKS: ALL MEASUREMENTS TO THE NEAREST 0.1 FT.

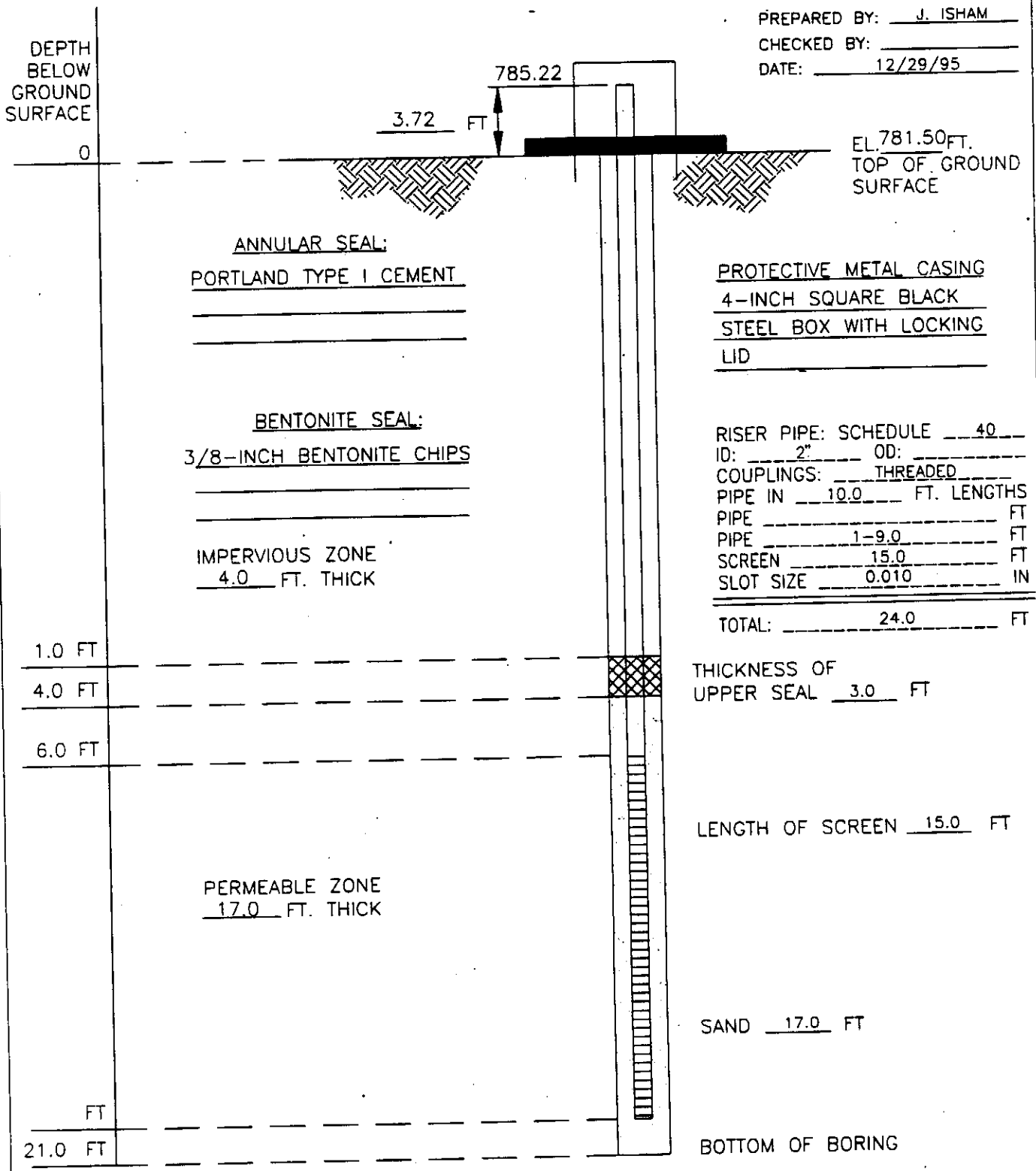
HDR

HDR Engineering, Inc.

FILENAME: MONITOR

MONITORING WELL INSTALLATION DIAGRAM

LOCATION: WINSTON-SALEM C&D
WELL NO.: MW-2R
BORING NO.:
JOB NO.: 00162-082-018
PREPARED BY: J. ISHAM
CHECKED BY:
DATE: 12/29/95



REMARKS: ALL MEASUREMENTS TO THE NEAREST 0.1 FT.

HDR

HDR Engineering, Inc.

FILENAME: MONITOR

Project No: 00162-090-018

Project: Winston-Salem C&D Landfill

Client: City of Winston-Salem

Location: Old Salisbury Road

Geologist Log B-3R (MW-3R)

Ground Elevation: 772.9' MSL

Geologist: John R. Isham, PG.

HDR

SUBSURFACE PROFILE				SAMPLE				Shear Strength blows/ft 20 40 60 80	Well Data	Remarks
Depth	Symbol	Description	Depth/Elev.	Number	Type	Blows/ft	Recovery			
		Ground Surface	0							
0		***RESIDUUM*** Dark to medium brown, micaceous silty clayey sand, slightly plastic, slightly moist, organics mixed, rooted.	773 / 1 / 772							
1										
2										
3		***CLAYEY SAND (SC)*** Orange-brown to tan, micaceous clayey sand, fine to medium-grained, some quartz granules, slightly plastic, moist.								Portland Type I Cement with 3% Bentonite
4										
5				1		8	40%			
6										
7			7 / 766							
8										3/8-inch Bentonite Chips
9										
10				2		5	40%			
11		***SANDY CLAY (CL)*** Gray, soft, plastic, micaceous, mottled with orange-brown iron oxide staining, medium to coarse-grained quartz grains, very moist.								Old Creek Deposits
12										
13										
14										
15				3		8	40%			
16										
17			17.5 / 755							
18										Granitic Saprolite
19										
20										

Drilled By: Engineering Tectonics, PA.

Drill Method: 4.25-inch ID HSA

Drill Date: July 7, 1999

HDR Engineering, Inc. of the Carolinas
128 S. Tryon Street
Suite 1400
Charlotte, NC. 28202

Hole Size 8-inch Diameter

Top-of-Casing 776.6' MSL

Sheet: 1 of 2

Project No: 00162-090-018

Project: Winston-Salem C&D Landfill

Client: City of Winston-Salem

Location: Old Salisbury Road

Geologist Log B-3R (MW-3R)

-

Ground Elevation: 772.9' MSL

Geologist: John R. Isham, PG.

HDR

SUBSURFACE PROFILE				SAMPLE				Shear Strength blows/ft 20 40 60 80	Well Data	Remarks
Depth	Symbol	Description	Depth/Elev.	Number	Type	Blows/ft	Recovery			
21				4		9	50%			2-inch Diameter SCH 40 PVC 0.010-inch Slots
22		***SILTY SAND (SM)*** Gray, white, and black, micaceous, medium-dense, fine to medium-grained, mottled with iron oxide staining, weak mineral alignment, very moist.								
23										
24										
25				5		18	50%			
26										
27		End of Borehole	27 / 746							
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										

Drilled By: Engineering Tectonics, PA.

Drill Method: 4.25-inch ID HSA

Drill Date: July 7, 1999

HDR Engineering, Inc. of the Carolinas
128 S. Tryon Street
Suite 1400
Charlotte, NC. 28202

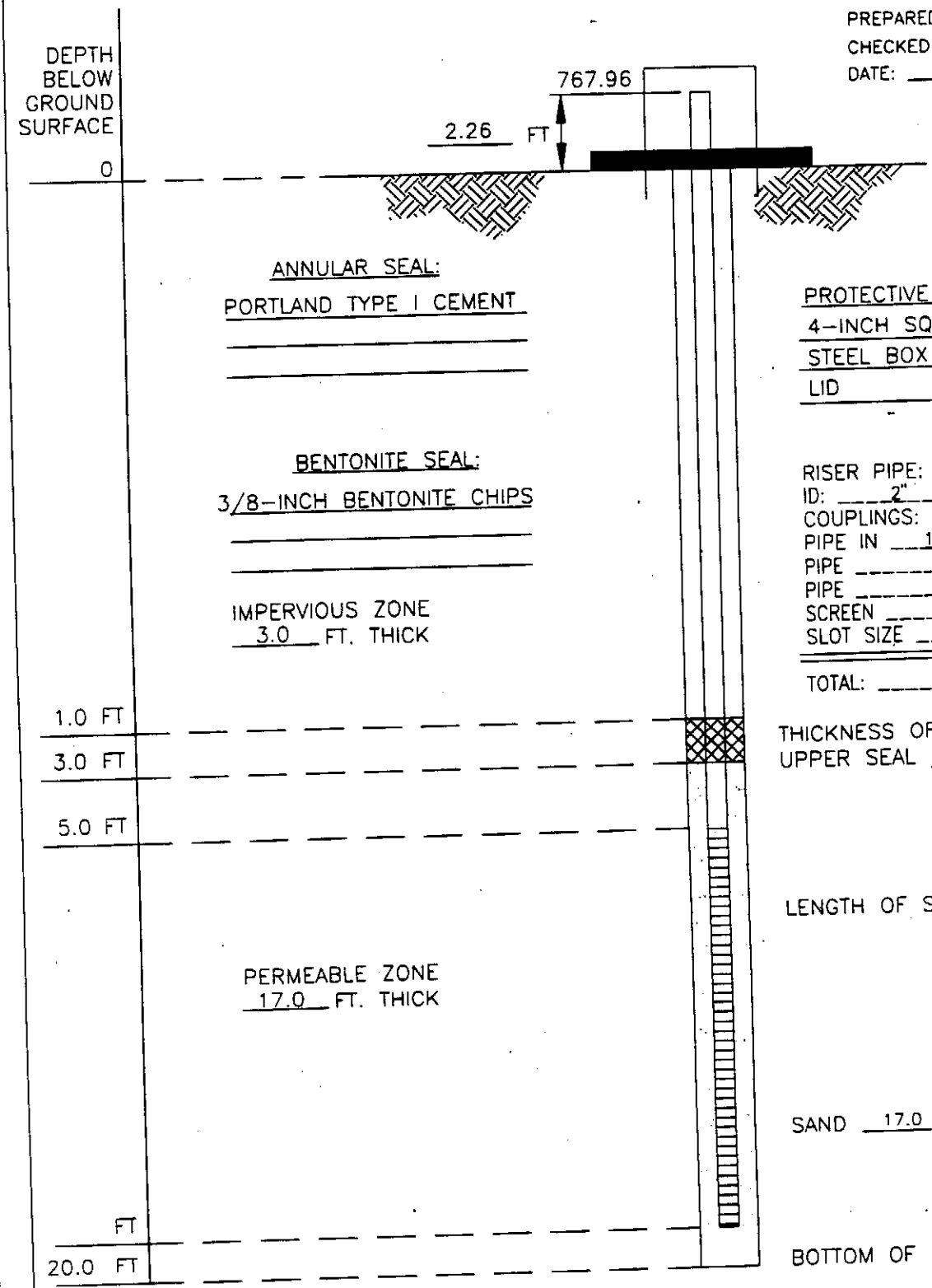
Hole Size 8-inch Diameter

Top-of-Casing 776.6' MSL

Sheet: 2 of 2

MONITORING WELL INSTALLATION DIAGRAM

LOCATION: WINSTON-SALEM C&D
WELL NO.: MW-4R
BORING NO.:
JOB NO.: 00162-082-018
PREPARED BY: J. ISHAM
CHECKED BY:
DATE: 12/28/95



PROTECTIVE METAL CASING
4-INCH SQUARE BLACK STEEL BOX WITH LOCKING LID

RISER PIPE: SCHEDULE 40
ID: 2" OD:
COUPLINGS: THREADED
PIPE IN 10.0 FT. LENGTHS
PIPE 1-7.5 FT
PIPE FT
SCREEN 15.0 FT
SLOT SIZE 0.010 IN
TOTAL: 22.5 FT

THICKNESS OF UPPER SEAL 2.0 FT

LENGTH OF SCREEN 15.0 FT

SAND 17.0 FT

BOTTOM OF BORING

REMARKS: ALL MEASUREMENTS TO THE NEAREST 0.1 FT.

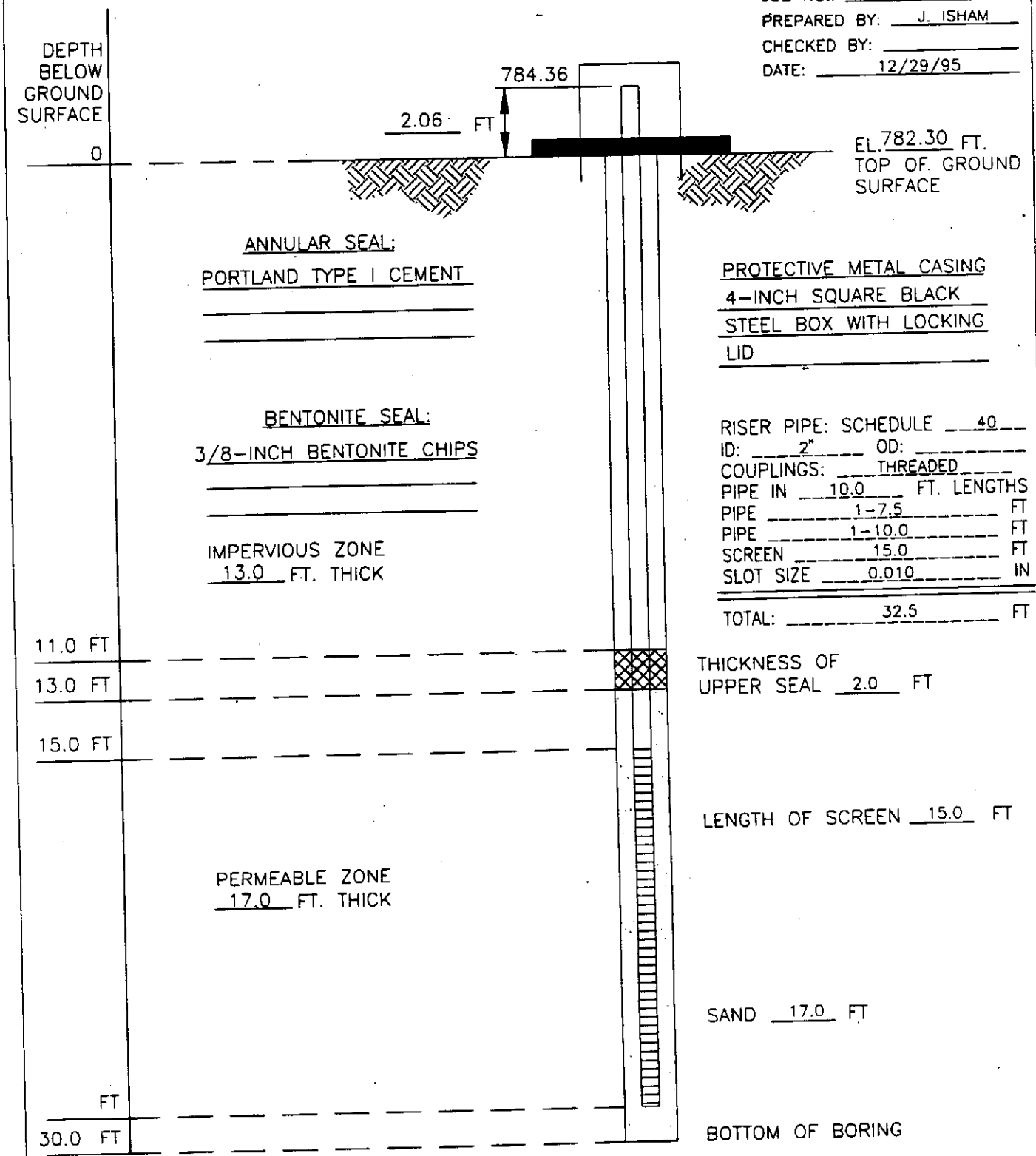
HDR

HDR Engineering, Inc.

