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FINAL
2001 ANNUAL GROUNDWATER SAMPLING OF MONITORING WELLS LANDFILL CAPS FOR SITES 4 AND 5 AT NAVAL WEAPONS STATION-EARLE COLTS NECK, NEW JERSEY

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1.0 INTRODUCTION

Foster Wheeler Environmental Corporation (Foster Wheeler Environmental) has been contracted by the Engineering Field Activity, Northeast (EFANE) to perform 2001 annual groundwater sampling of monitoring wells located at Sites 4 and 5, at the Naval Weapons Station (NWS) Earle located in Colts Neck, NJ. This report is being submitted to satisfy the submittal requirements included in paragraph 1.2.1, Pre- and Post-Construction Documentation of the Statement of Services for Task Order No. 0013 under Remedial Action Contract No. N62472-99-D-0032. This report also contains the Classification Exception Areas (CEAs) for Sites 4 and 5.

2.0 SUMMARY OF ACTIVITES PERFORMED

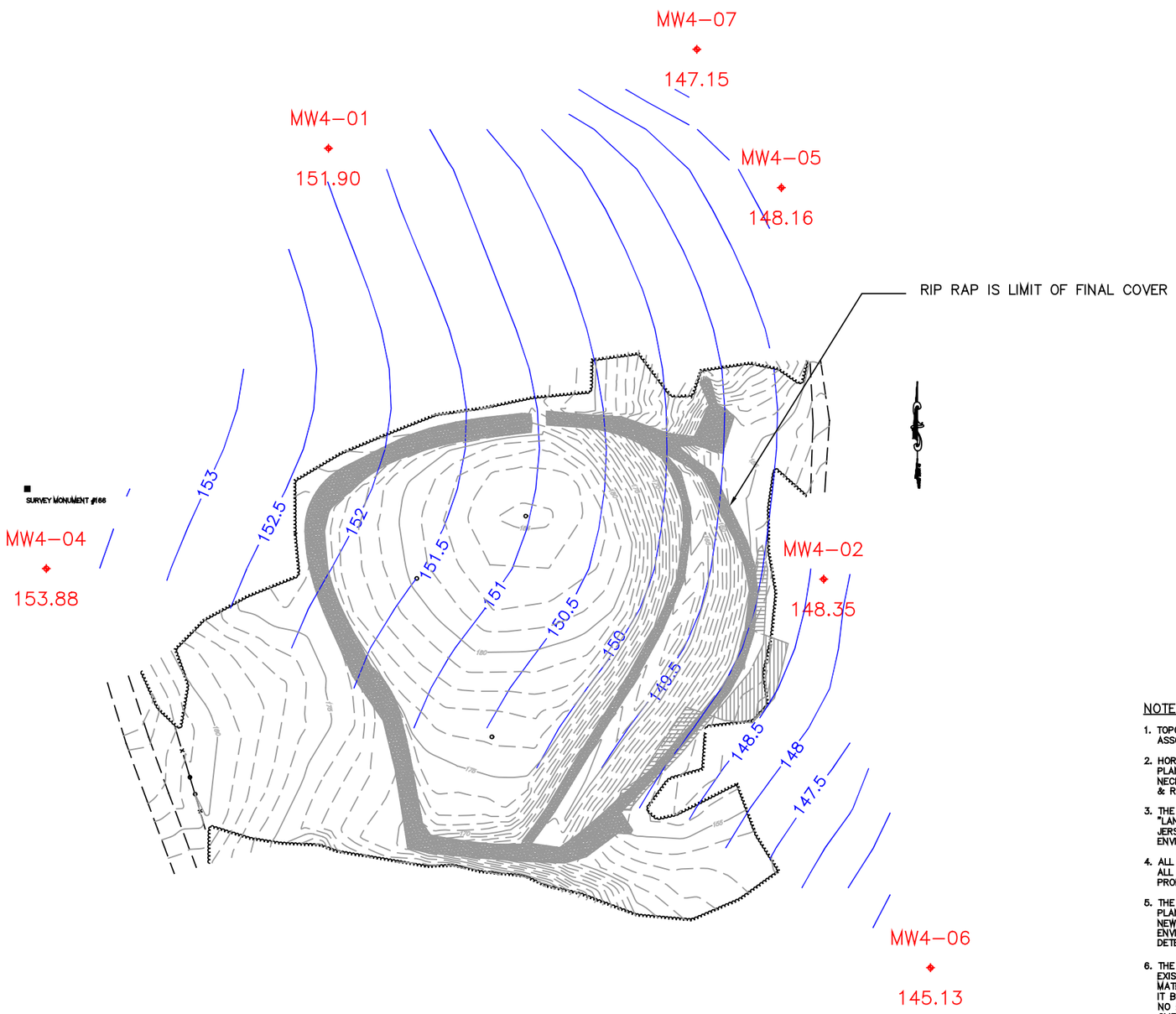
The 2001 annual groundwater sampling of monitoring wells was performed at Site 4 and 5 in accordance with the Operations and Maintenance (O&M) Manual for the Site 4 and Site 5 Landfills dated March 1999. As per the O&M Manual, no samples were collected from Site 4, MW3 and Site 5, MW4. Annual monitoring is performed to monitor the effect that the landfill caps have had on the groundwater quality in the vicinity of the two sites during the post-closure period. The landfill gas vents were also monitored for vapors and surveyed to evaluate subsidence, in accordance with the approved O&M Manual.

2.1 Groundwater Measurements

An interface probe was used to obtain groundwater elevation data from each of the monitoring wells. Table 2-1 summarizes the water level measurements obtained during the groundwater sampling events that occurred October 22, 2001 at Site 5 and October 24, 2001 at Site 4. Figures 2-1 and 2-2 graphically depict the groundwater elevation contours at Site 4 and Site 5, respectively. The groundwater elevation measurement was added for Site 5 MW-03. For Site 4, the groundwater flow tends to be in an easterly direction. For Site 5, the groundwater flow direction tends to be northeasterly.

2.2 Groundwater Sample Collection

The dedicated in-well bladder pumps and a pneumatic compressor were used to collect the groundwater samples. Groundwater samples were collected October 23 and 24, 2001. The wells were purged until the site-specific groundwater quality parameters were stabilized for three successive readings. Refer to Table 1 in Appendix A for a summary of the Field Groundwater Parameters. A groundwater sample was collected from each well and shipped to ChemTech Laboratory, Englewood, New Jersey, for analysis. Each sample was analyzed for total and dissolved (filtered water) metals by EPA SW-846 Method 6010B (except Hg – Method 7470), Volatile Organic Compounds (VOCs) by EPA Method 624, and general chemistry parameters.



LEGEND:

MW4-02 148.35	Monitoring Well with Groundwater elevation-10/22/2001
○	Gas vent
89.6	Potentiometric surface contour
115	Topographic contour

NOTES:

1. TOPOGRAPHIC INFORMATION SHOWN HEREON WAS OBTAINED IN THE FIELD BY FRENCH & PARRELLO ASSOCIATES, P.A. ON AUGUST 7, 1998.
2. HORIZONTAL AND VERTICAL DATUM IS BASED ON SURVEY CONTROL INFORMATION AS SHOWN ON PLANS ENTITLED "LANDFILL CAPS FOR SITES 4 AND 5, NAVAL WEAPON STATION EARLE, COLTS NECK, NEW JERSEY, RAC CONTRACT NO. N62472-94-D-0398 D.O. 0034" PREPARED BY BROWN & ROOT ENVIRONMENTAL, PRINTED APRIL 10, 1998.
3. THE MONITOING WELLS (I. e. MW4-02) SHOWN HEREON WERE COPIED FROM PLANS ENTITLED "LANDFILL CAPS FOR SITES 4 AND 5, NAVAL WEAPON STATION EARLE, COLTS NECK, NEW JERSEY, RAC CONTRACT NO. N62472-94-D-0398 D.O. 0034" PREPARED BY BROWN & ROOT ENVIRONMENTAL, PRINTED APRIL 10, 1998.
4. ALL UTILITIES SHOWN HEHEON ARE BASED ON ABOVE GROUND OBSERVATIONS AND MAY NOT SHOW ALL UTILITIES PRESENT ON THE SITE. NO RESPONSIBILITY IS ASSUMED BY THE UNDERSIGNED PROFESSIONAL FOR THE ACCURACY OR OMISSION OF ANY UNDERGROUND UTILITY.
5. THE AREAS OF WETLAND LOSS AND WETLAND MITIGATION AREA SHOWN HEREON WERE COPIED FROM PLANS ENTITLED "LANDFILL CAPS FOR SITES 4 AND 5, NAVAL WEAPON STATION EARLE, COLTS NECK, NEW JERSEY, RAC CONTRACT NO. N62472-94-D-0398 D.O. 0034" PREPARED BY BROWN & ROOT ENVIRONMENTAL, PRINTED APRIL 10, 1998. THE UNDERSIGNED PROFESSIONAL DID NOT MAKE ANY DETERMINATION AS TO THE EXISTENCE OF THESE AREAS.
6. THE UNDERSIGNED PROFESSIONAL IS NOT QUALIFIED TO MAKE ANY DETERMINATION AS TO THE EXISTENCE OR NON-EXISTENCE OF WETLANDS AND/OR THE PRESENCE OF ANY HAZARDOUS MATERIALS. THEREFORE, NO STATEMENT IS BEING MADE OR IMPLIED HEREON, NOR SHOULD IT BE ASSUMED OR CONSTRUED THAT ANY STATEMENT IS BEING MADE BY THE FACT THAT NO EVIDENCE OF WETLANDS AND/OR HAZARDOUS MATERIALS IS PORTRAYED HEREON. THE CLIENT SHOULD PURSUE THESE MATTERS SEPARATE AND APART FROM THIS SURVEY.

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U.S. Navy RAC
NWS Earle, Colts Neck, NJ
Site 4

Figure 2-1
Potentiometric Surface - Groundwater (10/24/2001)

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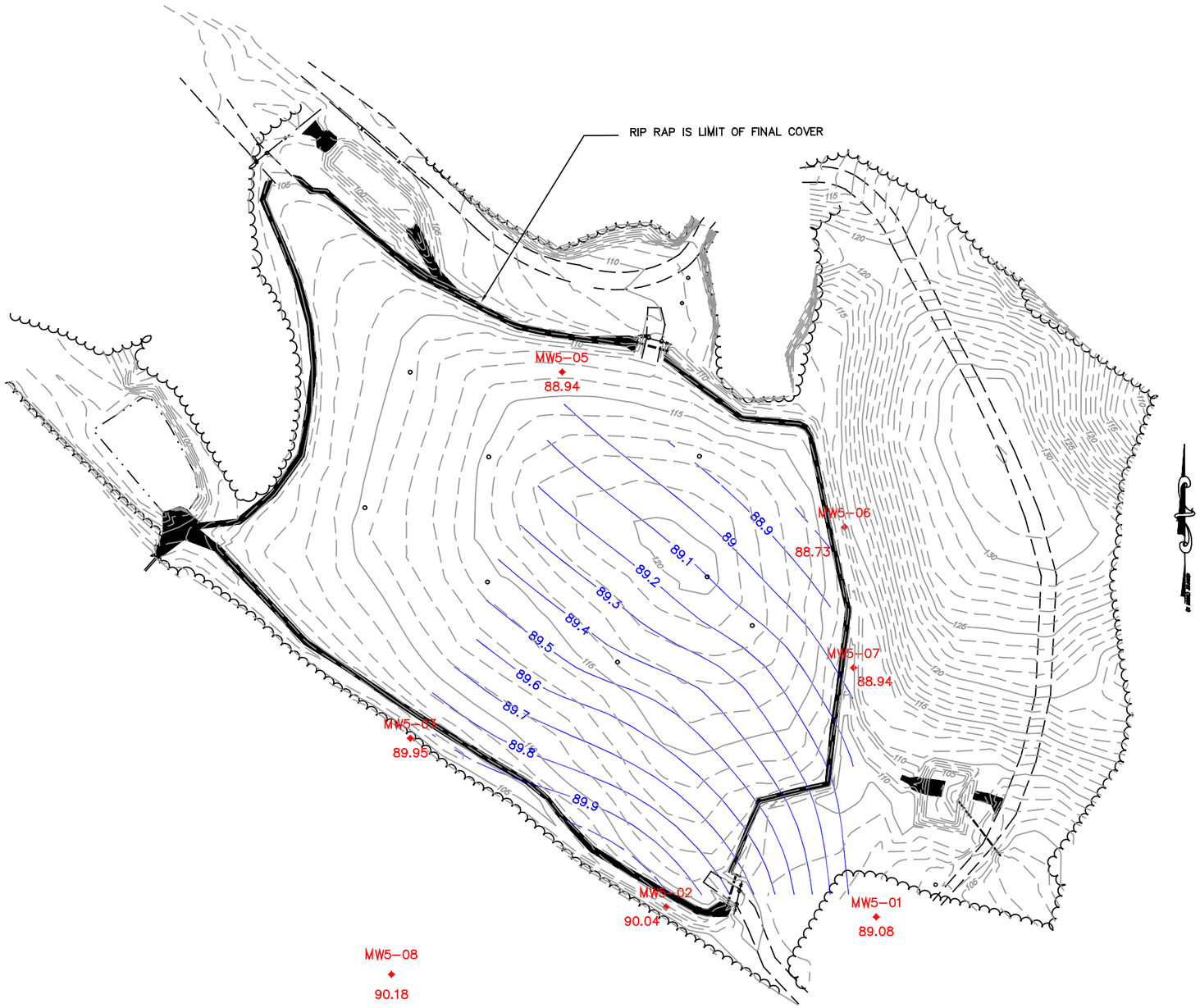

LEGEND:

MW5-03 — Monitoring Well with Groundwater elevation–10/22/2001

Gas vent

89.6 — Potentiometric surface contour

115 — Topographic contour

NOTES:

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U.S. Navy RAC
NWS Earle, Colts Neck, NJ
Site 5

Figure 2-2
Potentiometric Surface – Groundwater (10/22/2001)

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Table 2-1: Sites 4 and 5
Groundwater Measurements and Elevations

WELL NUMBER	TOP OF PVC CASING	TOTAL WELL DEPTH 2000	DEPTH TO WATER 2001	ELEVATION OF WATER TABLE 1999	ELEVATION OF WATER TABLE 2000	ELEVATION OF WATER TABLE 2001
MW4-01	171.65	31.23	21.10	150.55	150.03	151.90
MW4-02	151.23	18.6	4.01	150.19	147.08	148.35
MW4-04	180.15	35.40	27.40	153.35	152.5	153.88
MW4-05	164.15	27.45	17.12	147.43	146.69	148.16
MW4-06	148.62	15.4	4.62	144.2	144.31	145.13
MW4-07	164.50	25.92	17.35	146.8	146.78	147.15
MW5-01	107.64	30.80	18.56	88.76	89.69	89.08
MW5-02	107.95	25.37	17.91	90.43	90.27	90.04
MW5-03	106.10	39.95	16.15	90.5	89.4	89.95
MW5-05	113.25	31.7	24.31	89.25	89.4	88.94
MW5-06	111.96	29.36	23.23	89.24	89.3	88.73
MW5-07	109.71	24.10	20.77	89.55	89.52	88.94
MW5-08	109.17	25.39	18.99	90.32	90.78	90.18

*Annual Precipitation – Coastal NJ including parts of Monmouth County
1999 – 41.48 inches
2000 – 44.46 inches
2001 – 31.52 inches

2.2.1 Groundwater Analytical Results

Table 2 and Table 3, located in Appendix A, compare the results of the VOC analytical data and of the metals analytical data from 1999, 2000 and 2001 to the Groundwater Quality Standards (N.J.A.C. 7:9-6) and to data collected prior to capping the landfills (samples dated 1995). The specific general chemistry parameters and the analytical results are listed on Table 4 in Appendix A. The Data Validation Reports are included in Appendix B. Appendix C contains the laboratory analytical data. The New Jersey Hazardous Site Database Electronic submittal has also been submitted with this report.

The Quality Assurance/Quality Control (QA/QC) samples indicated problems associated with the laboratory data for the samples collected from Site 5 metal results. Analytical results for calcium, magnesium, sodium and zinc were qualified unusable, "R", due to similar contamination in the field blank associated with these samples. Other minor problems are noted on the data validation reports in Appendix B. Data validation was performed on 10% of the VOC and metals analytical data. No data validation was performed on the general chemistry data.

Note that the Sample IDs used for the annual sampling have been modified to meet the NJDEP electronic database submittal requirements. For example, 5MW03, signifies Site 5, Monitoring Well 3, year 2001 annual sample collection. A "DI" as an additional digit indicates that the sample has been filtered for dissolved metals analysis. A "X" after the "MW" indicates that the sample is a blind duplicate for QA/QC this round of sampling.

Volatile Organic Compounds Analysis

When compared to the 1995, 1999 and 2000 sample results, the laboratory analytical results of the 2001 groundwater sampling event at Sites 4 and 5 indicated that the majority of wells showed insignificant changes or decreases of VOC levels detected in the groundwater. Analytical results from samples of three wells showed an increase in VOC concentrations. Only one sample had VOC concentrations above the NJDEP Groundwater Quality Criteria: well 4MW5, Site 4. The VOC that exceeded the NJDEP Groundwater Criteria was trichloroethene (TCE). The TCE concentration in sample 4MW503, at 15 ug/l, was above the NJDEP Groundwater Criteria of 1.0 ug/l. The sample concentration of TCE increased slightly from previous sampling event.

Other sample results did not indicate any exceedances of the VOC NJDEP Groundwater Quality Criteria. However, some notable changes occurred in samples from wells 5MW5, 5MW6, and 5MW7. Acetone concentrations were found to increase at locations 5MW5 and 5MW6 from the previous round of sampling. Toluene was also detected in 5MW6 at 11 ug/l, well below the criteria of 1,000 ug/L. All previous sample data indicated non-detectable concentrations of toluene in 5MW6. Sample 5MW703 showed an increase of chlorobenzene from non-detect in the previous sampling events to 2.4 ug/L (criteria of 4 ug/L) in 2001 sampling. 5MW703 data showed a decrease in the other previously detected VOCs (vinyl chloride, chloroethane, acetone, TCE, and benzene). All constituents were detected at concentrations below their respective NJDEP Groundwater Criteria.

Analytical method selection and laboratory reporting limits were addressed as discussed in the previous report, so that laboratory reporting limits are appropriate for this groundwater sampling round.

Inorganic Analysis

Some common, naturally occurring metals and inorganic analytes were detected in the Site 4 and 5 monitoring wells above the NJDEP Groundwater Quality Criteria. The metals detected above the criteria included aluminum, iron and manganese, all of which have been detected at elevated concentrations in other wells at the NWS-Earle facility. The aluminum, iron and manganese are considered naturally occurring and not a result of the landfill operations. In addition, lead and arsenic were found to be above the criteria in two of the non-filtered samples, and are discussed in detail below. No other inorganic analytes were in exceedance of the NJDEP Groundwater Quality Criteria. Table 3 in Appendix A summarizes the inorganic analytical results. The Data Validation Report and the laboratory analytical data are contained in Appendix B and C, respectively.

