34-12
11-5-98

	Date	
BF	8/18/08	DIN

HDR

December 16, 1998

Mr. Bobby Lutfy
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

Re: Fall 1998 Semiannual Ground-Water Sampling Analytical Results
Winston-Salem Construction and Demolition Landfill (#34-12)
Forsyth County, North Carolina
HDR Project No. 00162-090-018

Dear Mr. Lutfy:

HDR Engineering, Inc. of the Carolinas (HDR) is hereby submitting, on behalf of the City of Winston-Salem Utilities Division (City), the ground-water analytical results for the Fall 1998 round of ground-water sampling at the C&D Landfill located in Forsyth County, North Carolina.

Ground-water samples were collected from all on-site detection monitoring wells (MW-1R, MW-2R, MW-3, MW-4R, MW-5R, MW-6, and MW-7) on November 5-6, 1998, for the eight RCRA metals and Appendix I volatile organic compound (VOC) analysis. Trip and equipment blanks were 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.

Based on past ground-water flow characteristics for the site, ground-water monitoring well MW-1R is hydraulically upgradient of the landfill and is therefore considered as "background" for the site.

The metals barium, chromium, lead, and one occurrence each of arsenic and mercury were detected in the ground water during this round of sampling. The concentrations detected were low and are reflective of the naturally-occurring trace metals typically present in the saprolite of this region. Lead in MW-2R, MW-3, MW-4R, MW-5R, and MW-7 was detected at concentrations which slightly exceed the 2L ground-water standard of 0.015 mg/l. Likewise, chromium was detected in MW-2R, MW-3, MW-4R, MW-5R, MW-6, and MW-7 at concentrations which slightly exceed the 2L ground-water standard of 0.05 mg/l. 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.

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A trace of carbon disulfide was detected in several monitoring wells (MW-5R and MW-7), including the background well MW-1R during this sampling event. Carbon disulfide was previously detected in MW-1R during an earlier sampling event performed in January of 1996. However, carbon disulfide can be naturally occurring as a product of bacterial action and is not necessarily a function associated with the landfill. The detection of acetone in MW-5R is suspect and is considered to be a probable laboratory contaminant since this compound has never been detected prior to this event. The only other volatile organic compound detected was methyl-ethyl-ketone (MEK) in monitoring well MW-2R, reported for the January 1996 sampling event. MEK has not been detected again since this initial detection.

It is expected that turbidity will continue to decrease as purging and sampling of the wells continues. No volatile organic compounds were detected in either the equipment or trip blanks). The complete Report of Laboratory Analysis for this round of sampling at the Winston-Salem C&D Landfill is attached to this letter (including the Chain-of-Custody Record and field purging forms). Table 1-1 is also attached to this report and summarizes the results of all sampling events performed to date at 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

John R. Isham, P.G.
Project Hydrogeologist

DEC 1998
Received
Solid Waste
Section

JRI/nt

cc: Barry Shearin, Winston-Salem Utilities Division

Attachments: Table 1-1, Summary of Ground-Water Analytical Results
Report of Laboratory Analysis (w/Chain-of-Custody Record)
Pre-sampling Well Purging Forms
Phase I Ground-Water Monitoring Well Locations

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

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	0.011
Barium	0.35	0.16	0.20	0.34	0.19	1.1
Cadmium	<0.010	<0.001	0.003	<0.001	<0.001	<0.001
Chromium	0.012	0.009	0.004	0.043	0.034	0.21
Lead	0.026	0.008	0.014	0.031	0.019	0.068
Mercury	0.0004	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Selenium	<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
Methyl Chloride	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5
Acetone	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	86	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5
2-Hexanone	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5

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TABLE 1-1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
[redacted]-1R

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arsenic	<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
Cadmium	<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
Lead	0.006	<0.005	<0.005	0.012	<0.005	<0.005
Mercury	0.0018	0.0002	<00002	<0.0002	<0.0002	<0.0002
Selenium	<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
Methyl Chloride	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5
Acetone	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5
Carbon Disulfide	23	<5	<5	<5	<5	28
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5
2-Hexanone	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5

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TABLE 1-1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
[redacted]3

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	1.23	0.79	0.80	0.62	0.86	1.4
Cadmium	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	0.009	0.020	0.028	0.016	0.025	0.077
Lead	0.015	0.015	0.027	0.026	0.032	0.039
Mercury	0.0007	<0.0002	<0.0002	0.0002	<0.0002	<0.0002
Selenium	<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
Methyl Chloride	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5
Acetone	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5
2-Hexanone	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5

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TABLE 1-1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
[redacted]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	0.595	0.72	0.28	0.65	0.85	2.0
Cadmium	0.007	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	0.021	0.047	<0.002	0.055	0.13	0.30
Lead	0.017	0.016	0.012	0.029	0.043	0.076
Mercury	0.0017	0.0003	<0.0002	<0.0002	<0.0002	0.00021
Selenium	<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
Methyl Chloride	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5
Acetone	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5
2-Hexanone	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5

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

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Arsenic	<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
Cadmium	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	0.096	0.043	0.070	0.016	0.17	0.096
Lead	0.019	0.020	0.014	0.031	0.069	0.029
Mercury	0.0008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Selenium	<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
Methyl Chloride	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5
Acetone	<100	<100	<100	<100	<100	150
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	25
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5
2-Hexanone	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5

TABLE 1-1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
[redacted]-6

Parameter	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Arsenic	<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
Cadmium	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	0.012	0.010	0.021	0.014	0.033	0.012
Lead	0.018	0.011	0.014	0.014	0.020	<0.005
Mercury	0.0014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Selenium	<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
Methyl Chloride	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5
Acetone	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	<5
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5
2-Hexanone	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5

TABLE 1-1
Summary of Ground-Water Analytical Results
Winston-Salem C&D Landfill
[redacted]

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Arsenic	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium	1.93	0.97	0.75	1.8	1.2	1.3
Cadmium	<0.010	<0.001	<0.001	<0.001	<0.001	<0.001
Chromium	0.028	0.021	0.18	0.41	0.43	0.35
Lead	0.017	0.006	0.023	0.053	0.038	0.036
Mercury	0.0014	0.0004	<0.0002	0.0002	<0.002	<0.002
Selenium	<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
Methyl Chloride	<10	<10	<10	<10	<10	<10
Vinyl Chloride	<10	<10	<10	<10	<10	<10
Bromomethane	<10	<10	<10	<10	<10	<10
Chloroethane	<10	<10	<10	<10	<10	<10
Trichlorofluoromethane	<5	<5	<5	<5	<5	<5
Acetone	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
Methyl Iodide	<5	<5	<5	<5	<5	<5
Acrylonitrile	<100	<100	<100	<100	<100	<100
Dichloromethane	<5	<5	<5	<5	<5	<5
Carbon Disulfide	<5	<5	<5	<5	<5	9
Trans-1,1-Dichloroethene	<5	<5	<5	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5	<5	<5	<5
Vinyl Acetate	<50	<50	<50	<50	<50	<50
Methyl Ethyl Ketone	<100	<100	<100	<100	<100	<100
Cis-1,2-Dichloroethene	<5	<5	<5	<5	<5	<5
Chloroform	<5	<5	<5	<5	<5	<5
Bromochloromethane	<5	<5	<5	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5	<5	<5	<5
Carbon Tetrachloride	<5	<5	<5	<5	<5	<5
Benzene	<5	<5	<5	<5	<5	<5
Trichloroethene	<5	<5	<5	<5	<5	<5
1,2-Dichloroporpane	<5	<5	<5	<5	<5	<5
Dibromomethane	<5	<5	<5	<5	<5	<5
Bromodichloromethane	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone	<50	<50	<50	<50	<50	<50
Cis-1,3-Dichloropropene	<5	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5	<5
Trans-1,3-Dichloro-1-Propene	<5	<5	<5	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5	<5	<5	<5
2-Hexanone	<50	<50	<50	<50	<50	<50
Dibromochloromethane	<5	<5	<5	<5	<5	<5
Tetrachloroethylene	<5	<5	<5	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5	<5	<5	<5
Chlorobenzene	<5	<5	<5	<5	<5	<5
1,1,1,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
Ethylbenzene	<5	<5	<5	<5	<5	<5
Xylenes (total)	<5	<5	<5	<5	<5	<5
Styrene	<5	<5	<5	<5	<5	<5
Bromoform	<5	<5	<5	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5	<5	<5	<5
Trans-1,4-Dichloro-2-Butene	<5	<5	<5	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5	<5	<5	<5
1,2-Dibromo-3-Chloropropane	<5	<5	<5	<5	<5	<5

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HDR
CHARLOTTE, NC

November 23, 1998

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

RE: Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

Dear Mr. Isham:

Enclosed are the results of analyses for sample(s) received by the laboratory on November 6, 1998. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kelly Wallace

Kelly Wallace
Project Manager

Enclosures

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

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs	
KY Drinking Water	90090
TN UST List	
VA Drinking Water	213

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Pace Analytical

DATE: 11/23/98
PAGE: 1

ℓ Engineering
3 South Tryon Street
ite 1400
arlotte, NC 28202

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

tn: Mr. John Isham
one: (704)338-1800

lid results are reported on a dry weight basis

ce Sample No: 92191436
ient Sample ID: MW-1R

Date Collected: 11/05/98
Date Received: 11/06/98

Matrix: Water

rameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
:tals							
Metals, ICP		Method: EPA 6010			Prep Method: EPA 3010		
Barium	0.16	mg/L	0.01	11/18/98	AB1	7440-39-3	
Date Digested				11/10/98			
Arsenic, AAS Furnace		Method: EPA 7060			Prep Method: EPA 3020		
Arsenic	ND	mg/L	0.005	11/19/98	JAS	7440-38-2	
Date Digested				11/13/98			
Cadmium, AAS Furnace		Method: EPA 7131			Prep Method: EPA 3020		
Cadmium	ND	mg/L	0.001	11/16/98	JAS	7440-43-9	
Date Digested				11/13/98			
Chromium Furnace		Method: EPA 7191			Prep Method: EPA 3020		
Chromium	0.012	mg/L	0.002	11/19/98	JAS	7440-47-3	
Date Digested				11/13/98			
Lead, AAS Furnace		Method: EPA 7421			Prep Method: EPA 3020		
Lead	ND	mg/L	0.005	11/19/98	JAS	7439-92-1	
Date Digested				11/13/98			
Mercury in Water		Method: EPA 7470			Prep Method: EPA 7470		
Mercury	ND	mg/L	0.0002	11/13/98	AST	7439-97-6	
Selenium, AAS Furnace		Method: EPA 7740			Prep Method: EPA 3020		
Selenium	ND	mg/L	0.005	11/19/98	JAS	7782-49-2	
Date Digested				11/13/98			

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

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs
KY Drinking Water 90090
TN UST List
VA Drinking Water 213

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:e Sample No: 92191436 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: MW-1R Date Received: 11/06/98

'ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
;ilver by Furnace	Method: EPA 7761				Prep Method: EPA 3020		
Silver	ND	mg/L	0.002	11/18/98	JAS	7440-22-4	
Date Digested				11/13/98			
/MS -- VOA							
3C/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/L	10	11/14/98	JAC	74-87-3	
Vinyl Chloride	ND	ug/L	10	11/14/98	JAC	75-01-4	
Bromomethane	ND	ug/L	10	11/14/98	JAC	74-83-9	
Chloroethane	ND	ug/L	10	11/14/98	JAC	75-00-3	
Trichlorofluoromethane	ND	ug/L	10	11/14/98	JAC	75-69-4	
Acetone	ND	ug/L	100	11/14/98	JAC	67-64-1	
1,1-Dichloroethene	ND	ug/L	5	11/14/98	JAC	75-35-4	
Iodomethane	ND	ug/L	5	11/14/98	JAC	74-88-4	
Acrylonitrile	ND	ug/L	100	11/14/98	JAC	107-13-1	
Methylene Chloride	ND	ug/L	5	11/14/98	JAC	75-09-2	
Carbon Disulfide	28	ug/L	5	11/14/98	JAC	75-15-0	
trans-1,2-Dichloroethene	ND	ug/L	5	11/14/98	JAC	156-60-5	
1,1-Dichloroethane	ND	ug/L	5	11/14/98	JAC	75-34-3	
Vinyl Acetate	ND	ug/L	50	11/14/98	JAC	108-05-4	
2-Butanone	ND	ug/L	100	11/14/98	JAC	78-93-3	
cis-1,2-Dichloroethene	ND	ug/L	5	11/14/98	JAC	156-59-2	
Chloroform	ND	ug/L	5	11/14/98	JAC	67-66-3	
Bromochloromethane	ND	ug/L	5	11/14/98	JAC	74-97-5	
1,1,1-Trichloroethane	ND	ug/L	5	11/14/98	JAC	71-55-6	
1,2-Dichloroethane	ND	ug/L	5	11/14/98	JAC	107-06-2	
Carbon Tetrachloride	ND	ug/L	5	11/14/98	JAC	56-23-5	
Benzene	ND	ug/L	5	11/14/98	JAC	71-43-2	
Trichloroethene	ND	ug/L	5	11/14/98	JAC	79-01-6	
1,2-Dichloropropane	ND	ug/L	5	11/14/98	JAC	78-87-5	
Dibromomethane	ND	ug/L	5	11/14/98	JAC	74-95-3	
Bromodichloromethane	ND	ug/L	5	11/14/98	JAC	75-27-4	
4-Methyl-2-Pentanone	ND	ug/L	50	11/14/98	JAC	108-10-1	
cis-1,3-Dichloropropene	ND	ug/L	5	11/14/98	JAC	10061-01-5	
Toluene	ND	ug/L	5	11/14/98	JAC	108-88-3	
trans-1,3-Dichloropropene	ND	ug/L	5	11/14/98	JAC	10061-02-6	
1,1,2-Trichloroethane	ND	ug/L	5	11/14/98	JAC	79-00-5	
2-Hexanone	ND	ug/L	50	11/14/98	JAC	591-78-6	
Dibromochloromethane	ND	ug/L	5	11/14/98	JAC	124-48-1	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:e Sample No: 92191436 Date Collected: 11/05/98 Matrix: Water
ient Sample ID: MW-1R Date Received: 11/06/98

·ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Tetrachloroethene	ND	ug/L	5	11/14/98	JAC	127-18-4	
1,2-Dibromoethane	ND	ug/L	5	11/14/98	JAC	106-93-4	
Chlorobenzene	ND	ug/L	5	11/14/98	JAC	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/L	5	11/14/98	JAC	630-20-6	
Ethylbenzene	ND	ug/L	5	11/14/98	JAC	100-41-4	
m&p-Xylene	ND	ug/L	10	11/14/98	JAC	7816-60-0	
Styrene	ND	ug/L	5	11/14/98	JAC	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/L	5	11/14/98	JAC	95-47-6	
Bromoform	ND	ug/L	5	11/14/98	JAC	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	5	11/14/98	JAC	79-34-5	
1,2,3-Trichloropropane	ND	ug/L	5	11/14/98	JAC	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/L	5	11/14/98	JAC	110-57-6	
1,4-Dichlorobenzene	ND	ug/L	5	11/14/98	JAC	106-46-7	
1,2-Dichlorobenzene	ND	ug/L	5	11/14/98	JAC	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/L	5	11/14/98	JAC	96-12-8	
Dibromofluoromethane (S)	103	%		11/14/98	JAC	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%		11/14/98	JAC	17060-07-0	
Toluene-d8 (S)	96	%		11/14/98	JAC	2037-26-5	
4-Bromofluorobenzene (S)	96	%		11/14/98	JAC	460-00-4	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:e Sample No: 92191451 Date Collected: 11/05/98 Matrix: Water
lent Sample ID: MW-2R Date Received: 11/06/98

·ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
:als							
1etals, ICP	Method: EPA 6010				Prep Method: EPA 3010		
Barium	1.1	mg/L	0.02	11/18/98	AB1	7440-39-3	
Date Digested				11/10/98			
1rsenic, AAS Furnace	Method: EPA 7060				Prep Method: EPA 3020		
Arsenic	0.011	mg/L	0.005	11/19/98	JAS	7440-38-2	
Date Digested				11/13/98			
Cadmium, AAS Furnace	Method: EPA 7131				Prep Method: EPA 3020		
Cadmium	ND	mg/L	0.001	11/16/98	JAS	7440-43-9	
Date Digested				11/13/98			
Chromium Furnace	Method: EPA 7191				Prep Method: EPA 3020		
Chromium	0.21	mg/L	0.01	11/19/98	JAS	7440-47-3	
Date Digested				11/13/98			
Lead, AAS Furnace	Method: EPA 7421				Prep Method: EPA 3020		
Lead	0.068	mg/L	0.005	11/19/98	JAS	7439-92-1	
Date Digested				11/13/98			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/L	0.0002	11/13/98	AST	7439-97-6	
Selenium, AAS Furnace	Method: EPA 7740				Prep Method: EPA 3020		
Selenium	ND	mg/L	0.005	11/19/98	JAS	7782-49-2	
Date Digested				11/13/98			
Silver by Furnace	Method: EPA 7761				Prep Method: EPA 3020		
Silver	ND	mg/L	0.002	11/18/98	JAS	7440-22-4	
Date Digested				11/13/98			
:/MS -- VOA							
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/L	10	11/14/98	JAC	74-87-3	
Vinyl Chloride	ND	ug/L	10	11/14/98	JAC	75-01-4	
Bromomethane	ND	ug/L	10	11/14/98	JAC	74-83-9	

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

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs
KY Drinking Water 90090
TN UST List
VA Drinking Water 213

Pace Analytical Services, Inc.
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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191451 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: MW-2R Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Chloroethane	ND	ug/L	10	11/14/98	JAC	75-00-3	
Trichlorofluoromethane	ND	ug/L	10	11/14/98	JAC	75-69-4	
Acetone	ND	ug/L	100	11/14/98	JAC	67-64-1	
1,1-Dichloroethene	ND	ug/L	5	11/14/98	JAC	75-35-4	
Iodomethane	ND	ug/L	5	11/14/98	JAC	74-88-4	
Acrylonitrile	ND	ug/L	100	11/14/98	JAC	107-13-1	
Methylene Chloride	ND	ug/L	5	11/14/98	JAC	75-09-2	
Carbon Disulfide	ND	ug/L	5	11/14/98	JAC	75-15-0	
trans-1,2-Dichloroethene	ND	ug/L	5	11/14/98	JAC	156-60-5	
1,1-Dichloroethane	ND	ug/L	5	11/14/98	JAC	75-34-3	
Vinyl Acetate	ND	ug/L	50	11/14/98	JAC	108-05-4	
2-Butanone	ND	ug/L	100	11/14/98	JAC	78-93-3	
cis-1,2-Dichloroethene	ND	ug/L	5	11/14/98	JAC	156-59-2	
Chloroform	ND	ug/L	5	11/14/98	JAC	67-66-3	
Bromochloromethane	ND	ug/L	5	11/14/98	JAC	74-97-5	
1,1,1-Trichloroethane	ND	ug/L	5	11/14/98	JAC	71-55-6	
1,2-Dichloroethane	ND	ug/L	5	11/14/98	JAC	107-06-2	
Carbon Tetrachloride	ND	ug/L	5	11/14/98	JAC	56-23-5	
Benzene	ND	ug/L	5	11/14/98	JAC	71-43-2	
Trichloroethene	ND	ug/L	5	11/14/98	JAC	79-01-6	
1,2-Dichloropropane	ND	ug/L	5	11/14/98	JAC	78-87-5	
Dibromomethane	ND	ug/L	5	11/14/98	JAC	74-95-3	
Bromodichloromethane	ND	ug/L	5	11/14/98	JAC	75-27-4	
4-Methyl-2-Pentanone	ND	ug/L	50	11/14/98	JAC	108-10-1	
cis-1,3-Dichloropropene	ND	ug/L	5	11/14/98	JAC	10061-01-5	
Toluene	ND	ug/L	5	11/14/98	JAC	108-88-3	
trans-1,3-Dichloropropene	ND	ug/L	5	11/14/98	JAC	10061-02-6	
1,1,2-Trichloroethane	ND	ug/L	5	11/14/98	JAC	79-00-5	
2-Hexanone	ND	ug/L	50	11/14/98	JAC	591-78-6	
Dibromochloromethane	ND	ug/L	5	11/14/98	JAC	124-48-1	
Tetrachloroethene	ND	ug/L	5	11/14/98	JAC	127-18-4	
1,2-Dibromoethane	ND	ug/L	5	11/14/98	JAC	106-93-4	
Chlorobenzene	ND	ug/L	5	11/14/98	JAC	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/L	5	11/14/98	JAC	630-20-6	
Ethylbenzene	ND	ug/L	5	11/14/98	JAC	100-41-4	
m&p-Xylene	ND	ug/L	10	11/14/98	JAC	7816-60-0	
Styrene	ND	ug/L	5	11/14/98	JAC	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/L	5	11/14/98	JAC	95-47-6	
Bromoform	ND	ug/L	5	11/14/98	JAC	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	5	11/14/98	JAC	79-34-5	

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Fax: 704-875-9091

Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

ce Sample No: 92191451 Date Collected: 11/05/98 Matrix: Water
ient Sample ID: MW-2R Date Received: 11/06/98

rameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
1,2,3-Trichloropropane	ND	ug/L	5	11/14/98	JAC	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/L	5	11/14/98	JAC	110-57-6	
1,4-Dichlorobenzene	ND	ug/L	5	11/14/98	JAC	106-46-7	
1,2-Dichlorobenzene	ND	ug/L	5	11/14/98	JAC	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/L	5	11/14/98	JAC	96-12-8	
Dibromofluoromethane (S)	104	%		11/14/98	JAC	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%		11/14/98	JAC	17060-07-0	
Toluene-d8 (S)	96	%		11/14/98	JAC	2037-26-5	
4-Bromofluorobenzene (S)	95	%		11/14/98	JAC	460-00-4	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

ce Sample No: 92191469 Date Collected: 11/05/98 Matrix: Water
ient Sample ID: MW-3 Date Received: 11/06/98

rameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
tals							
Metals, ICP	Method: EPA 6010				Prep Method: EPA 3010		
Barium	1.4	mg/L	0.02	11/18/98	AB1	7440-39-3	
Date Digested				11/10/98			
Arsenic, AAS Furnace	Method: EPA 7060				Prep Method: EPA 3020		
Arsenic	ND	mg/L	0.005	11/19/98	JAS	7440-38-2	
Date Digested				11/13/98			
Cadmium, AAS Furnace	Method: EPA 7131				Prep Method: EPA 3020		
Cadmium	ND	mg/L	0.001	11/16/98	JAS	7440-43-9	
Date Digested				11/13/98			
Chromium Furnace	Method: EPA 7191				Prep Method: EPA 3020		
Chromium	0.077	mg/L	0.005	11/19/98	JAS	7440-47-3	
Date Digested				11/13/98			
Lead, AAS Furnace	Method: EPA 7421				Prep Method: EPA 3020		
Lead	0.039	mg/L	0.005	11/19/98	JAS	7439-92-1	
Date Digested				11/13/98			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/L	0.0002	11/13/98	AST	7439-97-6	
Selenium, AAS Furnace	Method: EPA 7740				Prep Method: EPA 3020		
Selenium	ND	mg/L	0.005	11/19/98	JAS	7782-49-2	
Date Digested				11/13/98			
Silver by Furnace	Method: EPA 7761				Prep Method: EPA 3020		
Silver	ND	mg/L	0.002	11/18/98	JAS	7440-22-4	
Date Digested				11/13/98			
C/MS -- VOA							
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/L	10	11/16/98	JAC	74-87-3	
Vinyl Chloride	ND	ug/L	10	11/16/98	JAC	75-01-4	
Bromomethane	ND	ug/L	10	11/16/98	JAC	74-83-9	

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:e Sample No: 92191469 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: MW-3 Date Received: 11/06/98

'ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Chloroethane	ND	ug/L	10	11/16/98	JAC	75-00-3	
Trichlorofluoromethane	ND	ug/L	10	11/16/98	JAC	75-69-4	
Acetone	ND	ug/L	100	11/16/98	JAC	67-64-1	
1,1-Dichloroethene	ND	ug/L	5	11/16/98	JAC	75-35-4	
Iodomethane	ND	ug/L	5	11/16/98	JAC	74-88-4	
Acrylonitrile	ND	ug/L	100	11/16/98	JAC	107-13-1	
Methylene Chloride	ND	ug/L	5	11/16/98	JAC	75-09-2	
Carbon Disulfide	ND	ug/L	5	11/16/98	JAC	75-15-0	
trans-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-60-5	
1,1-Dichloroethane	ND	ug/L	5	11/16/98	JAC	75-34-3	
Vinyl Acetate	ND	ug/L	50	11/16/98	JAC	108-05-4	
2-Butanone	ND	ug/L	100	11/16/98	JAC	78-93-3	
cis-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-59-2	
Chloroform	ND	ug/L	5	11/16/98	JAC	67-66-3	
Bromochloromethane	ND	ug/L	5	11/16/98	JAC	74-97-5	
1,1,1-Trichloroethane	ND	ug/L	5	11/16/98	JAC	71-55-6	
1,2-Dichloroethane	ND	ug/L	5	11/16/98	JAC	107-06-2	
Carbon Tetrachloride	ND	ug/L	5	11/16/98	JAC	56-23-5	
Benzene	ND	ug/L	5	11/16/98	JAC	71-43-2	
Trichloroethene	ND	ug/L	5	11/16/98	JAC	79-01-6	
1,2-Dichloropropane	ND	ug/L	5	11/16/98	JAC	78-87-5	
Dibromomethane	ND	ug/L	5	11/16/98	JAC	74-95-3	
Bromodichloromethane	ND	ug/L	5	11/16/98	JAC	75-27-4	
4-Methyl-2-Pentanone	ND	ug/L	50	11/16/98	JAC	108-10-1	
cis-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-01-5	
Toluene	ND	ug/L	5	11/16/98	JAC	108-88-3	
trans-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-02-6	
1,1,2-Trichloroethane	ND	ug/L	5	11/16/98	JAC	79-00-5	
2-Hexanone	ND	ug/L	50	11/16/98	JAC	591-78-6	
Dibromochloromethane	ND	ug/L	5	11/16/98	JAC	124-48-1	
Tetrachloroethene	ND	ug/L	5	11/16/98	JAC	127-18-4	
1,2-Dibromoethane	ND	ug/L	5	11/16/98	JAC	106-93-4	
Chlorobenzene	ND	ug/L	5	11/16/98	JAC	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	630-20-6	
Ethylbenzene	ND	ug/L	5	11/16/98	JAC	100-41-4	
m&p-Xylene	ND	ug/L	10	11/16/98	JAC	7816-60-0	
Styrene	ND	ug/L	5	11/16/98	JAC	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/L	5	11/16/98	JAC	95-47-6	
Bromoform	ND	ug/L	5	11/16/98	JAC	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	79-34-5	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191469 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: MW-3 Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
1,2,3-Trichloropropane	ND	ug/L	5	11/16/98	JAC	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/L	5	11/16/98	JAC	110-57-6	
1,4-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	106-46-7	
1,2-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/L	5	11/16/98	JAC	96-12-8	
Dibromofluoromethane (S)	105	%		11/16/98	JAC	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%		11/16/98	JAC	17060-07-0	
Toluene-d8 (S)	96	%		11/16/98	JAC	2037-26-5	
4-Bromofluorobenzene (S)	94	%		11/16/98	JAC	460-00-4	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:e Sample No: 92191485 Date Collected: 11/06/98 Matrix: Water
ient Sample ID: MW-4R Date Received: 11/06/98

·ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
:als							
1etals, ICP	Method: EPA 6010				Prep Method: EPA 3010		
Barium	2.0	mg/L	0.02	11/18/98	AB1	7440-39-3	
Date Digested				11/10/98			
1rsenic, AAS Furnace	Method: EPA 7060				Prep Method: EPA 3020		
Arsenic	ND	mg/L	0.05	11/20/98	JAS	7440-38-2	
Date Digested				11/13/98			
Cadmium, AAS Furnace	Method: EPA 7131				Prep Method: EPA 3020		
Cadmium	ND	mg/L	0.001	11/16/98	JAS	7440-43-9	
Date Digested				11/13/98			
Chromium Furnace	Method: EPA 7191				Prep Method: EPA 3020		
Chromium	0.30	mg/L	0.02	11/19/98	JAS	7440-47-3	
Date Digested				11/13/98			
Lead, AAS Furnace	Method: EPA 7421				Prep Method: EPA 3020		
Lead	0.076	mg/L	0.005	11/19/98	JAS	7439-92-1	
Date Digested				11/13/98			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	0.00021	mg/L	0.0002	11/13/98	AST	7439-97-6	
Selenium, AAS Furnace	Method: EPA 7740				Prep Method: EPA 3020		
Selenium	ND	mg/L	0.005	11/20/98	JAS	7782-49-2	
Date Digested				11/13/98			
Silver by Furnace	Method: EPA 7761				Prep Method: EPA 3020		
Silver	ND	mg/L	0.002	11/18/98	JAS	7440-22-4	
Date Digested				11/13/98			
:/MS -- VOA							
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/L	10	11/16/98	JAC	74-87-3	
Vinyl Chloride	ND	ug/L	10	11/16/98	JAC	75-01-4	
Bromomethane	ND	ug/L	10	11/16/98	JAC	74-83-9	

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e Sample No: 92191485 Date Collected: 11/06/98 Matrix: Water
ent Sample ID: MW-4R Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Chloroethane	ND	ug/L	10	11/16/98	JAC	75-00-3	
Trichlorofluoromethane	ND	ug/L	10	11/16/98	JAC	75-69-4	
Acetone	ND	ug/L	100	11/16/98	JAC	67-64-1	
1,1-Dichloroethene	ND	ug/L	5	11/16/98	JAC	75-35-4	
Iodomethane	ND	ug/L	5	11/16/98	JAC	74-88-4	
Acrylonitrile	ND	ug/L	100	11/16/98	JAC	107-13-1	
Methylene Chloride	ND	ug/L	5	11/16/98	JAC	75-09-2	
Carbon Disulfide	ND	ug/L	5	11/16/98	JAC	75-15-0	
trans-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-60-5	
1,1-Dichloroethane	ND	ug/L	5	11/16/98	JAC	75-34-3	
Vinyl Acetate	ND	ug/L	50	11/16/98	JAC	108-05-4	
2-Butanone	ND	ug/L	100	11/16/98	JAC	78-93-3	
cis-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-59-2	
Chloroform	ND	ug/L	5	11/16/98	JAC	67-66-3	
Bromochloromethane	ND	ug/L	5	11/16/98	JAC	74-97-5	
1,1,1-Trichloroethane	ND	ug/L	5	11/16/98	JAC	71-55-6	
1,2-Dichloroethane	ND	ug/L	5	11/16/98	JAC	107-06-2	
Carbon Tetrachloride	ND	ug/L	5	11/16/98	JAC	56-23-5	
Benzene	ND	ug/L	5	11/16/98	JAC	71-43-2	
Trichloroethene	ND	ug/L	5	11/16/98	JAC	79-01-6	
1,2-Dichloropropane	ND	ug/L	5	11/16/98	JAC	78-87-5	
Dibromomethane	ND	ug/L	5	11/16/98	JAC	74-95-3	
Bromodichloromethane	ND	ug/L	5	11/16/98	JAC	75-27-4	
4-Methyl-2-Pentanone	ND	ug/L	50	11/16/98	JAC	108-10-1	
cis-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-01-5	
Toluene	ND	ug/L	5	11/16/98	JAC	108-88-3	
trans-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-02-6	
1,1,2-Trichloroethane	ND	ug/L	5	11/16/98	JAC	79-00-5	
2-Hexanone	ND	ug/L	50	11/16/98	JAC	591-78-6	
Dibromochloromethane	ND	ug/L	5	11/16/98	JAC	124-48-1	
Tetrachloroethene	ND	ug/L	5	11/16/98	JAC	127-18-4	
1,2-Dibromoethane	ND	ug/L	5	11/16/98	JAC	106-93-4	
Chlorobenzene	ND	ug/L	5	11/16/98	JAC	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	630-20-6	
Ethylbenzene	ND	ug/L	5	11/16/98	JAC	100-41-4	
m&p-Xylene	ND	ug/L	10	11/16/98	JAC	7816-60-0	
Styrene	ND	ug/L	5	11/16/98	JAC	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/L	5	11/16/98	JAC	95-47-6	
Bromoform	ND	ug/L	5	11/16/98	JAC	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	79-34-5	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191485 Date Collected: 11/06/98 Matrix: Water
ent Sample ID: MW-4R Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
1,2,3-Trichloropropane	ND	ug/L	5	11/16/98	JAC	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/L	5	11/16/98	JAC	110-57-6	
1,4-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	106-46-7	
1,2-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/L	5	11/16/98	JAC	96-12-8	
Dibromofluoromethane (S)	104	%		11/16/98	JAC	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%		11/16/98	JAC	17060-07-0	
Toluene-d8 (S)	95	%		11/16/98	JAC	2037-26-5	
4-Bromofluorobenzene (S)	96	%		11/16/98	JAC	460-00-4	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191493 Date Collected: 11/06/98 Matrix: Water
ent Sample ID: MW-5R Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
als							
letals, ICP	Method: EPA 6010				Prep Method: EPA 3010		
Barium	0.48	mg/L	0.01	11/18/98	AB1	7440-39-3	
Date Digested				11/10/98			
rsenic, AAS Furnace	Method: EPA 7060				Prep Method: EPA 3020		
Arsenic	ND	mg/L	0.005	11/19/98	JAS	7440-38-2	
Date Digested				11/13/98			
admium, AAS Furnace	Method: EPA 7131				Prep Method: EPA 3020		
Cadmium	ND	mg/L	0.001	11/16/98	JAS	7440-43-9	
Date Digested				11/13/98			
hromium Furnace	Method: EPA 7191				Prep Method: EPA 3020		
Chromium	0.096	mg/L	0.004	11/19/98	JAS	7440-47-3	
Date Digested				11/13/98			
ead, AAS Furnace	Method: EPA 7421				Prep Method: EPA 3020		
Lead	0.029	mg/L	0.005	11/19/98	JAS	7439-92-1	
Date Digested				11/13/98			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/L	0.0002	11/13/98	AST	7439-97-6	
Selenium, AAS Furnace	Method: EPA 7740				Prep Method: EPA 3020		
Selenium	ND	mg/L	0.005	11/20/98	JAS	7782-49-2	
Date Digested				11/13/98			
Silver by Furnace	Method: EPA 7761				Prep Method: EPA 3020		
Silver	ND	mg/L	0.002	11/18/98	JAS	7440-22-4	
Date Digested				11/13/98			
/MS -- VOA							
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/L	10	11/16/98	JAC	74-87-3	
Vinyl Chloride	ND	ug/L	10	11/16/98	JAC	75-01-4	
Bromomethane	ND	ug/L	10	11/16/98	JAC	74-83-9	

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

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KY Drinking Water 90090
TN UST List
VA Drinking Water 213

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
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Tel: 704-875-9092
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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:e Sample No: 92191493 Date Collected: 11/06/98 Matrix: Water
ent Sample ID: MW-5R Date Received: 11/06/98

·ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Chloroethane	ND	ug/L	10	11/16/98	JAC	75-00-3	
Trichlorofluoromethane	ND	ug/L	10	11/16/98	JAC	75-69-4	
Acetone	150	ug/L	100	11/16/98	JAC	67-64-1	
1,1-Dichloroethene	ND	ug/L	5	11/16/98	JAC	75-35-4	
Iodomethane	ND	ug/L	5	11/16/98	JAC	74-88-4	
Acrylonitrile	ND	ug/L	100	11/16/98	JAC	107-13-1	
Methylene Chloride	ND	ug/L	5	11/16/98	JAC	75-09-2	
Carbon Disulfide	25	ug/L	5	11/16/98	JAC	75-15-0	
trans-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-60-5	
1,1-Dichloroethane	ND	ug/L	5	11/16/98	JAC	75-34-3	
Vinyl Acetate	ND	ug/L	50	11/16/98	JAC	108-05-4	
2-Butanone	ND	ug/L	100	11/16/98	JAC	78-93-3	
cis-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-59-2	
Chloroform	ND	ug/L	5	11/16/98	JAC	67-66-3	
Bromochloromethane	ND	ug/L	5	11/16/98	JAC	74-97-5	
1,1,1-Trichloroethane	ND	ug/L	5	11/16/98	JAC	71-55-6	
1,2-Dichloroethane	ND	ug/L	5	11/16/98	JAC	107-06-2	
Carbon Tetrachloride	ND	ug/L	5	11/16/98	JAC	56-23-5	
Benzene	ND	ug/L	5	11/16/98	JAC	71-43-2	
Trichloroethene	ND	ug/L	5	11/16/98	JAC	79-01-6	
1,2-Dichloropropane	ND	ug/L	5	11/16/98	JAC	78-87-5	
Dibromomethane	ND	ug/L	5	11/16/98	JAC	74-95-3	
Bromodichloromethane	ND	ug/L	5	11/16/98	JAC	75-27-4	
4-Methyl-2-Pentanone	ND	ug/L	50	11/16/98	JAC	108-10-1	
cis-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-01-5	
Toluene	ND	ug/L	5	11/16/98	JAC	108-88-3	
trans-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-02-6	
1,1,2-Trichloroethane	ND	ug/L	5	11/16/98	JAC	79-00-5	
2-Hexanone	ND	ug/L	50	11/16/98	JAC	591-78-6	
Dibromochloromethane	ND	ug/L	5	11/16/98	JAC	124-48-1	
Tetrachloroethene	ND	ug/L	5	11/16/98	JAC	127-18-4	
1,2-Dibromoethane	ND	ug/L	5	11/16/98	JAC	106-93-4	
Chlorobenzene	ND	ug/L	5	11/16/98	JAC	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	630-20-6	
Ethylbenzene	ND	ug/L	5	11/16/98	JAC	100-41-4	
m&p-Xylene	ND	ug/L	10	11/16/98	JAC	7816-60-0	
Styrene	ND	ug/L	5	11/16/98	JAC	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/L	5	11/16/98	JAC	95-47-6	
Bromoform	ND	ug/L	5	11/16/98	JAC	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	79-34-5	

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NC Drinking Water 37706
SC 99006

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VA Drinking Water 213

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Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:e Sample No: 92191493 Date Collected: 11/06/98 Matrix: Water
ent Sample ID: MW-5R Date Received: 11/06/98

'ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
1,2,3-Trichloropropane	ND	ug/L	5	11/16/98	JAC	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/L	5	11/16/98	JAC	110-57-6	
1,4-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	106-46-7	
1,2-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/L	5	11/16/98	JAC	96-12-8	
Dibromofluoromethane (S)	105	%		11/16/98	JAC	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%		11/16/98	JAC	17060-07-0	
Toluene-d8 (S)	93	%		11/16/98	JAC	2037-26-5	
4-Bromofluorobenzene (S)	96	%		11/16/98	JAC	460-00-4	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:e Sample No: 92191501 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: MW-6 Date Received: 11/06/98

:ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
:als							
letals, ICP	Method: EPA 6010				Prep Method: EPA 3010		
Barium	0.16	mg/L	0.01	11/18/98	AB1	7440-39-3	
Date Digested				11/10/98			
\rsenic, AAS Furnace	Method: EPA 7060				Prep Method: EPA 3020		
Arsenic	ND	mg/L	0.005	11/19/98	JAS	7440-38-2	
Date Digested				11/13/98			
:admium, AAS Furnace	Method: EPA 7131				Prep Method: EPA 3020		
Cadmium	ND	mg/L	0.001	11/16/98	JAS	7440-43-9	
Date Digested				11/13/98			
:hromium Furnace	Method: EPA 7191				Prep Method: EPA 3020		
Chromium	0.012	mg/L	0.002	11/19/98	JAS	7440-47-3	
Date Digested				11/13/98			
Lead, AAS Furnace	Method: EPA 7421				Prep Method: EPA 3020		
Lead	ND	mg/L	0.005	11/19/98	JAS	7439-92-1	
Date Digested				11/13/98			
Mercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/L	0.0002	11/13/98	AST	7439-97-6	
Selenium, AAS Furnace	Method: EPA 7740				Prep Method: EPA 3020		
Selenium	ND	mg/L	0.005	11/20/98	JAS	7782-49-2	
Date Digested				11/13/98			
Silver by Furnace	Method: EPA 7761				Prep Method: EPA 3020		
Silver	ND	mg/L	0.002	11/18/98	JAS	7440-22-4	
Date Digested				11/13/98			
:/MS -- VOA							
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/L	10	11/16/98	JAC	74-87-3	
Vinyl Chloride	ND	ug/L	10	11/16/98	JAC	75-01-4	
Bromomethane	ND	ug/L	10	11/16/98	JAC	74-83-9	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:e Sample No: 92191501 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: MW-6 Date Received: 11/06/98

'ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Chloroethane	ND	ug/L	10	11/16/98	JAC	75-00-3	
Trichlorofluoromethane	ND	ug/L	10	11/16/98	JAC	75-69-4	
Acetone	ND	ug/L	100	11/16/98	JAC	67-64-1	
1,1-Dichloroethene	ND	ug/L	5	11/16/98	JAC	75-35-4	
Iodomethane	ND	ug/L	5	11/16/98	JAC	74-88-4	
Acrylonitrile	ND	ug/L	100	11/16/98	JAC	107-13-1	
Methylene Chloride	ND	ug/L	5	11/16/98	JAC	75-09-2	
Carbon Disulfide	ND	ug/L	5	11/16/98	JAC	75-15-0	
trans-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-60-5	
1,1-Dichloroethane	ND	ug/L	5	11/16/98	JAC	75-34-3	
Vinyl Acetate	ND	ug/L	50	11/16/98	JAC	108-05-4	
2-Butanone	ND	ug/L	100	11/16/98	JAC	78-93-3	
cis-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-59-2	
Chloroform	ND	ug/L	5	11/16/98	JAC	67-66-3	
Bromochloromethane	ND	ug/L	5	11/16/98	JAC	74-97-5	
1,1,1-Trichloroethane	ND	ug/L	5	11/16/98	JAC	71-55-6	
1,2-Dichloroethane	ND	ug/L	5	11/16/98	JAC	107-06-2	
Carbon Tetrachloride	ND	ug/L	5	11/16/98	JAC	56-23-5	
Benzene	ND	ug/L	5	11/16/98	JAC	71-43-2	
Trichloroethene	ND	ug/L	5	11/16/98	JAC	79-01-6	
1,2-Dichloropropane	ND	ug/L	5	11/16/98	JAC	78-87-5	
Dibromomethane	ND	ug/L	5	11/16/98	JAC	74-95-3	
Bromodichloromethane	ND	ug/L	5	11/16/98	JAC	75-27-4	
4-Methyl-2-Pentanone	ND	ug/L	50	11/16/98	JAC	108-10-1	
cis-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-01-5	
Toluene	ND	ug/L	5	11/16/98	JAC	108-88-3	
trans-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-02-6	
1,1,2-Trichloroethane	ND	ug/L	5	11/16/98	JAC	79-00-5	
2-Hexanone	ND	ug/L	50	11/16/98	JAC	591-78-6	
Dibromochloromethane	ND	ug/L	5	11/16/98	JAC	124-48-1	
Tetrachloroethene	ND	ug/L	5	11/16/98	JAC	127-18-4	
1,2-Dibromoethane	ND	ug/L	5	11/16/98	JAC	106-93-4	
Chlorobenzene	ND	ug/L	5	11/16/98	JAC	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	630-20-6	
Ethylbenzene	ND	ug/L	5	11/16/98	JAC	100-41-4	
m&p-Xylene	ND	ug/L	10	11/16/98	JAC	7816-60-0	
Styrene	ND	ug/L	5	11/16/98	JAC	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/L	5	11/16/98	JAC	95-47-6	
Bromoform	ND	ug/L	5	11/16/98	JAC	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	79-34-5	

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

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VA Drinking Water 213

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191501 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: MW-6 Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
1,2,3-Trichloropropane	ND	ug/L	5	11/16/98	JAC	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/L	5	11/16/98	JAC	110-57-6	
1,4-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	106-46-7	
1,2-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/L	5	11/16/98	JAC	96-12-8	
Dibromofluoromethane (S)	103	%		11/16/98	JAC	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%		11/16/98	JAC	17060-07-0	
Toluene-d8 (S)	95	%		11/16/98	JAC	2037-26-5	
4-Bromofluorobenzene (S)	94	%		11/16/98	JAC	460-00-4	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191519 Date Collected: 11/06/98 Matrix: Water
ent Sample ID: MW-7 Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
als							
etals, ICP	Method: EPA 6010				Prep Method: EPA 3010		
Barium	1.3	mg/L	0.02	11/18/98	AB1	7440-39-3	
Date Digested				11/10/98			
rsenic, AAS Furnace	Method: EPA 7060				Prep Method: EPA 3020		
Arsenic	ND	mg/L	0.005	11/19/98	JAS	7440-38-2	
Date Digested				11/13/98			
admium, AAS Furnace	Method: EPA 7131				Prep Method: EPA 3020		
Cadmium	ND	mg/L	0.001	11/16/98	JAS	7440-43-9	
Date Digested				11/13/98			
hromium Furnace	Method: EPA 7191				Prep Method: EPA 3020		
Chromium	0.35	mg/L	0.02	11/19/98	JAS	7440-47-3	
Date Digested				11/13/98			
ead, AAS Furnace	Method: EPA 7421				Prep Method: EPA 3020		
Lead	0.036	mg/L	0.005	11/19/98	JAS	7439-92-1	
Date Digested				11/13/98			
ercury in Water	Method: EPA 7470				Prep Method: EPA 7470		
Mercury	ND	mg/L	0.0002	11/13/98	AST	7439-97-6	
Selenium, AAS Furnace	Method: EPA 7740				Prep Method: EPA 3020		
Selenium	ND	mg/L	0.005	11/20/98	JAS	7782-49-2	
Date Digested				11/13/98			
Silver by Furnace	Method: EPA 7761				Prep Method: EPA 3020		
Silver	ND	mg/L	0.002	11/18/98	JAS	7440-22-4	
Date Digested				11/13/98			
/MS -- VOA							
GC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/L	10	11/16/98	JAC	74-87-3	
Vinyl Chloride	ND	ug/L	10	11/16/98	JAC	75-01-4	
Bromomethane	ND	ug/L	10	11/16/98	JAC	74-83-9	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191519 Date Collected: 11/06/98 Matrix: Water
ent Sample ID: MW-7 Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Chloroethane	ND	ug/L	10	11/16/98	JAC	75-00-3	
Trichlorofluoromethane	ND	ug/L	10	11/16/98	JAC	75-69-4	
Acetone	ND	ug/L	100	11/16/98	JAC	67-64-1	
1,1-Dichloroethene	ND	ug/L	5	11/16/98	JAC	75-35-4	
Iodomethane	ND	ug/L	5	11/16/98	JAC	74-88-4	
Acrylonitrile	ND	ug/L	100	11/16/98	JAC	107-13-1	
Methylene Chloride	ND	ug/L	5	11/16/98	JAC	75-09-2	
Carbon Disulfide	9.0	ug/L	5	11/16/98	JAC	75-15-0	
trans-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-60-5	
1,1-Dichloroethane	ND	ug/L	5	11/16/98	JAC	75-34-3	
Vinyl Acetate	ND	ug/L	50	11/16/98	JAC	108-05-4	
2-Butanone	ND	ug/L	100	11/16/98	JAC	78-93-3	
cis-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-59-2	
Chloroform	ND	ug/L	5	11/16/98	JAC	67-66-3	
Bromochloromethane	ND	ug/L	5	11/16/98	JAC	74-97-5	
1,1,1-Trichloroethane	ND	ug/L	5	11/16/98	JAC	71-55-6	
1,2-Dichloroethane	ND	ug/L	5	11/16/98	JAC	107-06-2	
Carbon Tetrachloride	ND	ug/L	5	11/16/98	JAC	56-23-5	
Benzene	ND	ug/L	5	11/16/98	JAC	71-43-2	
Trichloroethene	ND	ug/L	5	11/16/98	JAC	79-01-6	
1,2-Dichloropropane	ND	ug/L	5	11/16/98	JAC	78-87-5	
Dibromomethane	ND	ug/L	5	11/16/98	JAC	74-95-3	
Bromodichloromethane	ND	ug/L	5	11/16/98	JAC	75-27-4	
4-Methyl-2-Pentanone	ND	ug/L	50	11/16/98	JAC	108-10-1	
cis-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-01-5	
Toluene	ND	ug/L	5	11/16/98	JAC	108-88-3	
trans-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-02-6	
1,1,2-Trichloroethane	ND	ug/L	5	11/16/98	JAC	79-00-5	
2-Hexanone	ND	ug/L	50	11/16/98	JAC	591-78-6	
Dibromochloromethane	ND	ug/L	5	11/16/98	JAC	124-48-1	
Tetrachloroethene	ND	ug/L	5	11/16/98	JAC	127-18-4	
1,2-Dibromoethane	ND	ug/L	5	11/16/98	JAC	106-93-4	
Chlorobenzene	ND	ug/L	5	11/16/98	JAC	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	630-20-6	
Ethylbenzene	ND	ug/L	5	11/16/98	JAC	100-41-4	
m&p-Xylene	ND	ug/L	10	11/16/98	JAC	7816-60-0	
Styrene	ND	ug/L	5	11/16/98	JAC	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/L	5	11/16/98	JAC	95-47-6	
Bromoform	ND	ug/L	5	11/16/98	JAC	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	79-34-5	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191519 Date Collected: 11/06/98 Matrix: Water
ent Sample ID: MW-7 Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
1,2,3-Trichloropropane	ND	ug/L	5	11/16/98	JAC	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/L	5	11/16/98	JAC	110-57-6	
1,4-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	106-46-7	
1,2-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/L	5	11/16/98	JAC	96-12-8	
Dibromofluoromethane (S)	108	%		11/16/98	JAC	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%		11/16/98	JAC	17060-07-0	
Toluene-d8 (S)	97	%		11/16/98	JAC	2037-26-5	
4-Bromofluorobenzene (S)	95	%		11/16/98	JAC	460-00-4	

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Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:e Sample No: 92191527 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: EQUIPMENT BLANK Date Received: 11/06/98

'ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
:als							
'etals, ICP		Method: EPA 6010			Prep Method: EPA 3010		
Barium	ND	mg/L	0.01	11/18/98	AB1	7440-39-3	
Date Digested				11/10/98			
'rsenic, AAS Furnace		Method: EPA 7060			Prep Method: EPA 3020		
Arsenic	ND	mg/L	0.00045	11/19/98	JAS	7440-38-2	
Date Digested				11/13/98			
Cadmium, AAS Furnace		Method: EPA 7131			Prep Method: EPA 3020		
Cadmium	ND	mg/L	0.001	11/16/98	JAS	7440-43-9	
Date Digested				11/13/98			
Chromium Furnace		Method: EPA 7191			Prep Method: EPA 3020		
Chromium	ND	mg/L	0.002	11/19/98	JAS	7440-47-3	
Date Digested				11/13/98			
Lead, AAS Furnace		Method: EPA 7421			Prep Method: EPA 3020		
Lead	ND	mg/L	0.005	11/19/98	JAS	7439-92-1	
Date Digested				11/13/98			
Mercury in Water		Method: EPA 7470			Prep Method: EPA 7470		
Mercury	ND	mg/L	0.0002	11/13/98	AST	7439-97-6	
Selenium, AAS Furnace		Method: EPA 7740			Prep Method: EPA 3020		
Selenium	ND	mg/L	0.005	11/20/98	JAS	7782-49-2	
Date Digested				11/13/98			
Silver by Furnace		Method: EPA 7761			Prep Method: EPA 3020		
Silver	ND	mg/L	0.002	11/18/98	JAS	7440-22-4	
Date Digested				11/13/98			
:/MS -- VOA							
GC/MS VOCs by 8260		Method: EPA 8260			Prep Method: EPA 8260		
Chloromethane	ND	ug/L	10	11/16/98	JAC	74-87-3	
Vinyl Chloride	ND	ug/L	10	11/16/98	JAC	75-01-4	
Bromomethane	ND	ug/L	10	11/16/98	JAC	74-83-9	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:e Sample No: 92191527 Date Collected: 11/05/98 Matrix: Water
ient Sample ID: EQUIPMENT BLANK Date Received: 11/06/98

·ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Chloroethane	ND	ug/L	10	11/16/98	JAC	75-00-3	
Trichlorofluoromethane	ND	ug/L	10	11/16/98	JAC	75-69-4	
Acetone	ND	ug/L	100	11/16/98	JAC	67-64-1	
1,1-Dichloroethene	ND	ug/L	5	11/16/98	JAC	75-35-4	
Iodomethane	ND	ug/L	5	11/16/98	JAC	74-88-4	
Acrylonitrile	ND	ug/L	100	11/16/98	JAC	107-13-1	
Methylene Chloride	ND	ug/L	5	11/16/98	JAC	75-09-2	
Carbon Disulfide	ND	ug/L	5	11/16/98	JAC	75-15-0	
trans-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-60-5	
1,1-Dichloroethane	ND	ug/L	5	11/16/98	JAC	75-34-3	
Vinyl Acetate	ND	ug/L	50	11/16/98	JAC	108-05-4	
2-Butanone	ND	ug/L	100	11/16/98	JAC	78-93-3	
cis-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-59-2	
Chloroform	ND	ug/L	5	11/16/98	JAC	67-66-3	
Bromochloromethane	ND	ug/L	5	11/16/98	JAC	74-97-5	
1,1,1-Trichloroethane	ND	ug/L	5	11/16/98	JAC	71-55-6	
1,2-Dichloroethane	ND	ug/L	5	11/16/98	JAC	107-06-2	
Carbon Tetrachloride	ND	ug/L	5	11/16/98	JAC	56-23-5	
Benzene	ND	ug/L	5	11/16/98	JAC	71-43-2	
Trichloroethene	ND	ug/L	5	11/16/98	JAC	79-01-6	
1,2-Dichloropropane	ND	ug/L	5	11/16/98	JAC	78-87-5	
Dibromomethane	ND	ug/L	5	11/16/98	JAC	74-95-3	
Bromodichloromethane	ND	ug/L	5	11/16/98	JAC	75-27-4	
4-Methyl-2-Pentanone	ND	ug/L	50	11/16/98	JAC	108-10-1	
cis-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-01-5	
Toluene	ND	ug/L	5	11/16/98	JAC	108-88-3	
trans-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-02-6	
1,1,2-Trichloroethane	ND	ug/L	5	11/16/98	JAC	79-00-5	
2-Hexanone	ND	ug/L	50	11/16/98	JAC	591-78-6	
Dibromochloromethane	ND	ug/L	5	11/16/98	JAC	124-48-1	
Tetrachloroethene	ND	ug/L	5	11/16/98	JAC	127-18-4	
1,2-Dibromoethane	ND	ug/L	5	11/16/98	JAC	106-93-4	
Chlorobenzene	ND	ug/L	5	11/16/98	JAC	108-90-7	
1,1,1,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	630-20-6	
Ethylbenzene	ND	ug/L	5	11/16/98	JAC	100-41-4	
m&p-Xylene	ND	ug/L	10	11/16/98	JAC	7816-60-0	
Styrene	ND	ug/L	5	11/16/98	JAC	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/L	5	11/16/98	JAC	95-47-6	
Bromoform	ND	ug/L	5	11/16/98	JAC	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	79-34-5	