FILENAME: MONITOR

MONITORING WELL INSTALLATION DIAGRAM

LOCATION: WINSTON-SALEM C&D
WELL NO.: MW-5R
BORING NO.:
JOB NO.: 00162-082-018
PREPARED BY: J. ISHAM
CHECKED BY:
DATE: 12/29/95



REMARKS: ALL MEASUREMENTS TO THE NEAREST 0.1 FT.

HDR

HDR Engineering, Inc.

FILENAME: MONITOR

Project No: 00162-090-018

Project: Winston-Salem C&D Landfill

Client: City of Winston-Salem

Location: Old Salisbury Road

Geologist Log B-6R (MW-6R)

Ground Elevation: 817.8' MSL

Geologist: John R. Isham, PG.

HDR

SUBSURFACE PROFILE				SAMPLE				Shear Strength blows/ft 20 40 60 80	Well Data	Remarks
Depth	Symbol	Description	Depth/Elev.	Number	Type	Blows/ft	Recovery			
		Ground Surface	0 / 818							
0		***RESIDUUM*** Tan to light brown sandy loam.								
1										
2		***SANDY SILT (ML)*** Orange-brown, micaceous, fine-grained quartz grains, dry.	3.5 / 814							
3										
4										
5				1		8	60%			
6										
7										
8										
9										
10				2		7	75%			Portland Type I Cement with 3% Bentonite
11										
12		***SILTY SAND (SM)*** Tan to yellow-brown, micaceous, fine to coarse-grained quartz grains, weak mineral alignment (horizontal), iron oxide staining, mottled, dry.								
13										
14										
15				3		8	75%			
16										
17										
18										
19										
20										

Drilled By: Engineering Tectonics, PA.

Drill Method: 4.25-inch ID HSA

Drill Date: July 8, 1999

HDR Engineering, Inc. of the Carolinas
128 S. Tryon Street
Suite 1400
Charlotte, NC. 28202

Hole Size 8-inch Diameter

Top-of-Casing 820.4' MSL

Sheet: 1 of 3

Project No: 00162-090-018

Project: Winston-Salem C&D Landfill

Client: City of Winston-Salem

Location: Old Salisbury Road

Geologist Log B-6R (MW-6R)

Ground Elevation: 817.8' MSL

Geologist: John R. Isham, PG.

HDR

SUBSURFACE PROFILE				SAMPLE						
Depth	Symbol	Description	Depth/Elev.	Number	Type	Blows/ft	Recovery	Shear Strength blows/ft 20 40 60 80	Well Data	Remarks
21		***SILTY SAND (SM)*** Tan to yellow-brown, micaceous, fine to coarse-grained quartz grains, weak mineral alignment (horizontal), iron oxide staining, mottled, dry.		4		12	80%			
22			23 / 795							
23										
24										Granitic Saprolite
25				5		15	75%			
26										
27										
28		***SILTY SAND (SM)*** Same as above, becoming mixed with partially weathered rock lenses, dry.								
29										
30				6		27	75%			Portland Type I Cement with 3% Bentonite
31										
32										
33										
34		***SILTY SAND w/ GRAVEL*** White, to light gray and tan, micacous, mottled with iron oxide staining, fine to coarse-grained quartz, feldspar, mica, weak foliation as mineral alighment, dry.	34 / 784							
35				7		48	85%			
36										
37										
38										
39										
40										

Drilled By: Engineering Tectonics, PA.

Drill Method: 4.25-inch ID HSA

Drill Date: July 8, 1999

HDR Engineering, Inc. of the Carolinas
128 S. Tryon Street
Suite 1400
Charlotte, NC. 28202

Hole Size 8-inch Diameter

Top-of-Casing 820.4' MSL

Sheet: 2 of 3

Project No: 00162-090-018

Project: Winston-Salem C&D Landfill

Client: City of Winston-Salem

Location: Old Salisbury Road

Geologist Log B-6R (MW-6R)

Ground Elevation: 817.8' MSL

Geologist: John R. Isham, PG.

HDR

SUBSURFACE PROFILE				SAMPLE				Shear Strength blows/ft 20 40 60 80	Well Data	Remarks
Depth	Symbol	Description	Depth/Elev.	Number	Type	Blows/ft	Recovery			
41, 42, 43, 44, 45, 46, 47		***SILTY SAND w/ GRAVEL*** White, to light gray and tan, micacous, mottled with iron oxide staining, fine to coarse-grained quartz, feldspar, mica, weak foliation as mineral alighment, dry.		8		84	75%			3/8-inch Bentonite Chips; #2 Silica Sand Pack
				9		90	10%			
48		***PWR*** Gray, white and tan, micacous granite saprolite with partially weathered rock lenses, fine to coarse-grained.	48 / 770							Partially Weathered Rock @ 48'
49, 50				10		90	1%			
51			51 / 767							Auger Refusal @ 51'
52, 53, 54, 55, 56, 57, 58, 59		***PWR*** As above, visual identification based on cuttings from air hammer drilling from 51 to 60'.		11	G G G G G G G					2-inch Diameter SCH 40 PVC 0.010-inch Slots
60			60 / 758							

Drilled By: Engineering Tectonics, PA.

Drill Method: 4.25-inch ID HSA

Drill Date: July 8. 1999

HDR Engineering, Inc. of the Carolinas
128 S. Tryon Street
Suite 1400
Charlotte, NC. 28202

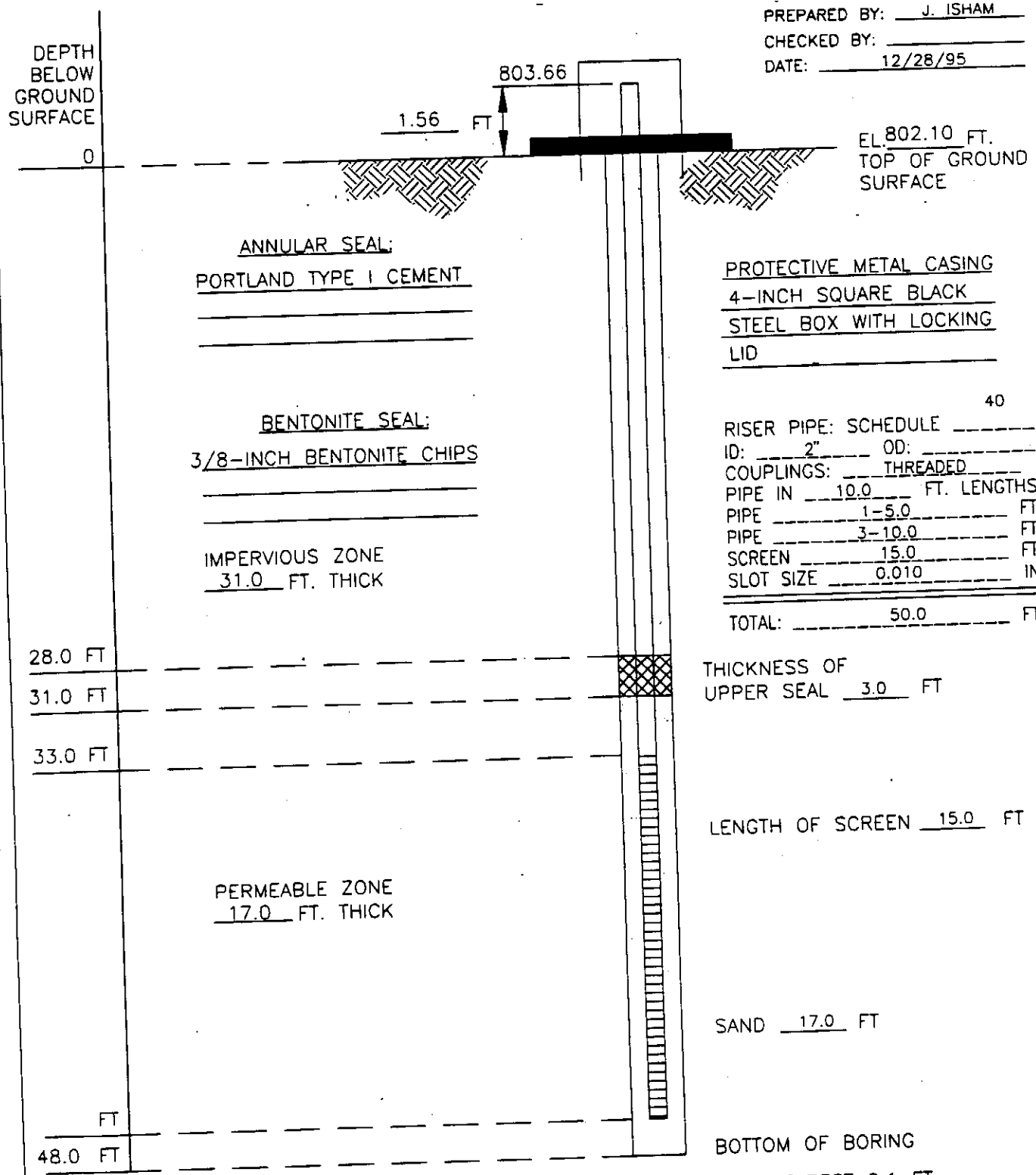
Hole Size 8-inch Diameter

Top-of-Casing 820.4' MSL

Sheet: 3 of 3

MONITORING WELL INSTALLATION DIAGRAM

LOCATION: WINSTON-SALEM C&D
WELL NO.: MW-7
BORING NO.:
JOB NO.: 00162-082-018
PREPARED BY: J. ISHAM
CHECKED BY:
DATE: 12/28/95



RISER PIPE: SCHEDULE 40
ID: 2" OD:
COUPLINGS: THREADED
PIPE IN 10.0 FT. LENGTHS
PIPE 1-5.0 FT
PIPE 3-10.0 FT
SCREEN 15.0 FT
SLOT SIZE 0.010 IN
TOTAL: 50.0 FT

REMARKS: ALL MEASUREMENTS TO THE NEAREST 0.1 FT.

HDR

HDR Engineering, Inc.

FILENAME: MONITOR

Project No: 00162-090-018

Project: Winston-Salem C&D Landfill

Client: City of Winston-Salem

Location: Old Salisbury Road

Geologist Log B-8 (MW-8)

Ground Elevation: 759.8' MSL

Geologist: John R. Isham, PG.

HDR

SUBSURFACE PROFILE				SAMPLE						
Depth	Symbol	Description	Depth/Elev.	Number	Type	Blows/ft	Recovery	Shear Strength blows/ft 20 40 60 80	Well Data	Remarks
0		Ground Surface	0							
		TOPSOIL Brown silty sandy loam, rooted, organic-rich.	760 / 1 / 759							
1–2		***SANDY SILT (ML)*** Tan to yellow-brown.								
3–7		***CLAYEY SAND (SC)*** Yellow-brown to tan, micaceous, fine to coarse-grained quartz grains, mottled with iron oxide staining, very moist.		1		24	80%			Portland Type I Cement with 3% Bentonite
8			8 / 752							3/8-inch Bentonite Chips
9–14		***SANDY CLAY (CL)*** Gray and tan, fine to very coarse-grained quartz grains, iron oxide staining, no mica, plastic, sticky, very moist.		2		12	75%			Old Creek Deposits 8-23.5'
14			14.5 / 745							
15–16				3		9	100%			2-inch Diameter SCH 40 PVC 0.010-inch Slots
17–20		***CLAYEY SAND (SC)*** Tan to yellow-brown, slightly plastic, fine to coarse-grained quartz grains, no structure, very moist to wet.								

Drilled By: Engineering Tectonics, PA.

Drill Method: 4.25-inch ID HSA

Drill Date: July 7, 1999

HDR Engineering, Inc. of the Carolinas
128 S. Tryon Street
Suite 1400
Charlotte, NC. 28202

Hole Size 8-inch Diameter

Top-of-Casing 762.5' MSL

Sheet: 1 of 2

Project No: 00162-090-018

Project: Winston-Salem C&D Landfill

Client: City of Winston-Salem

Location: Old Salisbury Road

Geologist Log B-8 (MW-8)

Ground Elevation: 759.8' MSL

Geologist: John R. Isham, PG.

HDR

SUBSURFACE PROFILE				SAMPLE				Shear Strength blows/ft 20 40 60 80	Well Data	Remarks
Depth	Symbol	Description	Depth/Elev.	Number	Type	Blows/ft	Recovery			
			21	4		14	100%			2-inch Diameter SCH 40 PVC 0.010-inch Slots
21		***CLAYEY GRAVEL (GM)*** Yellow-brown to tan, poorly graded, large angular quartz gravel, limonite staining, very wet.	739							
22										
23			23.5							
24		***SILTY SAND (SM)*** Brown, white and tan, micaceous, fine to very coarse-grained quartz grains, weak horizontal mineral alignment, pegmatite zone at base, wet.	736							Granitic Saprolite @ 23.5'
25				5		14	90%			
26										
27			27							
		End of Borehole	733							
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										

Drilled By: Engineering Tectonics, PA.