The majority of sample results for inorganic analysis showed an insignificant increase or little change when compared to the data from the past sampling events. Comparison of lead results from all sampling rounds illustrates the minor fluctuation of concentrations. Three sample locations, 4MW6, 5MW1, 5MW2, 5MW7 and 5MW8, exhibited decreased

or unchanged lead concentrations when compared to the past sampling events. In the past, all three samples have exceeded the lead criteria; however, the results from the most recent round of sampling are below the lead criteria. One sample location, 5MW6, showed an increase in the concentration of lead since the previous sampling event, and is now in exceedance of the lead criteria. One location, 4MW4 showed an increase in the concentration of arsenic since the previous sampling event, and is now in exceedance of the arsenic criteria.

In the current round of sample collection, only one sample location at Site 5 exhibited lead concentrations above the NJDEP Groundwater Criteria of 10 ug/l. 5MW06 exhibited concentrations of lead at 79.6 ug/l. One sample, 4MW04, at Site 4 exhibited a concentration of arsenic (9.6 ug/l) above the NJDEP Groundwater Criteria of 8 ug/l. No sample results at Site 4 exceeded the lead criteria.

According to the NJDEP Field Sampling Procedures Manual, 1992, a filtered and unfiltered groundwater sample can be collected for metals analysis if there is confirmation that the metals concentrations are significantly above the groundwater criteria. Based on the sample results recorded during the previous sampling events, and the approved O&M Manual, both filtered and unfiltered groundwater samples were collected from the monitoring wells at Sites 4 and 5. The groundwater samples were field filtered in accordance to NJDEP's procedures. Filtered versus non-filtered sample results were compared for this round of sampling and previous rounds of sampling. Based on the comparison of filtered versus unfiltered groundwater sample, the lead and arsenic concentrations from the samples collected in 2001 decreased when the groundwater was filtered. Elevated lead and arsenic concentrations are suspected to be the result of suspended particulates in the groundwater samples.

2.3 Establishment of Classification Exception Areas

Sites 4 and 5 were former landfills that were capped in 1998. The Classification Exception Areas (CEAs) are required pursuant to N.J.A.C. 7:9-6.6 to determine the area of the aquifer that is currently, and is anticipated to be, impacted above the New Jersey Department of Environmental Protection's applicable Groundwater Quality Criteria. The CEAs are based upon the laboratory samples. The metals were not evaluated as part of the CEA.

The CEA for Site 4 was completed in 1999, and is included in the Annual Groundwater Sampling of Monitoring Wells-Landfill Caps for Sites 4 and 5 (January 31, 2000). Data from the sampling event of 2001 at Site 4 indicated a slight increase in the TCE concentration in sample 4MW05. The TCE concentrations in 4MW05 were 15 ug/l in 2001 and 9.6 ug/l from the same well in 2000. The result from the 2001 sampling event is above the NJDEP Groundwater Criteria of 1 ug/l for TCE. No other sample results from the sampling event of 2001 indicated an exceedance of the NJDEP Groundwater Criteria. The CEA for Site 4 has not been impacted by this change as the TCE in monitoring well location 4MW5 is still above the criteria.

The CEA for Site 5 was prepared utilizing the laboratory analytical data from the 1999, 2000 and 2001 annual groundwater sampling at Site 5, and the data from the RI (1995). The laboratory analytical data from the annual groundwater sampling at Site 5 revealed that sample 5MW07 showed a decrease in VOCS that were previously detected, and new detection of toluene and chlorobenzene. The detected VOCs concentrations were above the NJDEP Groundwater Criteria. No other VOC results were above the NJDEP Groundwater Criteria for the other samples. Sample 5MW06 showed a decrease in benzene from the previous sampling round to below criteria.

The boundaries of the CEA for Site 5 were established through the use of Natural Attenuation Models BIOSCREEN (benzene) and BIOCLOR (TCE). The results of these models (found in Appendix D) predict the horizontal extent of contaminant migration under first-order decay and/or no degradation. Benzene migration is estimated at a maximum of 55 feet downgradient from 5MW-06 and at a maximum of 35 feet downgradient from 5MW-07. TCE migration is estimated at a maximum distance of 20 feet downgradient. The model for TCE also predicted that the daughter products from the TCE decay were below their applicable NJGQS.

The estimated timeframe for the benzene and TCE to naturally attenuate to below the NJDEP Groundwater Criteria at Site 5 was determined using the calculation provided in the Final Guidance on Designation of Classification Exception Areas (11/98). Due to the low concentrations reported and the limited analytical data available to determine a site-specific degradation rate, a half-life value of 720 days (Howard and others) for benzene and a half-life of 1,653 days (Howard and others) for TCE was used to estimate the conservative timeframe for compound degradation. Using these conservative half-life values, benzene was calculated to degrade to below the NJGQS of 1.0 ug/L at 5MW-06 in 2.72 years and at 5MW-07 in 6.05 years. TCE was calculated to degrade to below the NJGQS of 1.0 ug/L at MW-07 in 7.80 years. Appendix D contains the CEA for Site 5 and the modeling data support.

2.4 Survey of Landfill Gas Vents

The base of the survey gas vents at Sites 4 and 5 were surveyed by a licensed surveyor to determine if there has been any subsidence of the landfill caps since the installation in 1998. The elevations were obtained from the top of the PVC casing coming out of the concrete base. Table 2-2 summarizes the elevation data from 1998, 1999, 2000, and 2002. There has been no settlement of greater than six inches at each gas vent. In accordance with the O&M Manual, if there is no subsidence greater than six inches, no action is required.

Table 2-2: Sites 4 and 5
Survey Elevation Data of Gas Vents

GAS VENT NO.	ELEVATION 8/26/98	ELEVATION 7/29/99	ELEVATION 9/11/00	ELEVATION 6/11/02	ELEVATION DIFFERENCE feet*
GV4-1	176.53	176.48	176.45	176.44	0.09
GV4-2	184.57	184.55	184.53	184.51	0.06
GV4-3	180.46	180.43	180.41	180.39	0.07
GV5-1	110.81	110.8	110.75	110.73	0.08
GV5-2	110.97	110.94	110.87	110.84	0.13
GV5-3	115.74	115.7	115.62	115.59	0.15
GV5-4	114.83	114.8	114.73	114.71	0.12
GV5-5	116.56	116.52	116.43	116.40	0.16
GV5-6	118.89	118.88	118.79	118.78	0.11
GV5-7	120.78	120.74	120.66	120.63	0.15
GV5-8	117.96	117.94	117.86	117.83	0.13

*Difference in elevation between 8/26/98 to 6/11/02
Note: No measurements were collected in 2001.

APPENDIX A

TABLES (ANALYTICAL AND GENERAL CHEMISTRY SUMMARIES)

TABLE 1
Sites 4 and 5 Field Groundwater Parameters

Well #	Time	Temp °C	pH	Turbidity NTU	Conductivity s/cm	ORP mV	DO mg/L
4MW1	1320	13.38	4.38	10	7	375	10.65
DTW (initial): 21.10'	1325	13.25	4.35	13	7	388	10.40
DTW (final): N/A	1330	12.77	4.34	24.7	7	405	10.20
DTB: 31.23'	1335	13.1	4.33	20.3	7	397	10.24
4MW7	1235	14.04	5.03	61.8	4	301	9.27
DTW (initial): 17.35'	1240	13.46	5	37.3	3	319	8.28
DTW (final): N/A	1245	13.38	5.02	18.8	0	325	8.64
DTB: 25.92'	1250	13.3	5.03	14.6	0	328	8.68
4MW5	1145	18.82	5.6	270	7	204	7.71
DTW (initial): 17.12'	1150	17.33	5.63	184	6	202	5.42
DTW (final): N/A	1155	17.3	5.62	150	6	188	0
DTB: 27.45'	1200	17.28	5.62	148	5	190	0
4MW2	1020	16.01	6.17	130	41	11	1.24
DTW (initial): 4.01'	1025	15.8	6.19	87.1	26	3	0.12
DTW (final): N/A	1030	15.83	6.18	53.6	54	4	0.19
DTB: 18.6'	1035	15.92	6.2	55.1	40	7	0.69
4MW4	1410	14.22	4.42	17.5	6	388	10.43
DTW (initial): 27.40'	1415	12.75	4.41	11	6	401	10.68
DTW (final): N/A	1420	12.62	4.41	13.1	6	403	10.56
DTB: 35.40'	1425	12.6	4.4	12.6	6	401	10.49
4MW6	830	14.23	4.42	26.4	7	366	0.55
DTW (initial): 4.62'	835	14.12	4.43	8.5	6	354	0
DTW (final): N/A	840	14.14	4.43	7.8	6	352	0
DTB: 15.4'	845	14.18	4.44	7.6	6	351	0
5MW3	1100	13.68	4.01	5.7	25	430	7.08
DTW (initial): 16.15'	1105	12.42	4.06	1.6	22	443	5.82
DTW (final): N/A	1110	12.51	4.07	1.5	22	443	5.63
DTB: 39.95'	1115	12.56	4.08	2.4	22	445	5.82
5MW2	1220	13.85	4.57	26.4	23	7	7.24
DTW (initial): 17.91'	1225	12.91	5.08	7.9	15	-57	0
DTW (final): N/A	1230	12.82	5.09	3.9	15	-64	0
DTB: 25.37'	1230	12.85	5.1	3.2	15	-67	0

N/A - Not Available

TABLE 1
Sites 4 and 5 Field Groundwater Parameters

Well #	Time	Temp °C	pH	Turbidity NTU	Conductivity s/cm	ORP mV	DO mg/L
5MW1	1040	14.60	4.75	10.7	8	246	6.05
DTW (initial): 18.56'	1045	15.19	4.46	25.6	7	280	4.83
DTW (final): N/A	1050	15.04	4.61	17.4	6	271	7.12
DTB: 30.80'	1055	14.97	4.57	15.8	7	201	5.3
5MW7	1310	14.74	5.73	178	39	-139	0.84
DTW (initial): 20.77'	1315	15.15	5.81	490	32	-148	0.73
DTW (final): N/A	1320	15.2	5.82	615	39	-142	1.5
DTB: 24.10'	1325	16.13	5.83	40	35	-135	2.13
	1330	16.52	5.85	100	41	-128	2.78
5MW6	845	15.7	5.47	16.2	12	101	6.13
DTW (initial): 23.23'	850	14.67	5.61	26.6	25	-75	0
DTW (final): N/A	855	14.36	5.62	17.9	26	-97	0
DTB: 29.36'	900	14.42	5.61	18.8	25	-101	0
	905	14.54	5.61	18	25	-105	0
5MW5	1235	15.55	4.98	10.6	19	-24	4.23
DTW (initial): 24.31'	1240	14.74	5.29	5.7	18	-92	1.48
DTW (final): N/A	1245	14.67	5.29	6	18	-96	2.92
DTB: 31.7'	1250	14.61	5.28	5.5	18	-95	3.14
	1255	14.52	5.26	5.2	17	-94	2.99
5MW8	1120	13.86	4.94	28.7	6	304	11.2
DTW (initial): 18.99'	1125	13.46	4.79	13.2	6	319	11.77
DTW (final): N/A	1130	14.55	4.91	15.8	6	290	6.91
DTB: 25.39'	1135	14.17	4.96	14.7	5	250	4.33

N/A - Not Available

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	4MW0103		4MW102		4MW1991		4DW1991		04GW01	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999		7/29/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 4, MW1		SITE 4, MW1		SITE 4, MW1		SITE 4, MW1		SITE 4, MW1	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L		ug/L	
COMMENTS								DUPE OF 4MW1991			
Chloromethane	30	1.1	U	5	U	1.8	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	1.3	U	ND	
Chloroethane	NA	0.7	U	5	U	2	U	2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	0.7	U	ND	
Acetone	700	2.4	U	5	U	5	U	5	U	ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	0.7	U	5	U	1.5	U	1.5	U	ND	
Chloroform	6	0.3	U	5	U	0.8	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	0.9	U	ND	
2-Butanone	300	2.8	U	5	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	0.1	U	ND	
Trichloroethene	1	0.4	U	5	U	1	U	1	U	ND	
Dibromochloromethane	10	0.3	U	5	U	1	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	0.9	U	ND	
Benzene	1	0.3	U	5	U	0.9	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	0.9	U	ND	
Toluene	1000	1.5		5	U	1	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	0.5	U	ND	
Xylenes (total)	40	1.5		5	U	2.2	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	4MW0203		4MW202		4MW2991		04GW02	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 4, MW2		SITE 4, MW2		SITE 4, MW2		SITE 4, MW2	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L	
COMMENTS									
Chloromethane	30	1.1	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	3	J
Chloroethane	NA	0.7	U	5	U	2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	ND	
Acetone	700	2.4	U	5	U	5	U	ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	1.4	J	5	U	5.7		25	
Chloroform	6	0.3	U	5	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	ND	
2-Butanone	300	2.8	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	ND	
Trichloroethene	1	0.4	U	5	U	1	U	1	J
Dibromochloromethane	10	0.3	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	ND	
Benzene	1	0.3	U	5	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	ND	
Toluene	1000	0.3	U	5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	4MW0403		4MW402		4MW4991		04GW04	
DATE COLLECTED	Groundwater	10/24/2001		9/13/2000		7/29/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 4, MW4		SITE 4, MW4		SITE 4, MW4		SITE 4, MW4	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L	
COMMENTS									
Chloromethane	30	1.1	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	ND	
Chloroethane	NA	0.7	U	5	U	2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	ND	
Acetone	700	2.4	U	5	U	5	U	ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	0.7	U	5	U	1.5	U	ND	
Chloroform	6	0.3	U	5	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	ND	
2-Butanone	300	2.8	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	ND	
Trichloroethene	1	0.4	U	5	U	1	U	ND	
Dibromochloromethane	10	0.3	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	ND	
Benzene	1	0.3	U	5	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	ND	
Toluene	1000	0.3	U	5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	4MW0503		4MW502		4MW5991		04GW05	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 4, MW5		SITE 4, MW5		SITE 4, MW5		SITE 4, MW5	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L	
COMMENTS									
Chloromethane	30	1.1	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	ND	
Chloroethane	NA	0.7	U	5	U	2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	ND	
Acetone	700	2.4	U	5	U	5	U	ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	5.4	J	5	U	7.8		19	
Chloroform	6	0.3	U	5	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	ND	
2-Butanone	300	2.8	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	ND	
Trichloroethene	1	15		9.6		25		55	
Dibromochloromethane	10	0.3	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	ND	
Benzene	1	0.3	U	5	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	ND	
Toluene	1000	0.3	U	5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	4MW0603		4MW602		4MW6991		04GW06	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/30/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 4, MW6		SITE 4, MW6		SITE 4, MW6		SITE 4, MW6	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L	
COMMENTS									
Chloromethane	30	1.1	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	ND	
Chloroethane	NA	0.7	U	5	U	2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	ND	
Acetone	700	2.4	U	5	U	5	U	ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	0.7	U	5	U	1.5	U	ND	
Chloroform	6	0.3	U	2.8		2.7		1	J
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	ND	
2-Butanone	300	2.8	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	ND	
Trichloroethene	1	0.4	U	5	U	1	U	ND	
Dibromochloromethane	10	0.3	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	ND	
Benzene	1	0.3	U	5	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	ND	
Toluene	1000	0.3	U	5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	4MW0703		4MW702		4MW7991		04GW07	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 4, MW7		SITE 4, MW7		SITE 4, MW7		SITE 4, MW7	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L	
COMMENTS									
Chloromethane	30	1.1	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	ND	
Chloroethane	NA	0.7	U	5	U	2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	ND	
Acetone	700	2.4	U	5	U	5	U	ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	0.7	U	5	U	1.5	U	ND	
Chloroform	6	0.3	U	5	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	ND	
2-Butanone	300	2.8	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	ND	
Trichloroethene	1	0.4	U	5	U	1	U	ND	
Dibromochloromethane	10	0.3	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	ND	
Benzene	1	0.3	U	5	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	ND	
Toluene	1000	0.3	U	5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	5MW0103		5MW102		5MW1991		5DW1991		05GW01	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		7/30/1999		7/30/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 5, MW1		SITE 5, MW1		SITE 5, MW1		SITE 5, MW1		SITE 5, MW1	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L		ug/L	
COMMENTS								DUP. OF 5MW1991			
Chloromethane	30	1.1	U	5	U	1.8	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	1.3	U	ND	
Chloroethane	NA	0.7	U	5	U	2	U	2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	0.7	U	ND	
Acetone	700	2.4	U	5	U	5	U	5	U	ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	0.7	U	5	U	1.5	U	1.5	U	ND	
Chloroform	6	0.3	U	5	U	4.3		4.5		22	
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	0.9	U	ND	
2-Butanone	300	2.8	U	5	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	0.1	U	ND	
Trichloroethene	1	0.4	U	5	U	1	U	1	U	ND	
Dibromochloromethane	10	0.3	U	5	U	1	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	0.9	U	ND	
Benzene	1	0.3	U	5	U	0.9	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	0.9	U	ND	
Toluene	1000	0.3	U	5	U	1	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	5MW0203		5MW202		5MW2991		05GW02	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		7/30/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 5, MW2		SITE 5, MW2		SITE 5, MW2		SITE 5, MW2	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L	
COMMENTS									
Chloromethane	30	1.1	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	ND	
Chloroethane	NA	0.7	U	5	U	2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	ND	
Acetone	700	2.4	U	5	U	5	U	ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	0.7	U	5	U	1.5	U	ND	
Chloroform	6	0.3	U	5	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	ND	
2-Butanone	300	2.8	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	ND	
Trichloroethene	1	0.4	U	5	U	1	U	ND	
Dibromochloromethane	10	0.3	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	ND	
Benzene	1	0.3	U	5	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	ND	
Toluene	1000	0.3	U	5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	5MW0303		5MWX03		5MW302		5MD302		5MW3991		05GW03	
DATE COLLECTED	Groundwater	10/23/2001		10/23/2001		9/13/2000		9/13/2000		7/30/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 5, MW3		SITE 5, MW3		SITE 5, MW3		SITE 5, MW3		SITE 5, MW3		SITE 5, MW3	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
COMMENTS				DUPE OF 5MW303				DUPE OF 5MW302					
Chloromethane	30	1.1	U	1.1	U	5	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	0.6	U	5	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	1	U	5	U	5	U	1.3	U	ND	
Chloroethane	NA	0.7	U	0.7	U	5	U	5	U	2	U	ND	
Methylene Chloride	2	0.4	U	0.4	U	5	U	5	U	0.7	U	ND	
Acetone	700	2.4	U	2.4	U	5	U	5	U	5	U	ND	
Carbon Disulfide	NA	0.3	U	0.3	U	5	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	0.4	U	5	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	0.2	U	5	U	5	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	0.7	U	0.7	U	5	U	5	U	1.5	U	ND	
Chloroform	6	0.3	U	0.3	U	5	U	5	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	0.3	U	5	U	5	U	0.9	U	ND	
2-Butanone	300	2.8	U	2.8	U	5	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	0.3	U	5	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	0.3	U	5	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	0.3	U	5	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	0.4	U	5	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	0.3	U	5	U	5	U	0.1	U	ND	
Trichloroethene	1	0.4	U	0.4	U	5	U	5	U	1	U	ND	
Dibromochloromethane	10	0.3	U	0.3	U	5	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	0.3	U	5	U	5	U	0.9	U	ND	
Benzene	1	0.3	U	0.3	U	5	U	5	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	0.2	U	5	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	0.3	U	5	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	1.4	U	5	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	1	U	5	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	0.3	U	5	U	5	U	0.9	U	ND	
Toluene	1000	0.3	U	0.3	U	5	U	5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	0.3	U	5	U	5	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	0.2	U	5	U	5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	0.4	U	5	U	5	U	0.9	U	ND	
Styrene	100	0.2	U	0.2	U	5	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	0.9	U	5	U	5	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	5MW0503		5MW502		5MW5991		05GW05	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		8/2/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 5, MW5		SITE 5, MW5		SITE 5, MW5		SITE 5, MW5	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L	
COMMENTS									
Chloromethane	30	1.1	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	2	J
Chloroethane	NA	0.7	U	5	U	2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	ND	
Acetone	700	120		18		12		ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	0.7	U	5	U	1.5	U	ND	
Chloroform	6	0.3	U	5	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	ND	
2-Butanone	300	2.8	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	ND	
Trichloroethene	1	0.4	U	5	U	1	U	ND	
Dibromochloromethane	10	0.3	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	ND	
Benzene	1	0.3	U	5	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	ND	
Toluene	1000	0.3	U	5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	5MW0603		5MW602		5MW6991		05GW06	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		8/2/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 5, MW6		SITE 5, MW6		SITE 5, MW6		SITE 5, MW6	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L	
COMMENTS									
Chloromethane	30	1.1	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	ND	
Chloroethane	NA	0.7	U	5	U	2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	2	J
Acetone	700	86		5	U	12		ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4		ND	
1,2-Dichlorethene (total)	100	0.7	U	5	U	3.9		9	J
Chloroform	6	0.3	U	5	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	5	U	2.7		3	J
2-Butanone	300	2.8	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	ND	
Trichloroethene	1	0.4	U	5	U	1	U	4	J
Dibromochloromethane	10	0.3	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	ND	
Benzene	1	0.3	U	2.6	J	0.9	U	2	J
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	ND	
Toluene	1000	11		5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	2	J
Styrene	100	0.2	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	4.0	J