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Fax: 704-875-9091

Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191527 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: EQUIPMENT BLANK Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
1,2,3-Trichloropropane	ND	ug/L	5	11/16/98	JAC	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/L	5	11/16/98	JAC	110-57-6	
1,4-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	106-46-7	
1,2-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/L	5	11/16/98	JAC	96-12-8	
Dibromofluoromethane (S)	106	%		11/16/98	JAC	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%		11/16/98	JAC	17060-07-0	
Toluene-d8 (S)	96	%		11/16/98	JAC	2037-26-5	
4-Bromofluorobenzene (S)	96	%		11/16/98	JAC	460-00-4	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191535 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: TRIP BLANK Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
MS -- VOA							
iC/MS VOCs by 8260	Method: EPA 8260				Prep Method: EPA 8260		
Chloromethane	ND	ug/L	10	11/16/98	JAC	74-87-3	
Vinyl Chloride	ND	ug/L	10	11/16/98	JAC	75-01-4	
Bromomethane	ND	ug/L	10	11/16/98	JAC	74-83-9	
Chloroethane	ND	ug/L	10	11/16/98	JAC	75-00-3	
Trichlorofluoromethane	ND	ug/L	10	11/16/98	JAC	75-69-4	
Acetone	ND	ug/L	100	11/16/98	JAC	67-64-1	
1,1-Dichloroethene	ND	ug/L	5	11/16/98	JAC	75-35-4	
Iodomethane	ND	ug/L	5	11/16/98	JAC	74-88-4	
Acrylonitrile	ND	ug/L	100	11/16/98	JAC	107-13-1	
Methylene Chloride	ND	ug/L	5	11/16/98	JAC	75-09-2	
Carbon Disulfide	ND	ug/L	5	11/16/98	JAC	75-15-0	
trans-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-60-5	
1,1-Dichloroethane	ND	ug/L	5	11/16/98	JAC	75-34-3	
Vinyl Acetate	ND	ug/L	50	11/16/98	JAC	108-05-4	
2-Butanone	ND	ug/L	100	11/16/98	JAC	78-93-3	
cis-1,2-Dichloroethene	ND	ug/L	5	11/16/98	JAC	156-59-2	
Chloroform	ND	ug/L	5	11/16/98	JAC	67-66-3	
Bromochloromethane	ND	ug/L	5	11/16/98	JAC	74-97-5	
1,1,1-Trichloroethane	ND	ug/L	5	11/16/98	JAC	71-55-6	
1,2-Dichloroethane	ND	ug/L	5	11/16/98	JAC	107-06-2	
Carbon Tetrachloride	ND	ug/L	5	11/16/98	JAC	56-23-5	
Benzene	ND	ug/L	5	11/16/98	JAC	71-43-2	
Trichloroethene	ND	ug/L	5	11/16/98	JAC	79-01-6	
1,2-Dichloropropane	ND	ug/L	5	11/16/98	JAC	78-87-5	
Dibromomethane	ND	ug/L	5	11/16/98	JAC	74-95-3	
Bromodichloromethane	ND	ug/L	5	11/16/98	JAC	75-27-4	
4-Methyl-2-Pentanone	ND	ug/L	50	11/16/98	JAC	108-10-1	
cis-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-01-5	
Toluene	ND	ug/L	5	11/16/98	JAC	108-88-3	
trans-1,3-Dichloropropene	ND	ug/L	5	11/16/98	JAC	10061-02-6	
1,1,2-Trichloroethane	ND	ug/L	5	11/16/98	JAC	79-00-5	
2-Hexanone	ND	ug/L	50	11/16/98	JAC	591-78-6	
Dibromochloromethane	ND	ug/L	5	11/16/98	JAC	124-48-1	
Tetrachloroethene	ND	ug/L	5	11/16/98	JAC	127-18-4	
1,2-Dibromoethane	ND	ug/L	5	11/16/98	JAC	106-93-4	
Chlorobenzene	ND	ug/L	5	11/16/98	JAC	108-90-7	

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Pace Analytical

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

e Sample No: 92191535 Date Collected: 11/05/98 Matrix: Water
ent Sample ID: TRIP BLANK Date Received: 11/06/98

ameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
1,1,1,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	630-20-6	
Ethylbenzene	ND	ug/L	5	11/16/98	JAC	100-41-4	
m&p-Xylene	ND	ug/L	10	11/16/98	JAC	7816-60-0	
Styrene	ND	ug/L	5	11/16/98	JAC	100-42-5	
o-Xylene (1,2-Dimethylbenzene)	ND	ug/L	5	11/16/98	JAC	95-47-6	
Bromoform	ND	ug/L	5	11/16/98	JAC	75-25-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	5	11/16/98	JAC	79-34-5	
1,2,3-Trichloropropane	ND	ug/L	5	11/16/98	JAC	96-18-4	
trans-1,4-Dichloro-2-Butene	ND	ug/L	5	11/16/98	JAC	110-57-6	
1,4-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	106-46-7	
1,2-Dichlorobenzene	ND	ug/L	5	11/16/98	JAC	95-50-1	
1,2-Dibromo-3-Chloropropane	ND	ug/L	5	11/16/98	JAC	96-12-8	
Dibromofluoromethane (S)	103	%		11/16/98	JAC	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%		11/16/98	JAC	17060-07-0	
Toluene-d8 (S)	96	%		11/16/98	JAC	2037-26-5	
4-Bromofluorobenzene (S)	95	%		11/16/98	JAC	460-00-4	

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Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

AMETER FOOTNOTES

Not Detected
Not Calculable
Pace Reporting Limit
Surrogate

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Pace Analytical

QUALITY CONTROL DATA

DATE: 11/23/98

Engineering
South Tryon Street
te 1400
rlotte, NC 28202

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

n: Mr. John Isham
ne: (704)338-1800

Batch ID: 5285
lysis Method: EPA 6010
ociated Pace Samples: 92191436 92191451 92191469 92191485 92191493 92191501 92191519 92191527

QC Batch Method: EPA 3010
Analysis Description: Metals, ICP

HOD BLANK: 92193721
ociated Pace Samples: 92191436 92191451 92191469 92191485 92191493 92191501 92191519 92191527

ameter	Units	Method Blank Result	PRL	Footnotes
ium	mg/L	ND	0.01	

TRIX SPIKE & MATRIX SPIKE DUPLICATE: 92193739 92193747

ameter	Units	92193440	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
rium	mg/L	1.990	1.000	2.940	95.0	3.030	104	9	

BORATORY CONTROL SAMPLE & LCSD: 92193762 92193770

rameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Spike Dup % Rec	RPD	Footnotes
rium	mg/L	1.000	0.9990	99.9	0.9750	97.5	2	

MPLE DUPLICATE: 92193754

rameter	Units	92193531	Dup. Result	RPD	Footnotes
rium	mg/L	0.1100	0.1100	4	

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

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs
KY Drinking Water 90090
TN UST List
VA Drinking Water 213

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Pace Analytical

QUALITY CONTROL DATA

. Engineering
; South Tryon Street
te 1400
.rlotte, NC 28202

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:n: Mr. John Isham
ıne: (704)338-1800

Batch ID: 5439
ılysis Method: EPA 7470
ıociated Pace Samples: 92191436 92191451 92191469 92191485 92191493 92191501 92191519 92191527

QC Batch Method: EPA 7470
Analysis Description: Mercury in Water

THOD BLANK: 92198035
ıociated Pace Samples: 92191436 92191451 92191469 92191485 92191493 92191501 92191519 92191527

·ameter	Units	Method Blank Result	PRL	Footnotes
rcury	mg/L	ND	0.0002	

TRIX SPIKE & MATRIX SPIKE DUPLICATE: 92201110 92201128

rameter	Units	92191451	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
rcury	mg/L	0	0.0050	0.004730	94.6	0.004860	97.2	3	

BORATORY CONTROL SAMPLE & LCSD: 92198076 92198084

rameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Spike Dup % Rec	RPD	Footnotes
:rcury	mg/L	0.0050	0.004640	92.8	0.004800	96.0	3	

ıMPLE DUPLICATE: 92201102

ırameter	Units	92191436	Dup. Result	RPD	Footnotes
ercury	mg/L	ND	ND	NC	

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

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Laboratory Certification IDs
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TN UST List
VA Drinking Water 213

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Pace Analytical

QUALITY CONTROL DATA

DATE: 11/23/98

Engineering
South Tryon Street
te 1400
rlotte, NC 28202

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

n: Mr. John Isham
ne: (704)338-1800

Batch ID: 5496
lysis Method: EPA 7060
ociated Pace Samples: 92191436 92191451 92191469 92191485 92191493 92191501 92191519 92191527

QC Batch Method: EPA 3020
Analysis Description: Arsenic, AAS Furnace

HOD BLANK: 92200534
ociated Pace Samples: 92191436 92191451 92191469 92191485 92191493 92191501 92191519 92191527

ameter	Units	Method Blank Result	PRL	Footnotes
ad	mg/L	ND	0.005	
dmium	mg/L	ND	0.001	
lenium	mg/L	ND	0.005	
senic	mg/L	ND	0.005	
lver	mg/L	ND	0.002	

TRIX SPIKE & MATRIX SPIKE DUPLICATE: 92200542 92200559

rameter	Units	92190370	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
romium	mg/L	0.1960	0.0250	0.1825	-54.0	0.1700	-104	63	1,1
dmium	mg/L	0.0002100	0.0030	0.004100	130	0.003930	124	4	
ad	mg/L	0.04570	0.0250	0.06090	60.8	0.05600	41.2	38	1,1
lenium	mg/L	0	0.0250	0.0002000	0.80	0.0003000	1.20	40	1,1
senic	mg/L	0.001100	0.0250	0.01000	35.6	0.01000	35.6	0	1,1
lver	mg/L	0	0.0100	0.008800	88.0	0.008800	88.0	0	

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Pace Analytical

QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

ORATORY CONTROL SAMPLE & LCSD: 92200575 92200583

·ameter	Units	Spike Conc.	LCS Result	Spike % Rec	LCSD Result	Spike Dup % Rec	RPD	Footnotes
ıd	mg/L	0.0250	0.02420	96.8	0.02410	96.4	0	
ımium	mg/L	0.0030	0.003220	107	0.003050	102	5	
lenium	mg/L	0.0250	0.02450	98.0	0.02380	95.2	3	
;enic	mg/L	0.0250	0.02250	90.0	0.02270	90.8	1	
lver	mg/L	0.0100	0.01000	100	0.01000	100	0	

MPLE DUPLICATE: 92200567

·ameter	Units	92190388	Dup. Result	RPD	Footnotes
ımium	mg/L	ND	ND	NC	
·omium	mg/L	0.2600	0.2500	3	
senic	mg/L	ND	ND	NC	
lenium	mg/L	ND	ND	NC	
ad	mg/L	0.1300	0.1260	5	
lver	mg/L	ND	ND	NC	

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Pace Analytical

QUALITY CONTROL DATA

DATE: 11/23/98

. Engineering
. South Tryon Street
te 1400
rlotte, NC 28202

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

n: Mr. John Isham
ne: (704)338-1800

Batch ID: 5553
lysis Method: EPA 8260
ociated Pace Samples: 92191436 92191451

QC Batch Method: EPA 8260
Analysis Description: GC/MS VOCs by 8260

HOD BLANK: 92202894
ociated Pace Samples: 92191436 92191451

ameter	Units	Method Blank Result	PRL	Footnotes
loromethane	ug/L	ND	10	
yl Chloride	ug/L	ND	10	
omomethane	ug/L	ND	10	
loroethane	ug/L	ND	10	
ichlorofluoromethane	ug/L	ND	10	
etone	ug/L	ND	100	
1-Dichloroethene	ug/L	ND	5	
domethane	ug/L	ND	5	
rylonitrile	ug/L	ND	100	
thylene Chloride	ug/L	ND	5	
rbon Disulfide	ug/L	ND	5	
ans-1,2-Dichloroethene	ug/L	ND	5	
1-Dichloroethane	ug/L	ND	5	
nyl Acetate	ug/L	ND	50	
Butanone	ug/L	ND	100	
s-1,2-Dichloroethene	ug/L	ND	5	
loroform	ug/L	ND	5	
omochloromethane	ug/L	ND	5	
1,1-Trichloroethane	ug/L	ND	5	
2-Dichloroethane	ug/L	ND	5	
rbon Tetrachloride	ug/L	ND	5	
nzene	ug/L	ND	5	
ichloroethene	ug/L	ND	5	
2-Dichloropropane	ug/L	ND	5	
bromomethane	ug/L	ND	5	

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Pace Analytical

QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

HOD BLANK: 92202894
ociated Pace Samples:
92191436 92191451

ameter	Units	Method Blank Result	PRL	Footnotes
modichloromethane	ug/L	ND	5	
ethyl-2-Pentanone	ug/L	ND	50	
-1,3-Dichloropropene	ug/L	ND	5	
uene	ug/L	ND	5	
ns-1,3-Dichloropropene	ug/L	ND	5	
,2-Trichloroethane	ug/L	ND	5	
exanone	ug/L	ND	50	
romochloromethane	ug/L	ND	5	
rachloroethene	ug/L	ND	5	
-Dibromoethane	ug/L	ND	5	
orobenzene	ug/L	ND	5	
,1,2-Tetrachloroethane	ug/L	ND	5	
ylbenzene	ug/L	ND	5	
-Xylene	ug/L	ND	10	
rene	ug/L	ND	5	
ylene (1,2-Dimethylbenzene)	ug/L	ND	5	
moform	ug/L	ND	5	
,2,2-Tetrachloroethane	ug/L	ND	5	
,3-Trichloropropane	ug/L	ND	5	
ns-1,4-Dichloro-2-Butene	ug/L	ND	5	
-Dichlorobenzene	ug/L	ND	5	
-Dichlorobenzene	ug/L	ND	5	
-Dibromo-3-Chloropropane	ug/L	ND	5	
romofluoromethane (S)	%	101		
-Dichloroethane-d4 (S)	%	102		
uene-d8 (S)	%	98		
romofluorobenzene (S)	%	96		