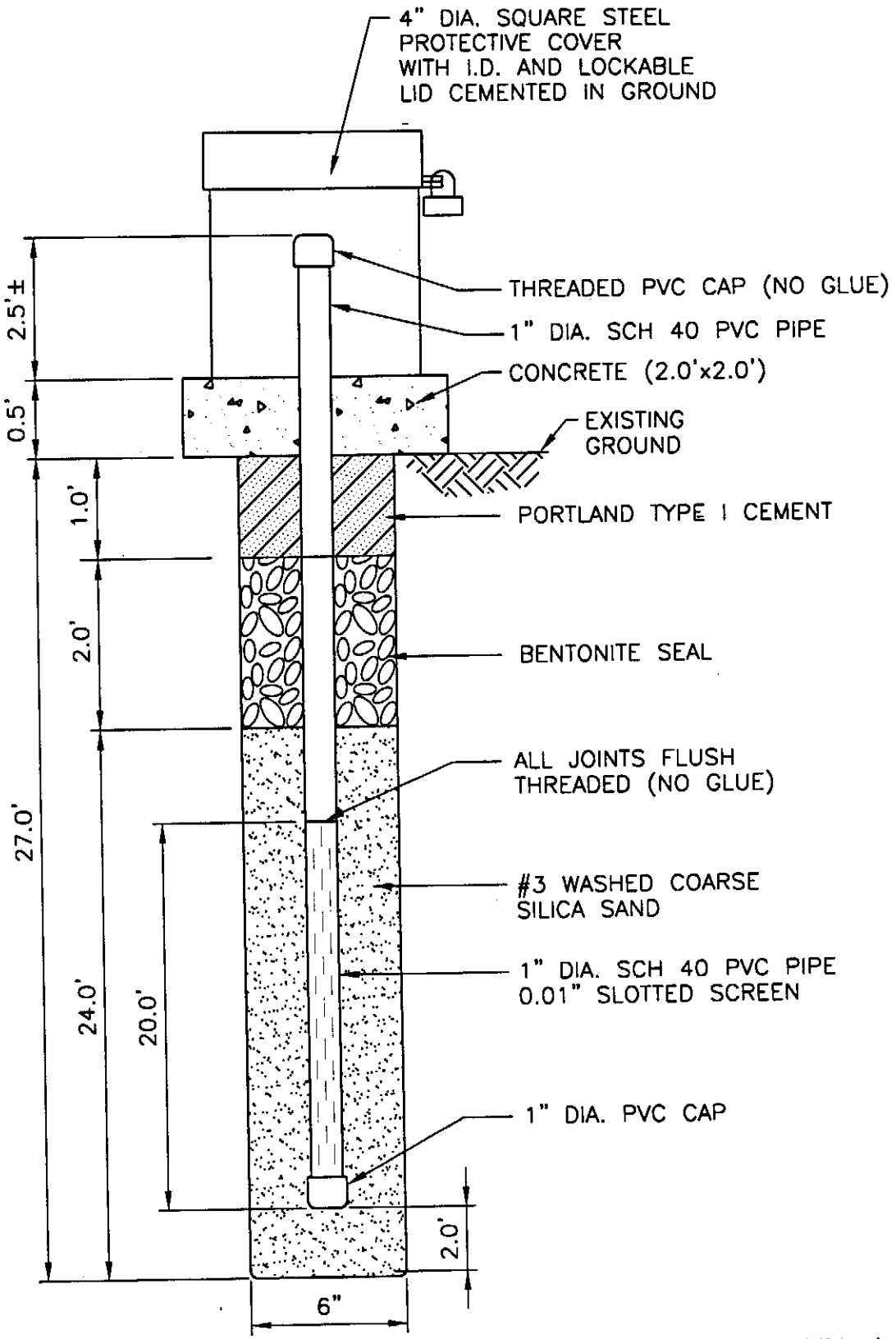
Drill Method: 4.25-inch ID HSA

Drill Date: July 7, 1999

HDR Engineering, Inc. of the Carolinas
128 S. Tryon Street
Suite 1400
Charlotte, NC. 28202

Hole Size 8-inch Diameter

Top-of-Casing 762.5' MSL



NO SCALE

MM-1

HDR

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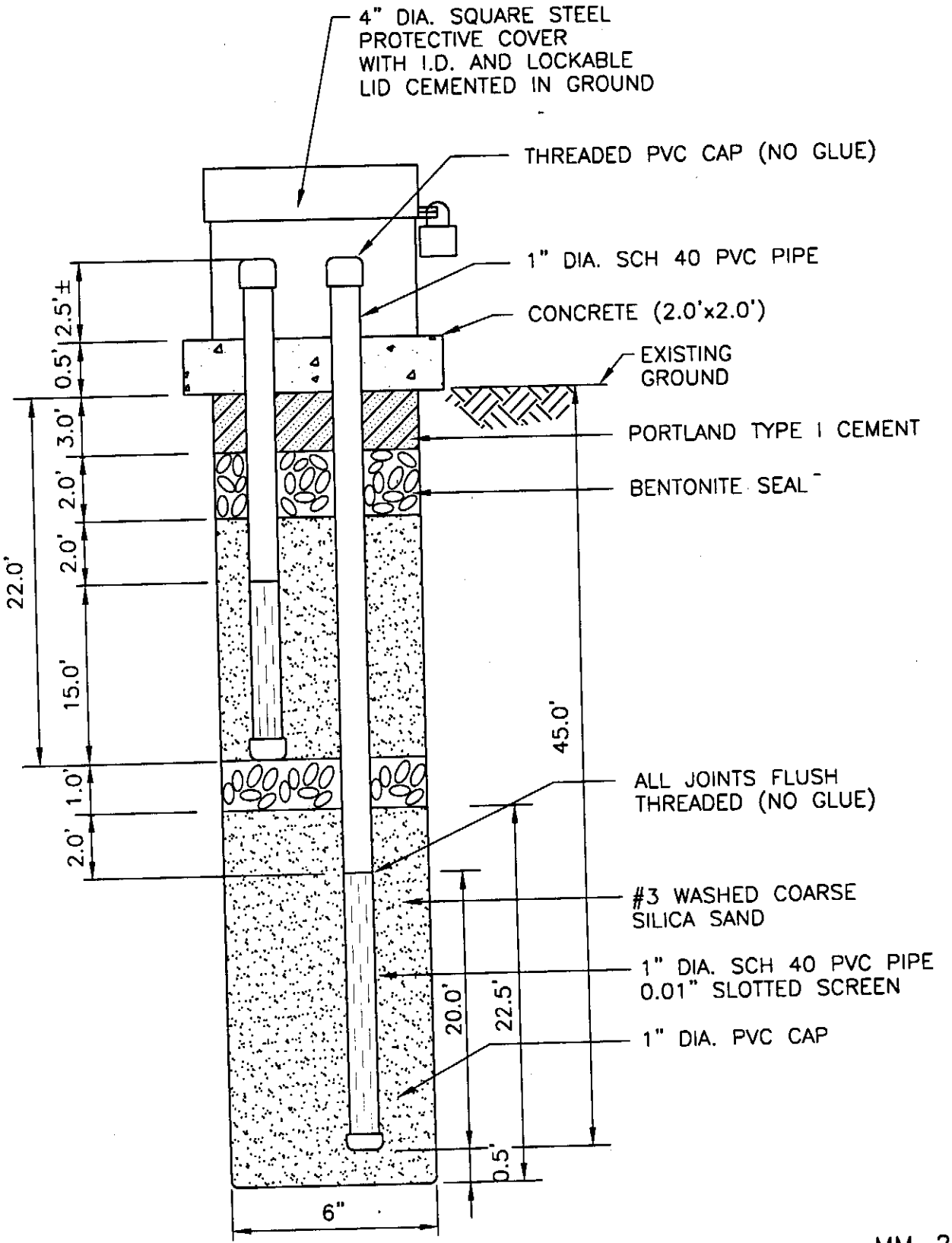
Suite 1400
128 S. Tryon Street
Charlotte, NC 28202-5001
(704) 336-1800

OLD SALISBURY ROAD C & D LANDFILL METHANE MONITORING PROBE DETAIL

Date 9/1999

Figure 1

P:\WINSLCD\METH-F1.DWG



NO SCALE

MM-2S/2D

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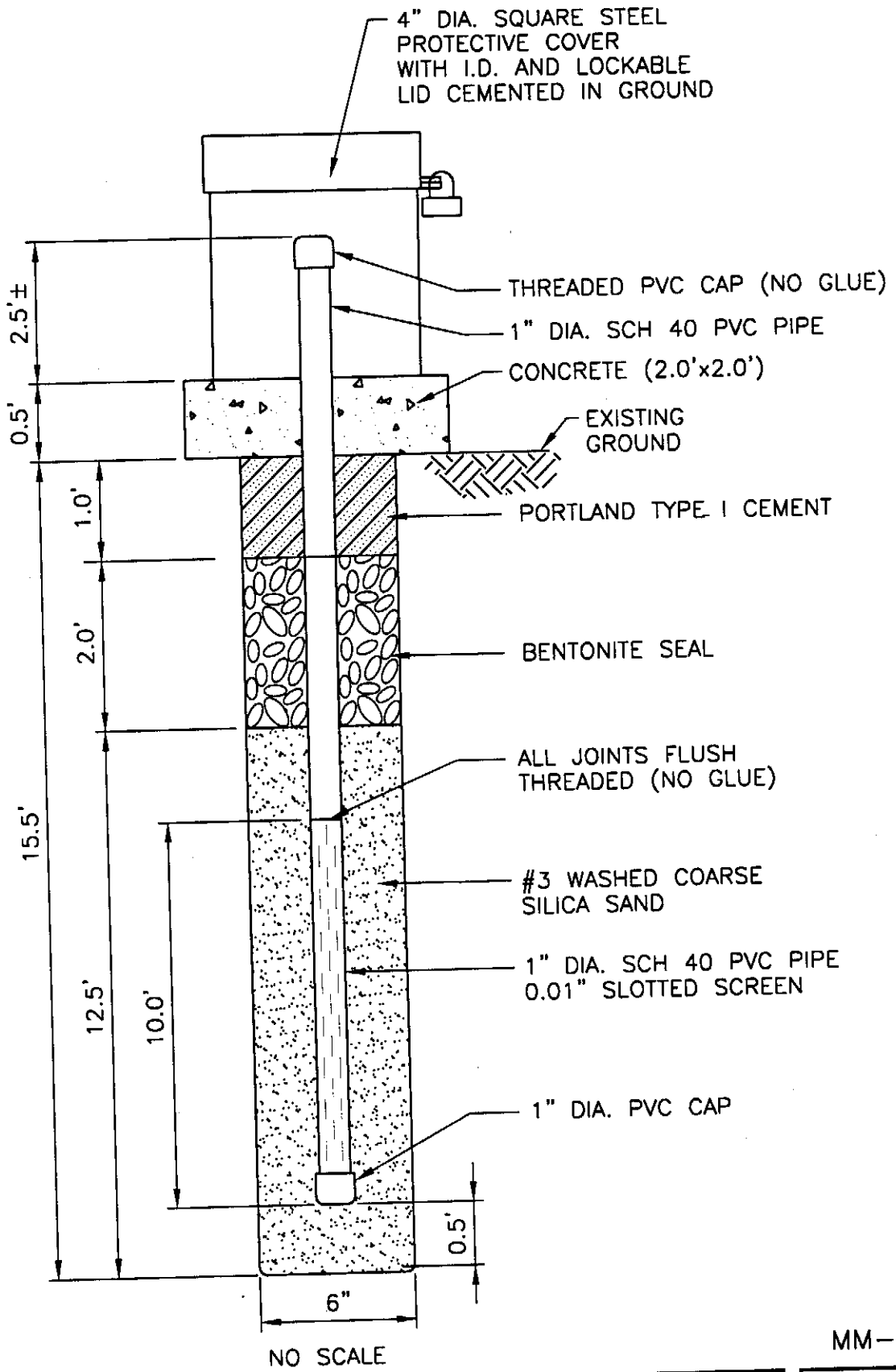
128 S. Tryon Street
Charlotte, NC 28202-5001
(704) 338-1800

OLD SALISBURY ROAD C & D LANDFILL METHANE MONITORING PROBE DETAIL

Date 9/1999

Figure 2

P:\WINSL-CD\METH-F2.DWG



NO SCALE

MM-3

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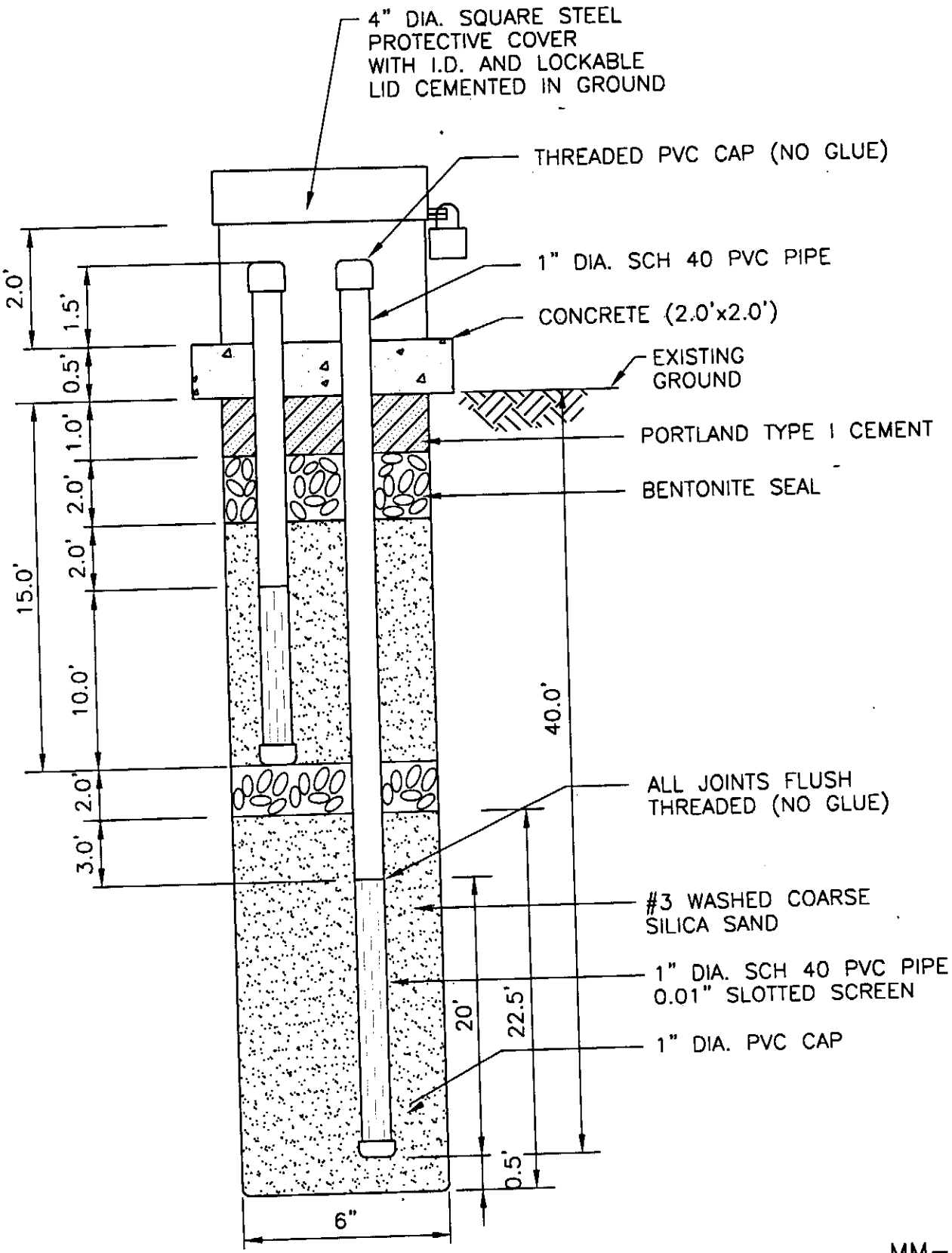
128 S. Tryon Street
Charlotte, NC 28202-5001
(704) 338-1800