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	5MW0703		5MW702		5MW7991		05GW07	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		7/30/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 5, MW7		SITE 5, MW7		SITE 5, MW7		SITE 5, MW7	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L	
COMMENTS									
Chloromethane	30	1.1	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	3.5	J	1.3	U	ND	
Chloroethane	NA	0.7	U	5.4		2	U	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	U	ND	
Acetone	700	24		110		5	U	ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U	0.4	U	ND	
1,2-Dichlorethene (total)	100	0.7	U	5	U	1.5	U	2	J
Chloroform	6	0.3	U	5	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	2	J
2-Butanone	300	2.8	U	5	U	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	ND	
Trichloroethene	1	0.7		3.3	J	1	U	2	J
Dibromochloromethane	10	0.3	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	ND	
Benzene	1	0.9		8.4		0.9	U	3	J
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	U	ND	
Tetrachloroethene	1	0.3	U	5	U	0.9	U	ND	
Toluene	1000	0.3	U	5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	ND	
Chlorobenzene	4	2.4		5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 2
Sites 4 and 5 Volatile Organic Compounds Analytical Data

SAMPLE ID	NJDEP	5MW0803		5MW802		5MW801		05GW08	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		8/25/1999		1995 [1]	
LOCATION	Quality Critieria	SITE 5, MW8		SITE 5, MW8		SITE 5, MW8		SITE 5, MW8	
MATRIX	ug/L	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS		ug/L		ug/L		ug/L		ug/L	
COMMENTS									
Chloromethane	30	1.1	U	5	U	1.8	U	ND	
Bromomethane	10	0.6	U	5	U	1.7	U	ND	
Vinyl Chloride	5	1	U	5	U	1.3	U	ND	
Chloroethane	NA	0.7	U	5	U	2	UJ	ND	
Methylene Chloride	2	0.4	U	5	U	0.7	UJ	ND	
Acetone	700	2.4	U	5	U J	5	U	ND	
Carbon Disulfide	NA	0.3	U	5	U	5	U	ND	
1,1-Dichlorethene	1	0.4	U	5	U	0.6	U	ND	
1,1-Dichlorethane	70	0.2	U	5	U J	0.4	U	ND	
1,2-Dichlorethene (total)	100	0.7	U	5	U	1.5	U	ND	
Chloroform	6	0.3	U	5	U	0.8	U	ND	
1,2-Dichlorethane	2	0.3	U	5	U	0.9	U	ND	
2-Butanone	300	2.8	U	5	U J	5	U	ND	
1,1,1-Trichlorethane	30	0.3	U	5	U	0.9	U	ND	
Carbon Tetrachloride	2	0.3	U	5	U	1.5	U	ND	
Bromodichloromethane	1	0.3	U	5	U	0.6	U	ND	
1,2-Dichloropropane	1	0.4	U	5	U	1	U	ND	
cis-1,3-Dichloropropene	NA	0.3	U	5	U	0.1	U	ND	
Trichloroethene	1	0.4	U	5	U	1	U	ND	
Dibromochloromethane	10	0.3	U	5	U	1	U	ND	
1,1,2-Trichloroethane	3	0.3	U	5	U	0.9	U	ND	
Benzene	1	0.3	U	5	U	0.9	U	ND	
trans-1,3-Dichloropropene	NA	0.2	U	5	U	0.2	U	ND	
Bromoform	4	0.3	U	5	U	0.5	U	ND	
4-Methyl-2-pentanone	400	1.4	U	5	U	5	U	ND	
2-Hexanone	NA	1	U	5	U	5	UJ	ND	
Tetrachloroethene	1	0.3	U	5	U J	0.9	U	ND	
Toluene	1000	0.3	U	5	U	1	U	ND	
1,1,2,2-Tetrachloroethane	2	0.3	U	5	U	1.1	U	ND	
Chlorobenzene	4	0.2	U	5	U	0.9	U	ND	
Ethylbenzene	700	0.4	U	5	U	0.9	U	ND	
Styrene	100	0.2	U	5	U	0.5	U	ND	
Xylenes (total)	40	0.9	U	5	U	2.2	U	ND	

Shaded cell indicates exceedance of the GWQC.
U not detected
ND Non Detect
J value is estimated
[1] Data Source: Draft Remedial Invest. Rpt (1995, Brown and Root Env.)

TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	4MW0103		4MW102		4MW1991		4DW1991	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999		7/29/1999	
LOCATION	Quality	SITE 4, MW1		SITE 4, MW1		SITE 4, MW1		SITE 4, MW1	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED		DUP. OF 4MW1991 NON-FILTERED	
PARAMETER									
Aluminum	200	1570		1890		1890		1800	
Antimony	20	8.9	U	4.9	U	5.0	U	5.0	U
Arsenic	8	6.2	U	6.1		6.0	U	6.0	U
Barium	2,000	17.2	B	27.1		25.2		24.7	
Beryllium	20	0.1	U	0.1	U	1.3		1.4	
Cadmium	4	0.6	U	0.4	U	0.4	U	1.0	U
Calcium	NA	2010	B	4330		4330		4820	
Chromium	100	7.8	B	3		3		1.0	U
Cobalt	NA	0.9	U	1.2		1.2	U	2.0	U
Copper	1000	1.5	U	6.9		6.9		22.1	
Iron	300	1740		2520		2520		771	
Lead	10	3.0	U	2.0	U	2.0	U	3.0	U
Magnesium	NA	731	B	1360		1380		1350	
Manganese	50	13.9	B	25.4		21.6		21.0	
Mercury	2	0.2	U	0.1	U	0.2	U	0.2	U
Nickel	100	4.6	B	2.0	U	2.0	U	2.0	U
Potassium	NA	310	B,E	587		438		413	
Selenium	50	1.6	U,*,J	2.2	U	5.0	U	5.0	U
Silver	NA	1.7	U	0.79		1.0	U	1.0	U
Sodium	50,000	2,410	B	3370		3380		3350	
Thallium	10	4.5	B	2.3	U	7.0	U	7.0	U
Vanadium	NA	2.2	B	4.9		2.5	J	2.0	U
Zinc	5000	59		80.3		60.0		55.3	

SAMPLE ID	NJDEP	4MW0103DI		4MW102F		4MW1991F		4DW1991F		04GW01	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999		7/29/1999		1995 [1]	
LOCATION	Quality	SITE 4, MW1		SITE 4, MW1		SITE 4, MW1		SITE 4, MW1		SITE 4, MW1	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED		DUP. OF 4MW1991 FILTERED			
PARAMETER											
Aluminum	200	1340		772		1020	J	366	J	1590	E J
Antimony	20	8.9	U	4.9	U	5.0	U	5.0	U	ND	
Arsenic	8	6.2	U	7.2	B	6.0	U	6.0	U	ND	
Barium	2,000	16.2	B	21.2	B,E	23.2	J	8.2	J	498	
Beryllium	20	0.1	U	0.1	U	1.3		1.5		0.75	
Cadmium	4	0.6	U	0.4	U	1.0	U	1.0	U	0.44	
Calcium	NA	2110	B	3360	B,E	4870	J	1730	J	3670	
Chromium	100	1.4	B	0.7	U	1.0	U	1.0	U	2.4	
Cobalt	NA	0.9	U	1.4	B	2.0	U	2.0	U	ND	
Copper	1000	1.5	U	0.92	B	16.4	J	7.7	J	9.8	
Iron	300	621		15.9	U	104	J	21	UJ	554	E
Lead	10	3.0	U	2	U	3.0	U	3.0	U	2.4	
Magnesium	NA	763	B	1140	B	1350	J	483	J	1410	
Manganese	50	14.1	B	23.2		21.3	J	7.1	J	18.4	
Mercury	2	0.2	U	0.1	U	0.2	U	0.2	U	0.021	
Nickel	100	1.6	U	2.6	B	2.0	U	2.0	U	2.3	
Potassium	NA	283	B,E	348	B	352	J	119	J	613	
Selenium	50	2.2	B,*,J	2.2	U	5.0	U	5.0	U	ND	
Silver	NA	1.7	U	1.2	B	1.0	U	1.0	U	ND	
Sodium	50,000	2800	B	2560	B	3310	J	1220	J	3030	
Thallium	10	4.3	U	2.3	U	7.0	U	7.0	U	ND	
Vanadium	NA	1.2	U	1.0	B	2.0	U	2.0	U	ND	
Zinc	5000	58.7		46.7		53.4	J	18.2	J	381	

U, ND not detected
B less than Contract Detection but greater than Instrument Detection Limit
E estimated due to interference
J estimated value
R rejected by data validation
[1] Draft Remedial Invest. Rpt 1995, Brown and Root Env

TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	4MW0203		4MW202		4MW2991	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999	
LOCATION	Quality	SITE 4, MW2		SITE 4, MW2		SITE 4, MW2	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED	
PARAMETER							
Aluminum	200	304	J	4550		717	
Antimony	20	8.9	U	5.8		5.0	U
Arsenic	8	6.2	U	3.8	U	6.0	U
Barium	2,000	10.0	B	20.5		13.7	
Beryllium	20	0.1	U	0.3		1.5	
Cadmium	4	0.6	U	0.4	U	1.0	U
Calcium	NA	26100		17400		20600	
Chromium	100	6.4	B	9.9		1.2	
Cobalt	NA	0.9	U	2.1		2.0	U
Copper	1000	1.5	U	7.5		24.3	
Iron	300	20900		39800		12300	
Lead	10	3.0	U	7.3		3.0	U
Magnesium	NA	8690		4920		6010	
Manganese	50	141		140		103	
Mercury	2	0.2	U	0.1	U	0.2	U
Nickel	100	1.6	U	2	U	2.0	U
Potassium	NA	3130	B,E	4780		3320	
Selenium	50	1.6	U,*,J	2.2	U	5.0	U
Silver	NA	1.7	U	1.8		1.0	U
Sodium	50,000	29700		58400		15700	
Thallium	10	4.3	U	5.6		7.0	U
Vanadium	NA	1.3	B	17.8		3.5	J
Zinc	5000	28.1	J	748		16.5	J

SAMPLE ID	NJDEP	4MW0203DI		4MW202F		4MW2991F		04GW02	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999		1995 [1]	
LOCATION	Quality	SITE 4, MW2		SITE 4, MW2		SITE 4, MW2		SITE 4, MW2	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED			
PARAMETER									
Aluminum	200	1010	J	131	B	27.1		923	E J
Antimony	20	8.9	U	4.9	U	5.0	U	ND	
Arsenic	8	6.2	U	6.5	B	6.0	U	ND	
Barium	2,000	16.1	B	8	B,E	10.7		12.6	
Beryllium	20	0.1	U	0.27	B	1.4		ND	
Cadmium	4	0.6	U	0.4	U	1.0	U	0.84	
Calcium	NA	2400		15900	E	20600		55000	
Chromium	100	0.6	U	1.1	B	1.0	U	1.3	
Cobalt	NA	0.9	U	1.1	U	2.0	U	ND	
Copper	1000	1.5	U	0.7	U	23.3		1.1	
Iron	300	15.8	U	5450		3390		20900	E
Lead	10	3.0	U	2.6	B	3.0	U	ND	
Magnesium	NA	832	B	5410	B	6070		22000	
Manganese	50	13.1	B	122		99.6		306	E
Mercury	2	0.2	U	0.1	U	0.2	U	0.022	
Nickel	100	1.6	U	2	U	2.0	U	ND	
Potassium	NA	312	B,E	3990	B	3310		9080	
Selenium	50	1.6	U,*,J	8.6		5.0	U	ND	
Silver	NA	1.7	U	1.1	B	1.0	U	ND	
Sodium	50,000	3660	B	57400		15900		5210	
Thallium	10	4.3	U	2.3	U	7.0	U	ND	
Vanadium	NA	1.2	U	1.4	B	2.0	U	ND	
Zinc	5000	65.6	J	13.4	B	22.3	J	ND	

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J estimated value
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[1] Draft Remedial Invest. Rpt 1995, Brown and Root Env

TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	4MW0403		4MW402		4MW4991	
DATE COLLECTED	Groundwater	10/24/2001		9/13/2000		7/29/1999	
LOCATION	Quality	SITE 4, MW4		SITE 4, MW4		SITE 4, MW4	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED	
PARAMETER							
Aluminum	200	1730	J	2090		1770	
Antimony	20	8.9	U	4.1	U	5.0	U
Arsenic	8	9.6	B	2.7	U	6.0	U
Barium	2,000	20.1	B	22	B	19	
Beryllium	20	0.1	U	0.58	B	1.4	
Cadmium	4	0.6	U	0.8	U	1.0	U
Calcium	NA	411	B	383	B	1830	
Chromium	100	2.7	B	3	B	1.0	U
Cobalt	NA	0.9	U	1.2	U	2.0	U
Copper	1000	1.5	U	2.1	B	19.6	
Iron	300	91.5	B	1520		823	
Lead	10	3.0	U	7.5		3.0	U
Magnesium	NA	321	B	303	B	460	
Manganese	50	11.5	B	14	B	14.4	
Mercury	2	0.2	U	0.1	U	0.2	U
Nickel	100	3.2	B	2.6	B	2.0	U
Potassium	NA	236	B,E	496	B	307	
Selenium	50	3.7	B,*,J	2.2	U	5.0	U
Silver	NA	1.7	U	1.3	U	1.0	U
Sodium	50,000	2950	B	2460	B	3170	
Thallium	10	4.3	U	3.2	U	7.0	U
Vanadium	NA	1.3	B	2.3	B	2.0	J
Zinc	5000	64.5	J	63.9		40.5	

SAMPLE ID	NJDEP	4MW0403DI		4MW402F		4MW4991F		04GW04	
DATE COLLECTED	Groundwater	10/24/2001		9/13/2000		7/29/1999		1995 [1]	
LOCATION	Quality	SITE 4, MW4		SITE 4, MW4		SITE 4, MW4		SITE 4, MW4	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED			
PARAMETER									
Aluminum	200	31.6	B,J	1330		1080		1490	E J
Antimony	20	8.9	U	4.9	U	5.0	U	ND	
Arsenic	8	6.2	U	3.8	U	6.0	U	ND	
Barium	2,000	8.9	B	15.3	B,E	16.2		22.1	
Beryllium	20	0.1	U	0.1	U	1.4		1.6	
Cadmium	4	0.6	U	0.4	U	1.0	U	ND	
Calcium	NA	32300		354	B,E	1730		506	
Chromium	100	0.93	B	0.7	U	1.0	U	ND	
Cobalt	NA	0.9	U	1.1	U	2.0	U	ND	
Copper	1000	1.5	U	0.7	U	24.5		1.8	
Iron	300	6900		15.9	U	87.9		153	
Lead	10	3.0	U	2.9	B	3.0	U	ND	
Magnesium	NA	11000		262	B	411		273	
Manganese	50	162		11.5	B	10.8		12.8	
Mercury	2	0.2	U	0.1	U	0.2	U	0.005	
Nickel	100	1.6	U	2	U	2.0	U	2.4	
Potassium	NA	4290	B,E	200	B	222		350	
Selenium	50	3.4	B,*,J	2.6	B	5.0	U	ND	
Silver	NA	1.7	U	0.6	U	1.0	U	ND	
Sodium	50,000	39100		2400	B	2890		3600	
Thallium	10	4.3	U	2.3	U	7.0	U	ND	
Vanadium	NA	1.2	U	1.0	U	2.0	U	ND	
Zinc	5000	22.2	J	39.9		44.4		19.0	

U, ND not detected
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E estimated due to interference
J estimated value
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[1] Draft Remedial Invest. Rpt 1995, Brown and Root Env

TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	4MW0503		4MW502		4MW5991	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999	
LOCATION	Quality	SITE 4, MW5		SITE 4, MW5		SITE 4, MW5	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		FILTERED	
PARAMETER							
Aluminum	200	4130		5790		2220	
Antimony	20	8.9	U	4.9	U	5.0	U
Arsenic	8	6.2	U	6.9		6.0	U
Barium	2,000	14.0	B	24.6		11.9	
Beryllium	20	0.1	U	0.21		1.4	
Cadmium	4	0.6	U	0.4	U	1.0	U
Calcium	NA	5760		6290		6280	
Chromium	100	23.8		9.7		4.1	B
Cobalt	NA	0.9	U	1.6		2.0	U
Copper	1000	1.5	U	7.8		20.9	
Iron	300	10600		12700		5620	
Lead	10	3.0	U	5.3		3.0	U
Magnesium	NA	1550	B	1530		1110	
Manganese	50	31.5		36.5		18.6	
Mercury	2	0.2	U	0.1	U	0.2	U
Nickel	100	2.8	B	2.2		2.0	U
Potassium	NA	1180	B,E	18100		942	
Selenium	50	1.8	B,*,J	2.7		5.0	U
Silver	NA	1.7	U	1.1		1.0	U
Sodium	50,000	3370	B	4290		3600	
Thallium	10	4.3	U	2.3	U	7.0	U
Vanadium	NA	12.6	B	15.0		7.0	J,B
Zinc	5000	38.2	J	67.0		23.2	