ORATORY CONTROL SAMPLE: 92202902

ameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
loromethane	ug/L	50	44.00	88.0	
yl Chloride	ug/L	50	42.00	84.0	
omomethane	ug/L	50	68.00	136	
loroethane	ug/L	50	48.00	96.0	
ichlorofluoromethane	ug/L	50	47.00	94.0	

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QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

ORATORY CONTROL SAMPLE: 92202902

ameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
tone	ug/L	100	65.00	65.0	
-Dichloroethene	ug/L	50	51.00	102	
omethane	ug/L	100	115.0	115	
ylonitrile	ug/L	500	401.0	80.2	
hylene Chloride	ug/L	50	48.00	96.0	
bon Disulfide	ug/L	100	99.00	99.0	
ns-1,2-Dichloroethene	ug/L	50	54.00	108	
-Dichloroethane	ug/L	50	50.00	100	
yl Acetate	ug/L	100	67.00	67.0	
utanone	ug/L	100	74.00	74.0	
-1,2-Dichloroethene	ug/L	50	51.00	102	
oroform	ug/L	50	52.00	104	
mochloromethane	ug/L	50	44.00	88.0	
,1-Trichloroethane	ug/L	50	53.00	106	
-Dichloroethane	ug/L	50	50.00	100	
bon Tetrachloride	ug/L	50	56.00	112	
zene	ug/L	50	49.00	98.0	
chloroethene	ug/L	50	50.00	100	
-Dichloropropane	ug/L	50	49.00	98.0	
romomethane	ug/L	50	46.00	92.0	
modichloromethane	ug/L	50	52.00	104	
lethyl-2-Pentanone	ug/L	100	77.00	77.0	
-1,3-Dichloropropene	ug/L	50	47.00	94.0	
uene	ug/L	50	48.00	96.0	
ns-1,3-Dichloropropene	ug/L	50	48.00	96.0	
,2-Trichloroethane	ug/L	50	45.00	90.0	
lexanone	ug/L	100	71.00	71.0	
romochloromethane	ug/L	50	47.00	94.0	
rachloroethene	ug/L	50	46.00	92.0	
-Dibromoethane	ug/L	50	47.00	94.0	
lorobenzene	ug/L	50	49.00	98.0	
,1,2-Tetrachloroethane	ug/L	50	52.00	104	
ylbenzene	ug/L	50	48.00	96.0	
-Xylene	ug/L	100	98.00	98.0	
yrene	ug/L	50	48.00	96.0	
Xylene (1,2-Dimethylbenzene)	ug/L	50	49.00	98.0	
omoform	ug/L	50	44.00	88.0	
1,2,2-Tetrachloroethane	ug/L	50	45.00	90.0	
2,3-Trichloropropane	ug/L	50	44.00	88.0	
ans-1,4-Dichloro-2-Butene	ug/L	50	45.00	90.0	
4-Dichlorobenzene	ug/L	50	49.00	98.0	

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QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

ORATORY CONTROL SAMPLE: 92202902

ameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
-Dichlorobenzene	ug/L	50	47.00	94.0	
-Dibromo-3-Chloropropane	ug/L	50	42.00	84.0	
romofluoromethane (S)				99	
-Dichloroethane-d4 (S)				97	
uene-d8 (S)				94	
romofluorobenzene (S)				94	

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QUALITY CONTROL DATA

DATE: 11/23/98

Engineering
South Tryon Street
te 1400
rlotte, NC 28202

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

n: Mr. John Isham
ne: (704)338-1800

Batch ID: 5631
lysis Method: EPA 8260
ociated Pace Samples: 92191469 92191527 92191535

QC Batch Method: EPA 8260
Analysis Description: GC/MS VOCs by 8260

HOD BLANK: 92205079
ociated Pace Samples:

ameter	Units	92191469 92191527 92191535 Method Blank Result	PRL	Footnotes
oromethane	ug/L	ND	10	
yl Chloride	ug/L	ND	10	
momethane	ug/L	ND	10	
oroethane	ug/L	ND	10	
chlorofluoromethane	ug/L	ND	10	
tone	ug/L	ND	100	
-Dichloroethene	ug/L	ND	5	
lomethane	ug/L	ND	5	
ylonitrile	ug/L	ND	100	
hylene Chloride	ug/L	ND	5	
bon Disulfide	ug/L	ND	5	
ns-1,2-Dichloroethene	ug/L	ND	5	
-Dichloroethane	ug/L	ND	5	
yl Acetate	ug/L	ND	50	
utanone	ug/L	ND	100	
s-1,2-Dichloroethene	ug/L	ND	5	
loroform	ug/L	ND	5	
omochloromethane	ug/L	ND	5	
1,1-Trichloroethane	ug/L	ND	5	
2-Dichloroethane	ug/L	ND	5	
bon Tetrachloride	ug/L	ND	5	
nzene	ug/L	ND	5	
ichloroethene	ug/L	ND	5	
2-Dichloropropane	ug/L	ND	5	
romomethane	ug/L	ND	5	

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QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

THOD BLANK: 92205079
sociated Pace Samples:

rameter	Units	92191469 Method Blank Result	92191527 PRL	92191535 Footnotes
omodichloromethane	ug/L	ND	5	
Methyl-2-Pentanone	ug/L	ND	50	
s-1,3-Dichloropropene	ug/L	ND	5	
luene	ug/L	ND	5	
ans-1,3-Dichloropropene	ug/L	ND	5	
1,2-Trichloroethane	ug/L	ND	5	
Hexanone	ug/L	ND	50	
bromochloromethane	ug/L	ND	5	
trachloroethene	ug/L	ND	5	
2-Dibromoethane	ug/L	ND	5	
lorobenzene	ug/L	ND	5	
1,1,2-Tetrachloroethane	ug/L	ND	5	
hylbenzene	ug/L	ND	5	
p-Xylene	ug/L	ND	10	
yrene	ug/L	ND	5	
Xylene (1,2-Dimethylbenzene)	ug/L	ND	5	
omoform	ug/L	ND	5	
1,2,2-Tetrachloroethane	ug/L	ND	5	
2,3-Trichloropropane	ug/L	ND	5	
ans-1,4-Dichloro-2-Butene	ug/L	ND	5	
4-Dichlorobenzene	ug/L	ND	5	
2-Dichlorobenzene	ug/L	ND	5	
2-Dibromo-3-Chloropropane	ug/L	ND	5	
bromofluoromethane (S)	%	105		
2-Dichloroethane-d4 (S)	%	108		
luene-d8 (S)	%	96		
Bromofluorobenzene (S)	%	96		

TRIX SPIKE & MATRIX SPIKE DUPLICATE: 92205095 92205103

rameter	Units	92191469	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
1-Dichloroethene	ug/L	0	50	55.00	110	53.00	106	4	
enzene	ug/L	0	50	50.00	100	50.00	100	0	
ichloroethene	ug/L	0	50	51.00	102	51.00	102	0	
luene	ug/L	0	50	50.00	100	49.00	98.0	2	
lorobenzene	ug/L	0	50	50.00	100	48.00	96.0	4	

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

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs
KY Drinking Water 90090
TN UST List
VA Drinking Water 213

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QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

TRIX SPIKE & MATRIX SPIKE DUPLICATE: 92205095 92205103

·ameter	Units	92191469	Spike Conc.	Matrix Spike Result	Spike % Rec	Matrix Sp. Dup. Result	Spike Dup % Rec	RPD	Footnotes
›romofluoromethane (S)					104		103		
?-Dichloroethane-d4 (S)					101		100		
luene-d8 (S)					94		96		
3romofluorobenzene (S)					94		93		

3ORATORY CONTROL SAMPLE: 92205087

·ameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
loromethane	ug/L	50	45.00	90.0	
nyl Chloride	ug/L	50	44.00	88.0	
›omomethane	ug/L	50	66.00	132	
loroethane	ug/L	50	50.00	100	
ichlorofluoromethane	ug/L	50	49.00	98.0	
etone	ug/L	100	121.0	121	
1-Dichloroethene	ug/L	50	54.00	108	
domethane	ug/L	100	123.0	123	
rylonitrile	ug/L	500	559.0	112	
thylene Chloride	ug/L	50	48.00	96.0	
rbon Disulfide	ug/L	100	103.0	103	
ans-1,2-Dichloroethene	ug/L	50	56.00	112	
1-Dichloroethane	ug/L	50	52.00	104	
nyl Acetate	ug/L	100	76.00	76.0	
Butanone	ug/L	100	121.0	121	
s-1,2-Dichloroethene	ug/L	50	55.00	110	
loroform	ug/L	50	56.00	112	
omochloromethane	ug/L	50	49.00	98.0	
1,1-Trichloroethane	ug/L	50	55.00	110	
2-Dichloroethane	ug/L	50	56.00	112	
rbon Tetrachloride	ug/L	50	59.00	118	
·nzene	ug/L	50	50.00	100	
·ichloroethene	ug/L	50	51.00	102	
2-Dichloropropane	ug/L	50	52.00	104	
bromomethane	ug/L	50	51.00	102	
·omodichloromethane	ug/L	50	55.00	110	
Methyl-2-Pentanone	ug/L	100	115.0	115	
s-1,3-Dichloropropene	ug/L	50	50.00	100	
›luene	ug/L	50	49.00	98.0	
·ans-1,3-Dichloropropene	ug/L	50	53.00	106	
1,2-Trichloroethane	ug/L	50	49.00	98.0	

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QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

ORATORY CONTROL SAMPLE: 92205087

ameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
lexanone	ug/L	100	110.0	110	
romochloromethane	ug/L	50	53.00	106	
rachloroethene	ug/L	50	47.00	94.0	
-Dibromoethane	ug/L	50	54.00	108	
orobenzene	ug/L	50	49.00	98.0	
,1,2-Tetrachloroethane	ug/L	50	54.00	108	
ylbenzene	ug/L	50	49.00	98.0	
-Xylene	ug/L	100	100.0	100	
rene	ug/L	50	49.00	98.0	
ylene (1,2-Dimethylbenzene)	ug/L	50	50.00	100	
moform	ug/L	50	53.00	106	
,2,2-Tetrachloroethane	ug/L	50	53.00	106	
,3-Trichloropropane	ug/L	50	57.00	114	
ns-1,4-Dichloro-2-Butene	ug/L	50	47.00	94.0	
-Dichlorobenzene	ug/L	50	50.00	100	
-Dichlorobenzene	ug/L	50	48.00	96.0	
-Dibromo-3-Chloropropane	ug/L	50	60.00	120	
romofluoromethane (S)				102	
-Dichloroethane-d4 (S)				104	
luene-d8 (S)				93	
romofluorobenzene (S)				91	

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QUALITY CONTROL DATA

. Engineering
; South Tryon Street
te 1400
.rlotte, NC 28202

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

:n: Mr. John Isham
ıne: (704)338-1800

Batch ID: 5632
ılysis Method: EPA 8260
;ociated Pace Samples: 92191485 92191493 92191501 92191519

QC Batch Method: EPA 8260
Analysis Description: GC/MS VOCs by 8260

'HOD BLANK: 92205111
;ociated Pace Samples:

	92191485	92191493	92191501	92191519
		Method Blank		
'ameter	Units	Result	PRL	Footnotes
loromethane	ug/L	ND	10	
ıyl Chloride	ug/L	ND	10	
ɔmomethane	ug/L	ND	10	
loroethane	ug/L	ND	10	
ichlorofluoromethane	ug/L	ND	10	
ɜtone	ug/L	ND	100	
1-Dichloroethene	ug/L	ND	5	
lomethane	ug/L	ND	5	
rylonitrile	ug/L	ND	100	
thylene Chloride	ug/L	ND	5	
rbon Disulfide	ug/L	ND	5	
ans-1,2-Dichloroethene	ug/L	ND	5	
1-Dichloroethane	ug/L	ND	5	
nyl Acetate	ug/L	ND	50	
Butanone	ug/L	ND	100	
s-1,2-Dichloroethene	ug/L	ND	5	
loroform	ug/L	ND	5	
omochloromethane	ug/L	ND	5	
1,1-Trichloroethane	ug/L	ND	5	
2-Dichloroethane	ug/L	ND	5	
rbon Tetrachloride	ug/L	ND	5	
nzene	ug/L	ND	5	
ichloroethene	ug/L	ND	5	
2-Dichloropropane	ug/L	ND	5	
bromomethane	ug/L	ND	5	

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QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

HOD BLANK: 92205111
ociated Pace Samples:

	92191485	92191493	92191501	92191519

ameter	Units	Method Blank Result	PRL	Footnotes
modichloromethane	ug/L	ND	5	
lethyl-2-Pentanone	ug/L	ND	50	
-1,3-Dichloropropene	ug/L	ND	5	
uene	ug/L	ND	5	
ns-1,3-Dichloropropene	ug/L	ND	5	
,2-Trichloroethane	ug/L	ND	5	
lexanone	ug/L	ND	50	
romochloromethane	ug/L	ND	5	
rachloroethene	ug/L	ND	5	
-Dibromoethane	ug/L	ND	5	
lorobenzene	ug/L	ND	5	
,1,2-Tetrachloroethane	ug/L	ND	5	
ylbenzene	ug/L	ND	5	
-Xylene	ug/L	ND	10	
rene	ug/L	ND	5	
(ylene (1,2-Dimethylbenzene)	ug/L	ND	5	
moform	ug/L	ND	5	
,2,2-Tetrachloroethane	ug/L	ND	5	
2,3-Trichloropropane	ug/L	ND	5	
ans-1,4-Dichloro-2-Butene	ug/L	ND	5	
4-Dichlorobenzene	ug/L	ND	5	
2-Dichlorobenzene	ug/L	ND	5	
2-Dibromo-3-Chloropropane	ug/L	ND	5	
bromofluoromethane (S)	%	108		
2-Dichloroethane-d4 (S)	%	113		
luene-d8 (S)	%	97		
Bromofluorobenzene (S)	%	96		

BORATORY CONTROL SAMPLE: 92205129

rameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
loromethane	ug/L	50	46.00	92.0	
nyl Chloride	ug/L	50	44.00	88.0	
omomethane	ug/L	50	71.00	142	
loroethane	ug/L	50	52.00	104	
ichlorofluoromethane	ug/L	50	49.00	98.0	