OLD SALISBURY ROAD C & D LANDFILL METHANE MONITORING PROBE DETAIL

Date 9/1999

Figure 3

P:\WINSLCD\METH-F3.DWG



NO SCALE

MM-4S/4D

HDR

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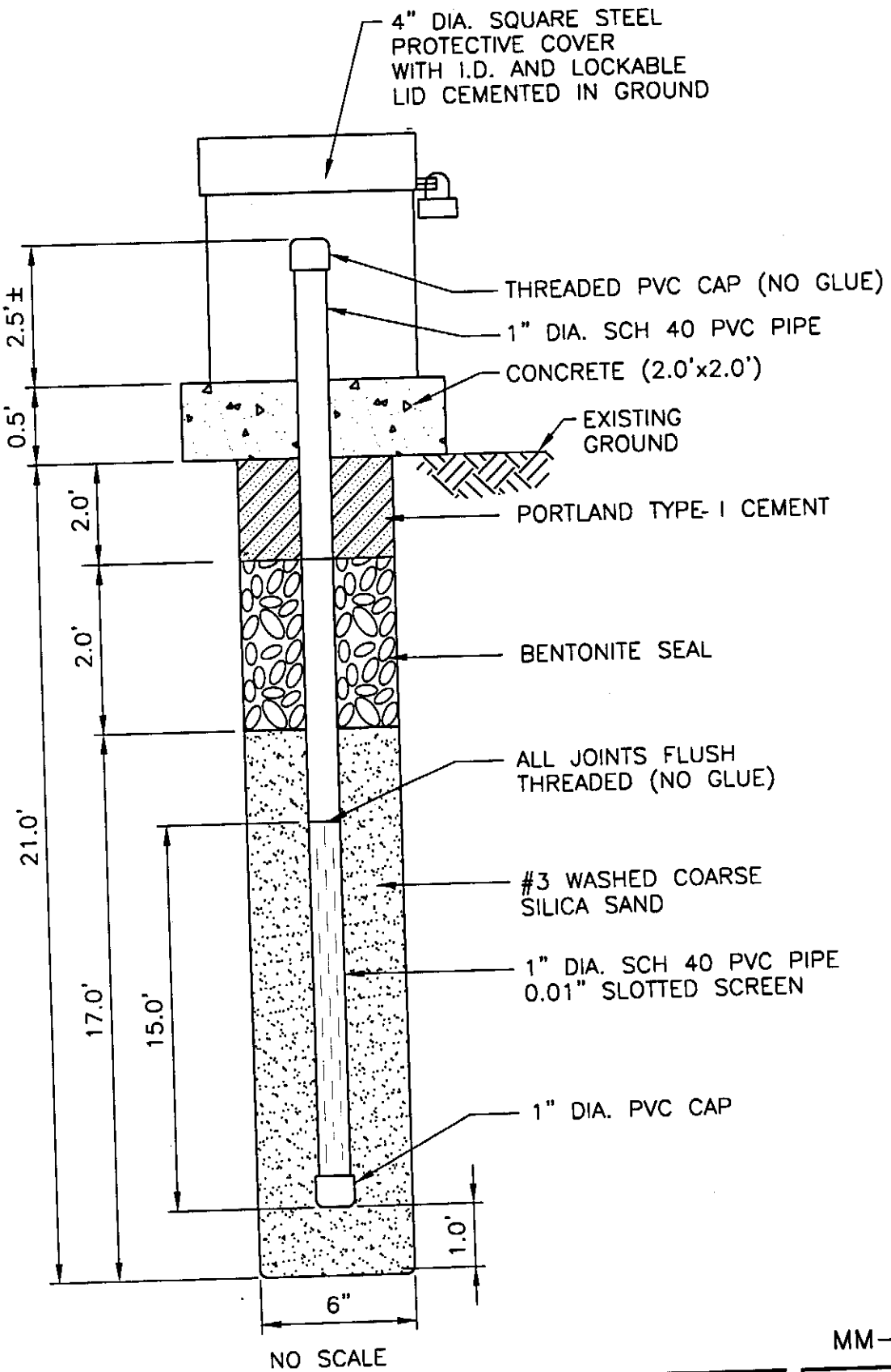
Charlotte, NC 28202-5001
(704) 338-1800

OLD SALISBURY ROAD C & D LANDFILL METHANE MONITORING PROBE DETAIL

Date 9/1999

Figure 4

P:\WINSL-CD\METH-F4.DWG



NO SCALE

MM-5

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Charlotte, NC 28202-5001
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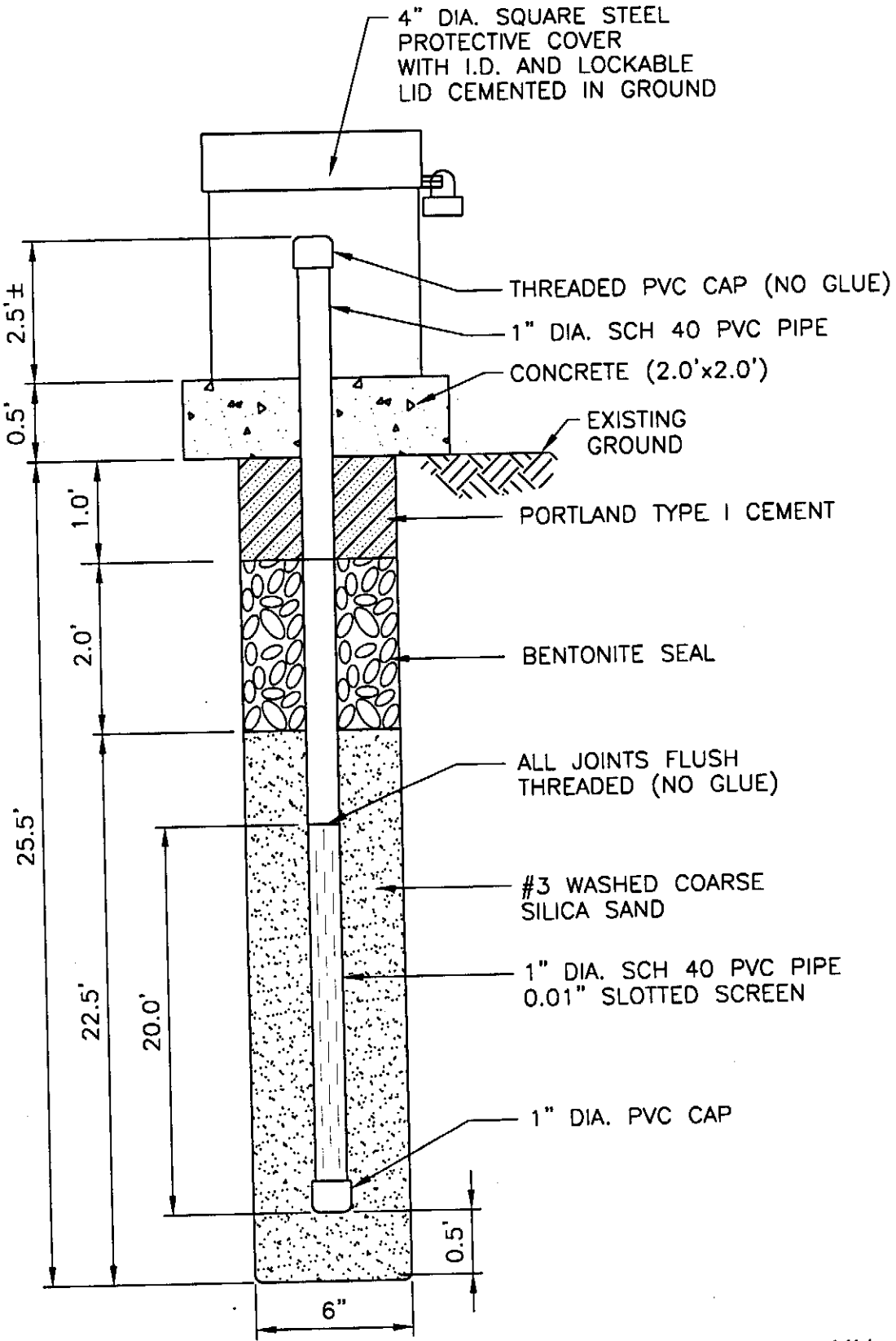
OLD SALISBURY ROAD C & D LANDFILL METHANE MONITORING PROBE DETAIL

Date 9/1999

Figure 5

P:\WINSLCD\METH-F5.DWG



NO SCALE

MM-6

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Charlotte, NC 28202-5001
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OLD SALISBURY ROAD C & D LANDFILL METHANE MONITORING PROBE DETAIL

Date 9/1999

Figure 6

P:\WINSLCD\METH-F6.DWG

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

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HDR ENGINEERING, INC
OF THE CAROLINAS

August 09, 2001

Mr. John Isham
HDR Engineering
128 South Tryon Street
Suite 1400
Charlotte, NC 28202

RE: Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Dear Mr. Isham:

Enclosed are the analytical results for sample(s) received by the laboratory on August 1, 2001. 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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www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741260 | Project Sample Number: 9224935-007 | Date Collected: 07/31/01 14:45
Client Sample ID: MW-1R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Req Limit
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	08/07/01 19:09	RWF	7440-38-2		
Barium	0.087	mg/l	0.0050	08/07/01 19:09	RWF	7440-39-3		
Cadmium	ND	mg/l	0.0010	08/07/01 19:09	RWF	7440-43-9		
Chromium	0.0066	mg/l	0.0020	08/07/01 19:09	RWF	7440-47-3		
Lead	ND	mg/l	0.0030	08/07/01 19:09	RWF	7439-92-1		
Selenium	ND	mg/l	0.0050	08/07/01 19:09	RWF	7782-49-2		
Silver	ND	mg/l	0.0020	08/07/01 19:09	RWF	7440-22-4		
Date Digested				08/02/01				
Mercury, CVAAS, in Water	Prep/Method: EPA 7470 / EPA 7470							
Mercury	ND	mg/l	0.00020	08/09/01	DJR	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Prep/Method: EPA 8260 / EPA 8260							
Acetone	ND	ug/l	100	08/02/01 20:19	RPJ	67-64-1		
Acrylonitrile	ND	ug/l	100	08/02/01 20:19	RPJ	107-13-1		
Benzene	ND	ug/l	5.0	08/02/01 20:19	RPJ	71-43-2		
Bromochloromethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	75-27-4		
Bromoform	ND	ug/l	5.0	08/02/01 20:19	RPJ	75-25-2		
Bromomethane	ND	ug/l	10.	08/02/01 20:19	RPJ	74-83-9		
2-Butanone (MEK)	ND	ug/l	100	08/02/01 20:19	RPJ	78-93-3		
Carbon disulfide	ND	ug/l	5.0	08/02/01 20:19	RPJ	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	08/02/01 20:19	RPJ	56-23-5		
Chlorobenzene	ND	ug/l	5.0	08/02/01 20:19	RPJ	108-90-7		
Chloroethane	ND	ug/l	10.	08/02/01 20:19	RPJ	75-00-3		
Chloroform	ND	ug/l	5.0	08/02/01 20:19	RPJ	67-66-3		
Chloromethane	ND	ug/l	10.	08/02/01 20:19	RPJ	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	08/02/01 20:19	RPJ	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	08/02/01 20:19	RPJ	106-93-4		
Dibromomethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	08/02/01 20:19	RPJ	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	08/02/01 20:19	RPJ	106-46-7		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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VA Drinking Water 213
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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741260 | Project Sample Number: 9224935-007 | Date Collected: 07/31/01 14:45
Client Sample ID: MW-1R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	08/02/01 20:19	RPJ	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	107-06-2		
1,1-Dichloroethene	ND	ug/l	5.0	08/02/01 20:19	RPJ	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 20:19	RPJ	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 20:19	RPJ	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	08/02/01 20:19	RPJ	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 20:19	RPJ	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 20:19	RPJ	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	08/02/01 20:19	RPJ	100-41-4		
2-Hexanone	ND	ug/l	50.	08/02/01 20:19	RPJ	591-78-6		
Iodomethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	74-88-4		
Methylene chloride	ND	ug/l	5.0	08/02/01 20:19	RPJ	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	50.	08/02/01 20:19	RPJ	108-10-1		
Styrene	ND	ug/l	5.0	08/02/01 20:19	RPJ	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	08/02/01 20:19	RPJ	127-18-4		
Toluene	ND	ug/l	5.0	08/02/01 20:19	RPJ	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	08/02/01 20:19	RPJ	79-00-5		
Trichloroethene	ND	ug/l	5.0	08/02/01 20:19	RPJ	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	08/02/01 20:19	RPJ	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	08/02/01 20:19	RPJ	96-18-4		
Vinyl acetate	ND	ug/l	50.	08/02/01 20:19	RPJ	108-05-4		
Vinyl chloride	ND	ug/l	10.	08/02/01 20:19	RPJ	75-01-4		
m&p-Xylene	ND	ug/l	10.	08/02/01 20:19	RPJ			
o-Xylene	ND	ug/l	5.0	08/02/01 20:19	RPJ	95-47-6		
Toluene-d8 (S)	98	%		08/02/01 20:19	RPJ	2037-26-5		
4-Bromofluorobenzene (S)	107	%		08/02/01 20:19	RPJ	460-00-4		
Dibromofluoromethane (S)	104	%		08/02/01 20:19	RPJ			
1,2-Dichloroethane-d4 (S)	102	%		08/02/01 20:19	RPJ	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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FL NELAP E87627

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741286 | Project Sample Number: 9224935-008 | Date Collected: 07/31/01 15:45
Client Sample ID: MW-2R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Req Limit
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	08/07/01 19:14	RWF	7440-38-2		
Barium	0.28	mg/l	0.0050	08/07/01 19:14	RWF	7440-39-3		
Cadmium	ND	mg/l	0.0010	08/07/01 19:14	RWF	7440-43-9		
Chromium	0.016	mg/l	0.0020	08/07/01 19:14	RWF	7440-47-3		
Lead	0.0089	mg/l	0.0030	08/07/01 19:14	RWF	7439-92-1		
Selenium	ND	mg/l	0.0050	08/07/01 19:14	RWF	7782-49-2		
Silver	ND	mg/l	0.0020	08/07/01 19:14	RWF	7440-22-4		
Date Digested				08/02/01				
Mercury, CVAAS, in Water	Prep/Method: EPA 7470 / EPA 7470							
Mercury	ND	mg/l	0.00020	08/09/01	DJR	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Prep/Method: EPA 8260 / EPA 8260							
Acetone	ND	ug/l	100	08/02/01 20:52	RPJ	67-64-1		
Acrylonitrile	ND	ug/l	100	08/02/01 20:52	RPJ	107-13-1		
Benzene	ND	ug/l	5.0	08/02/01 20:52	RPJ	71-43-2		
Bromochloromethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	75-27-4		
Bromoform	ND	ug/l	5.0	08/02/01 20:52	RPJ	75-25-2		
Bromomethane	ND	ug/l	10.	08/02/01 20:52	RPJ	74-83-9		
2-Butanone (MEK)	ND	ug/l	100	08/02/01 20:52	RPJ	78-93-3		
Carbon disulfide	ND	ug/l	5.0	08/02/01 20:52	RPJ	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	08/02/01 20:52	RPJ	56-23-5		
Chlorobenzene	ND	ug/l	5.0	08/02/01 20:52	RPJ	108-90-7		
Chloroethane	ND	ug/l	10.	08/02/01 20:52	RPJ	75-00-3		
Chloroform	ND	ug/l	5.0	08/02/01 20:52	RPJ	67-66-3		
Chloromethane	ND	ug/l	10.	08/02/01 20:52	RPJ	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	08/02/01 20:52	RPJ	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	08/02/01 20:52	RPJ	106-93-4		
Dibromomethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	08/02/01 20:52	RPJ	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	08/02/01 20:52	RPJ	106-46-7		

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NC Drinking Water 37706
SC 99006