SAMPLE ID	NJDEP	4MW0503DI		4MW502F		4MW5991F		04GW05	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999		1995 [1]	
LOCATION	Quality	SITE 4, MW5		SITE 4, MW5		SITE 4, MW5		SITE 4, MW5	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED			
PARAMETER									
Aluminum	200	1620		168	B	55.5		2690	E J
Antimony	20	8.9	U	4.9	U	5.0	U	ND	
Arsenic	8	6.2	U	3.8	U	6.0	U	ND	
Barium	2,000	18.8	B	12.9	B,E	8.3		961	
Beryllium	20	0.1	U	0.1	B	1.3		ND	
Cadmium	4	0.6	U	0.66	B	1.0	U	0.81	
Calcium	NA	577	B	4680	B,E	6540		6190	
Chromium	100	1.2	B	1.2	B	1.0	U	5.4	
Cobalt	NA	0.9	U	1.2	B	2.0	U	1.1	
Copper	1000	1.5	U	0.7	U	17.5		18.3	
Iron	300	108		56.2	B	100		7680	E
Lead	10	3.0	U	2.0	U	3.0	U	3	
Magnesium	NA	344	B	1190	B	1140		1180	
Manganese	50	11.3	B	18.2		11.4		28.2	
Mercury	2	0.2	U	0.1	U	0.2	U	0.06	
Nickel	100	1.6	U	2.0	U	2.0	U	2.2	
Potassium	NA	367	B,E	828	B	807		1660	
Selenium	50	1.6	U,*,J	2.2	U	5.0	U	ND	
Silver	NA	1.7	U	1.3	B	1.0	U	ND	
Sodium	50,000	4070	B	3050	B	3730		2290	
Thallium	10	4.3	U	2.3	U	7.0	U	ND	
Vanadium	NA	1.2	U	1.0	U	2.0	U	7.1	
Zinc	5000	65.4	J	35.1		24.8		558	

U, ND not detected
B less than Contract Detection but greater than Instrument Detection Limit
E estimated due to interference
J estimated value
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TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	4MW0603		4MW602		4MW6991	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/30/1999	
LOCATION	Quality	SITE 4, MW6		SITE 4, MW6		SITE 4, MW6	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED	
PARAMETER							
Aluminum	200	708		591		556	
Antimony	20	8.9	U	4.9	U	6.1	
Arsenic	8	6.2	U	3.8	U	6.0	U
Barium	2,000	16.7	B	17.2	B	26.6	
Beryllium	20	0.1	U	0.1	U	1.0	U
Cadmium	4	0.6	U	0.4	U	1.0	U
Calcium	NA	2050	B,J	1370	B	1730	
Chromium	100	12.2		0.85	B	1.0	U
Cobalt	NA	0.9	U	1.1	U	2.0	U
Copper	1000	11.1	B	0.92	B	11.9	
Iron	300	2620		1120		578	J
Lead	10	3.4		3.4		19.7	
Magnesium	NA	670	B	677	B	983	
Manganese	50	33.0		25.6		28.7	
Mercury	2	0.2	U	0.1	U	0.2	U
Nickel	100	4.5	B	2.0	U	2.0	U
Potassium	NA	349	B,E	441	B	368	
Selenium	50	1.6	U,*,J	2.2	U	5.0	U
Silver	NA	1.7	U	0.74	B	1.0	U
Sodium	50,000	3970	B	3450	B	3590	
Thallium	10	4.3	U	2.3	U	7.0	U
Vanadium	NA	1.2	U	1.5	B	2.0	U
Zinc	5000	41.6		40.6		33.3	J

SAMPLE ID	NJDEP	4MW0603DI		4MW602F		4MW6991F		04GW06	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/30/1999		1995 [1]	
LOCATION	Quality	SITE 4, MW6		SITE 4, MW6		SITE 4, MW6		SITE 4, MW6	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED			
PARAMETER									
Aluminum	200	149	B	467		523		578	E J
Antimony	20	8.9	U	4.9	U	5.0	U	ND	
Arsenic	8	6.2	U	5.7	B	6.0	U	ND	
Barium	2,000	6.5	B	16.1	B,E	25.9		22.9	
Beryllium	20	0.1	U	0.1	U	1.0	U	ND	
Cadmium	4	0.6	U	0.4	U	1.0	U	0.44	
Calcium	NA	6240	J	1140	B,E	1550		1420	
Chromium	100	0.85	B	0.86	B	1.0	U	ND	
Cobalt	NA	0.9	U	1.1	B	2.0	U	ND	
Copper	1000	1.5	U	0.7	U	12		1	
Iron	300	15.8	U	781		309	J	647	E
Lead	10	3.0	U	2	U	3.0		2.4	
Magnesium	NA	1610	B	632	B	940		735	
Manganese	50	7.2	B	24		29.2		28.1	
Mercury	2	0.2	U	0.1	U	0.2	U	0.01	
Nickel	100	1.6	U	2.0	U	2.0	U	1.0	
Potassium	NA	904	B,E	354	B	365		503	
Selenium	50	1.6	U,*,J	2.2	U	5.0	U	ND	
Silver	NA	1.7	U	0.81	B	1.0	U	ND	
Sodium	50,000	4090	B	2800	B	3270		3130	
Thallium	10	9.1	B	2.3	U	7.0	U	ND	
Vanadium	NA	1.2	U	1.0	U	2.0	U	ND	
Zinc	5000	29.6		23.6		33.4	J	4.0	

U, ND not detected
B less than Contract Detection but greater than Instrument Detection Limit
E estimated due to interference
J estimated value
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TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	4MW0703		4MW702		4MW7991	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999	
LOCATION	Quality	SITE 4, MW7		SITE 4, MW7		SITE 4, MW7	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED	
PARAMETER							
Aluminum	200	212		986		757	
Antimony	20	8.9	U	4.9	U	5.0	U
Arsenic	8	6.2	U	3.8	U	6.0	U
Barium	2,000	17.3	B	20.6	B	20.4	
Beryllium	20	0.1	U	0.1	U	1.3	
Cadmium	4	0.6	U	0.4	U	1.0	U
Calcium	NA	3610	B	4610	B	5170	
Chromium	100	3.6	B	2.5	B	1.2	
Cobalt	NA	0.9	U	1.1	B	2.0	U
Copper	1000	1.5	U	5.6	B	24	
Iron	300	219		2690		2210	
Lead	10	3.0	U	2.7	B	3.0	U
Magnesium	NA	884	B	1230	B	1130	
Manganese	50	19.2		28.7		21.5	
Mercury	2	0.2	U	0.1	U	0.2	U
Nickel	100	2.1	B	2.0	U	2.0	U
Potassium	NA	685	B,E	4520	B	784	
Selenium	50	3.7	B,*,J	2.2	U	5.0	U
Silver	NA	1.7	U	0.93	B	1.0	U
Sodium	50,000	3170	B	4180	B	4110	
Thallium	10	4.3	U	2.3	U	7.0	U
Vanadium	NA	1.2	U	4.4	B	3.2	J
Zinc	5000	34.7		63.7		25.3	

SAMPLE ID	NJDEP	4MW0703DI		4MW702F		4MW7991F		04GW07	
DATE COLLECTED	Groundwater	10/24/2001		9/12/2000		7/29/1999		1995 [1]	
LOCATION	Quality	SITE 4, MW7		SITE 4, MW7		SITE 4, MW7		SITE 4, MW7	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED			
PARAMETER									
Aluminum	200	104	B	128	B	50.2		107	
Antimony	20	8.9	U	4.9	U	5.0	U	ND	
Arsenic	8	6.2	U	3.8	U	6.0	U	ND	
Barium	2,000	17.3	B	16.9	B,E	18.6		20.4	
Beryllium	20	0.1	U	0.1	B	1.3		ND	
Cadmium	4	0.6	U	0.4	U	1.0	U	ND	
Calcium	NA	3780	B	3820	B,E	5130		4260	
Chromium	100	0.6	U	0.7	U	1.0	U	ND	
Cobalt	NA	0.9	U	1.1	U	2.0	U	0.69	
Copper	1000	1.5	U	0.7	U	18.7		1.7	
Iron	300	15.8	U	20.8	B	85.1		75.3	
Lead	10	3.0	U	2	U	3.0	U	ND	
Magnesium	NA	932	B	946	B	1110		1020	
Manganese	50	19.2		21.2		20.2		25.1	
Mercury	2	0.2	U	0.1	U	0.2	U	0.079	J
Nickel	100	1.6	U	2.0	U	2.0	U	4.6	
Potassium	NA	813	B,E	777	B	692		1080	
Selenium	50	1.6	U,*,J	2.5	B	5.0	U	ND	
Silver	NA	1.7	U	0.84	B	1.0	U	ND	
Sodium	50,000	3930	B	3020	B	4110		3100	
Thallium	10	4.3	U	2.3	U	8.6		ND	
Vanadium	NA	1.2	U	1.0	B	2.0	U	ND	
Zinc	5000	37.0		15.6	B	20.6		6.5	

U, ND not detected
B less than Contract Detection but greater than Instrument Detection Limit
E estimated due to interference
J estimated value
R rejected by data validation
[1] Draft Remedial Invest. Rpt 1995, Brown and Root Env

TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	5MW0103		5MW102		5MW1991		5DW1991	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		7/30/1999		7/30/1999	
LOCATION	Quality	SITE 5, MW1		SITE 5, MW1		SITE 5, MW1		SITE 5, MW1	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED		DUP. OF 5MW1991 NON-FILTERED	
PARAMETER									
Aluminum	200	2360		3030		2980		3650	
Antimony	20	8.9	U	4.1	U	5.0	U	5.0	U
Arsenic	8	6.2	U	2.7	U	6.0	U	6.0	U
Barium	2,000	50.5	B	61	B	50.3		50.8	
Beryllium	20	0.1	U	0.7	B	1.0	U	1.0	U
Cadmium	4	0.6	U	0.8	U	1.0	U	1.6	
Calcium	NA	3190	B,R	3080	B	2520		2480	
Chromium	100	11.5		33.1		25.8		45.2	J
Cobalt	NA	0.9	U	1.2	U	2.0	U	2.0	U
Copper	1000	1.5	U	3.4	B	22.8		25.9	
Iron	300	1220		5410		0		6640	J
Lead	10	3.1		6.9		4.2		3.1	
Magnesium	NA	506	B,R	941	B	1450		1730	
Manganese	50	9.5	B	16.5		21.7		22.0	
Mercury	2	0.2	U	0.1	U	0.2	U	0.2	U
Nickel	100	1.6	U	2.0	U	2.1		2.2	
Potassium	NA	2290	B,E	7570		1300		1830	
Selenium	50	5.6	*,J	2.2	U	5.0	U	5.0	U
Silver	NA	1.7	U	1.3	U	1.0	U	1.0	U
Sodium	50,000	1970	B,R	3480	B	4650		4750	
Thallium	10	4.3	U	3.2	U	7.0	U	8.1	
Vanadium	NA	3.1	B	22.1	B	8.9		23.3	
Zinc	5000	56.1	R	63.9		51.9		53.3	J

SAMPLE ID	NJDEP	5MW0103DI		5MW102F		5MW1991F		5DW1991F		05GW01	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		7/30/1999		7/30/1999		1995 [1]	
LOCATION	Quality	SITE 5, MW1		SITE 5, MW1		SITE 5, MW1		SITE 5, MW1		SITE 5, MW1	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED		DUP. OF 5MW1991 FILTERED			
PARAMETER											
Aluminum	200	1660		989		1520		1490		2150	E J
Antimony	20	8.9	U	4.9	U	5.0	U	7.1		ND	
Arsenic	8	6.2	U,J	3.8	U	6.0	U	6.0	U	ND	
Barium	2,000	50.3	B	45.8	B,E	52.8		52.2		47.5	
Beryllium	20	0.11	B	0.15	B	1.0	U	1.0	U	ND	
Cadmium	4	0.6	U	0.4	U	1.0	U	1.0	U	0.51	
Calcium	NA	3370	B,R	2930	B,E	1080		969		855	
Chromium	100	3.8	B	2.2	B	3.7		3.9		16.8	
Cobalt	NA	0.9	U	1.1	U	2.0	U	2.0	U	ND	
Copper	1000	1.5	U	0.7	U	9.1		10.8		1.1	
Iron	300	15.8	U	24.1	B	21	U	21	U	2670	E J
Lead	10	3.0	U	2.6	B	25.7	J	3.0	UJ	ND	
Magnesium	NA	531	B,R	518	B	1300		1280		2090	
Manganese	50	8.3	B	12.3	B	21.1		20.1		12.7	
Mercury	2	0.2	U	0.1	U	0.2	U	0.2	U	0.013	J
Nickel	100	1.6	U	2.0	U	2.0	U	2.0	U	2.6	
Potassium	NA	2540	B	4430	B	871		843		1820	
Selenium	50	1.6	U,J	3.5	B	5.0	U	5.0	U	ND	
Silver	NA	1.7	U	0.6	U	1.0	U	1.0	U	ND	
Sodium	50,000	3210	B,R	3230	B	4350		4240		6150	
Thallium	10	4.3	U	2.3	U	7.0	U	7.0	U	3.9	E J
Vanadium	NA	1.2	U	1.0	U	2.0	U	2.0	U	8.9	
Zinc	5000	54.8	R	31.2		43.1	J	41.2	J	6.1	R

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TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	5MW0203		5MW202		5MW2991	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		7/30/1999	
LOCATION	Quality	SITE 5, MW2		SITE 5, MW2		SITE 5, MW2	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED	
PARAMETER							
Aluminum	200	663		4410		3690	
Antimony	20	8.9	U	4.1	U	5.0	U
Arsenic	8	6.2	U	2.7	U	6.0	U
Barium	2,000	26.4	B	44.2	B	46	
Beryllium	20	0.1	U	1.2	B	1.0	U
Cadmium	4	0.6	U	0.8	U	1.8	
Calcium	NA	3910	B,R	3810	B	5740	
Chromium	100	2.2	B	35.4		17.2	
Cobalt	NA	2.7	B	4.1	B	3.4	
Copper	1000	1.5	U	7.4	B	19.4	
Iron	300	14000		15400		8090	J
Lead	10	3.0	U	11.7		9.9	
Magnesium	NA	1170	B,R	1750	B	1930	
Manganese	50	110		124		146	
Mercury	2	0.2	U	0.1	U	0.2	U
Nickel	100	6.9	B	13.8	B	8.3	
Potassium	NA	4340	B,E	6000		2190	
Selenium	50	3.3	B,*,J	2.2	U	5.0	U
Silver	NA	1.7	U	1.3	U	1.0	U
Sodium	50,000	4880	B,R	4900	B	3740	
Thallium	10	4.3	U	3.2	U	7.0	U
Vanadium	NA	1.6	B	28.5	B	12.0	
Zinc	5000	31.6	R	62.2		42.1	J

SAMPLE ID	NJDEP	5MW0203DI		5MW202F		5MW2991F		05GW02	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		7/30/1999		1995 [1]	
LOCATION	Quality	SITE 5, MW2		SITE 5, MW2		SITE 5, MW2		SITE 5, MW2	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED			
PARAMETER									
Aluminum	200	598		524		584		4310	E
Antimony	20	8.9	U	4.9	U	5.0	U	ND	
Arsenic	8	6.2	U,J	3.8	U	6.0	U	ND	
Barium	2,000	24.7	B	26.8	B,E	40.8		32.4	
Beryllium	20	0.1	U	0.13	B	1.0	U	0.29	
Cadmium	4	0.6	U	0.4	U	1.0	U	0.77	
Calcium	NA	3940	B,R	3500	B,E	5360		3530	
Chromium	100	1.7	B	0.7	U	1.0	U	5.6	
Cobalt	NA	3.5	B	2.8	B	3.7		10.1	
Copper	1000	1.5	U	0.7	U	13.2		ND	
Iron	300	12700		7680		2350	J	453	E
Lead	10	3.0	U	3.8		4.7		ND	
Magnesium	NA	1160	B,R	1090	B	1800		1280	
Manganese	50	103		112		160		65	E
Mercury	2	0.2	U	0.1	U	0.2	U	0.093	J
Nickel	100	7.2	B	10.5	B	8.8		25.5	
Potassium	NA	4530	B,E	3090	B	2070		2120	
Selenium	50	1.6	U,*,J	7.6		5.0	U	ND	
Silver	NA	1.7	U	0.6	U	1.0	U	ND	
Sodium	50,000	6370	R	4230	B	4160		4320	
Thallium	10	8.2	B	2.3	U	7.0	U	5.1	E J
Vanadium	NA	2.1	B	1.1	B	2.0	U	1.7	
Zinc	5000	44.4	R	29.0		38.9	J	ND	

U, ND not detected
B less than Contract Detection but greater than Instrument Detection Limit
E estimated due to interference
J estimated value
R rejected by data validation
[1] Draft Remedial Invest. Rpt 1995, Brown and Root Env

TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	5MW0303		5MWX03		5MW302		5MD302		5MW3991	
DATE COLLECTED	Groundwater	10/23/2001		10/23/2001		9/13/2000		9/13/2000		7/30/1999	
LOCATION	Quality	SITE 5, MW3		SITE 5, MW3		SITE 5, MW3		SITE 5, MW3		SITE 5, MW3	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED		DUPE. OF 5MW302 NON-FILTERED		NON-FILTERED	
PARAMETER											
Aluminum	200	11000		10800		16400		15600		10,000	
Antimony	20	8.9	U	8.9	U	4.1	U	4.1	U	5.0	U
Arsenic	8	6.9	B	6.2	U	2.7	U	2.7	U	6.0	U
Barium	2,000	34.2	B	32.6	B	35.8	B	34.8	B	28.4	
Beryllium	20	0.6	B	0.59	B	1.4	B	1.4	B	1.0	U
Cadmium	4	3.0	B	3.2	B	3.5	B	3.5	B	3.3	
Calcium	NA	1300	B,R	1330	B,R	1370	B	1350	B	2870	
Chromium	100	6.9	B	6.6	B	26.1		17.1		8.1	
Cobalt	NA	6.7	B	6.4	B	10.4	B	10.4	B	6.5	
Copper	1000	1.5	U	1.5	U	1.9	B	1.1	U	15.7	
Iron	300	136		148		3200		1400		342	J
Lead	10	3.0	U	3	U	5.8		6.6		3.0	U
Magnesium	NA	2130	B,R	1960	B,R	1700	B	1530	B	1800	
Manganese	50	57.9		56.2		73.8		72.4		105	
Mercury	2	0.2	U	0.2	U	0.1	U	0.1	U	0.2	U
Nickel	100	21.2	B	21.4	B	36.0	B	34.5	B	25.7	
Potassium	NA	1770	B,E	1700	B,E	3180	B	2600	B	1300	
Selenium	50	6.6	*,J	1.6	U,*,J	2.2	U	2.2	U	5.0	U
Silver	NA	1.7	U	1.7	U	1.3	U	1.3	U	1.0	U
Sodium	50,000	8030	R	7650	R	4990	B	4790	B	4860	
Thallium	10	4.3	U	4.3	U	3.2	U	3.2	U	7.0	U
Vanadium	NA	1.2	U	1.2	U	15.1	B	7.6	B	2.0	U
Zinc	5000	94.4	R	104	R	111		113		81.1	