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QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

BORATORY CONTROL SAMPLE: 92205129

rameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
etone	ug/L	100	127.0	127	
1-Dichloroethene	ug/L	50	54.00	108	
domethane	ug/L	100	108.0	108	
rylonitrile	ug/L	500	559.0	112	
thylene Chloride	ug/L	50	54.00	108	
rbon Disulfide	ug/L	100	103.0	103	
ans-1,2-Dichloroethene	ug/L	50	57.00	114	
1-Dichloroethane	ug/L	50	54.00	108	
nyl Acetate	ug/L	100	80.00	80.0	
Butanone	ug/L	100	119.0	119	
s-1,2-Dichloroethene	ug/L	50	56.00	112	
loroform	ug/L	50	57.00	114	
omochloromethane	ug/L	50	48.00	96.0	
1,1-Trichloroethane	ug/L	50	57.00	114	
2-Dichloroethane	ug/L	50	58.00	116	
rbon Tetrachloride	ug/L	50	59.00	118	
nzene	ug/L	50	51.00	102	
ichloroethene	ug/L	50	50.00	100	
2-Dichloropropane	ug/L	50	52.00	104	
bromomethane	ug/L	50	50.00	100	
omodichloromethane	ug/L	50	55.00	110	
Methyl-2-Pentanone	ug/L	100	112.0	112	
s-1,3-Dichloropropene	ug/L	50	48.00	96.0	
luene	ug/L	50	49.00	98.0	
ans-1,3-Dichloropropene	ug/L	50	52.00	104	
1,2-Trichloroethane	ug/L	50	51.00	102	
Hexanone	ug/L	100	106.0	106	
ibromochloromethane	ug/L	50	53.00	106	
etrachloroethene	ug/L	50	46.00	92.0	
2-Dibromoethane	ug/L	50	54.00	108	
lorobenzene	ug/L	50	49.00	98.0	
1,1,2-Tetrachloroethane	ug/L	50	54.00	108	
hylbenzene	ug/L	50	48.00	96.0	
&p-Xylene	ug/L	100	99.00	99.0	
tyrene	ug/L	50	48.00	96.0	
Xylene (1,2-Dimethylbenzene)	ug/L	50	50.00	100	
omoform	ug/L	50	53.00	106	
1,2,2-Tetrachloroethane	ug/L	50	53.00	106	
2,3-Trichloropropane	ug/L	50	57.00	114	
ans-1,4-Dichloro-2-Butene	ug/L	50	49.00	98.0	
4-Dichlorobenzene	ug/L	50	50.00	100	

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Tel: 704-875-9092
Fax: 704-875-9091

Pace Analytical

QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

ORATORY CONTROL SAMPLE: 92205129

·ameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
!-Dichlorobenzene	ug/L	50	50.00	100	
!-Dibromo-3-Chloropropane	ug/L	50	61.00	122	
romofluoromethane (S)				103	
!-Dichloroethane-d4 (S)				106	
uene-d8 (S)				93	
romofluorobenzene (S)				92	

IPLE DUPLICATE: 92205137

·ameter	Units	92195106	Dup. Result	RPD	Footnotes
loromethane	ug/L	ND	ND	NC	
ıyl Chloride	ug/L	ND	ND	NC	
omomethane	ug/L	ND	ND	NC	
loroethane	ug/L	ND	ND	NC	
ichlorofluoromethane	ug/L	ND	ND	NC	
etone	ug/L	ND	ND	NC	
1-Dichloroethene	ug/L	ND	ND	NC	
domethane	ug/L	ND	ND	NC	
rylonitrile	ug/L	ND	ND	NC	
thylene Chloride	ug/L	ND	ND	NC	
rbon Disulfide	ug/L	ND	ND	NC	
ans-1,2-Dichloroethene	ug/L	ND	ND	NC	
1-Dichloroethane	ug/L	ND	ND	NC	
nyl Acetate	ug/L	ND	ND	NC	
Butanone	ug/L	ND	ND	NC	
s-1,2-Dichloroethene	ug/L	ND	ND	NC	
loroform	ug/L	ND	ND	NC	
omochloromethane	ug/L	ND	ND	NC	
1,1-Trichloroethane	ug/L	ND	ND	NC	
2-Dichloroethane	ug/L	ND	ND	NC	
rbon Tetrachloride	ug/L	ND	ND	NC	
nzene	ug/L	ND	ND	NC	
ichloroethene	ug/L	ND	ND	NC	
2-Dichloropropane	ug/L	ND	ND	NC	
bromomethane	ug/L	ND	ND	NC	
omodichloromethane	ug/L	ND	ND	NC	
Methyl-2-Pentanone	ug/L	ND	ND	NC	
s-1,3-Dichloropropene	ug/L	ND	ND	NC	
luene	ug/L	ND	ND	NC	

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QUALITY CONTROL DATA

Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

MPLE DUPLICATE: 92205137

·ameter	Units	92195106	Dup. Result	RPD	Footnotes
ans-1,3-Dichloropropene	ug/L	ND	ND	NC	
L,2-Trichloroethane	ug/L	ND	ND	NC	
lexanone	ug/L	ND	ND	NC	
romochloromethane	ug/L	ND	ND	NC	
trachloroethene	ug/L	ND	ND	NC	
2-Dibromoethane	ug/L	ND	ND	NC	
lorobenzene	ug/L	ND	ND	NC	
L,1,2-Tetrachloroethane	ug/L	ND	ND	NC	
ylbenzene	ug/L	ND	ND	NC	
p-Xylene	ug/L	ND	ND	NC	
yrene	ug/L	ND	ND	NC	
Xylene (1,2-Dimethylbenzene)	ug/L	ND	ND	NC	
omoform	ug/L	ND	ND	NC	
1,2,2-Tetrachloroethane	ug/L	ND	ND	NC	
2,3-Trichloropropane	ug/L	ND	ND	NC	
ans-1,4-Dichloro-2-Butene	ug/L	ND	ND	NC	
4-Dichlorobenzene	ug/L	ND	ND	NC	
2-Dichlorobenzene	ug/L	ND	ND	NC	
2-Dibromo-3-Chloropropane	ug/L	ND	ND	NC	
bromofluoromethane (S)	%	108	107	0	
2-Dichloroethane-d4 (S)	%	104	105	0	
luene-d8 (S)	%	96	94	0	
Bromofluorobenzene (S)	%	96	95	0	

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Pace Project Number: 922704
Client Project ID: W-S C&D Landfill

JALITY CONTROL DATA PARAMETER FOOTNOTES

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

)	Not Detected
:	Not Calculable
RL	Pace Reporting Limit
PD	Relative Percent Difference
S)	Surrogate
1]	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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HDR
Suite 1400
128 S. Tryon Street
Charlotte, NC 28202-5001
704 338-6700
HDR Engineering, Inc.

Chain of Custody Record

9 22704

Project No.: 00162-090-012
Project Name: WINSTON-SALEM C&D LANDFILL
Parameters: ☐ Environmental ☒ Hazardous: ☒ Low ☐ Med ☐ High
Samplers: (Signature) John R Isham (Printed) JOHN R ISHAM
Lab: Address: PACE ANALYTICAL, 9800 KINCEY AVE, STE 100, HUNTERSVILLE, NC 28078

Field Sample Number	Date	Time	Comp.	GRAB	Station Location	No. of Containers	APPENDIX I VOCs	RCRA METALS	RES-CL-X				Remarks
MW-1R	11/5	1445		X	BACKGROUND WELL	6	4	1	1				191436
MW-2R	11/5	1535		X	MONITORING WELL	6	4	1	1				191451
MW-3	11/5	1700		X		6	4	1	1				191469
MW-4R	11/6	1040		X		6	4	1	1				191485
MW-5R	11/6	1130		X		6	4	1	1				191493
MW-6	11/5	1615		X		6	4	1	1				191501
MW-7	11/6	955		X		6	4	1	1				191519
TRIP BLANK					COOLER		X						191535
EQUIP BLANK	11/5			X	BAILER	6	4	1	1				191527

Relinquished By: (Signature)	Date	Time	Received By: (Signature)	Relinquished By: (Signature)	Date	Time	Received By: (Signature)
John R Isham	11/6	1300					
(Printed) JOHN R ISHAM	HDR		(Printed)	(Printed)			(Printed)

Relinquished By: (Signature)	Date	Time	Received for Laboratory By: (Signature)	Date	Time	Results to:
						AS ABOVE
(Printed)			(Printed)			

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).

PRE-SAMPLING
WELL PURGING

PROJECT WINSTON-SALEM C&D

WELL NUMBER MW-1R

WELL INSIDE DIAMETER 2 INCHES

DEPTH OF BOTTOM 62.30 FEET

LENGTH OF GRAVEL PACK – FEET

DIAMETER OF GRAVEL PACK – INCHES

PROJECT NUMBER 00162-090-018

DATE 11/5/98 PAGE 1 OF 1

AIR TEMPERATURE (FAHRENHEIT) 55

WEATHER CONDITIONS PT SUNNY, COOL

HNU/OVA READING NA

METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED

TEFLON BAILER

WITHDRAWAL OF WELL VOLUMES

FLUSHING	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
WATER LEVEL BEFORE	37.50				
WATER LEVEL AFTER	NA				
TIME BEGIN FLUSHING	1400				
TIME END FLUSHING	1440				
ESTIMATED VOLUME FLUSHING (gal)	0	3	6	9	13
WELL VOLUMES REMOVED	0	0.74	1.49	2.23	3.22

FIELD ANALYSIS					
WATER TEMPERATURE (°C)	15.7	16.0	16.0	15.2	15.0
SAMPLE (pH)	5.98	5.96	5.95	5.94	5.94
SAMPLE CONDUCTIVITY (umhos/cm)	120	140	140	140	140
BUFFER BEFORE	4	4	4	4	4
BUFFER AFTER	4	4	4	4	4
ODOR	NONE	NONE	NONE	NONE	NONE
COLOR	CLEAR	CLEAR	CLEAR	CLEAR	CLOUDY
OTHER					

COMMENTS

SAMPLED: 1445

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 = 1.0 IN/12 = 0.0833 FT

h = 62.30 (WELL DEPTH) – 37.50 (DEPTH TO WATER) = 24.80 FT

3.14 X 0.0833 (r^2) X h = 0.540 FT^3 X 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 4.04

WELLPURG.DWG

PRE-SAMPLING
WELL PURGING

PROJECT WINSTON-SALEM C&D

WELL NUMBER MW-2

WELL INSIDE DIAMETER 2 INCHES

DEPTH OF BOTTOM 24.80 FEET

LENGTH OF GRAVEL PACK — FEET

DIAMETER OF GRAVEL PACK — INCHES

PROJECT NUMBER 00162-090-018

DATE 11/5/98 PAGE 1 OF 1

AIR TEMPERATURE (FAHRENHEIT) 40

WEATHER CONDITIONS PT SUNNY, COOL

HNU/OVA READING NA

METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
TEFLON BAILER

WITHDRAWAL OF WELL VOLUMES

	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
FLUSHING					
WATER LEVEL BEFORE	10.30				
WATER LEVEL AFTER	NA				
TIME BEGIN FLUSHING	1515				
TIME END FLUSHING	1530				
ESTIMATED VOLUME FLUSHING (gal)	0	2	4	6	8
WELL VOLUMES REMOVED	0	0.85	1.69	2.54	3.39
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	15.0	14.5	15.3	15.2	15.2
SAMPLE (pH)	5.93	5.80	5.79	5.80	5.81
SAMPLE CONDUCTIVITY (umhos/cm)	88	95	100	99	98
BUFFER BEFORE	4	4	4	4	4
BUFFER AFTER	4	4	4	4	4
ODOR	NONE	FAINT	FAINT	FAINT	FAINT
COLOR	CLEAR	LT. BROWN	LT. BROWN	SAME	SAME
OTHER		SL. TURBID	TURBID	SAME	SAME

COMMENTS

SAMPLED: 1535

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 = 1.0 IN/12 = 0.0833 FT

h = 24.80 (WELL DEPTH) − 10.30 (DEPTH TO WATER) = 14.50 FT

3.14 X 0.0833 (r^2) X h = 0.316 FT^3 X 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 2.36

WELLPURG.DWG

PRE-SAMPLING
WELL PURGING

PROJECT WINSTON-SALEM C.D

WELL NUMBER MW-3

WELL INSIDE DIAMETER 2 INCHES

DEPTH OF BOTTOM 43.90 FEET

LENGTH OF GRAVEL PACK — FEET

DIAMETER OF GRAVEL PACK — INCHES

PROJECT NUMBER 00162-090-018

DATE 11/5/98 PAGE 1 OF 1

AIR TEMPERATURE (FAHRENHEIT) 55

WEATHER CONDITIONS SUNNY, COOL

HNU/OVA READING NA

METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
TEFLON BAILER

WITHDRAWAL OF WELL VOLUMES

	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
FLUSHING					
WATER LEVEL BEFORE	36.95				
WATER LEVEL AFTER	NA				
TIME BEGIN FLUSHING	1640				
TIME END FLUSHING	1655				
ESTIMATED VOLUME FLUSHING (gal)	0	1	2	3	4
WELL VOLUMES REMOVED	0	0.88	1.77	2.65	3.54
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	13.4	13.9	14.0	13.9	13.9
SAMPLE (pH)	5.45	5.42	5.41	5.41	5.42
SAMPLE CONDUCTIVITY (umhos/cm)	120	140	140	140	140
BUFFER BEFORE	4	4	4	4	4
BUFFER AFTER	4	4	4	4	4
ODOR	NONE	NONE	NONE	NONE	NONE
COLOR	LT. BROWN	BROWN	BROWN	BROWN	BROWN
OTHER	SL. TURBID	TURBID	SAME	SAME	SAME