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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741286 | Project Sample Number: 9224935-008 | Date Collected: 07/31/01 15:45
Client Sample ID: MW-2R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	08/02/01 20:52	RPJ	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	107-06-2		
1,1-Dichloroethene	ND	ug/l	5.0	08/02/01 20:52	RPJ	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 20:52	RPJ	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 20:52	RPJ	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	08/02/01 20:52	RPJ	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 20:52	RPJ	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 20:52	RPJ	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	08/02/01 20:52	RPJ	100-41-4		
2-Hexanone	ND	ug/l	50.	08/02/01 20:52	RPJ	591-78-6		
Iodomethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	74-88-4		
Methylene chloride	ND	ug/l	5.0	08/02/01 20:52	RPJ	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	50.	08/02/01 20:52	RPJ	108-10-1		
Styrene	ND	ug/l	5.0	08/02/01 20:52	RPJ	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	08/02/01 20:52	RPJ	127-18-4		
Toluene	ND	ug/l	5.0	08/02/01 20:52	RPJ	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	08/02/01 20:52	RPJ	79-00-5		
Trichloroethene	ND	ug/l	5.0	08/02/01 20:52	RPJ	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	08/02/01 20:52	RPJ	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	08/02/01 20:52	RPJ	96-18-4		
Vinyl acetate	ND	ug/l	50.	08/02/01 20:52	RPJ	108-05-4		
Vinyl chloride	ND	ug/l	10.	08/02/01 20:52	RPJ	75-01-4		
m&p-Xylene	ND	ug/l	10.	08/02/01 20:52	RPJ			
o-Xylene	ND	ug/l	5.0	08/02/01 20:52	RPJ	95-47-6		
Toluene-d8 (S)	96	%		08/02/01 20:52	RPJ	2037-26-5		
4-Bromofluorobenzene (S)	90	%		08/02/01 20:52	RPJ	460-00-4		
Dibromofluoromethane (S)	102	%		08/02/01 20:52	RPJ			
1,2-Dichloroethane-d4 (S)	103	%		08/02/01 20:52	RPJ	17060-07-0		

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741229 | Project Sample Number: 9224935-003 | Date Collected: 07/31/01 10:50
Client Sample ID: MW-3R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	0.018	mg/l	0.0050	08/07/01 18:31	RWF	7440-38-2		
Barium	0.95	mg/l	0.0050	08/07/01 18:31	RWF	7440-39-3		
Cadmium	ND	mg/l	0.0010	08/07/01 18:31	RWF	7440-43-9		
Chromium	0.050	mg/l	0.0020	08/07/01 18:31	RWF	7440-47-3		
Lead	0.053	mg/l	0.0030	08/07/01 18:31	RWF	7439-92-1		
Selenium	ND	mg/l	0.0050	08/07/01 18:31	RWF	7782-49-2		
Silver	ND	mg/l	0.0020	08/07/01 18:31	RWF	7440-22-4		
Date Digested				08/02/01				
Mercury, CVAAS, in Water	Prep/Method: EPA 7470 / EPA 7470							
Mercury	ND	mg/l	0.00020	08/03/01	DJR	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Prep/Method: EPA 8260 / EPA 8260							
Acetone	ND	ug/l	100	08/02/01 18:06	RPJ	67-64-1		
Acrylonitrile	ND	ug/l	100	08/02/01 18:06	RPJ	107-13-1		
Benzene	ND	ug/l	5.0	08/02/01 18:06	RPJ	71-43-2		
Bromochloromethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	75-27-4		
Bromoform	ND	ug/l	5.0	08/02/01 18:06	RPJ	75-25-2		
Bromomethane	ND	ug/l	10.	08/02/01 18:06	RPJ	74-83-9		
2-Butanone (MEK)	ND	ug/l	100	08/02/01 18:06	RPJ	78-93-3		
Carbon disulfide	ND	ug/l	5.0	08/02/01 18:06	RPJ	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	08/02/01 18:06	RPJ	56-23-5		
Chlorobenzene	ND	ug/l	5.0	08/02/01 18:06	RPJ	108-90-7		
Chloroethane	ND	ug/l	10.	08/02/01 18:06	RPJ	75-00-3		
Chloroform	ND	ug/l	5.0	08/02/01 18:06	RPJ	67-66-3		
Chloromethane	ND	ug/l	10.	08/02/01 18:06	RPJ	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	08/02/01 18:06	RPJ	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	08/02/01 18:06	RPJ	106-93-4		
Dibromomethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	08/02/01 18:06	RPJ	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	08/02/01 18:06	RPJ	106-46-7		

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741229 | Project Sample Number: 9224935-003 | Date Collected: 07/31/01 10:50
Client Sample ID: MW-3R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	08/02/01 18:06	RPJ	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	107-06-2		
1,1-Dichloroethene	ND	ug/l	5.0	08/02/01 18:06	RPJ	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 18:06	RPJ	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 18:06	RPJ	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	08/02/01 18:06	RPJ	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 18:06	RPJ	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 18:06	RPJ	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	08/02/01 18:06	RPJ	100-41-4		
2-Hexanone	ND	ug/l	50.	08/02/01 18:06	RPJ	591-78-6		
Iodomethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	74-88-4		
Methylene chloride	ND	ug/l	5.0	08/02/01 18:06	RPJ	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	50.	08/02/01 18:06	RPJ	108-10-1		
Styrene	ND	ug/l	5.0	08/02/01 18:06	RPJ	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	08/02/01 18:06	RPJ	127-18-4		
Toluene	ND	ug/l	5.0	08/02/01 18:06	RPJ	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	08/02/01 18:06	RPJ	79-00-5		
Trichloroethene	ND	ug/l	5.0	08/02/01 18:06	RPJ	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	08/02/01 18:06	RPJ	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	08/02/01 18:06	RPJ	96-18-4		
Vinyl acetate	ND	ug/l	50.	08/02/01 18:06	RPJ	108-05-4		
Vinyl chloride	ND	ug/l	10.	08/02/01 18:06	RPJ	75-01-4		
m&p-Xylene	ND	ug/l	10.	08/02/01 18:06	RPJ			
o-Xylene	ND	ug/l	5.0	08/02/01 18:06	RPJ	95-47-6		
Toluene-d8 (S)	97	%		08/02/01 18:06	RPJ	2037-26-5		
4-Bromofluorobenzene (S)	85	%		08/02/01 18:06	RPJ	460-00-4	1	
Dibromofluoromethane (S)	105	%		08/02/01 18:06	RPJ			
1,2-Dichloroethane-d4 (S)	113	%		08/02/01 18:06	RPJ	17060-07-0		

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Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741245 | Project Sample Number: 9224935-005 | Date Collected: 07/31/01 13:15
Client Sample ID: MW-4R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	0.0056	mg/l	0.0050	08/07/01 18:41	RWF	7440-38-2		
Barium	0.55	mg/l	0.0050	08/07/01 18:41	RWF	7440-39-3		
Cadmium	ND	mg/l	0.0010	08/07/01 18:41	RWF	7440-43-9		
Chromium	0.038	mg/l	0.0020	08/07/01 18:41	RWF	7440-47-3		
Lead	0.014	mg/l	0.0030	08/07/01 18:41	RWF	7439-92-1		
Selenium	ND	mg/l	0.0050	08/07/01 18:41	RWF	7782-49-2		
Silver	ND	mg/l	0.0020	08/07/01 18:41	RWF	7440-22-4		
Date Digested				08/02/01				
Mercury, CVAAS, in Water	Prep/Method: EPA 7470 / EPA 7470							
Mercury	ND	mg/l	0.00020	08/03/01	DJR	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Prep/Method: EPA 8260 / EPA 8260							
Acetone	ND	ug/l	100	08/02/01 19:12	RPJ	67-64-1		
Acrylonitrile	ND	ug/l	100	08/02/01 19:12	RPJ	107-13-1		
Benzene	ND	ug/l	5.0	08/02/01 19:12	RPJ	71-43-2		
Bromochloromethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	75-27-4		
Bromoform	ND	ug/l	5.0	08/02/01 19:12	RPJ	75-25-2		
Bromomethane	ND	ug/l	10.	08/02/01 19:12	RPJ	74-83-9		
2-Butanone (MEK)	ND	ug/l	100	08/02/01 19:12	RPJ	78-93-3		
Carbon disulfide	ND	ug/l	5.0	08/02/01 19:12	RPJ	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	08/02/01 19:12	RPJ	56-23-5		
Chlorobenzene	ND	ug/l	5.0	08/02/01 19:12	RPJ	108-90-7		
Chloroethane	ND	ug/l	10.	08/02/01 19:12	RPJ	75-00-3		
Chloroform	ND	ug/l	5.0	08/02/01 19:12	RPJ	67-66-3		
Chloromethane	ND	ug/l	10.	08/02/01 19:12	RPJ	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	08/02/01 19:12	RPJ	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	08/02/01 19:12	RPJ	106-93-4		
Dibromomethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	08/02/01 19:12	RPJ	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	08/02/01 19:12	RPJ	106-46-7		

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Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741245 | Project Sample Number: 9224935-005 | Date Collected: 07/31/01 13:15
Client Sample ID: MW-4R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	08/02/01 19:12	RPJ	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	107-06-2		
1,1-Dichloroethene	ND	ug/l	5.0	08/02/01 19:12	RPJ	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 19:12	RPJ	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 19:12	RPJ	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	08/02/01 19:12	RPJ	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 19:12	RPJ	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 19:12	RPJ	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	08/02/01 19:12	RPJ	100-41-4		
2-Hexanone	ND	ug/l	50.	08/02/01 19:12	RPJ	591-78-6		
Iodomethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	74-88-4		
Methylene chloride	ND	ug/l	5.0	08/02/01 19:12	RPJ	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	50.	08/02/01 19:12	RPJ	108-10-1		
Styrene	ND	ug/l	5.0	08/02/01 19:12	RPJ	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	08/02/01 19:12	RPJ	127-18-4		
Toluene	ND	ug/l	5.0	08/02/01 19:12	RPJ	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	08/02/01 19:12	RPJ	79-00-5		
Trichloroethene	ND	ug/l	5.0	08/02/01 19:12	RPJ	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	08/02/01 19:12	RPJ	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	08/02/01 19:12	RPJ	96-18-4		
Vinyl acetate	ND	ug/l	50.	08/02/01 19:12	RPJ	108-05-4		
Vinyl chloride	ND	ug/l	10.	08/02/01 19:12	RPJ	75-01-4		
m&p-Xylene	ND	ug/l	10.	08/02/01 19:12	RPJ			
o-Xylene	ND	ug/l	5.0	08/02/01 19:12	RPJ	95-47-6		
Toluene-d8 (S)	97	%		08/02/01 19:12	RPJ	2037-26-5		
4-Bromofluorobenzene (S)	82	%		08/02/01 19:12	RPJ	460-00-4	1	
Dibromofluoromethane (S)	105	%		08/02/01 19:12	RPJ			
1,2-Dichloroethane-d4 (S)	107	%		08/02/01 19:12	RPJ	17060-07-0		

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Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741252 | Project Sample Number: 9224935-006 | Date Collected: 07/31/01 13:50
Client Sample ID: MW-5R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	08/07/01 18:46	RWF	7440-38-2		
Barium	0.27	mg/l	0.0050	08/07/01 18:46	RWF	7440-39-3		
Cadmium	ND	mg/l	0.0010	08/07/01 18:46	RWF	7440-43-9		
Chromium	0.049	mg/l	0.0020	08/07/01 18:46	RWF	7440-47-3		
Lead	0.0076	mg/l	0.0030	08/07/01 18:46	RWF	7439-92-1		
Selenium	ND	mg/l	0.0050	08/07/01 18:46	RWF	7782-49-2		
Silver	ND	mg/l	0.0020	08/07/01 18:46	RWF	7440-22-4		
Date Digested				08/02/01				
Mercury, CVAAS, in Water	Prep/Method: EPA 7470 / EPA 7470							
Mercury	ND	mg/l	0.00020	08/03/01	DJR	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Prep/Method: EPA 8260 / EPA 8260							
Acetone	ND	ug/l	100	08/02/01 19:45	RPJ	67-64-1		
Acrylonitrile	ND	ug/l	100	08/02/01 19:45	RPJ	107-13-1		
Benzene	ND	ug/l	5.0	08/02/01 19:45	RPJ	71-43-2		
Bromochloromethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	75-27-4		
Bromoform	ND	ug/l	5.0	08/02/01 19:45	RPJ	75-25-2		
Bromomethane	ND	ug/l	10.	08/02/01 19:45	RPJ	74-83-9		
2-Butanone (MEK)	ND	ug/l	100	08/02/01 19:45	RPJ	78-93-3		
Carbon disulfide	ND	ug/l	5.0	08/02/01 19:45	RPJ	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	08/02/01 19:45	RPJ	56-23-5		
Chlorobenzene	ND	ug/l	5.0	08/02/01 19:45	RPJ	108-90-7		
Chloroethane	ND	ug/l	10.	08/02/01 19:45	RPJ	75-00-3		
Chloroform	ND	ug/l	5.0	08/02/01 19:45	RPJ	67-66-3		
Chloromethane	ND	ug/l	10.	08/02/01 19:45	RPJ	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	08/02/01 19:45	RPJ	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	08/02/01 19:45	RPJ	106-93-4		
Dibromomethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	08/02/01 19:45	RPJ	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	08/02/01 19:45	RPJ	106-46-7		

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Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741252 | Project Sample Number: 9224935-006 | Date Collected: 07/31/01 13:50
Client Sample ID: MW-5R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	08/02/01 19:45	RPJ	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	107-06-2		
1,1-Dichloroethene	ND	ug/l	5.0	08/02/01 19:45	RPJ	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 19:45	RPJ	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 19:45	RPJ	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	08/02/01 19:45	RPJ	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 19:45	RPJ	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 19:45	RPJ	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	08/02/01 19:45	RPJ	100-41-4		
2-Hexanone	ND	ug/l	50.	08/02/01 19:45	RPJ	591-78-6		
Iodomethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	74-88-4		
Methylene chloride	ND	ug/l	5.0	08/02/01 19:45	RPJ	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	50.	08/02/01 19:45	RPJ	108-10-1		
Styrene	ND	ug/l	5.0	08/02/01 19:45	RPJ	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	08/02/01 19:45	RPJ	127-18-4		
Toluene	ND	ug/l	5.0	08/02/01 19:45	RPJ	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	08/02/01 19:45	RPJ	79-00-5		
Trichloroethene	ND	ug/l	5.0	08/02/01 19:45	RPJ	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	08/02/01 19:45	RPJ	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	08/02/01 19:45	RPJ	96-18-4		
Vinyl acetate	ND	ug/l	50.	08/02/01 19:45	RPJ	108-05-4		
Vinyl chloride	ND	ug/l	10.	08/02/01 19:45	RPJ	75-01-4		
m&p-Xylene	ND	ug/l	10.	08/02/01 19:45	RPJ			
o-Xylene	ND	ug/l	5.0	08/02/01 19:45	RPJ	95-47-6		
Toluene-d8 (S)	98	%		08/02/01 19:45	RPJ	2037-26-5		
4-Bromofluorobenzene (S)	98	%		08/02/01 19:45	RPJ	460-00-4		
Dibromofluoromethane (S)	100	%		08/02/01 19:45	RPJ			
1,2-Dichloroethane-d4 (S)	103	%		08/02/01 19:45	RPJ	17060-07-0		

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HDR Engineering
128 South Tryon Street
Suite 1400
Charlotte, NC 28202