SAMPLE ID	NJDEP	5MW0313DI		5MWX03DI		5MW302F		5MD302F		5MW3991F		05GW03	
DATE COLLECTED	Groundwater	10/23/2001		10/23/2001		9/13/2000		9/13/2000		7/30/1999		1995 [1]	
LOCATION	Quality	SITE 5, MW3		SITE 5, MW3		SITE 5, MW3		SITE 5, MW3		SITE 5, MW3		SITE 5, MW3	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED		DUPE. OF 5MW302 FILTERED		FILTERED			
PARAMETER													
Aluminum	200	10600		10600		14100		13900		9970		7870	E J
Antimony	20	8.9	U	8.9	U	4.9	U	4.9	U	5.0	U	ND	
Arsenic	8	6.2	U,J	6.2	U,J	3.8	U	3.8	U	6.0	U	ND	
Barium	2,000	30.8	B	30.5	B	27.7	B,E	27.4	B,E	27.3		25.9	
Beryllium	20	0.62	B	0.62	B	0.68	B	0.69	B	1.0	U	0.22	
Cadmium	4	2.6	B	2.4	B,R	3.7	B	3.7	B	3.2		1.9	
Calcium	NA	1450	,R	1330	B	1280	B,E	1280	B,E	2780		1120	
Chromium	100	6.2	B	7	B	7	B	7	B	6.2		12	
Cobalt	NA	7.6	B	7.6	B	9.4	B	9	B	7.5		4.7	
Copper	1000	2.6	B	2	B	0.7	U	0.7	U	10.3		1	
Iron	300	24.8	B	69.5	B	15.9	U	15.9	U	21	U	1450	E J
Lead	10	3.0	U	3	U	4.8		3.7		3.0	U	2.1	
Magnesium	NA	1940	B,R	1890	B,R	1360	B	1390	B	1670		1170	
Manganese	50	55.7		54.8		70.4		69.6		105		37.1	J
Mercury	2	0.2	U	0.2	U	0.1	U	0.1	U	0.2	U	0.012	J
Nickel	100	26.2	B	25.8	B	32.9	B	32.7	B	26.1		16.3	
Potassium	NA	1950	B,E	1870	B,E	1750	B	1730	B	1260		1760	
Selenium	50	1.6	U,*,J	2.5	B,*,J	3.4	B	2.6	B	5.0	U	ND	
Silver	NA	1.7	U	1.7	U	0.6	U	0.6	U	1.0	U	ND	
Sodium	50,000	9290	R	8680	R	4370	B	4450	B	4500		4800	
Thallium	10	4.3	U	4.3	U	2.3	U	2.3	U	7.0	U	ND	
Vanadium	NA	1.2	U	1.2	U	1.0	U	1.0	U	2.0	U	6.4	
Zinc	5000	115	R	99.7	R	82.3		84.9		82.2		34.8	R

U, ND not detected
B less than Contract Detection but greater than Instrument Detection Limit
E estimated due to interference
J estimated value
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[1] Draft Remedial Invest. Rpt 1995, Brown and Root Env

TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	5MW0503		5MW502		5MW5991	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		8/2/1999	
LOCATION	Quality	SITE 5, MW5		SITE 5, MW5		SITE 5, MW5	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED	
PARAMETER							
Aluminum	200	962		1850		2400	
Antimony	20	8.9	U	4.1	U	7.24	
Arsenic	8	6.2	U	2.7	U	6.0	U
Barium	2,000	27.3	B	43.6	B	67.3	
Beryllium	20	0.3	B	0.96	B	2.16	
Cadmium	4	0.6	U	2.1	B	1.0	U
Calcium	NA	7690	R	7650		9730	
Chromium	100	6.7	B	12.3		16.1	
Cobalt	NA	0.9	U	2.2	B	2.0	U
Copper	1000	3.1	B	6	B	2.58	
Iron	300	16500		8080		19,500	
Lead	10	3.0	U	6.7		3.32	
Magnesium	NA	4150	B,R	3830	B	5190	
Manganese	50	196		199		231	
Mercury	2	0.2	U	0.1	U	0.2	U
Nickel	100	12.0	B	38.5	B	25.0	
Potassium	NA	2090	B,E	3960	B	2550	
Selenium	50	4.8	B,*,J	2.2	U	3.17	
Silver	NA	1.7	U	1.3	U	1.0	U
Sodium	50,000	6090	R	14700		15,500	
Thallium	10	4.3	U	3.2	U	7.0	U
Vanadium	NA	4.3	B	14.9	B	2.12	
Zinc	5000	55.6	R	83.6		59.4	

SAMPLE ID	NJDEP	5MW0503DI		5MW502F		5MW5991F		05GW05	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		8/2/1999		1995 [1]	
LOCATION	Quality	SITE 5, MW5		SITE 5, MW5		SITE 5, MW5		SITE 5, MW5	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED			
PARAMETER									
Aluminum	200	643		1370		1970		2740	E
Antimony	20	8.9	U	4.9	U	11.1		ND	
Arsenic	8	6.2	U,J	7	B	6.0	U	ND	
Barium	2,000	21.1	B	32.2	B,E	68.1		65.5	
Beryllium	20	0.17	B	0.44	B	2.13		0.81	
Cadmium	4	0.6	U	0.4	U	1.0	U	1.0	
Calcium	NA	6560	R	6750	E	10,100		10300	
Chromium	100	4.2	B	6.2	B	11.5		6.9	
Cobalt	NA	0.9	U	1.1	U	2.0	U	3.8	
Copper	1000	1.5	U	0.7	U	1.79		ND	
Iron	300	15200.0		7540		17,900		2310	E
Lead	10	3.0	U	2.2	B	3.0	U	ND	
Magnesium	NA	3480	B,R	3420	B	5420		4860	
Manganese	50	162		174		240		171	E
Mercury	2	0.2	U	0.1	U	0.2	U	0.1	
Nickel	100	9.8	B	29.5	B	27.3		21.6	
Potassium	NA	1950	B,E	3370	B	2590		2320	
Selenium	50	1.6	U,*,J	9.2		2.31		ND	
Silver	NA	1.7	U	0.6	U	1.0	U	ND	
Sodium	50,000	5880	R	16000		14,500		4700	
Thallium	10	4.3	U	2.3	U	7.0	U	5.6	E J
Vanadium	NA	3.6	B	10.5	B	18.2		4.1	
Zinc	5000	31.5	R	47.4		49.4		65.4	R

U, ND not detected
B less than Contract Detection but greater than Instrument Detection Limit
E estimated due to interference
J estimated value
R rejected by data validation
[1] Draft Remedial Invest. Rpt 1995, Brown and Root Env

TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	5MW0603		5MW602		5MW6991	
DATE COLLECTED	Groundwater	10/23/2001		9/13/2000		8/2/1999	
LOCATION	Quality	SITE 5, MW6		SITE 5, MW6		SITE 5, MW6	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED	
PARAMETER							
Aluminum	200	3550		212		642	
Antimony	20	8.9	U	4.1	U	6.33	
Arsenic	8	6.4	B	5	B	6.0	U
Barium	2,000	59.6	B	30.4	B	18.2	
Beryllium	20	0.1	B	0.86	B	1.19	
Cadmium	4	0.6	U	0.8	U	1.0	U
Calcium	NA	21700		17900		13,800	
Chromium	100	17.1		3	B	6.44	
Cobalt	NA	0.9	U	1.2	U	3.11	
Copper	1000	35.5		1.7	B	18.6	
Iron	300	30300		79400		72,200	
Lead	10	79.6		3.7		3.25	
Magnesium	NA	3040	B	3480	B	4440	
Manganese	50	371		554		551	
Mercury	2	0.2	U	0.1	U	0.2	U
Nickel	100	1.6	U	2.0	U	8.35	
Potassium	NA	5630	E,J	6630		2490	
Selenium	50	1.6	U,*,J	2.6	B	5.0	U
Silver	NA	1.7	U	3.9	B	1.0	U
Sodium	50,000	3790	B	12900		16,900	
Thallium	10	7.8	B	3.2	U	7.0	U
Vanadium	NA	23	B	2.9	B	4.3	U
Zinc	5000	356		48.8		71.2	

SAMPLE ID	NJDEP	5MW0603DI		5MW602F		5MW6991F		05GW06	
DATE COLLECTED	Groundwater	10/23/2001		8/2/1999		8/2/1999		1995 [1]	
LOCATION	Quality	SITE 5, MW6		SITE 5, MW6		SITE 5, MW6		SITE 5, MW6	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED			
PARAMETER									
Aluminum	200	245		82.4	B	92.4		2600	E
Antimony	20	8.9	U	4.9	U	7.88		ND	
Arsenic	8	6.2	U,J	4.6	B	6.0	U	ND	
Barium	2,000	44.4	B	25.5	B,E	16.6		16.1	
Beryllium	20	0.1	U	0.1	U	1.2		ND	
Cadmium	4	0.6	U	0.4	U	1.0	U	7.2	E
Calcium	NA	21900	R	18300	E	13,200		4130	
Chromium	100	2.6	B	0.7	U	2.3		6.1	
Cobalt	NA	0.9	U	1.1	U	3.78		13.6	
Copper	1000	1.5	U	0.7	U	2.02		ND	
Iron	300	26600		82700		68,900		59,200	E
Lead	10	3.9	J	4.3		3.0	U	1.9	
Magnesium	NA	2940	B,R	3510	B	4310		3170	
Manganese	50	362		577		543		156	E
Mercury	2	0.2	U	0.1	U	0.2	U	0.13	
Nickel	100	1.6	U	2.0	U	8.77		30.8	
Potassium	NA	5920	E,J	6530		2040		1240	
Selenium	50	1.6	U,*,J	24.4		2.0	U	ND	
Silver	NA	1.7	U	1.6	B	1.0	U	ND	
Sodium	50,000	5140	R	13200		17,200		33,300	
Thallium	10	4.3	U	2.3	U	7.0	U	ND	
Vanadium	NA	4.7	B	3.6	B	2.0	U	ND	
Zinc	5000	40	R	24.4		57.9		179	R

U, ND not detected
B less than Contract Detection but greater than Instrument Detection Limit
E estimated due to interference
J estimated value
R rejected by data validation
[1] Draft Remedial Invest. Rpt 1995, Brown and Root Env

TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	5MW0703		5MW702		5MW7991	
DATE COLLECTED	Groundwater	10/23/2001		9/14/2000		7/30/1999	
LOCATION	Quality	SITE 5, MW7		SITE 5, MW7		SITE 5, MW7	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED	
PARAMETER							
Aluminum	200	343		3210		7550	
Antimony	20	8.9	U	4.1	U	5.0	U
Arsenic	8	6.2	U	7	B J	6.0	U
Barium	2,000	13.7	B	24.7	B	21.7	
Beryllium	20	0.1	U	1.6	B	1.0	U
Cadmium	4	0.6	U	2.5	B	14.3	
Calcium	NA	34100	R	36300		13,300	
Chromium	100	8.3	B	96.8		169	
Cobalt	NA	0.9	U	2.1	B	3.4	
Copper	1000	9.2	B	13	B	30	
Iron	300	42500		58200		48800	J
Lead	10	6.0		17.7		13.2	
Magnesium	NA	6900	R	4060	B	3070	
Manganese	50	322		342		177	
Mercury	2	0.2	U	0.1	U	0.2	U
Nickel	100	1.6	U	8.1	B	8.9	
Potassium	NA	3590	B,E	7270		3600	
Selenium	50	1.6	U,*,J	3.4	B J	5.0	U
Silver	NA	1.7	U	4.5	B	1.0	U
Sodium	50,000	3310	B,R	7380	J	6650	
Thallium	10	4.3	U	3.2	U	7.3	
Vanadium	NA	6.4	B	75.8		59.8	
Zinc	5000	98.5	R	321		390	

SAMPLE ID	NJDEP	5MW0703DI		5MW702F		5MW7991F		05GW07	
DATE COLLECTED	Groundwater	10/23/2001		9/14/2000		7/30/1999		1995 [1]	
LOCATION	Quality	SITE 5, MW7		SITE 5, MW8		SITE 5, MW7		SITE 5, MW7	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L		ug/L	
COMMENTS		FILTERED		FILTERED		FILTERED			
PARAMETER									
Aluminum	200	103	B	30.4	U	607		42,000	E
Antimony	20	8.9	U	4.1	U	5.0	U	ND	
Arsenic	8	6.2	U,J	26.1	J	6.0	U	5.3	
Barium	2,000	11.1	B	18.7	B,E	15.4		17.2	
Beryllium	20	0.1	U	1	B	1.0	U	1.1	
Cadmium	4	0.6	U	0.8	U	4.4		7.5	E
Calcium	NA	32900	R	34200	E J	11,900		7370	
Chromium	100	5.4	B	2	U	3.2		33.4	
Cobalt	NA	0.9	U	1.2	U	4.3		29.6	
Copper	1000	2.0	B	1.1	U	25.8		1.2	
Iron	300	42600		39000		26000	J	9140	E
Lead	10	3.2	J	7		3.0	U	ND	
Magnesium	NA	6750	R	3720	B	2330		6720	
Manganese	50	291		344		155		302	E
Mercury	2	0.2	U	0.1	U	0.2	U	0.13	
Nickel	100	1.6	U	2.0	U	8.7		102	E J
Potassium	NA	3460	B,E	6660		1690		2850	
Selenium	50	1.6	U,*,J	49.6	J	5.0	U	ND	
Silver	NA	1.7	U	2.8	B	1.0	U	ND	
Sodium	50,000	3410	B,R	4100	B	6020		10,200	
Thallium	10	4.3	U	3.2	U	7.0	U	ND	
Vanadium	NA	5.2	B	1.9	U	2.0	U	10.8	
Zinc	5000	37.2	R	17.7	B	129		1170	R

U, ND not detected
B less than Contract Detection but greater than Instrument Detection Limit
E estimated due to interference
J estimated value
R rejected by data validation
[1] Draft Remedial Invest. Rpt 1995, Brown and Root Env

TABLE 3
Sites 4 and 5 Inorganics Analytical Data

SAMPLE ID	NJDEP	5MW0803		5MW802		5MW801	
DATE COLLECTED	Groundwater	10/23/2001		9/14/2000		8/25/1999	
LOCATION	Quality	SITE 5, MW8		SITE 5, MW8		SITE 5, MW8	
MATRIX	Critieria	AQUEOUS		AQUEOUS		AQUEOUS	
UNITS	ug/L	ug/L		ug/L		ug/L	
COMMENTS		NON-FILTERED		NON-FILTERED		NON-FILTERED	
PARAMETER							
Aluminum	200	1730		824		4340	
Antimony	20	8.9	U	4.1	U	5.0	U
Arsenic	8	6.2	U	2.7	U	6.0	U
Barium	2,000	34.0	B	30.3	B	40.5	
Beryllium	20	0.1	U	0.8	B	1.0	U
Cadmium	4	0.6	U	0.8	U	1.0	U
Calcium	NA	2190	B,R	2730	B	3,640	
Chromium	100	18.7		17.5		70.4	
Cobalt	NA	0.9	U	1.2	U	2.0	U
Copper	1000	1.5	U	14.2	B	17.1	
Iron	300	1230		1430		6690	
Lead	10	3.0	U	6.6	J	15.6	
Magnesium	NA	1870	B,R	1870	B	2620	
Manganese	50	22.9		19.6		50.2	
Mercury	2	0.2	U	0.1	U	0.2	U
Nickel	100	1.6	U	4.6	B	6.18	
Potassium	NA	923	B,E	1210	B	1180	
Selenium	50	2.5	B,*,J	2.2	U J	7.15	
Silver	NA	1.7	U	1.3	U	1.22	
Sodium	50,000	3950	B,R	8930	J	6030	
Thallium	10	4.3	U	3.2	U	7.0	U
Vanadium	NA	4.6	B	7.8	B	28.0	
Zinc	5000	37.7	R	101		48.3	

SAMPLE ID	NJDEP	5MW0803DI		5MW802F				05GW08	
DATE COLLECTED	Groundwater	10/23/2001		9/14/2000				1995 [1]	
LOCATION	Quality	SITE 5, MW8		SITE 5, MW8				SITE 5, MW8	
MATRIX	Critieria	AQUEOUS		AQUEOUS				AQUEOUS	
UNITS	ug/L	ug/L		ug/L				ug/L	
COMMENTS		FILTERED		FILTERED					
PARAMETER									
Aluminum	200	552		390				497	E
Antimony	20	8.9	U	4.1	U			ND	
Arsenic	8	6.2	U,J	3	B			ND	
Barium	2,000	29.3	B	29.7	B,E			31	
Beryllium	20	0.1	U	0.32	B			ND	
Cadmium	4	0.6	U	0.8	U			ND	
Calcium	NA	2200	B,R	1770	B,E			2490	
Chromium	100	4.5	B	4.6	B			4.7	
Cobalt	NA	0.9	U	1.2	U			ND	
Copper	1000	1.5	U	4.6	B			1	
Iron	300	110.0		26.3	U			331	E
Lead	10	3.0	U	7.3	J			ND	
Magnesium	NA	1670	B,R	1810	B			1800	
Manganese	50	18.4		18				18.9	
Mercury	2	0.2	U	0.1	U			0.11	J
Nickel	100	1.6	U	2.0	U			ND	
Potassium	NA	791	B,E	980	B			945	
Selenium	50	1.6	U,*,J	12.7	J			ND	
Silver	NA	1.7	U	1.3	U			ND	
Sodium	50,000	4500	B,R	4590	B			3,920	
Thallium	10	4.3	U	3.2	U			ND	
Vanadium	NA	1.2	U	1.9	U			1.2	
Zinc	5000	40.3	R	87	J			ND	

U, ND not detected
B less than Contract Detection but greater than Instrument Detection Limit
E estimated due to interference
J estimated value
R rejected by data validation
[1] Draft Remedial Invest. Rpt 1995, Brown and Root Env

TABLE 4
Sites 4 and 5 General Chemisty Analytical Results

	SAMPLE ID	**NJDEP**	**4MW0103**	4MW102	4MW1991	4DW1991	**4MW0203**	4MW202	4MW2991
	DATE COLLECTED	**Groundwater**	**10/24/2001**	7/29/1999	7/29/1999	7/29/1999	**10/24/2001**	9/12/2000	7/29/1999
	LOCATION	**Quality Critieria**	**SITE 4, MW1**	SITE 4, MW1	SITE 4, MW1	SITE 4, MW1	**SITE 4, MW2**	SITE 4, MW2	SITE 4, MW2
	MATRIX	**ug/L**	**AQUEOUS**	AQUEOUS	AQUEOUS	AQUEOUS	**AQUEOUS**	AQUEOUS	AQUEOUS
	COMMENTS					DUPE OF 4MW1991			
PARAMETER	**units**								
Ammonia-Nitrogen	mg/L	500	<0.2	<0.2	<0.1	0.51	<0.2	<0.2	0.552
Chemical Oxygen Demand	mg/L	NA	5	<5.0	<5.0	<5.0	9	<5.0	6.00
Chloride	mg/L	250,000	6	5.7	<5.0	5.31	11	17	10.6
Flouride	mg/L	2000	0.15	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	1,000	<0.55	<0.55	<0.05	<0.05	<0.55	0.57	<0.05
Nitrate	mg/L	10,000	<2	<0.55	<0.05	<0.05	<2	57	<0.05
Sulfate	mg/L	250,000	14	20	3.43	3.43	18	19	<1.0
Total Alkalinity	ppm $CaCO_3$	NA	<2.0	<2	<2.0	<5.0	<2.0	<2	82.0
Total Organic Carbon	mg/L	NA	5.5	3.5	<10.0	<10.0	18	18	<10.0
Total Phenolics	mg/L	NA	<0.025	<0.025	<0.05	<0.05	<0.025	<0.025	<0.05
pH (standard units)	**lab**	NA	3.95	4.1	4.05	4.30	6.39	6.5	5.95
	field[1]	-	4.33	4.16	4.42	4.42	6.2	6.47	6.65
Conductivity	**lab** umhos/cm	NA	74	74	53.5	51.8	310	320	162.8
	field[1] mu/cm	-	7	0.064	0.002	0.002	40	0.335	0.295
Oxidation/Reduction (ORP)	**field**[1] Mv	-	397	281	411	411	7	-16	-18
Dissolved Oxygen (DO)	**field**[1] mg/L	-	10.24	13.95	8.4	8.4	0.69	11.02	3.27
Turbidity	**lab** NTU	NA	1.8	69	1.8	0.8	93	440	0.6
	field[1] NTU	-	20.3	57	N/A	N/A	55.1	227	N/A
TPH	mg/L		N/A	N/A	N/A	N/A	N/A	N/A	N/A