COMMENTS

SAMPLED : 1700

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 = 1.0 IN/12 = 0.0833 FT

h = 43.90 (WELL DEPTH) − 36.95 (DEPTH TO WATER) = 6.95 FT

3.14 × 0.0833 (r^2) × h = 0.151 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 1.13

WELLPURG.DWG

PRE-SAMPLING
WELL PURGING

PROJECT WINSTON-SALEM CCD
WELL NUMBER MW-4R
WELL INSIDE DIAMETER 2 INCHES
DEPTH OF BOTTOM 22.25 FEET
LENGTH OF GRAVEL PACK — FEET
DIAMETER OF GRAVEL PACK — INCHES

PROJECT NUMBER 00162-090-018
DATE 11/6/98 PAGE 1 OF 1
AIR TEMPERATURE (FAHRENHEIT) 58
WEATHER CONDITIONS SUNNY, COOL
HNU/OVA READING NA
METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
TEFLON BAILER

WITHDRAWAL OF WELL VOLUMES

	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
FLUSHING					
WATER LEVEL BEFORE	8.77				
WATER LEVEL AFTER	NA				
TIME BEGIN FLUSHING	1015				
TIME END FLUSHING	1035				
ESTIMATED VOLUME FLUSHING (gal)	0	2	4	7	
WELL VOLUMES REMOVED	0	0.91	1.82	3.18	
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	15.5	16.2	16.2	16.2	
SAMPLE (pH)	5.49	5.52	5.54	5.53	
SAMPLE CONDUCTIVITY (umhos/cm)	220	240	240	240	
BUFFER BEFORE	4	4	4	4	
BUFFER AFTER	4	4	4	4	
ODOR	NONE	NONE	NONE	NONE	
COLOR	YELLOW-ORANGE	BROWN	BROWN	BROWN	
OTHER	IRON BACT	TURBID	TURBID	TURBID	

COMMENTS

SAMPLED: 1040

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 = 1.0 IN/12 = 0.0833 FT
h = 22.25 (WELL DEPTH) − 8.77 (DEPTH TO WATER) = 13.48 FT
3.14 × 0.0833 (r^2) × h = 0.294 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 2.20

WELLPURG.DWG

PRE-SAMPLING
WELL PURGING

PROJECT WINSTON-SALEM C&D

WELL NUMBER MW-5R

WELL INSIDE DIAMETER 2 INCHES

DEPTH OF BOTTOM 32.10 FEET

LENGTH OF GRAVEL PACK — FEET

DIAMETER OF GRAVEL PACK — INCHES

PROJECT NUMBER 00162-090-018

DATE 11/6/98 PAGE 1 OF 1

AIR TEMPERATURE (FAHRENHEIT) 53

WEATHER CONDITIONS SUNNY, BREEZY

HNU/OVA READING NA

METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
TEFLON BAILER

WITHDRAWAL OF WELL VOLUMES

	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
FLUSHING					
WATER LEVEL BEFORE	11.89				
WATER LEVEL AFTER	NA				
TIME BEGIN FLUSHING	1055				
TIME END FLUSHING	1125				
ESTIMATED VOLUME FLUSHING (gal)	0	2	4	8	10
WELL VOLUMES REMOVED	0	0.61	1.22	2.43	3.04
FIELD ANALYSIS					
WATER TEMPERATURE (°C)	15.7	15.1	15.0	15.0	15.0
SAMPLE (pH)	5.85	5.85	5.85	5.86	5.87
SAMPLE CONDUCTIVITY (umhos/cm)	200	220	220	220	220
BUFFER BEFORE	4	4	4	4	4
BUFFER AFTER	4	4	4	4	4
ODOR	NONE	NONE	NONE	NONE	NONE
COLOR	CLEAR	LT. BROWN	SAME	SAME	SAME
OTHER		CLOUDY	TURBID	TURBID	TURBID

COMMENTS

SAMPLED: 1130

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 = 1.0 IN/12 = 0.0833 FT

h = 32.10 (WELL DEPTH) − 11.89 (DEPTH TO WATER) = 20.21 FT

3.14 × 0.0833 (r^2) × h = 0.440 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 3.29

WELLPURG.DWG

PRE-SAMPLING
WELL PURGING

PROJECT WINSTON-SALEM CID

WELL NUMBER MW-6

WELL INSIDE DIAMETER 2 INCHES

DEPTH OF BOTTOM 61.50 FEET

LENGTH OF GRAVEL PACK — FEET

DIAMETER OF GRAVEL PACK — INCHES

PROJECT NUMBER 00162-090-018

DATE 11/5/98 PAGE 1 OF 1

AIR TEMPERATURE (FAHRENHEIT) 55

WEATHER CONDITIONS PT cloudy, cool

HNU/OVA READING NA

METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED

TEFLON BAILER

WITHDRAWAL OF WELL VOLUMES

FLUSHING	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
WATER LEVEL BEFORE	48.62				
WATER LEVEL AFTER	NA				
TIME BEGIN FLUSHING	1545				
TIME END FLUSHING	1610				
ESTIMATED VOLUME FLUSHING (gal)	0	2	4	7	
WELL VOLUMES REMOVED	0	0.95	1.90	3.33	

FIELD ANALYSIS					
WATER TEMPERATURE (°C)	14.2	14.4	14.2	14.1	
SAMPLE (pH)	5.75	5.59	5.58	5.57	
SAMPLE CONDUCTIVITY (umhos/cm)	95	95	95	95	
BUFFER BEFORE	4	4	4	4	
BUFFER AFTER	4	4	4	4	
ODOR	NONE	NONE	NONE	NONE	
COLOR	CLEAR	LT. BROWN	BROWN	SAME	
OTHER		SL. TURBID	TURBID	TURBID	

COMMENTS

SAMPLES: 1615

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 = 1.0 IN/12 = 0.0833 FT

h = 61.50 (WELL DEPTH) − 48.62 (DEPTH TO WATER) = 12.88 FT

3.14 × 0.0833 (r^2) × h = 0.281 FT^3 × 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 2.10

WELLPURG.DWG

PRE-SAMPLING
WELL PURGING

PROJECT WINSTON-SALEM CED

WELL NUMBER MW-7

WELL INSIDE DIAMETER 2 INCHES

DEPTH OF BOTTOM 47.10 FEET

LENGTH OF GRAVEL PACK — FEET

DIAMETER OF GRAVEL PACK — INCHES

PROJECT NUMBER 00162-090-018

DATE 11/6/98 PAGE 1 OF 1

AIR TEMPERATURE (FAHRENHEIT) 50

WEATHER CONDITIONS SUNNY, COOL

HNU/OVA READING NA

METHOD OF EVACUATION AND TYPE OF EQUIPMENT USED
TEFLON BAILER

WITHDRAWAL OF WELL VOLUMES

FLUSHING	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME	WELL VOLUME
WATER LEVEL BEFORE	35.50				
WATER LEVEL AFTER	NA				
TIME BEGIN FLUSHING	0920				
TIME END FLUSHING	0950				
ESTIMATED VOLUME FLUSHING (gal)	0	2	4	6	
WELL VOLUMES REMOVED	0	1.06	2.12	3.17	

FIELD ANALYSIS					
WATER TEMPERATURE (°C)	13.5	13.5	13.4	13.5	
SAMPLE (pH)	5.90	5.45	5.46	5.44	
SAMPLE CONDUCTIVITY (umhos/cm)	100	100	100	100	
BUFFER BEFORE	4	4	4	4	
BUFFER AFTER	4	4	4	4	
ODOR	NONE	NONE	NONE	NONE	
COLOR	CLEAR	BROWN	BROWN	BROWN	
OTHER		TURBID	TURBID	TURBID	

COMMENTS

SAMPLED: 0955

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

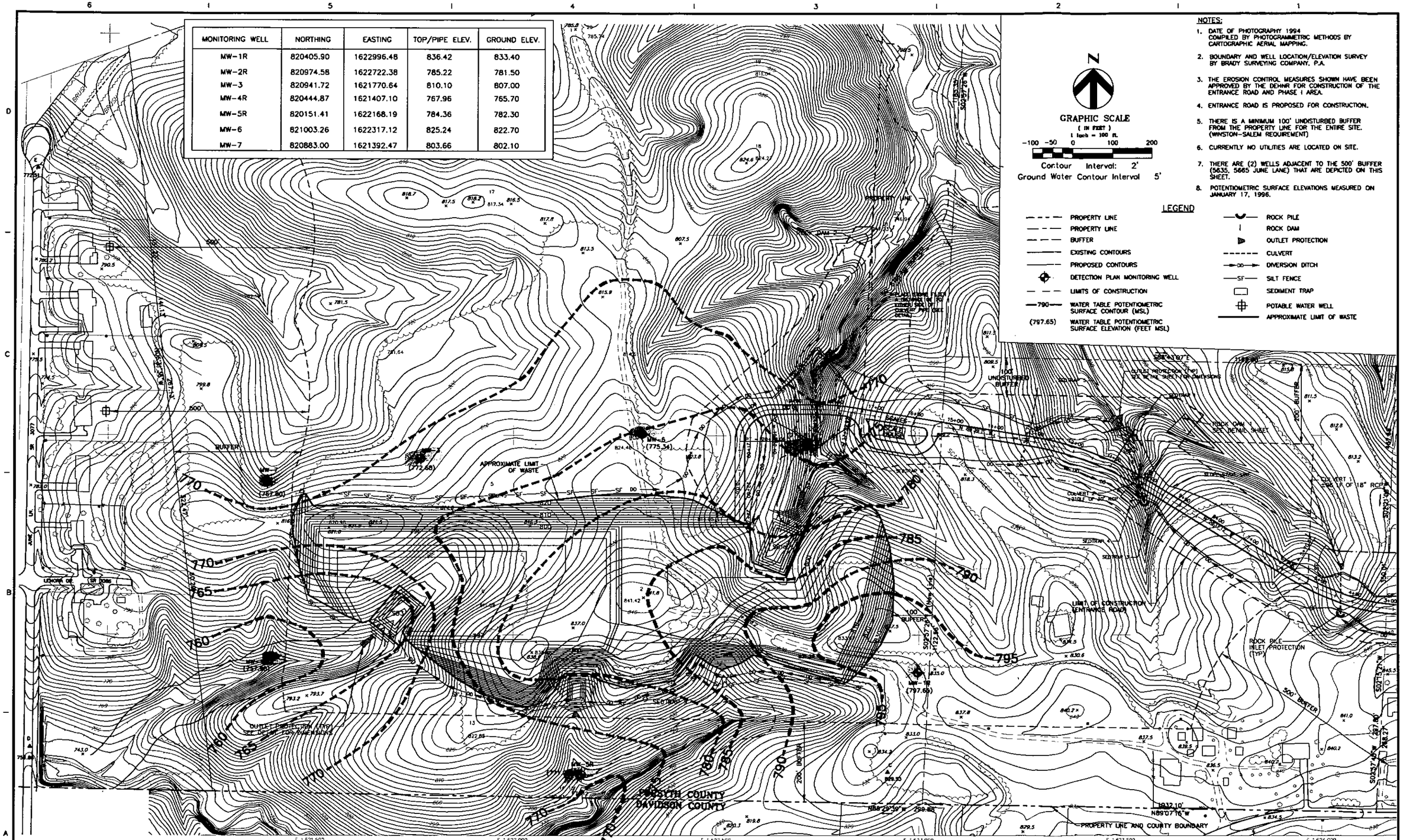
WELL RADIUS = 1.0 IN/12 = 0.0833 FT

h = 47.10 (WELL DEPTH) − 35.50 (DEPTH TO WATER) = 11.60 FT

3.14 x 0.0833 (r^2) X h = 0.253 FT^3 X 7.48 gal/FT^3 = 1 WELL VOLUME IN GAL = 1.89

WELLPURG.DWG

MONITORING WELL	NORTHING	EASTING	TOP/PIPE ELEV.	GROUND ELEV.
MW-1R	820405.90	1622996.48	836.42	833.40
MW-2R	820974.58	1622722.38	785.22	781.50
MW-3	820941.72	1621770.64	810.10	807.00
MW-4R	820444.87	1621407.10	767.96	765.70
MW-5R	820151.41	1622168.19	784.36	782.30
MW-6	821003.26	1622317.12	825.24	822.70
MW-7	820883.00	1621392.47	803.66	802.10



NOTES:

1. DATE OF PHOTOGRAPHY 1994 COMPILED BY PHOTOGRAMMETRIC METHODS BY CARTOGRAPHIC AERIAL MAPPING.
2. BOUNDARY AND WELL LOCATION/ELEVATION SURVEY BY BRADY SURVEYING COMPANY, P.A.
3. THE EROSION CONTROL MEASURES SHOWN HAVE BEEN APPROVED BY THE DEHNR FOR CONSTRUCTION OF THE ENTRANCE ROAD AND PHASE I AREA.
4. ENTRANCE ROAD IS PROPOSED FOR CONSTRUCTION.
5. THERE IS A MINIMUM 100' UNDISTURBED BUFFER FROM THE PROPERTY LINE FOR THE ENTIRE SITE. (WINSTON-SALEM REQUIREMENT)
6. CURRENTLY NO UTILITIES ARE LOCATED ON SITE.
7. THERE ARE (2) WELLS ADJACENT TO THE 500' BUFFER (5635, 5665 JUNE LANE) THAT ARE DEPICTED ON THIS SHEET.
8. POTENTIOMETRIC SURFACE ELEVATIONS MEASURED ON JANUARY 17, 1996.

HDR

HDR Engineering, Inc.

Issue No.	Description	Date	Drwn.	Chkd.	Resp. Engr.	Proj. Mgr.

Project Manager: J. READING, P.E.
Architect: –
MC/Process: –
Civil: –
Mechanical: –
Electrical: –
Structural: –
Drawn By: D. CURRY

OLD SALISBURY ROAD CONSTRUCTION & DEMOLITION LANDFILL GROUND-WATER MONITORING PLAN

WINSTON-SALEM NORTH CAROLINA

PHASE I GROUND-WATER MONITORING WELL LOCATIONS

Date	Project No.	Sheet No.	Issue
JANUARY 1996	00162-090-018	1	

Scale: 1" = 100'

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