Attn: Mr. John Isham
Phone: (704)338-1800

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741203 | Project Sample Number: 9224935-001 | Date Collected: 07/31/01 09:00
Client Sample ID: MW-6R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	ND	mg/l	0.0050	08/07/01 18:08	RWF	7440-38-2		
Barium	0.062	mg/l	0.0050	08/07/01 18:08	RWF	7440-39-3		
Cadmium	ND	mg/l	0.0010	08/07/01 18:08	RWF	7440-43-9		
Chromium	0.0041	mg/l	0.0020	08/07/01 18:08	RWF	7440-47-3		
Lead	ND	mg/l	0.0030	08/07/01 18:08	RWF	7439-92-1		
Selenium	ND	mg/l	0.0050	08/07/01 18:08	RWF	7782-49-2		
Silver	ND	mg/l	0.0020	08/07/01 18:08	RWF	7440-22-4		
Date Digested				08/02/01				
Mercury, CVAAS, in Water	Prep/Method: EPA 7470 / EPA 7470							
Mercury	ND	mg/l	0.00020	08/03/01	DJR	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Prep/Method: EPA 8260 / EPA 8260							
Acetone	ND	ug/l	100	08/02/01 17:00	RPJ	67-64-1		
Acrylonitrile	ND	ug/l	100	08/02/01 17:00	RPJ	107-13-1		
Benzene	ND	ug/l	5.0	08/02/01 17:00	RPJ	71-43-2		
Bromochloromethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	75-27-4		
Bromoform	ND	ug/l	5.0	08/02/01 17:00	RPJ	75-25-2		
Bromomethane	ND	ug/l	10.	08/02/01 17:00	RPJ	74-83-9		
2-Butanone (MEK)	ND	ug/l	100	08/02/01 17:00	RPJ	78-93-3		
Carbon disulfide	ND	ug/l	5.0	08/02/01 17:00	RPJ	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	08/02/01 17:00	RPJ	56-23-5		
Chlorobenzene	ND	ug/l	5.0	08/02/01 17:00	RPJ	108-90-7		
Chloroethane	ND	ug/l	10.	08/02/01 17:00	RPJ	75-00-3		
Chloroform	ND	ug/l	5.0	08/02/01 17:00	RPJ	67-66-3		

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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741203
Client Sample ID: MW-6R
Project Sample Number: 9224935-001
Matrix: Water
Date Collected: 07/31/01 09:00
Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Chloromethane	ND	ug/l	10.	08/02/01 17:00	RPJ	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	08/02/01 17:00	RPJ	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	08/02/01 17:00	RPJ	106-93-4		
Dibromomethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	08/02/01 17:00	RPJ	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	08/02/01 17:00	RPJ	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	08/02/01 17:00	RPJ	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	107-06-2		
1,1-Dichloroethene	ND	ug/l	5.0	08/02/01 17:00	RPJ	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 17:00	RPJ	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 17:00	RPJ	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	08/02/01 17:00	RPJ	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 17:00	RPJ	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 17:00	RPJ	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	08/02/01 17:00	RPJ	100-41-4		
2-Hexanone	ND	ug/l	50.	08/02/01 17:00	RPJ	591-78-6		
Iodomethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	74-88-4		
Methylene chloride	ND	ug/l	5.0	08/02/01 17:00	RPJ	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	50.	08/02/01 17:00	RPJ	108-10-1		
Styrene	ND	ug/l	5.0	08/02/01 17:00	RPJ	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	08/02/01 17:00	RPJ	127-18-4		
Toluene	ND	ug/l	5.0	08/02/01 17:00	RPJ	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	08/02/01 17:00	RPJ	79-00-5		
Trichloroethene	ND	ug/l	5.0	08/02/01 17:00	RPJ	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	08/02/01 17:00	RPJ	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	08/02/01 17:00	RPJ	96-18-4		
Vinyl acetate	ND	ug/l	50.	08/02/01 17:00	RPJ	108-05-4		
Vinyl chloride	ND	ug/l	10.	08/02/01 17:00	RPJ	75-01-4		
m&p-Xylene	ND	ug/l	10.	08/02/01 17:00	RPJ			
o-Xylene	ND	ug/l	5.0	08/02/01 17:00	RPJ	95-47-6		
Toluene-d8 (S)	102	%		08/02/01 17:00	RPJ	2037-26-5		
4-Bromofluorobenzene (S)	78	%		08/02/01 17:00	RPJ	460-00-4	1	

Date: 08/09/01

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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741203 | Project Sample Number: 9224935-001 | Date Collected: 07/31/01 09:00
Client Sample ID: MW-6R | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Dibromofluoromethane (S)	103	%		08/02/01 17:00	RPJ			
1,2-Dichloroethane-d4 (S)	117	%		08/02/01 17:00	RPJ	17060-07-0		

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Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741237 | Project Sample Number: 9224935-004 | Date Collected: 07/31/01 11:25
Client Sample ID: MW-7 | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	0.016	mg/l	0.0050	08/07/01 18:36	RWF	7440-38-2		
Barium	1.3	mg/l	0.0050	08/07/01 18:36	RWF	7440-39-3		
Cadmium	ND	mg/l	0.0010	08/07/01 18:36	RWF	7440-43-9		
Chromium	0.21	mg/l	0.0020	08/07/01 18:36	RWF	7440-47-3		
Lead	0.026	mg/l	0.0030	08/07/01 18:36	RWF	7439-92-1		
Selenium	ND	mg/l	0.0050	08/07/01 18:36	RWF	7782-49-2		
Silver	ND	mg/l	0.0020	08/07/01 18:36	RWF	7440-22-4		
Date Digested				08/02/01				
Mercury, CVAAS, in Water	Prep/Method: EPA 7470 / EPA 7470							
Mercury	ND	mg/l	0.00020	08/03/01	DJR	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Prep/Method: EPA 8260 / EPA 8260							
Acetone	ND	ug/l	100	08/02/01 18:39	RPJ	67-64-1		
Acrylonitrile	ND	ug/l	100	08/02/01 18:39	RPJ	107-13-1		
Benzene	ND	ug/l	5.0	08/02/01 18:39	RPJ	71-43-2		
Bromochloromethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	75-27-4		
Bromoform	ND	ug/l	5.0	08/02/01 18:39	RPJ	75-25-2		
Bromomethane	ND	ug/l	10.	08/02/01 18:39	RPJ	74-83-9		
2-Butanone (MEK)	ND	ug/l	100	08/02/01 18:39	RPJ	78-93-3		
Carbon disulfide	ND	ug/l	5.0	08/02/01 18:39	RPJ	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	08/02/01 18:39	RPJ	56-23-5		
Chlorobenzene	ND	ug/l	5.0	08/02/01 18:39	RPJ	108-90-7		
Chloroethane	ND	ug/l	10.	08/02/01 18:39	RPJ	75-00-3		
Chloroform	ND	ug/l	5.0	08/02/01 18:39	RPJ	67-66-3		
Chloromethane	ND	ug/l	10.	08/02/01 18:39	RPJ	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	08/02/01 18:39	RPJ	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	08/02/01 18:39	RPJ	106-93-4		
Dibromomethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	08/02/01 18:39	RPJ	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	08/02/01 18:39	RPJ	106-46-7		

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741237 | Project Sample Number: 9224935-004 | Date Collected: 07/31/01 11:25
Client Sample ID: MW-7 | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	08/02/01 18:39	RPJ	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	107-06-2		
1,1-Dichloroethene	ND	ug/l	5.0	08/02/01 18:39	RPJ	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 18:39	RPJ	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 18:39	RPJ	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	08/02/01 18:39	RPJ	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 18:39	RPJ	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 18:39	RPJ	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	08/02/01 18:39	RPJ	100-41-4		
2-Hexanone	ND	ug/l	50.	08/02/01 18:39	RPJ	591-78-6		
Iodomethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	74-88-4		
Methylene chloride	ND	ug/l	5.0	08/02/01 18:39	RPJ	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	50.	08/02/01 18:39	RPJ	108-10-1		
Styrene	ND	ug/l	5.0	08/02/01 18:39	RPJ	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	08/02/01 18:39	RPJ	127-18-4		
Toluene	ND	ug/l	5.0	08/02/01 18:39	RPJ	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	08/02/01 18:39	RPJ	79-00-5		
Trichloroethene	ND	ug/l	5.0	08/02/01 18:39	RPJ	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	08/02/01 18:39	RPJ	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	08/02/01 18:39	RPJ	96-18-4		
Vinyl acetate	ND	ug/l	50.	08/02/01 18:39	RPJ	108-05-4		
Vinyl chloride	ND	ug/l	10.	08/02/01 18:39	RPJ	75-01-4		
m&p-Xylene	ND	ug/l	10.	08/02/01 18:39	RPJ			
o-Xylene	ND	ug/l	5.0	08/02/01 18:39	RPJ	95-47-6		
Toluene-d8 (S)	100	%		08/02/01 18:39	RPJ	2037-26-5		
4-Bromofluorobenzene (S)	101	%		08/02/01 18:39	RPJ	460-00-4		
Dibromofluoromethane (S)	104	%		08/02/01 18:39	RPJ			
1,2-Dichloroethane-d4 (S)	117	%		08/02/01 18:39	RPJ	17060-07-0		

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Phone: 704.875.9092
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Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741211 | Project Sample Number: 9224935-002 | Date Collected: 07/31/01 10:00
Client Sample ID: MW-8 | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
Metals								
Metals by Trace ICP	Prep/Method: EPA 3010 / EPA 6010							
Arsenic	0.046	mg/l	0.0050	08/07/01 18:13	RWF	7440-38-2		
Barium	2.6	mg/l	0.0050	08/07/01 18:13	RWF	7440-39-3		
Cadmium	ND	mg/l	0.0010	08/07/01 18:13	RWF	7440-43-9		
Chromium	0.092	mg/l	0.0020	08/07/01 18:13	RWF	7440-47-3		
Lead	0.21	mg/l	0.0030	08/07/01 18:13	RWF	7439-92-1		
Selenium	ND	mg/l	0.0050	08/07/01 18:13	RWF	7782-49-2		
Silver	ND	mg/l	0.0020	08/07/01 18:13	RWF	7440-22-4		
Date Digested				08/02/01				
Mercury, CVAAS, in Water	Prep/Method: EPA 7470 / EPA 7470							
Mercury	ND	mg/l	0.00020	08/03/01	DJR	7439-97-6		
GC/MS Volatiles								
GC/MS VOCs by 8260	Prep/Method: EPA 8260 / EPA 8260							
Acetone	ND	ug/l	100	08/02/01 17:33	RPJ	67-64-1		
Acrylonitrile	ND	ug/l	100	08/02/01 17:33	RPJ	107-13-1		
Benzene	ND	ug/l	5.0	08/02/01 17:33	RPJ	71-43-2		
Bromochloromethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	75-27-4		
Bromoform	ND	ug/l	5.0	08/02/01 17:33	RPJ	75-25-2		
Bromomethane	ND	ug/l	10.	08/02/01 17:33	RPJ	74-83-9		
2-Butanone (MEK)	ND	ug/l	100	08/02/01 17:33	RPJ	78-93-3		
Carbon disulfide	ND	ug/l	5.0	08/02/01 17:33	RPJ	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	08/02/01 17:33	RPJ	56-23-5		
Chlorobenzene	ND	ug/l	5.0	08/02/01 17:33	RPJ	108-90-7		
Chloroethane	ND	ug/l	10.	08/02/01 17:33	RPJ	75-00-3		
Chloroform	ND	ug/l	5.0	08/02/01 17:33	RPJ	67-66-3		
Chloromethane	ND	ug/l	10.	08/02/01 17:33	RPJ	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	08/02/01 17:33	RPJ	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	08/02/01 17:33	RPJ	106-93-4		
Dibromomethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	08/02/01 17:33	RPJ	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	08/02/01 17:33	RPJ	106-46-7		

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741211 | Project Sample Number: 9224935-002 | Date Collected: 07/31/01 10:00
Client Sample ID: MW-8 | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	08/02/01 17:33	RPJ	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	107-06-2		
1,1-Dichloroethene	ND	ug/l	5.0	08/02/01 17:33	RPJ	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 17:33	RPJ	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 17:33	RPJ	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	08/02/01 17:33	RPJ	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 17:33	RPJ	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 17:33	RPJ	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	08/02/01 17:33	RPJ	100-41-4		
2-Hexanone	ND	ug/l	50.	08/02/01 17:33	RPJ	591-78-6		
Iodomethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	74-88-4		
Methylene chloride	ND	ug/l	5.0	08/02/01 17:33	RPJ	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	50.	08/02/01 17:33	RPJ	108-10-1		
Styrene	ND	ug/l	5.0	08/02/01 17:33	RPJ	100-42-5		
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	08/02/01 17:33	RPJ	127-18-4		
Toluene	ND	ug/l	5.0	08/02/01 17:33	RPJ	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	08/02/01 17:33	RPJ	79-00-5		
Trichloroethene	ND	ug/l	5.0	08/02/01 17:33	RPJ	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	08/02/01 17:33	RPJ	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	08/02/01 17:33	RPJ	96-18-4		
Vinyl acetate	ND	ug/l	50.	08/02/01 17:33	RPJ	108-05-4		
Vinyl chloride	ND	ug/l	10.	08/02/01 17:33	RPJ	75-01-4		
m&p-Xylene	ND	ug/l	10.	08/02/01 17:33	RPJ			
o-Xylene	ND	ug/l	5.0	08/02/01 17:33	RPJ	95-47-6		
Toluene-d8 (S)	100	%		08/02/01 17:33	RPJ	2037-26-5		
4-Bromofluorobenzene (S)	85	%		08/02/01 17:33	RPJ	460-00-4	1	
Dibromofluoromethane (S)	108	%		08/02/01 17:33	RPJ			
1,2-Dichloroethane-d4 (S)	124	%		08/02/01 17:33	RPJ	17060-07-0	1	

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Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741294 | Project Sample Number: 9224935-009 | Date Collected: 07/31/01 00:00
Client Sample ID: TRIP BLANK | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
GC/MS Volatiles								
GC/MS VOCs by 8260	Prep/Method:	EPA 8260 / EPA 8260						
Acetone	ND	ug/l	100	08/02/01 15:21	RPJ	67-64-1		
Acrylonitrile	ND	ug/l	100	08/02/01 15:21	RPJ	107-13-1		
Benzene	ND	ug/l	5.0	08/02/01 15:21	RPJ	71-43-2		
Bromochloromethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	74-97-5		
Bromodichloromethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	75-27-4		
Bromoform	ND	ug/l	5.0	08/02/01 15:21	RPJ	75-25-2		
Bromomethane	ND	ug/l	10.	08/02/01 15:21	RPJ	74-83-9		
2-Butanone (MEK)	ND	ug/l	100	08/02/01 15:21	RPJ	78-93-3		
Carbon disulfide	ND	ug/l	5.0	08/02/01 15:21	RPJ	75-15-0		
Carbon tetrachloride	ND	ug/l	5.0	08/02/01 15:21	RPJ	56-23-5		
Chlorobenzene	ND	ug/l	5.0	08/02/01 15:21	RPJ	108-90-7		
Chloroethane	ND	ug/l	10.	08/02/01 15:21	RPJ	75-00-3		
Chloroform	ND	ug/l	5.0	08/02/01 15:21	RPJ	67-66-3		
Chloromethane	ND	ug/l	10.	08/02/01 15:21	RPJ	74-87-3		
1,2-Dibromo-3-chloropropane	ND	ug/l	5.0	08/02/01 15:21	RPJ	96-12-8		
Dibromochloromethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	124-48-1		
1,2-Dibromoethane (EDB)	ND	ug/l	5.0	08/02/01 15:21	RPJ	106-93-4		
Dibromomethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	74-95-3		
1,2-Dichlorobenzene	ND	ug/l	5.0	08/02/01 15:21	RPJ	95-50-1		
1,4-Dichlorobenzene	ND	ug/l	5.0	08/02/01 15:21	RPJ	106-46-7		
trans-1,4-Dichloro-2-butene	ND	ug/l	5.0	08/02/01 15:21	RPJ	110-57-6		
1,1-Dichloroethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	75-34-3		
1,2-Dichloroethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	107-06-2		
1,1-Dichloroethene	ND	ug/l	5.0	08/02/01 15:21	RPJ	75-35-4		
cis-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 15:21	RPJ	156-59-2		
trans-1,2-Dichloroethene	ND	ug/l	5.0	08/02/01 15:21	RPJ	156-60-5		
1,2-Dichloropropane	ND	ug/l	5.0	08/02/01 15:21	RPJ	78-87-5		
cis-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 15:21	RPJ	10061-01-5		
trans-1,3-Dichloropropene	ND	ug/l	5.0	08/02/01 15:21	RPJ	10061-02-6		
Ethylbenzene	ND	ug/l	5.0	08/02/01 15:21	RPJ	100-41-4		
2-Hexanone	ND	ug/l	50.	08/02/01 15:21	RPJ	591-78-6		
Iodomethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	74-88-4		
Methylene chloride	ND	ug/l	5.0	08/02/01 15:21	RPJ	75-09-2		
4-Methyl-2-pentanone (MIBK)	ND	ug/l	50.	08/02/01 15:21	RPJ	108-10-1		
Styrene	ND	ug/l	5.0	08/02/01 15:21	RPJ	100-42-5		