NA not applicable
N/A not available
[1] Field data, last reading used for comparison

TABLE 4
Sites 4 and 5 General Chemisty Analytical Results

	SAMPLE ID	NJDEP Groundwater Quality Critieria ug/L	4MW0403	4MW402	4MW4991	4MW0503	4MW502	4MW5991
	DATE COLLECTED		10/24/2001	9/13/2000	7/29/1999	10/24/2001	9/12/2000	7/29/1999
	LOCATION		SITE 4, MW4	SITE 4, MW4	SITE 4, MW4	SITE 4, MW5	SITE 4, MW5	SITE 4, MW5
	MATRIX		AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
	COMMENTS							
PARAMETER	**units**							
Ammonia-Nitrogen	mg/L	500	<0.2	<0.2	0.768	<0.2	<0.2	0.407
Chemical Oxygen Demand	mg/L	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloride	mg/L	250,000	6	5.0	<5.0	11.0	11	5.31
Flouride	mg/L	2000	0.17	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	1,000	<0.55	<0.55	<0.05	<0.55	<0.55	<0.05
Nitrate	mg/L	10,000	<2	<0.55	<0.05	<2	<0.55	0.211
Sulfate	mg/L	250,000	10	11	2.12	12	10	<1.0
Total Alkalinity	ppm $CaCO_3$	NA	<2.0	12	<5.0	<2.0	<2	2.00
Total Organic Carbon	mg/L	NA	2.9	2.2	<10.0	6.1	3.7	<10.0
Total Phenolics	mg/L	NA	<0.025	<0.025	<0.05	<0.025	<0.025	<0.05
pH (standard units)	**lab**	NA	4.15	4.5	4.8	5.23	5.20	5.20
	field[1]	-	4.40	4.31	4.46	5.62	151	5.49
Conductivity	**lab** umhos/cm	NA	50	49	31.8	61	63	40.6
	field[1] mu/cm	-	6	0.038	0.041	5	0.052	0.051
Oxidation/Reduction (ORP)	**field**[1] Mv	-	401	348	314	190	283	306
Dissolved Oxygen (DO)	**field**[1] mg/L	-	10.49	11.87	8.01	0.00	13.53	6.64
Turbidity	**lab** NTU	NA	0.5	42	7.5	60	430	1.9
	field[1] NTU	-	12.6	56	N/A	148	151	N/A
TPH	mg/L		N/A	N/A	N/A	N/A	N/A	N/A

NA not applicable
N/A not available
[1] Field data, last reading used for comparison

TABLE 4
Sites 4 and 5 General Chemisty Analytical Results

	SAMPLE ID	NJDEP	4MW0603	4MW602	4MW6991	4MW0703	4MW702	4MW7991
	DATE COLLECTED	Groundwater	10/24/2001	9/12/2000	7/30/1999	10/24/2001	9/12/2000	7/29/1999
	LOCATION	Quality Critieria	SITE 4, MW6	SITE 4, MW6	SITE 4, MW6	SITE 4, MW7	SITE 4, MW7	SITE 4, MW7
	MATRIX	ug/L	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
	COMMENTS							
PARAMETER	**units**							
Ammonia-Nitrogen	mg/L	500	<0.2	<0.2	0.258	<0.2	<0.2	0.42
Chemical Oxygen Demand	mg/L	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloride	mg/L	250,000	7	6.9	<5.0	6	8.2	7.09
Flouride	mg/L	2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	1,000	<0.55	<0.55	<0.05	<0.55	<0.55	0.053
Nitrate	mg/L	10,000	<2	<0.55	<0.05	<2	<0.55	<0.05
Sulfate	mg/L	250,000	8	<1.0	2.56	10	12	<1.0
Total Alkalinity	ppm $CaCO_3$	NA	<2.0	<2	<5.0	<2.0	<2	3.00
Total Organic Carbon	mg/L	NA	4.6	3	<10.0	2.5	2.2	<10.0
Total Phenolics	mg/L	NA	<0.025	<0.025	<0.05	<0.025	<0.025	<0.05
pH (standard units)	**lab**	NA	4.30	4.9	4.15	4.91	5.1	5.25
	field[1]	-	4.44	4.23	4.32	5.03	4.9	5.28
Conductivity	**lab** umhos/cm	NA	53	48	34.6	49	58	37.5
	field[1] mu/cm	-	6	0.04	0.048	0	0.042	0.047
Oxidation/Reduction (ORP)	**field**[1] Mv	-	351	315	302	328	290	321
Dissolved Oxygen (DO)	**field**[1] mg/L	-	0.00	11.49	3.08	8.68	13.78	6.89
Turbidity	**lab** NTU	NA	0.4	2.5	39	13	100	0.5
	field[1] NTU	-	7.6	19	N/A	14.6	129	N/A
TPH	mg/L		N/A	N/A	N/A	N/A	N/A	N/A

NA not applicable
N/A not available
[1] Field data, last reading used for comparison

TABLE 4
Sites 4 and 5 General Chemisty Analytical Results

	SAMPLE ID	**NJDEP**	**5MW0103**	5MW102	5MW1991	5DW1991	**5MW0203**	5MW202	5MW2991
	DATE COLLECTED	**Groundwater**	**10/23/2001**	9/13/2000	7/30/1999	7/30/1999	**10/23/2001**	9/13/2000	7/30/1999
	LOCATION	**Quality Critieria**	**SITE 5, MW1**	SITE 5, MW1	SITE 5, MW1	SITE 5, MW1	**SITE 5, MW2**	SITE 5, MW2	SITE 5, MW2
	MATRIX	**ug/L**	**AQUEOUS**	AQUEOUS	AQUEOUS	AQUEOUS	**AQUEOUS**	AQUEOUS	AQUEOUS
	COMMENTS					DUPE OF 5MW1991			
PARAMETER	**units**								
Ammonia-Nitrogen	mg/L	500	<2.0	<0.2	<0.1	<0.1	<2.0	<0.2	0.122
Chemical Oxygen Demand	mg/L	NA	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7.00
Chloride	mg/L	250,000	3	2.4	<5.0	5.31	12	10	5.31
Flouride	mg/L	2000	0.15	<0.1	<0.1	<0.1	0.2	<0.1	0.2
Nitrite	mg/L	1,000	<0.55	<0.55	<0.05	0.052	<0.55	<0.55	<0.05
Nitrate	mg/L	10,000	<2	<0.55	0.514	0.514	<2	<0.55	<0.05
Sulfate	mg/L	250,000	15	24	1.68	1.68	18	24	2.99
Total Alkalinity	ppm $CaCO_3$	NA	<2.0	35	<5.0	<5.0	8	12	<5.0
Total Organic Carbon	mg/L	NA	5.4	2.9	<10.0	<10.0	3.9	2.5	<10.0
Total Phenolics	mg/L	NA	<0.025	<0.025	<0.05	<0.05	<0.025	<0.025	<0.05
pH (standard units)	**lab**	NA	4.51	4.9	4.05	4.1	5.48	4.5	4.15
	field[1]	-	4.57	4.46	N/A	N/A	5.10	4.79	4.56
Conductivity	**lab** umhos/cm	NA	61	76	50.2	44.2	100	100	62.8
	field[1] mu/cm	-	7	0.066	-0.105	-0.105	15	0.1	0.073
Oxidation/Reduction (ORP)	**field**[1] Mv	-	201	263	N/A	N/A	-67	22	133
Dissolved Oxygen (DO)	**field**[1] mg/L	-	5.3	12.9	5.36	5.36	0.00	12.33	1.5
Turbidity	**lab** NTU	NA	0.8	22	270	160	1.3	64	14.8
	field[1] NTU	-	15.8	37	N/A	N/A	3.2	75	N/A
TPH	mg/L		N/A	N/A	N/A	N/A	N/A	<1.0	N/A

NA not applicable
N/A not available
[1] Field data, last reading used for comparison

TABLE 4
Sites 4 and 5 General Chemisty Analytical Results

	SAMPLE ID	**NJDEP**	**5MW0303**	**5MWX03**	5MW302	5MD302	5MW3991	**5MW0503**	5MW502	5MW5991
	DATE COLLECTED	**Groundwater**	**10/23/2001**	**10/23/2001**	9/13/2000	9/13/2000	7/30/1999	**10/23/2001**	9/13/2000	8/2/1999
	LOCATION	**Quality Critieria**	**SITE 5, MW3**	**SITE 5, MW3**	SITE 5, MW3	SITE 5, MW3	SITE 5, MW3	**SITE 5, MW5**	SITE 5, MW5	SITE 5, MW5
	MATRIX	**ug/L**	**AQUEOUS**	**AQUEOUS**	AQUEOUS	AQUEOUS	AQUEOUS	**AQUEOUS**	AQUEOUS	AQUEOUS
	COMMENTS					DUPE OF 5MW302				
PARAMETER	**units**									
Ammonia-Nitrogen	mg/L	500	<2.0	<2.0	<0.2	<0.2	<0.1	<2.0	<0.2	<0.1
Chemical Oxygen Demand	mg/L	NA	<5.0	<5.0	<5.0	<5.0	<5.0	23	14.0	17.0
Chloride	mg/L	250,000	19	19	10	10	5.31	9	10	31.9
Flouride	mg/L	2000	<0.1	0.12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrite	mg/L	1,000	<0.55	<0.55	<0.55	<0.55	<0.05	<0.55	<0.55	<0.05
Nitrate	mg/L	10,000	<2	<2	<0.55	<0.55	0.87	<2	<0.55	<0.05
Sulfate	mg/L	250,000	61	52	130	10	15.7	32	80	40.6
Total Alkalinity	ppm $CaCO_3$	NA	<2.0	3	40	10	<5.0	<2.0	15.0	5.0
Total Organic Carbon	mg/L	NA	3.1	2.2	3.6	2.8	<10.0	10	7.6	<10.0
Total Phenolics	mg/L	NA	<0.025	<0.025	<0.025	<0.025	<0.05	0.04	<0.025	<0.05
pH (standard units)	**lab**	NA	4.46	4.59	4.2	4.2	3.75	5.03	4.9	4.75
	field[1]	-	4.08	4.08	4	4	3.94	5.26	4.8	4.69
Conductivity	**lab** umhos/cm	NA	180	180	210	210	137.6	130	190	172
	field[1] mu/cm	-	22	22	0.209	0.209	0.157	17	0.21	29
Oxidation/Reduction (ORP)	**field**[1] Mv	-	445	445	377	377	313	-94	21	-8
Dissolved Oxygen (DO)	**field**[1] mg/L	-	5.82	5.82	10.93	10.93	5	2.99	13.8	2.26
Turbidity	**lab** NTU	NA	0.3	0.3	15.0	15.0	31.0	0.1	5	7.3
	field[1] NTU	-	2.4	2.4	30.1	30.1	N/A	14.52	48	21
TPH	mg/L		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NA not applicable
N/A not available
[1] Field data, last reading used for comparison

TABLE 4
Sites 4 and 5 General Chemisty Analytical Results

	SAMPLE ID	NJDEP	5MW0603	5MW602	5MW6991	5MW0703	5MW702	5MW7991
	DATE COLLECTED	Groundwater	10/23/2001	9/13/2000	8/2/1999	10/23/2001	9/14/2000	7/30/1999
	LOCATION	Quality Critieria	SITE 5, MW6	SITE 5, MW6	SITE 5, MW6	SITE 5, MW7	SITE 5, MW7	SITE 5, MW7
	MATRIX	ug/L	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS	AQUEOUS
	COMMENTS							
PARAMETER	**units**							
Ammonia-Nitrogen	mg/L	500	0.58	<0.2	<0.1	5.7	<0.2	<0.1
Chemical Oxygen Demand	mg/L	NA	49.0	15.0	11.0	70.0	36.0	16.0
Chloride	mg/L	250,000	7	19	24.8	7	10	<5.0
Flouride	mg/L	2000	0.21	<0.1	<0.1	0.19	<0.1	<0.1
Nitrite	mg/L	1,000	<0.55	<0.55	<0.05	<0.55	<0.55	<0.05
Nitrate	mg/L	10,000	3	<0.55	<0.05	9	<0.55	<0.05
Sulfate	mg/L	250,000	8	54	98.1	20	31	2.12
Total Alkalinity	ppm $CaCO_3$	NA	59.0	15	29	<2.0	<2	<5.0
Total Organic Carbon	mg/L	NA	19	150	<10.0	30	10	<10.0
Total Phenolics	mg/L	NA	<0.025	<0.025	<0.05	0.06	<0.025	<0.05
pH (standard units)	**lab**	NA	5.32	5.8	5.6	6.21	5.9	4.4
	field[1]	-	5.61	5.69	5.67	5.85	5.77	N/A
Conductivity	**lab** umhos/cm	NA	160	400	232	220	320	174.6
	field[1] mu/cm	-	25	0.428	43	41	0.357	-0.075
Oxidation/Reduction (ORP)	**field**[1] Mv	-	-105	-36	-66	-128	-131	N/A
Dissolved Oxygen (DO)	**field**[1] mg/L	-	0.00	19.6	3.54	2.78	15.86	1.57
Turbidity	**lab** NTU	NA	8.3	21	14.8	16	82.0	44.0
	field[1] NTU	-	18	25	27	100	66.7	N/A
TPH	mg/L		N/A	N/A	N/A	N/A	N/A	N/A

NA not applicable
N/A not available
[1] Field data, last reading used for comparison

TABLE 4
Sites 4 and 5 General Chemisty Analytical Results

	SAMPLE ID	NJDEP	5MW0803	5MW802	5MW801
	DATE COLLECTED	Groundwater	10/23/2001	9/14/2000	8/25/1999
	LOCATION	Quality Critieria	SITE 5, MW8	SITE 5, MW8	SITE 5, MW8
	MATRIX	ug/L	AQUEOUS	AQUEOUS	AQUEOUS
	COMMENTS				
PARAMETER	**units**				
Ammonia-Nitrogen	mg/L	500	<2.0	<0.02	0.378
Chemical Oxygen Demand	mg/L	NA	<5.0	<5.0	<5.0
Chloride	mg/L	250,000	7	8.1	5.31
Flouride	mg/L	2000	<0.1	<0.1	<0.1
Nitrite	mg/L	1,000	<0.55	<0.55	<0.05
Nitrate	mg/L	10,000	<2	<0.55	0.617
Sulfate	mg/L	250,000	11	16	9.56
Total Alkalinity	ppm $CaCO_3$	NA	160	<2	<2.0
Total Organic Carbon	mg/L	NA	2.3	1.2	<10.0
Total Phenolics	mg/L	NA	<0.025	<0.025	<0.05
pH (standard units)	**lab**	NA	4.71	4.9	5.2
	field[1]	-	4.96	4.73	N/A
Conductivity	**lab** umhos/cm	NA	53	64	64.8
	field[1] mu/cm	-	5	0.055	N/A
Oxidation/Reduction (ORP)	**field**[1] Mv	-	250	299	N/A
Dissolved Oxygen (DO)	**field**[1] mg/L	-	4.33	11.8	N/A
Turbidity	**lab** NTU	NA	0.8	11	2.8
	field[1] NTU	-	14.7	25	N/A
TPH	mg/L		N/A	4	N/A

NA not applicable
N/A not available
[1] Field data, last reading used for comparison

APPENDIX B

DATA VALIDATION REPORT

Foster Wheeler Environmental Corporation
Data Validation Report

Project: NWS - Earle

Laboratory: Chemtech

Project No.: N6426

Client Sample ID.	Lab ID
4MW01-03	N6426-01, 08
4MW02-03	N6426-02, 09
4MW04-03	N6426-03, 10
4MW05-03	N6426-04, 11
4MW06-03	N6426-05, 12
4MW07-03	N6426-06, 13
Trip Blank	N6426-07

Seven aqueous samples were analyzed by Chemtech for the volatiles, and total and dissolved metals and mercury. A screening data validation was performed using, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999, Evaluation of Metals Data for the Contract Laboratory Program (SOP Rev. XI, 1/92) and best professional judgement. Data qualifier definitions are as follows:

U The analyte was analyzed for, but not detected above the reported sample quantitation limit.

R The sample results are rejected (unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified. Inorganic values are stricken out in red when determined to be unusable.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Validation consisted of checking and verifying that the criteria listed below were within acceptable QC limits.

- Holding Time
- Blank Contamination
- Surrogate Recoveries
- Matrix Spike
- Blank Spikes
- Calibrations
- Internal Standards
- Interference Check Sample (ICS)
- Lab Duplicates
- Laboratory Control Samples (LCS)
- Serial Dilution

Holding Times
All samples were prepped and analyzed within specified holding times.

Blank Contamination
No qualifications were required.

Surrogates
All recoveries were within specified limits.

Blank Matrix Spike
Cis-1,2-dichloroethene was estimated (J) in samples 4MW02-03 and 4MW05-03 due to high recovery in the blank matrix spike analyses.

Laboratory Control Sample (LCS)
The metals LCS was acceptable.

Interference Check Sample
The ICS met recovery criteria.

Calibrations
All criteria were met.

Internal Standards
All areas were within specified limits

Lab Duplicates
Selenium was estimated (J/UJ) in all samples for exceeding criteria.

Serial Dilution
Potassium %D exceeded 10% between the initial and serial dilution results, but no action was required.

Total/Dissolved
The total and dissolved results for the elements indicated in the following samples were qualified as estimated (J) in because the dissolved metals value was greater than the CRDL and exceeded the total metals result by more than 10%.

4MW02-03: Al, Zn
4MW04-03: Al, Zn
4MW05-03: Zn
4MW06-03: Ca

Miscellaneous
The results for sample 4MW04-03 appear inconsistent between the total and dissolved analyses. It is likely that the samples were mislabeled either in the field or the laboratory. Therefore, the identifications were reversed for the 2 analyses by the reviewer.

Reviewed by: Cecelia N. Minch Date: 1/9/02
Cecelia N. Minch

Foster Wheeler Environmental Corporation
Data Validation Report

Project: NWS - Earle

Laboratory: Chemtech

Project No.: N6407

Client Sample ID.	Lab ID
5MW05-03	N6407-01, 10
5MW08-03	N6407-02, 11
5MW01-03	N6407-03, 12
5MW02-03	N6407-04, 13
5MW07-03	N6407-05, 14
5MWX-03	N6407-06, 15
5MW03-03	N6407-07, 16
FB	N6407-08, 17
5MW06-03	N6407-09, 18

Nine aqueous samples were analyzed by Chemtech for the volatiles, and total and dissolved metals and mercury. A screening data validation was performed using, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999, Evaluation of Metals Data for the Contract Laboratory Program (SOP Rev. XI, 1/92) and best professional judgement. Data qualifier definitions are as follows:

U The analyte was analyzed for, but not detected above the reported sample quantitation limit.

R The sample results are rejected (unusable) due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified. Inorganic values are stricken out in red when determined to be unusable.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

Validation consisted of checking and verifying that the criteria listed below were within acceptable QC limits.

- Holding Time
- Blank Contamination
- Surrogate Recoveries
- Matrix Spike
- Blank Spikes
- Calibrations
- Internal Standards
- Interference Check Sample (ICS)
- Lab Duplicates
- Field Duplicates
- Laboratory Control Samples (LCS)
- Serial Dilution

Holding Times
All samples were prepped and analyzed within specified holding times.

Blank Contamination
Calcium, Mg and Na were qualified as unusable (R) in all total and dissolved metals analyses except the FB due to field blank contamination. Zinc was also qualified unusable in all samples except the FB and total metals analysis of 5MW06-03 due to similar contamination in the field blank.

Surrogates
All recoveries were within specified limits.

Matrix Spike
Spike recoveries were acceptable.

Laboratory Control Sample (LCS)
The metals LCS was acceptable.

Interference Check Sample
The ICS met recovery criteria.

Calibrations
Lead was estimated (J) in the dissolved metals analyses of samples 5MW06-03 and 5MW07-03 for exceeding criteria in the associated CRI standard. Arsenic was estimated (UJ) in all dissolved metals analyses due to low CRI recovery.

Internal Standards
All areas were within specified limits

Lab Duplicates
Selenium was estimated (J/UJ) in all samples for exceeding criteria.

Field Duplicates
Selenium failed criteria in the total metals analyses of 5MW03-03 and it's duplicate, 5MWX-03. Both samples were previously qualified for other criteria.

Serial Dilution
Potassium was estimated (J) in the total and dissolved metals analyses of sample 5MW06-03 due to %D > 10% between the initial and serial dilution results.

Total/Dissolved
The total and dissolved results for Na and Zn were qualified as estimated (J) in the FB because the dissolved metals value was greater than the CRDL and exceeded the total metals result by more than 10%. Sodium and Zn in samples 5MW02-03, 5MW03-03, and Na in 5MW06-03 and 5MWX-03 also failed criteria, but were previously qualified.

Reviewed by: Cecelia N. Minch Date: 1/8/02
Cecelia N. Minch

APPENDIX C

LABORATORY ANALYTICAL DATA

CHEMTECH 284 Sheffield Street • Mountainside, NJ 07092 Phone: 908.789.8900 Fax: 908.789.8922

DATA PACKAGE FOR RESULTS SUMMARY

PROJECT NAME: NWS EARLE

FOSTER WHEELER
ONE OXFORD VALLEY, SUITE 200
2300 LINCOLN HIGHWAY EAST
LANGHORNE, PA 19047
215-702-4015

CHEMTECH PROJECT#: N6426
ATTENTION: MIKE HEFFRON

www.chemtech.net

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW01-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102617.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	1.5	
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	1	
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW01-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102617.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW02-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102618.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	1	—
78-93-3	2-Butanone	2.8	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

4MW02-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102618.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW04-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102619.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW04-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102619.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW05-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102620.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	15	
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	5	
78-93-3	2-Butanone	2.8	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW05-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102620.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW06-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102621.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW06-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102621.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW07-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102622.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
4MW07-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102622.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/27/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
TRIPBLANK

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O07

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102610.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/26/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	1.3	
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

TRIPBLANK

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRONMENTAL CO

Project No.: N6426 Site: NWS EARLI Location: LB17281 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O07

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102610.D

Level: (low/med) Date Received: 10/24/01

% Moisture: not dec. 100 Date Analyzed: 10/26/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

4MW01-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-01 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1570			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	17.2	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	2010	B		P
7440-47-3	Chromium	7.8	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	1740			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	731	B		P
7439-96-5	Manganese	13.9	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.6	B		P
7440-09-7	Potassium	310	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	2410	B		P
7440-28-0	Thallium	4.5	B		P
7440-62-2	Vanadium	2.2	B		P
7440-66-6	Zinc	59.0			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

4MW01-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-08 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1340			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	16.2	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	2110	B		P
7440-47-3	Chromium	1.4	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	621			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	763	B		P
7439-96-5	Manganese	14.1	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	283	B	E	P
7782-49-2	Selenium	2.2	B	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	2800	B		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	58.7			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

4MW02-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-02 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	304		J	P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	10.0	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	26100			P
7440-47-3	Chromium	6.4	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	20900			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	8690			P
7439-96-5	Manganese	141			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	3130	B	E	P
7782-49-2	Selenium	1.6	U	* J	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	29700			P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.3	B		P
7440-66-6	Zinc	28.1		J	P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

4MW02-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-09 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1010		J	P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	16.1	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	2400	B		P
7440-47-3	Chromium	0.60	U		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	15.8	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	832	B		P
7439-96-5	Manganese	13.1	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	312	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	3660	B		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	65.6		J	P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

4MW04-03 ~~DISS~~

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-10 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	31.6	B		P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	8.9	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	32300			P
7440-47-3	Chromium	0.93	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	6900			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	11000			P
7439-96-5	Manganese	162			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	4290	B	E	P
7782-49-2	Selenium	3.4	B	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	39100			P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	22.2			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

4MW04-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-03 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1730			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	9.6	B		P
7440-39-3	Barium	20.1	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	411	B		P
7440-47-3	Chromium	2.7	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	91.5	B		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	321	B		P
7439-96-5	Manganese	11.5	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	3.2	B		P
7440-09-7	Potassium	236	B	E	P
7782-49-2	Selenium	3.7	B	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	2950	B		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.3	B		P
7440-66-6	Zinc	64.5			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

4MW05-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-04 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4130			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	14.0	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	5760			P
7440-47-3	Chromium	23.8			P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	10600			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	1550	B		P
7439-96-5	Manganese	31.5			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	2.8	B		P
7440-09-7	Potassium	1180	B	E	P
7782-49-2	Selenium	1.8	B	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	3370	B		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	12.6	B		P
7440-66-6	Zinc	38.2		J	P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

4MW05-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-11 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1620			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	18.8	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	577	B		P
7440-47-3	Chromium	1.2	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	108			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	344	B		P
7439-96-5	Manganese	11.3	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	367	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	4070	B		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	65.4			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

4MW06-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-05 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	708			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	16.7	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	2050	B		P
7440-47-3	Chromium	12.2			P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	11.1	B		P
7439-89-6	Iron	2620			P
7439-92-1	Lead	3.4			P
7439-95-4	Magnesium	670	B		P
7439-96-5	Manganese	33.0			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	4.5	B		P
7440-09-7	Potassium	349	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	3970	B		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	41.6			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

4MW06-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-12 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	149	B		P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	6.5	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	6240			P
7440-47-3	Chromium	0.85	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	15.8	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	1610	B		P
7439-96-5	Manganese	7.2	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	904	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	4090	B		P
7440-28-0	Thallium	9.1	B		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	29.6			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

4MW07-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-06 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	212			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	17.3	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	3610	B		P
7440-47-3	Chromium	3.6	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	219			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	884	B		P
7439-96-5	Manganese	19.2			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	2.1	B		P
7440-09-7	Potassium	685	B	E	P
7782-49-2	Selenium	3.7	B	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	3170	B		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	34.7			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

4MW07-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6426

Matrix (soil/water): WATER Lab Sample ID: N6426-13 S

Level (low/med): LOW Date Received: 10/24/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	104	B		P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	17.3	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	3780	B		P
7440-47-3	Chromium	0.60	U		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	15.8	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	932	B		P
7439-96-5	Manganese	19.2			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	813	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	3930	B		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	37.0			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 350.1

Matrix: Water
Unit: mg/L

Analyzed: 11/2/01
Analyst: anil

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	1	1	1	
Nitrogen, Ammonia		<0.2	<0.2	<0.2	<0.2	<0.2	0.2

	Lab Sample ID:		N6426-05	N6426-06	
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	1	
Nitrogen, Ammonia		<0.2	<0.2	<0.2	0.2

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NYSDOH Certification No. 10624

NYSDOH Certification No. 11376
NJDEP Certification No. 12013

CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: HACH 8000

Matrix: Water
Unit: mg/L

Analyzed: 11/1/01
Analyst: heena

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	1	1	1	
Chemical Oxygen Demand		<5	5.0	9.0	<5.0	<5.0	5

	Lab Sample ID:		N6426-05	N6426-06	
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	1	
Chemical Oxygen Demand		<5	<5.0	<5.0	5

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NYSDOH Certification No. 10624

NYSDOH Certification No. 11376
NJDEP Certification No. 12013

CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 325.3

Matrix: Water
Unit: mg/L

Analyzed: 10/26/01
Analyst: anil

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	**Detection Limit**
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Chloride		<2	6.0	11	6.0	11	2

	Lab Sample ID:		N6426-05	N6426-06		**Detection Limit**
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03		
COMPOUNDS:	**D.F.:**		1	1		
Chloride		<2	7.0	6.0		2

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CHEMTECH LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 340.2

Matrix: Water
Unit: mg/L

Analyzed: 11/1/01
Analyst: HEMEX

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	**Detection Limit**
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Fluoride		<0.1	0.15	<0.1	0.17	<0.1	0.1

	Lab Sample ID:		N6426-05	N6426-06		**Detection Limit**
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03		
COMPOUNDS:	**D.F.:**		1	1		
Fluoride		<0.1	<0.1	<0.1		0.1

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NYSDOH Certification No. 10624

NYSDOH Certification No. 11376
NJDEP Certification No. 12013

CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 353.2

Matrix: Water **Analyzed:** 10/29/01
Unit: mg/L **Analyst:** sejal

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	1	1	1	
Nitrate-Nitrite As Nitrogen		<0.55	<0.55	<0.55	<0.55	<0.55	0.55

	Lab Sample ID:		N6426-05	N6426-06	
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	1	
Nitrate-Nitrite As Nitrogen		<0.55	<0.55	<0.55	0.55

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NYSDOH Certification No. 10624

NYSDOH Certification No. 11376
NJDEP Certification No. 12013

CHEMTECH LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 375.4

Matrix: Water
Unit: mg/L

Analyzed: 10/31/01
Analyst: anil

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	**Detection Limit**
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Sulfate		<1	14	18	10	12	1

	Lab Sample ID:		N6426-05	N6426-06		**Detection Limit**
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03		
COMPOUNDS:	**D.F.:**		1	1		
Sulfate		<1	8.0	10		1

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NJDEP Certification No. 12013

CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 310.1

Matrix: Water
Unit: mg/L

Analyzed: 11/2/01
Analyst: heena

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	**Detection Limit**
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Alkalinity as CaCO3		<2.0	<2.0	160	<2.0	8	2

	Lab Sample ID:		N6426-05	N6426-06		**Detection Limit**
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03		
COMPOUNDS:	**D.F.:**		1	1		
Alkalinity as CaCO3		<2.0	<2.0	4		2

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 415.1

Matrix: Water
Unit: mg/L

Analyzed: 11/2/01
Analyst: jayshree

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	**Detection Limit**
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Total Organic Carbon		<0.4	5.5	18	2.9	6.1	0.4

	Lab Sample ID:		N6426-05	N6426-06		**Detection Limit**
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03		
COMPOUNDS:	**D.F.:**		1	1		
Total Organic Carbon		<0.4	4.6	2.5		0.4

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CHEMTECH LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 420.1

Matrix: Water
Unit: mg/L

Analyzed: 11/5/01
Analyst: anil

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	1	1	1	
Phenolics		<0.025	<0.025	<0.025	<0.025	<0.025	0.025

	Lab Sample ID:		N6426-05	N6426-06	
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	1	
Phenolics		<0.025	<0.025	<0.025	0.025

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 150.1

Matrix: Water
Unit: ph Units

Analyzed: 10/24/01
Analyst: heena

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	**Detection Limit**
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
pH			3.95	6.39	4.15	5.23	

					Detection Limit
	Lab Sample ID:		N6426-05	N6426-06	
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03	
COMPOUNDS:	**D.F.:**		1	1	
pH			4.3	4.91	

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 120.1

Matrix: Water
Unit: µohms/cm

Analyzed: 11/1/01
Analyst: HINA

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	**Detection Limit**
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Specific Conductivity		<2	74	310	50	61	2

	Lab Sample ID:		N6426-05	N6426-06		**Detection Limit**
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03		
COMPOUNDS:	**D.F.:**		1	1		
Specific Conductivity		<2	53	49		2

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 180.1

Matrix: Water
Unit: NTU

Analyzed: 10/24/01
Analyst: sejal

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	**Detection Limit**
	Client Sample ID:	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Turbidity		<0.05	1.8	93	0.5	60	0.05

	Lab Sample ID:		N6426-05	N6426-06			**Detection Limit**
	Client Sample ID:	Method Blank	4MW06-03	4MW07-03			
COMPOUNDS:	**D.F.:**		1	1			
Turbidity		<0.05	0.4	13			0.05

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6426

Analysis Meth.: 351.3

Matrix: Water
Unit: mg/L

Analyzed: 10/30/01
Analyst: anil

	Lab Sample ID:		N6426-01	N6426-02	N6426-03	N6426-04	
COMPOUNDS:	**Client Sample ID:**	Method Blank	4MW01-03	4MW02-03	4MW04-03	4MW05-03	**Detection Limit**
	D.F.:		1	1	1	1	
Total Kjeldahl Nitrogen		<2	<2	<2	<2	<2	2

	Lab Sample ID:		N6426-05	N6426-06	
COMPOUNDS:	**Client Sample ID:**	Method Blank	4MW06-03	4MW07-03	**Detection Limit**
	D.F.:		1	1	
Total Kjeldahl Nitrogen		<2	<2	<2	2

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ANALYTICAL RESULTS SUMMARY

PROJECT NAME: NWS EARLE

FOSTER WHEELER ENV.
2300 LINCOLN HIGHWAY EAST
ONE OXFORD VALLEY, SUITE 200
LANGHORNE, PA 19047
215-702-4015

CHEMTECH PROJECT # N6407
ATTENTION : MIKE HEFFRON

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW01-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG103016.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW01-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O03

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG103016.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

5MW02-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: 004

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102825.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/29/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW02-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O04

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102825.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/29/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW03-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O07

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG103018.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW03-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: 007

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG103018.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

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1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MWX-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O06

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102827.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/29/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

5MWX-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: 006

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102827.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/29/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW05-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O01

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG103014.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	120	
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW05-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: 001

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG103014.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW06-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: 009

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG103017.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	86	
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	11	
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

5MW06-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O09

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG103017.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

5MW07-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: 005

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102826.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/29/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	24	
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.9	
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.7	
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	2.4	
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW07-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O05

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102826.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/29/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW08-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: 002

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG103015.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.
5MW08-03

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O02

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG103015.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/31/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

FB

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O08

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102821.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/29/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
74-87-3	Chloromethane	1.1	U
75-01-4	Vinyl Chloride	1	U
74-83-9	Bromomethane	0.6	U
75-00-3	Chloroethane	0.7	U
75-35-4	1,1-Dichloroethene	0.4	U
67-64-1	Acetone	2.4	U
75-15-0	Carbon Disulfide	0.3	U
75-09-2	Methylene Chloride	0.4	U
156-60-5	trans-1,2-Dichloroethene	0.4	U
75-34-3	1,1-Dichloroethane	0.2	U
67-66-3	Chloroform	0.3	U
71-55-6	1,1,1-Trichloroethane	0.3	U
56-23-5	Carbon Tetrachloride	0.3	U
71-43-2	Benzene	0.3	U
107-06-2	1,2-Dichloroethane	0.3	U
79-01-6	Trichloroethene	0.4	U
78-87-5	1,2-Dichloropropane	0.4	U
75-27-4	Bromodichloromethane	0.3	U
10061-02-6	t-1,3-Dichloropropene	0.2	U
108-88-3	Toluene	0.3	U
10061-01-5	cis-1,3-Dichloropropene	0.3	U
79-00-5	1,1,2-Trichloroethane	0.3	U
127-18-4	Tetrachloroethene	0.3	U
124-48-1	Dibromochloromethane	0.3	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethyl Benzene	0.4	U
95-47-6	o-Xylene	0.5	U
136777-61-2	m/p-Xylenes	0.4	U
100-42-5	Styrene	0.2	U
75-25-2	Bromoform	0.3	U
79-34-5	1,1,2,2-Tetrachloroethane	0.3	U
156-59-2	cis-1,2-Dichloroethene	0.3	U
78-93-3	2-Butanone	2.8	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

FB

Lab Name: CHEMTECH Contract: FOSTER WHEELER ENVIRO

Project No.: N6407 Site: NWS EARL Location: LB17511 Group: 5971-VOA

Matrix: (soil/water) WATER Lab Sample ID: O08

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VG102821.D

Level: (low/med) Date Received: 10/23/01

% Moisture: not dec. 100 Date Analyzed: 10/29/01

GC Column: RTX624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
108-10-1	4-Methyl-2-Pentanone	1.4	U
591-78-6	2-Hexanone	1	U

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW01-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-03 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2360			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	50.5	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~3190~~	~~B~~		P
7440-47-3	Chromium	11.5			P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	1220			P
7439-92-1	Lead	3.1			P
7439-95-4	Magnesium	~~506~~	~~B~~		P
7439-96-5	Manganese	9.5	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	2290	B	E	P
7782-49-2	Selenium	5.6		*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~1970~~	~~B~~		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	3.1	B		P
7440-66-6	Zinc	56.1			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW01-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-12 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1660			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	50.3	B		P
7440-41-7	Beryllium	0.11	B		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~3370~~	~~B~~		P
7440-47-3	Chromium	3.8	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	15.8	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~531~~	~~B~~		P
7439-96-5	Manganese	8.3	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	2540	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~3210~~	~~B~~		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	~~54.8~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW02-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-04 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	663			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	26.4	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~3910~~	~~B~~		P
7440-47-3	Chromium	2.2	B		P
7440-48-4	Cobalt	2.7	B		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	14000			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~1170~~	~~B~~		P
7439-96-5	Manganese	110			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	6.9	B		P
7440-09-7	Potassium	4340	B	E	P
7782-49-2	Selenium	3.3	B	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~4880~~	~~B~~		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.6	B		P
7440-66-6	Zinc	~~31.6~~		R	P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