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Phone: 704.875.9092
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Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

Lab Sample No: 921741294 | Project Sample Number: 9224935-009 | Date Collected: 07/31/01 00:00
Client Sample ID: TRIP BLANK | Matrix: Water | Date Received: 08/01/01 08:45

Parameters	Results	Units	Report Limit	Analyzed		CAS No.	Ftnote	Reg Limit
1,1,1,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	630-20-6		
1,1,2,2-Tetrachloroethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	79-34-5		
Tetrachloroethene	ND	ug/l	5.0	08/02/01 15:21	RPJ	127-18-4		
Toluene	ND	ug/l	5.0	08/02/01 15:21	RPJ	108-88-3		
1,1,1-Trichloroethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	71-55-6		
1,1,2-Trichloroethane	ND	ug/l	5.0	08/02/01 15:21	RPJ	79-00-5		
Trichloroethene	ND	ug/l	5.0	08/02/01 15:21	RPJ	79-01-6		
Trichlorofluoromethane	ND	ug/l	10.	08/02/01 15:21	RPJ	75-69-4		
1,2,3-Trichloropropane	ND	ug/l	5.0	08/02/01 15:21	RPJ	96-18-4		
Vinyl acetate	ND	ug/l	50.	08/02/01 15:21	RPJ	108-05-4		
Vinyl chloride	ND	ug/l	10.	08/02/01 15:21	RPJ	75-01-4		
m&p-Xylene	ND	ug/l	10.	08/02/01 15:21	RPJ			
o-Xylene	ND	ug/l	5.0	08/02/01 15:21	RPJ	95-47-6		
Toluene-d8 (S)	103	%		08/02/01 15:21	RPJ	2037-26-5		
4-Bromofluorobenzene (S)	102	%		08/02/01 15:21	RPJ	460-00-4		
Dibromofluoromethane (S)	103	%		08/02/01 15:21	RPJ			
1,2-Dichloroethane-d4 (S)	115	%		08/02/01 15:21	RPJ	17060-07-0		

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Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

PARAMETER FOOTNOTES

ND	Not Detected
NC	Not Calculable
(S)	Surrogate
[1]	The surrogate and/or spike recovery was outside acceptance limits.

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

QC Batch: 45029
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 921741203 921741211 921741229 921741237 921741245 921741252 921741260 921741286 921741294

METHOD BLANK: 921745113
Associated Lab Samples: 921741203 921741211 921741229 921741237 921741245 921741252 921741260 921741286 921741294

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Acetone	ug/l	ND	100	
Acrylonitrile	ug/l	ND	100	
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	10.	
2-Butanone (MEK)	ug/l	ND	100	
Carbon disulfide	ug/l	ND	5.0	
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	10.	
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	

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

METHOD BLANK: 921745113
Associated Lab Samples: 921741203 921741211 921741229 921741237 921741245 921741252 921741260 921741286 921741294

Parameter	Units	Blank Result	Reporting Limit	Footnotes
trans-1,3-Dichloropropene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
2-Hexanone	ug/l	ND	50.	
Iodomethane	ug/l	ND	5.0	
Methylene chloride	ug/l	ND	5.0	
4-Methyl-2-pentanone (MIBK)	ug/l	ND	50.	
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	50.	
Vinyl chloride	ug/l	ND	10.	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	101		
4-Bromofluorobenzene (S)	%	102		
Dibromofluoromethane (S)	%	103		
1,2-Dichloroethane-d4 (S)	%	117		

LABORATORY CONTROL SAMPLE: 921745121

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Acetone	ug/l	100	125.1	125	
Acrylonitrile	ug/l	250	167.4	67	
Benzene	ug/l	50	47.28	95	
Bromochloromethane	ug/l	50	46.45	93	

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

LABORATORY CONTROL SAMPLE: 921745121

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Bromodichloromethane	ug/l	50	49.27	98	
Bromoform	ug/l	50	49.45	99	
Bromomethane	ug/l	50	41.15	82	
2-Butanone (MEK)	ug/l	100	90.22	90	
Carbon disulfide	ug/l	100	85.14	85	
Carbon tetrachloride	ug/l	50	49.00	98	
Chlorobenzene	ug/l	50	49.67	99	
Chloroethane	ug/l	50	75.76	152	1
Chloroform	ug/l	50	47.73	96	
Chloromethane	ug/l	50	20.01	40	2
1,2-Dibromo-3-chloropropane	ug/l	50	45.83	92	
Dibromochloromethane	ug/l	50	48.92	98	
1,2-Dibromoethane (EDB)	ug/l	50	46.72	93	
Dibromomethane	ug/l	50	45.19	90	
1,2-Dichlorobenzene	ug/l	50	50.45	101	
1,4-Dichlorobenzene	ug/l	50	49.40	99	
trans-1,4-Dichloro-2-butene	ug/l	50	52.73	105	
1,1-Dichloroethane	ug/l	50	49.24	98	
1,2-Dichloroethane	ug/l	50	44.59	89	
1,1-Dichloroethene	ug/l	50	50.33	101	
cis-1,2-Dichloroethene	ug/l	50	47.94	96	
trans-1,2-Dichloroethene	ug/l	50	50.69	101	
1,2-Dichloropropane	ug/l	50	48.39	97	
cis-1,3-Dichloropropene	ug/l	50	48.40	97	
trans-1,3-Dichloropropene	ug/l	50	46.01	92	
Ethylbenzene	ug/l	50	49.58	99	
2-Hexanone	ug/l	100	97.30	97	
Iodomethane	ug/l	100	92.61	93	
Methylene chloride	ug/l	50	55.34	111	
4-Methyl-2-pentanone (MIBK)	ug/l	100	96.46	96	
Styrene	ug/l	50	49.90	100	
1,1,1,2-Tetrachloroethane	ug/l	50	49.04	98	
1,1,2,2-Tetrachloroethane	ug/l	50	45.36	91	
Tetrachloroethene	ug/l	50	69.54	139	1
Toluene	ug/l	50	48.04	96	
1,1,1-Trichloroethane	ug/l	50	49.12	98	

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

LABORATORY CONTROL SAMPLE: 921745121

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
1,1,2-Trichloroethane	ug/l	50	46.21	92	
Trichloroethene	ug/l	50	48.04	96	
Trichlorofluoromethane	ug/l	50	33.17	66	
1,2,3-Trichloropropane	ug/l	50	45.78	92	
Vinyl acetate	ug/l	100	72.62	73	
Vinyl chloride	ug/l	50	27.06	54	
m&p-Xylene	ug/l	100	98.80	99	
o-Xylene	ug/l	50	49.75	100	
Toluene-d8 (S)				99	
4-Bromofluorobenzene (S)				92	
Dibromofluoromethane (S)				99	
1,2-Dichloroethane-d4 (S)				99	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921749768 921749776

Parameter	Units	921741203 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0	50.00	41.76	41.05	84	82	2	
Chlorobenzene	ug/l	0	50.00	48.02	45.67	96	91	5	
1,1-Dichloroethene	ug/l	0	50.00	37.40	35.37	75	71	6	
Toluene	ug/l	0	50.00	44.90	43.61	90	87	3	
Trichloroethene	ug/l	0	50.00	44.16	42.72	88	85	3	
Toluene-d8 (S)						98	99		
4-Bromofluorobenzene (S)						94	88		
Dibromofluoromethane (S)						100	100		
1,2-Dichloroethane-d4 (S)						101	105		

SAMPLE DUPLICATE: 921749784

Parameter	Units	921741211 Result	DUP Result	RPD	Footnotes
Acetone	ug/l	ND	ND	NC	
Acrylonitrile	ug/l	ND	ND	NC	
Benzene	ug/l	ND	ND	NC	

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QUALITY CONTROL DATA

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9800 Kincey Avenue, Suite 100
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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

SAMPLE DUPLICATE: 921749784

Parameter	Units	921741211 Result	DUP Result	RPD	Footnotes
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	
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	

Date: 08/09/01

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QUALITY CONTROL DATA

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

SAMPLE DUPLICATE: 921749784

Parameter	Units	921741211 Result	DUP Result	RPD	Footnotes
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	
o-Xylene	ug/l	ND	ND	NC	
Toluene-d8 (S)	%	100	96		
4-Bromofluorobenzene (S)	%	85	94		
Dibromofluoromethane (S)	%	108	101		
1,2-Dichloroethane-d4 (S)	%	124	113		

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

QC Batch: 44988 — Analysis Method: EPA 7470
QC Batch Method: EPA 7470 — Analysis Description: Mercury, CVAAS, in Water
Associated Lab Samples: 921741203 921741211 921741229 921741237

METHOD BLANK: 921743456
Associated Lab Samples: 921741203 921741211 921741229 921741237

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

LABORATORY CONTROL SAMPLE: 921743498

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Mercury	mg/l	0.0050	0.0045	90	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921743464 921743472

Parameter	Units	921736468 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Mercury	mg/l	0	0.0050	0.0054	0.0054	108	109	0	

SAMPLE DUPLICATE: 921743480

Parameter	Units	921734885 Result	DUP Result	RPD	Footnotes
Mercury	mg/l	ND	ND	NC	

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

QC Batch: 44989 — Analysis Method: EPA 7470
QC Batch Method: EPA 7470 — Analysis Description: Mercury, CVAAS, in Water
Associated Lab Samples: 921741245 921741252

METHOD BLANK: 921743506
Associated Lab Samples: 921741245 921741252

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

LABORATORY CONTROL SAMPLE: 921743548

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Mercury	mg/l	0.0050	0.0050	100	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921743514 921743522

Parameter	Units	921741245 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Mercury	mg/l	0.00012	0.0050	0.0069	0.0065	136	127	7	3,3

SAMPLE DUPLICATE: 921743530

Parameter	Units	921741252 Result	DUP Result	RPD	Footnotes
Mercury	mg/l	ND	ND	NC	

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

QC Batch: 45226 — Analysis Method: EPA 7470
QC Batch Method: EPA 7470 — Analysis Description: Mercury, CVAAS, in Water
Associated Lab Samples: 921741260 921741286

METHOD BLANK: 921750915
Associated Lab Samples: 921741260 921741286

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

LABORATORY CONTROL SAMPLE: 921750956

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Mercury	mg/l	0.0050	0.0047	94	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921750923 921750931

Parameter	Units	921741260 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Mercury	mg/l	0	0.0050	0.0067	0.0067	133	134	1	3,3

SAMPLE DUPLICATE: 921750949

Parameter	Units	921741286 Result	DUP Result	RPD	Footnotes
Mercury	mg/l	ND	ND	NC	

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

QC Batch: 45005
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: Metals by Trace ICP
Associated Lab Samples: 921741203 921741211 921741229 921741237 921741245 921741252

METHOD BLANK: 921744041
Associated Lab Samples: 921741203 921741211 921741229 921741237 921741245 921741252

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	0.0030	
Selenium	mg/l	ND	0.0050	
Silver	mg/l	ND	0.0020	

LABORATORY CONTROL SAMPLE: 921744082

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Arsenic	mg/l	0.2500	0.2420	97	
Barium	mg/l	0.2500	0.2820	113	
Cadmium	mg/l	0.2500	0.2500	100	
Chromium	mg/l	0.2500	0.2440	98	
Lead	mg/l	0.2500	0.2380	95	
Selenium	mg/l	0.2500	0.2400	96	
Silver	mg/l	0.2500	0.2600	104	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921744058 921744066

Parameter	Units	921734653 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Arsenic	mg/l	0.01110	0.2500	0.2490	0.2420	95	92	3	
Barium	mg/l	0.2270	0.2500	0.5270	0.5200	120	117	1	
Cadmium	mg/l	0	0.2500	0.2440	0.2370	98	95	3	

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921744058 921744066

Parameter	Units	921734653 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Chromium	mg/l	0.00967	0.2500	0.2500	0.2440	96	94	2	
Lead	mg/l	0.00621	0.2500	0.2380	0.2330	93	91	2	
Selenium	mg/l	0	0.2500	0.2290	0.2260	92	90	1	
Silver	mg/l	0	0.2500	0.2590	0.2570	104	103	1	

SAMPLE DUPLICATE: 921744074

Parameter	Units	921735866 Result	DUP Result	RPD	Footnotes
Arsenic	mg/l	ND	ND	NC	
Barium	mg/l	0.00660	0.00610	6	
Cadmium	mg/l	ND	ND	NC	
Chromium	mg/l	0.01900	0.01700	11	
Lead	mg/l	ND	ND	NC	
Selenium	mg/l	ND	ND	NC	
Silver	mg/l	ND	ND	NC	

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

QC Batch: 45034 — Analysis Method: EPA 6010
QC Batch Method: EPA 3010 — Analysis Description: Metals by Trace ICP
Associated Lab Samples: 921741260 921741286

METHOD BLANK: 921745345
Associated Lab Samples: 921741260 921741286

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	0.0030	
Selenium	mg/l	ND	0.0050	
Silver	mg/l	ND	0.0020	

LABORATORY CONTROL SAMPLE: 921745386

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Arsenic	mg/l	0.2500	0.2240	90	
Barium	mg/l	0.2500	0.2690	108	
Cadmium	mg/l	0.2500	0.2300	92	
Chromium	mg/l	0.2500	0.2250	90	
Lead	mg/l	0.2500	0.2140	86	
Selenium	mg/l	0.2500	0.2180	87	
Silver	mg/l	0.2500	0.2510	100	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921745352 921745360

Parameter	Units	921741260 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Arsenic	mg/l	0	0.2500	0.2420	0.2360	97	94	3	
Barium	mg/l	0.08710	0.2500	0.3800	0.3740	117	115	2	
Cadmium	mg/l	0	0.2500	0.2460	0.2430	98	97	1	
Chromium	mg/l	0.00655	0.2500	0.2480	0.2450	97	95	1	

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QUALITY CONTROL DATA

Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 921745352 921745360

Parameter	Units	921741260 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Lead	mg/l	0.00231	0.2500	0.2330	0.2320	92	92	0	
Selenium	mg/l	0	0.2500	0.2390	0.2340	96	94	2	
Silver	mg/l	0	0.2500	0.2630	0.2620	105	105	0	

SAMPLE DUPLICATE: 921745378

Parameter	Units	921741286 Result	DUP Result	RPD	Footnotes
Arsenic	mg/l	ND	ND	NC	
Barium	mg/l	0.2800	0.2800	0	
Cadmium	mg/l	ND	ND	NC	
Chromium	mg/l	0.01600	0.01600	0	
Lead	mg/l	0.00890	0.00730	20	
Selenium	mg/l	ND	ND	NC	
Silver	mg/l	ND	ND	NC	

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Lab Project Number: 9224935
Client Project ID: W-S Landfill 00162-128

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
NC Not Calculable
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] The spike recovery was outside acceptance limits for the MS and /or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.

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Page: 1 of 1

Required Client Information: **Section A**

Company: [illegible]
Address: [illegible]
Phone: [illegible] Fax: [illegible]

Required Client Information: **Section B**

Report To: [illegible]
Copy To:
Invoice To: [illegible]
P.O.
Project Name: [illegible] DSR
Project Number: [illegible]

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

* 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: [illegible]
Project #: [illegible]
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

Preservatives

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	Requested Analysis: RCRA metals	Remarks / Lab ID
1	MW-6R	WT	7/31/01	0900	4	1			3				X Y	921741203
2	MW-8			1000										921741211
3	MW-3R			1050										921741229
4	MW-7			1125										921741231
5	MW-4R			1315										921741245
6	MW-5R			1350										921741252
7	MW-1R			1415										921741260
8	MW-2R			1545										921741236
9	TRIP BLANK				2				2					921741274
10														
11														
12														

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
1-9	[illegible]	8/1/01		[illegible]	8/1	8:15

Additional Comments:

Pace Project No.:

SAMPLE CONDITION

Temp: 2.2 °C | Received on Ice: (Y) / N | Sealed Cooler: Y (N) | Samples Intact: (Y) / N | pH ___

SEE REVERSE SIDE FOR INSTRUCTIONS

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S OSR
WELL NUMBER MW-1R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 62.41 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-128-018-03
DATE 7/31/01 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 80
WEATHER CONDITIONS Clear
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	40.45				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	3.7	7.5	11.2	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	17.7	15.8	16.4	16.0	
SAMPLE (pH)	6.39	6.03	5.80	5.84	
SAMPLE CONDUCTIVITY (umhos/cm)	93.64 S	89.3	91.5	89.4	
BUFFER BEFORE					
BUFFER AFTER					
ODOR	None	None	None	None	
COLOR	Cloudy	Cloudy	Cloudy	Cloudy	
OTHER					

COMMENTS

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 = 62.41 (WELL DEPTH) − 40.45 (DEPTH TO WATER) = 21.96 FT = h
3.14 × 0.0069 (r^2) × h = 0.48 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-2R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 34.22 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-128-018-03
DATE 7/31/01 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 80
WEATHER CONDITIONS Clear
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	10.82				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	4.0	8	12	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	17.7	17.2	Dry		
SAMPLE (pH)	6.21	6.10			
SAMPLE CONDUCTIVITY (umhos/cm)	75.7 µm	75.9			
BUFFER BEFORE					
BUFFER AFTER					
ODOR	None	None	None		
COLOR	None	None	None		
OTHER					

COMMENTS

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 = 34.22 (WELL DEPTH) − 10.82 (DEPTH TO WATER) = 23.4 FT = h
3.14 × 0.0069 (r^2) × h = 0.51 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 3.8

WELLPURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S OSR
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 00162-128-018-03
DATE 7/31/01 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 80
WEATHER CONDITIONS Clear
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	25.13			-	
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	1.0	2.0	3.1	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	16.0	15.2	15.1	15.8	
SAMPLE (pH)	5.87	5.77	5.77	5.73	
SAMPLE CONDUCTIVITY (umhos/cm)	119 µm	117	105	100.8	
BUFFER BEFORE					
BUFFER AFTER					
ODOR	None	None	None	None	
COLOR	Tan	none	none	none	
OTHER					

COMMENTS

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) − 25.13 (DEPTH TO WATER) = 6.02 FT = h
3.14 × 0.0069 (r^2) × h = 0.13 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 1.0

WELLPURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W.S OSR
WELL NUMBER MW-4R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 21.32 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-128-018-03
DATE 7/31/01 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 80
WEATHER CONDITIONS Clear
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	10.87			-	
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	1.8	3.6	5.3	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	16.3	16.2	15.8	16.4	
SAMPLE (pH)	6.25	5.93	5.95	5.83	
SAMPLE CONDUCTIVITY (umhos/cm)	174.0	178.9	178.8	177.1	
BUFFER BEFORE					
BUFFER AFTER					
ODOR	None	None	none	none	
COLOR	None	Cloudy	none	none	
OTHER					

COMMENTS

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 = 21.32 (WELL DEPTH) − 10.87 (DEPTH TO WATER) = 10.45 FT = h
3.14 × 0.0069 (r^2) × h = 0.23 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 1.7

WELLPURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT N-S OSR
WELL NUMBER MW-5R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 32.02 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-128-018-03
DATE 7/31/01 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 80
WEATHER CONDITIONS Clear
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	12.98			-	
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	3.2	6.5	9.7	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	15.4	15.4	14.9	14.8	
SAMPLE (pH)	6.55	6.51	6.55	6.26	
SAMPLE CONDUCTIVITY (umhos/cm)	155.5 µm	158.9	159.5	160.8	
BUFFER BEFORE					
BUFFER AFTER					
ODOR	none	none	none	none	
COLOR	clear	tan	none	none	
OTHER					

COMMENTS

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 = 32.02 (WELL DEPTH) - 12.98 (DEPTH TO WATER) = 19.04 FT = h
3.14 X 0.0069 (r^2) X h = 0.41 FT^3 X 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 3.1

WELL.PURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S OSR
WELL NUMBER MW-6R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 75.29 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-128-018-03
DATE 7/31/01 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 80
WEATHER CONDITIONS Clear
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	51.17				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	4.1	8.2	12.3	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	16.0	15.4	15.4	15.4	
SAMPLE (pH)	6.64	6.16	6.11	5.90	
SAMPLE CONDUCTIVITY (umhos/cm)	74µS	71	69.8	69.7	
BUFFER BEFORE					
BUFFER AFTER					
ODOR	None	None	None	None	
COLOR	None	None	Cloudy	Cloudy	
OTHER					

COMMENTS

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 = 75.29 (WELL DEPTH) − 51.17 (DEPTH TO WATER) = 24.12 FT = h
3.14 × 0.0069 (r^2) × h = 0.52 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 4.0

WELLPURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT: WS OSR
PROJECT NUMBER: 00162-128-018-03
WELL NUMBER: MW-7
DATE: 7/31/01 PAGE 1 OF 1
WELL INSIDE DIAMETER: 2' INCHES
AIR TEMPERATURE (FAHRENHEIT): 80
DEPTH OF BOTTOM: 46.77 FEET
WEATHER CONDITIONS: Clear
LENGTH OF GRAVEL PACK: FEET
HNU/OVA READING:
DIAMETER OF GRAVEL PACK: INCHES
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	38.49			-	
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	1.4	2.8	4.2	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	15.5	15.4	15.2	15.6	
SAMPLE (pH)	5.94	5.86	5.82	5.73	
SAMPLE CONDUCTIVITY (umhos/cm)	87.1 µm	82.5	83.2	82.5	
BUFFER BEFORE					
BUFFER AFTER					
ODOR	none	none	none	none	
COLOR	clear/gray	gray	gray	gray	
OTHER					

COMMENTS

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 = 46.77 (WELL DEPTH) - 38.49 (DEPTH TO WATER) = 8.28 FT = h
3.14 x 0.0069 (r^2) x h = 0.17 FT^3 x 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 1.3

WELLPURG.DWG

HDR
HDR Engineering, Inc.

PRE-SAMPLING WELL PURGING

PROJECT W-S OSR
WELL NUMBER MW-8
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 30.0 FEET
LENGTH OF GRAVEL PACK _____ FEET
DIAMETER OF GRAVEL PACK _____ INCHES

PROJECT NUMBER 00162-128-018-03
DATE 7/31/01 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 80
WEATHER CONDITIONS Clear
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	22.20				
WATER LEVEL AFTER					
TIME BEGIN FLUSHING					
TIME END FLUSHING					
ESTIMATED VOLUME FLUSHING (gal)	0	1.3	2.7	4.0	
WELL VOLUMES REMOVED	0	1	2	3	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	15.2	14.6	14.8	14.9	
SAMPLE (pH)	5.94	5.88	5.81	5.80	
SAMPLE CONDUCTIVITY (umhos/cm)	50	49	~~49~~ 49	50	
BUFFER BEFORE					
BUFFER AFTER					
ODOR	none	none	none	none	
COLOR	brown	brown	brown	brown	
OTHER					

COMMENTS

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

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 = 30.0 (WELL DEPTH) − 22.20 (DEPTH TO WATER) = 7.8 FT = h
3.14 × 0.0069 (r^2) × h = 0.17 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 1.3

WELLPURG.DWG

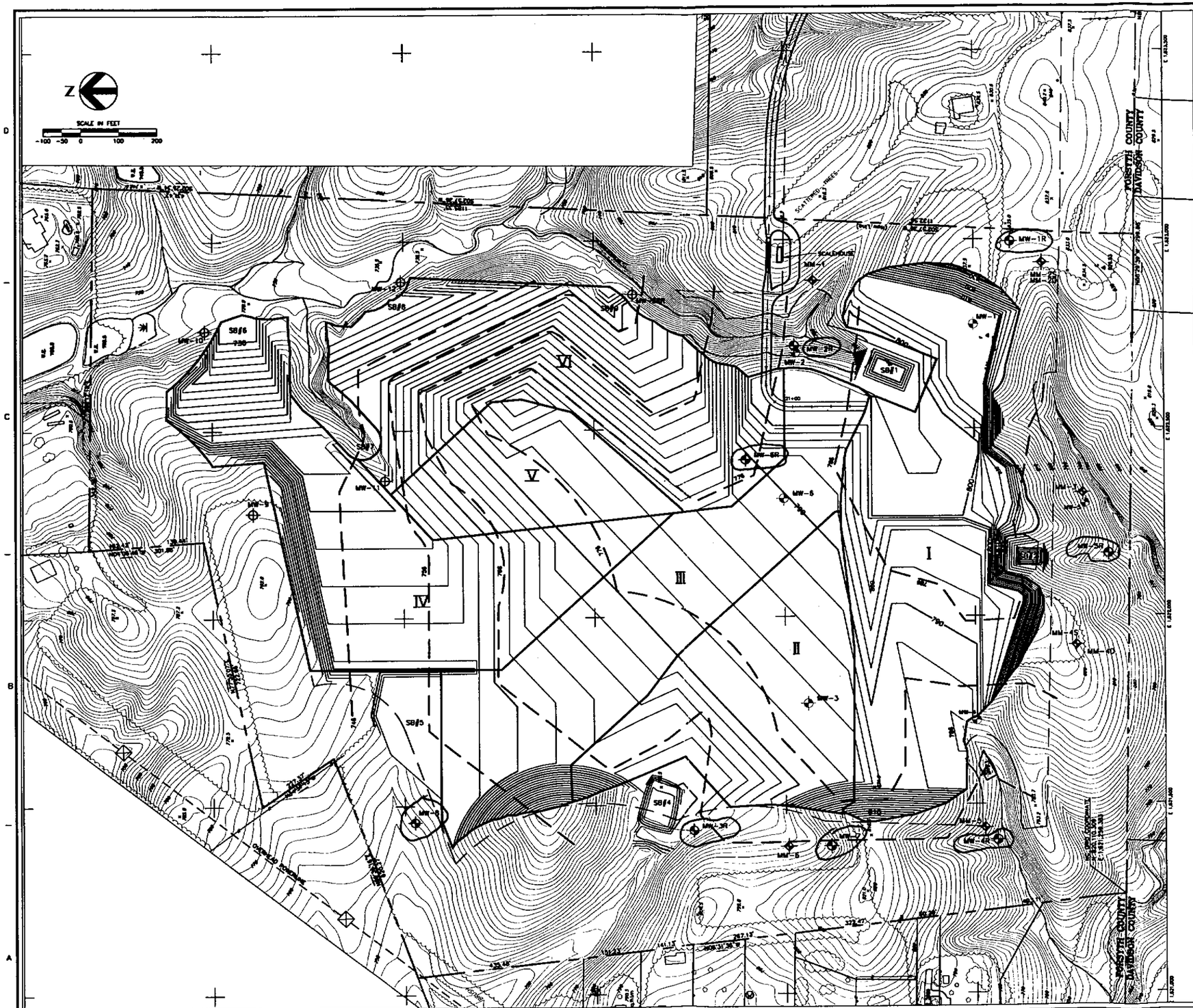
PERIMETER GAS PROBE MONITORING

FIELD DATA FORM

FORM 1

Date: 7/31/01	Inspector: C.Randazzo	Site Name: Old Salisbury Road C&D Landfill	Instrument (%)-S/No.: Bacharach Sniffer Instrument (%)-M/No.:
Temperature @ Start: 75 °F Temperature @ End: 85 °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 (%)	Acceptable Reading (Yes or No)	Remarks
1	15:00	NA	0/1	20.0	Y	
2S	14:04	NA	0/0	19.5	Y	
2D	14:05	NA	0/0	20.0	Y	
3	11:15	NA	0/0	19.5	Y	
4S	10:14	NA	0/3	16.5	Y	
4D	10:15	NA	0/4	16.0	Y	
5	13:10	NA	0/3	19.0	Y	
6	11:00	NA	0/0	20.5	Y	



LEGEND

- 780 — PROPOSED CONTOURS
- 810 — EXISTING CONTOURS
- PROPERTY BOUNDARY
- COUNTY LINE
- STREAM
- POTENTIAL EXTENT OF WASTE
- PROPOSED PHASING BOUNDARY
- SEASONAL HIGH GROUND-WATER CONTOURS
- EXISTING GROUND-WATER MONITORING WELL
- EXISTING METHANE GAS MONITORING PROBE
- PROPOSED GROUND-WATER MONITORING WELL ("R" - DENOTES REPLACEMENT WELL)
- ABANDONED MONITORING WELLS
- PRIVATE WATER SUPPLY WELL
- SB#2 SEDIMENTATION BASIN

NOTES

1. TOPOGRAPHIC INFORMATION PROVIDED BY CARTOGRAPHIC AERIAL MAPPING DATED NOVEMBER 12, 1993.
2. PROPERTY SURVEY TAKEN FROM DATA SUPPLIED BY BRADY SURVEYING, INC. DATED MARCH 15, 1994.
3. THIS DRAWING SHOWS ABANDONED, EXISTING AND PROPOSED MONITORING WELLS, AND METHANE GAS MONITORING PROBES.
4. S - DEPICTS SHALLOW
   D - DEPICTS DEEP

HDR

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Revision No.	Revision	Date	Drawn by	Chkd.	Proj. Engr.	Proj. Mgr.
C	ADDED METHANE GAS PROBES MW-1 TO MW-6	5/22/99	GRH			
B	ADDED MW-3R, MW-8, AND MW-6R	5/12/99	GRH			
A	ISSUED FOR APPROVAL					

Project Manager: J.C. READING, P.E.
Engineer: C.A. WRIGHT, P.E.
Hydrogeo: A. GAUL

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

Date	Project No.	Dwg. No.	Rev.
APRIL 1999	00162-128-018-03	C-5	C

Scale: 1"=100'