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1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW02-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-13 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	598			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	24.7	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~3940~~	~~B~~		P
7440-47-3	Chromium	1.7	B		P
7440-48-4	Cobalt	3.5	B		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	12700			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~1160~~	~~B~~		P
7439-96-5	Manganese	103			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	7.2	B		P
7440-09-7	Potassium	4530	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~6370~~			P
7440-28-0	Thallium	8.2	B		P
7440-62-2	Vanadium	2.1	B		P
7440-66-6	Zinc	~~44.4~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW03-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-07 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	11000			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.9	B		P
7440-39-3	Barium	34.2	B		P
7440-41-7	Beryllium	0.59	B		P
7440-43-9	Cadmium	3.0	B		P
7440-70-2	Calcium	~~1300~~	~~B~~		P
7440-47-3	Chromium	6.9	B		P
7440-48-4	Cobalt	6.7	B		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	136			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~2130~~	~~B~~		P
7439-96-5	Manganese	57.9			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	21.2	B		P
7440-09-7	Potassium	1770	B	E	P
7782-49-2	Selenium	6.6		*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~8030~~			P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	~~94.4~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW03-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-16 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10600			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	30.8	B		P
7440-41-7	Beryllium	0.62	B		P
7440-43-9	Cadmium	2.6	B		P
7440-70-2	Calcium	~~1450~~	~~B~~		P
7440-47-3	Chromium	6.2	B		P
7440-48-4	Cobalt	7.6	B		P
7440-50-8	Copper	2.6	B		P
7439-89-6	Iron	24.8	B		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~1940~~	~~B~~		P
7439-96-5	Manganese	55.7			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	26.2	B		P
7440-09-7	Potassium	1950	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~9290~~			P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	~~115~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MWX-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-06 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10800			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	32.6	B		P
7440-41-7	Beryllium	0.59	B		P
7440-43-9	Cadmium	3.2	B		P
7440-70-2	Calcium	~~1330~~	~~B~~		P
7440-47-3	Chromium	6.6	B		P
7440-48-4	Cobalt	6.4	B		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	148			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~1960~~	~~B~~		P
7439-96-5	Manganese	56.2			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	21.4	B		P
7440-09-7	Potassium	1700	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	7650			P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	~~104~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MWX-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-15 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10600			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	30.5	B		P
7440-41-7	Beryllium	0.62	B		P
7440-43-9	Cadmium	2.4	B		P
7440-70-2	Calcium	~~1330~~	~~B~~		P
7440-47-3	Chromium	7.0	B		P
7440-48-4	Cobalt	7.6	B		P
7440-50-8	Copper	2.0	B		P
7439-89-6	Iron	69.5	B		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~1890~~	~~B~~		P
7439-96-5	Manganese	54.8			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	25.8	B		P
7440-09-7	Potassium	1870	B	E	P
7782-49-2	Selenium	2.5	B	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~8680~~			P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	~~99.7~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

5MW05-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-01 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	962			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	27.3	B		P
7440-41-7	Beryllium	0.27	B		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~7690~~			P
7440-47-3	Chromium	6.7	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	3.1	B		P
7439-89-6	Iron	16500			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~4150~~	~~B~~		P
7439-96-5	Manganese	196			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	12.0	B		P
7440-09-7	Potassium	2090	B	E	P
7782-49-2	Selenium	4.8	B	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~6090~~			P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	4.3	B		P
7440-66-6	Zinc	~~55.6~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW05-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-10 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	643			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	21.1	B		P
7440-41-7	Beryllium	0.17	B		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~6560~~			P
7440-47-3	Chromium	4.2	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	15200			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~3480~~	~~B~~		P
7439-96-5	Manganese	162			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	9.8	B		P
7440-09-7	Potassium	1950	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~5880~~			P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	3.6	B		P
7440-66-6	Zinc	~~31.5~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

EPA SAMPLE NO.

INORGANIC ANALYSIS DATA SHEET

5MW06-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-09 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3550			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.4	B		P
7440-39-3	Barium	59.6	B		P
7440-41-7	Beryllium	0.14	B		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~21700~~		K	P
7440-47-3	Chromium	17.1			P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	35.5			P
7439-89-6	Iron	30300			P
7439-92-1	Lead	79.6			P
7439-95-4	Magnesium	~~3040~~	~~B~~	K	P
7439-96-5	Manganese	371			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	5630		E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~3790~~	~~B~~	K	P
7440-28-0	Thallium	7.8	B		P
7440-62-2	Vanadium	23.0	B		P
7440-66-6	Zinc	356			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW06-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-18 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	245			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	44.4	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~21900~~			P
7440-47-3	Chromium	2.6	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	26600			P
7439-92-1	Lead	3.9			P
7439-95-4	Magnesium	~~2940~~	~~B~~		P
7439-96-5	Manganese	362			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	5920		E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~5140~~			P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	4.7	B		P
7440-66-6	Zinc	~~40.0~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW07-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-05 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	343			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	13.7	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~34100~~			P
7440-47-3	Chromium	8.3	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	9.2	B		P
7439-89-6	Iron	42500			P
7439-92-1	Lead	6.0			P
7439-95-4	Magnesium	~~6900~~			P
7439-96-5	Manganese	322			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	3590	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~3310~~	~~B~~		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	6.4	B		P
7440-66-6	Zinc	~~98.5~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW07-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-14 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	103	B		P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	11.1	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~32900~~		R	P
7440-47-3	Chromium	5.4	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	2.0	B		P
7439-89-6	Iron	42600			P
7439-92-1	Lead	3.2			P
7439-95-4	Magnesium	~~6750~~			P
7439-96-5	Manganese	291			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	3460	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~3410~~	~~B~~		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	5.2	B		P
7440-66-6	Zinc	~~37.2~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW08-03

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-02 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1730			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	34.0	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~2190~~	~~B~~		P
7440-47-3	Chromium	18.7			P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	1230			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~1870~~	~~B~~		P
7439-96-5	Manganese	22.9			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	923	B	E	P
7782-49-2	Selenium	2.5	B	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~3950~~	~~B~~		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	4.6	B		P
7440-66-6	Zinc	~~37.7~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

5MW08-03-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-11 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	552			P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U	J	P
7440-39-3	Barium	29.3	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	~~2200~~	~~B~~		P
7440-47-3	Chromium	4.5	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	110			P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	~~1670~~	~~B~~		P
7439-96-5	Manganese	18.4			P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	791	B	E	P
7782-49-2	Selenium	1.6	U	* J	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	~~4500~~	~~B~~		P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	~~40.3~~			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-08 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	28.5	B		P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.4	B		P
7440-39-3	Barium	29.0	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	23800			P
7440-47-3	Chromium	0.60	U		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	15.8	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	9560			P
7439-96-5	Manganese	0.50	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	1.6	U		P
7440-09-7	Potassium	737	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	7000			P
7440-28-0	Thallium	4.5	B		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	31.6			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

U.S. EPA - CLP
1

INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

FB-DISS

Lab Name: CHEMTECH MOUNTAINSIDE Contract: 68-W00-088

Lab Code: CHEMED Case No.: SAS No.: SDG No.: N6407

Matrix (soil/water): WATER Lab Sample ID: N6407-17 S

Level (low/med): LOW Date Received: 10/23/01

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	25.6	B		P
7440-36-0	Antimony	8.9	U		P
7440-38-2	Arsenic	6.2	U		P
7440-39-3	Barium	26.9	B		P
7440-41-7	Beryllium	0.10	U		P
7440-43-9	Cadmium	0.60	U		P
7440-70-2	Calcium	22700			P
7440-47-3	Chromium	0.64	B		P
7440-48-4	Cobalt	0.90	U		P
7440-50-8	Copper	1.5	U		P
7439-89-6	Iron	15.8	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	9150			P
7439-96-5	Manganese	1.4	B		P
7439-97-6	Mercury	0.20	U		CV
7440-02-0	Nickel	3.0	B		P
7440-09-7	Potassium	780	B	E	P
7782-49-2	Selenium	1.6	U	*	P
7440-22-4	Silver	1.7	U		P
7440-23-5	Sodium	7790			P
7440-28-0	Thallium	4.3	U		P
7440-62-2	Vanadium	1.2	U		P
7440-66-6	Zinc	42.0			P

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 350.1

Matrix: Water
Unit: mg/L

Analyzed: 11/2/01
Analyst: hemex

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Nitrogen, Ammonia		<0.2	<0.2	<0.2	<0.2	<0.2	0.2

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Nitrogen, Ammonia		<0.2	5.7	<0.2	<0.2	<0.2	0.2

				Detection Limit
	Lab Sample ID:		N6407-09	
	Client Sample ID:	Method Blank	5MW06-03	
COMPOUNDS:	**D.F.:**		1	
Nitrogen, Ammonia		<0.2	0.58	0.2

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NJDEP Certification No. 12013

CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 351.3

Matrix: Water
Unit: mg/L

Analyzed: 10/30/01
Analyst: anil

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Total Kjeldahl Nitrogen		<2	<2	<2	<2	<2	2

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Total Kjeldahl Nitrogen		<2	9.0	<2	<2	<2	2

	Lab Sample ID:		N6407-09				**Detection Limit**
	Client Sample ID:	Method Blank	5MW06-03				
COMPOUNDS:	**D.F.:**		1				
Total Kjeldahl Nitrogen		<2	3.0				2

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: HACH 8000

Matrix: Water
Unit: mg/L

Analyzed: 10/28/01
Analyst: heena

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Chemical Oxygen Demand		<5	23	<5.0	<5.0	<5.0	5

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Chemical Oxygen Demand		<5	70	<5.0	<5.0	<5.0	5

	Lab Sample ID:		N6407-09				**Detection Limit**
	Client Sample ID:	Method Blank	5MW06-03				
COMPOUNDS:	**D.F.:**		1				
Chemical Oxygen Demand		<5	49				5

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 325.3

Matrix: Water
Unit: mg/L

Analyzed: 10/26/01
Analyst: anil

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Chloride		<2	9.0	7.0	3.0	12	2

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Chloride		<2	7.0	19	19	<2.0	2

	Lab Sample ID:		N6407-09	**Detection Limit**
	Client Sample ID:	Method Blank	5MW06-03	
COMPOUNDS:	**D.F.:**		1	
Chloride		<2	7.0	2

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 340.2

Matrix: Water
Unit: mg/L

Analyzed: 11/1/01
Analyst: HEMEX

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Fluoride		<0.1	<0.1	<0.1	0.15	0.2	0.1

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Fluoride		<0.1	0.19	0.12	<0.1	<0.1	0.1

	Lab Sample ID:		N6407-09	**Detection Limit**
	Client Sample ID:	Method Blank	5MW06-03	
COMPOUNDS:	**D.F.:**		1	
Fluoride		<0.1	0.21	0.1

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 353.2

Matrix: Water
Unit: mg/L

Analyzed: 10/26/01
Analyst: sejal

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Nitrate-Nitrite As Nitrogen		<0.55	<0.55	<0.55	<0.55	<0.55	0.55

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Nitrate-Nitrite As Nitrogen		<0.55	<0.55	<0.55	<0.55	<0.55	0.55

	Lab Sample ID:		N6407-09	**Detection Limit**
	Client Sample ID:	Method Blank	5MW06-03	
COMPOUNDS:	**D.F.:**		1	
Nitrate-Nitrite As Nitrogen		<0.55	<0.55	0.55

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CHEMTECH LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 375.4

Matrix: Water **Analyzed:** 10/24/01
Unit: mg/L **Analyst:** anil

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Sulfate		<1.0	32	11	15	18	1

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Sulfate		<1.0	20	52	61	<1.0	1

	Lab Sample ID:		N6407-09				**Detection Limit**
	Client Sample ID:	Method Blank	5MW06-03				
COMPOUNDS:	**D.F.:**		1				
Sulfate		<1.0	8.0				1

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 310.1

Matrix: Water
Unit: mg/L

Analyzed: 10/31/01
Analyst: heena

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Alkalinity as CaCO3		<2	<2.0	160	<2.0	8	2

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Alkalinity as CaCO3		<2	<2.0	3	<2.0	<2.0	2

	Lab Sample ID:		N6407-09	**Detection Limit**
	Client Sample ID:	Method Blank	5MW06-03	
COMPOUNDS:	**D.F.:**		1	
Alkalinity as CaCO3		<2	59	2

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 415.1

Matrix: Water
Unit: mg/L

Analyzed: 11/1/01
Analyst: JAYSHREE

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	1	1	1	
Total Organic Carbon		<0.4	10	2.3	5.4	3.9	0.4

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	1	1	1	
Total Organic Carbon		<0.4	30	2.2	3.1	0.78	0.4

	Lab Sample ID:		N6407-09	
	Client Sample ID:	Method Blank	5MW06-03	**Detection Limit**
COMPOUNDS:	**D.F.:**		1	
Total Organic Carbon		<0.4	19	0.4

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CHEMTECH LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 420.1

Matrix: Water
Unit: mg/L

Analyzed: 10/25/01
Analyst: anil

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Phenolics		<0.025	0.04	<0.025	<0.025	<0.025	0.025

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Phenolics		<0.025	0.06	<0.025	<0.025	<0.025	0.025

				Detection Limit
	Lab Sample ID:		N6407-09	
	Client Sample ID:	Method Blank	5MW06-03	
COMPOUNDS:	**D.F.:**		1	
Phenolics		<0.025	<0.025	0.025

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CHEMTECH LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 150.1

Matrix: Water
Unit: ph Units

Analyzed: 10/23/01
Analyst: heena

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
pH			5.03	4.71	4.51	5.48	

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
pH			6.21	4.59	4.46	6.77	

	Lab Sample ID:		N6407-09	**Detection Limit**
	Client Sample ID:	Method Blank	5MW06-03	
COMPOUNDS:	**D.F.:**		1	
pH			5.32	

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CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 120.1

Matrix: Water
Unit: µohms/cm

Analyzed: 10/30/01
Analyst: heena

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Specific Conductivity		<2	130	53	61	100	2

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Specific Conductivity		<2	220	180	180	200	2

	Lab Sample ID:		N6407-09	**Detection Limit**
	Client Sample ID:	Method Blank	5MW06-03	
COMPOUNDS:	**D.F.:**		1	
Specific Conductivity		<2	160	2

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NYSDOH Certification No. 11376
NJDEP Certification No. 12013

CHEMTECH

LABORATORY REPORT

CLIENT: Foster Wheeler Environmental Corp.

ATTN.: Mike Heffron

LAB RECEIVING #: N6407

Analysis Meth.: 180.1

Matrix: Water
Unit: NTU

Analyzed: 10/25/01
Analyst: sejal

	Lab Sample ID:		N6407-01	N6407-02	N6407-03	N6407-04	**Detection Limit**
	Client Sample ID:	Method Blank	5MW05-03	5MW08-03	5MW01-03	5MW02-03	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Turbidity		<0.05	0.1	0.8	0.8	1.3	0.05

	Lab Sample ID:		N6407-05	N6407-06	N6407-07	N6407-08	**Detection Limit**
	Client Sample ID:	Method Blank	5MW07-03	5MWX-03	5MW03-03	FB	
COMPOUNDS:	**D.F.:**		1	1	1	1	
Turbidity		<0.05	16	0.3	0.3	<0.05	0.05

	Lab Sample ID:		N6407-09	**Detection Limit**
	Client Sample ID:	Method Blank	5MW06-03	
COMPOUNDS:	**D.F.:**		1	
Turbidity		<0.05	8.3	0.05

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APPENDIX D

CLASSIFICATION EXCEPTION AREA DETERMINATION

CLASSIFICATION EXCEPTION AREA
FACT SHEET

Site Name: **Site 5 Landfill (west of Army barricades), NWS Earle** **Date: October 24, 2000**
Location: **Clots Neck, New Jersey**

Block(s): N/A – Federal Government Property
Lot(s):

Site Contact Person: **Greg Goepfert**
Address: **Naval Weapons Station-Earle**
201 Route 34 South
Colts Neck, New Jersey 07722

Phone Number: 732-866-2515

Case Number:

DEP Program Lead (include phone number): **Robert Marcolina (609-633-7237)**

DEP Approval Document dated:

Description of CEA:

-Identification of impacted aquifer:
Kirkwood Formation, less than 30 feet thick. Consists of beds of brown to gray, very fine to medium grained sands and dark colored silts. Groundwater occurs at approximately 22 feet bgs as a shallow unconfined (Class II-A) aquifer. Groundwater flow is toward the northeast at a gradient of approximately 0.0014 to 0.0025 feet/foot. The hydraulic conductivity has been estimated (via slug tests) at 1.83 ft/day (6.46×10^{-4}cm/sec).

-Containinants exceeding constituent and applicable standards:

Contaminant	Ground Water Quality Criteria (ug/l)
Benzene at 2.6 ug/l (Site 5, MW-06)	1

-CEA boundaries (see attached map):
The horizontal extent of the CEA covers approximately 25.6 acres. The CEA extends approximately 200 feet beyond the perimeter monitoring wells that ring the landfill cap.

The vertical extent of the CEA encompasses the upper 30 feet of the shallow unconfined aquifer.

-Projected term of CEA:
Based on the calculations provided in the Final Guidance on Designation of Classification Exception Areas (11/98) the projected term of the CEA for Site 5 is 10 years. The concentration of Benzene at monitoring well MW-06 is expected to naturally degrade from the current value of 2.6 ug/L to less than the New Jersey Groundwater Quality Standard of 1 ug/L in approximately 2.72 years. The estimated half-life for benzene is 720 days (Howard and others).

CEA calculation:

$$t = \frac{-\ln C/C_o}{k}$$

Where: t = time (days)
k = degradation rate ($days^{-1}$) or ($0.693/t_{1/2}$)

C = initial concentration
C_o = final concentration

And: $k = 0.693/720 = 0.000963$
$C = 1$ ug/L (NJGQS)
$C_o = 2.6$ ug/L

So:

$$t = \frac{-\ln 1/2.6}{0.000963}$$

$t = 992$ days (2.72 years)

The timeframe of this proposed CEA should be re-evaluated periodically, based on future groundwater sampling results.

References:

Howard, P.H., Boethling, R.S., Jarvis, W.F., Meylan, W.M., and Michalenko, E.M., 1991, Handbook of Environmental Degradation Rates, Lewis Publishers, Boca Raton, Florida.

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Phone Number: 732-866-2515

Case Number:

DEP Program Lead (include phone number): **Robert Marcolina (609-633-7237)**

DEP Approval Document dated:

Description of CEA:

-Identification of impacted aquifer:
Vincentown Formation is approximately 10 to 50 feet thick. Consists of beds of greenish-gray, micaceous, clayey, glauconitic, fine to medium coarse grained sands. Groundwater occurs at approximately 20 feet bgs as a shallow unconfined (Class II-A) aquifer. Groundwater flow is toward the northeast at a gradient of approximately 0.0014 to 0.0025 feet/foot. The hydraulic conductivity has been estimated (via slug tests) at 0.59 ft/day (2.08×10^{-4}cm/sec).

-Containinants exceeding constituent and applicable standards:

Contaminant	Ground Water Quality Criteria (ug/l)
Benzene at 8.4 ug/L (Site 5, MW-07)	1
Trichloroethene (TCE) at 3.3 ug/L (Site 5, MW-07)	1

-CEA boundaries (see attached map):
The horizontal extent of the CEA covers approximately 25.6 acres. The CEA extends approximately 200 feet beyond the perimeter monitoring wells that ring the landfill cap.

The vertical extent of the CEA encompasses the upper 30 feet of the shallow unconfined aquifer.

-Projected term of CEA:
Based on the calculations provided in the Final Guidance on Designation of Classification Exception Areas (11/98) the projected term of the CEA for Site 5 is 10 years. The concentration of Benzene at monitoring well MW-07 is expected to naturally degrade from the current value of 8.4 ug/L to less than the New Jersey Groundwater Quality Standard of 1 ug/L in approximately 6.05 years. The estimated half-life for benzene is 720 days.

CEA calculation:

$$t = \frac{-\ln C/C_o}{k}$$

Where: t = time (days)
k = degradation rate ($days^{-1}$) or ($0.693/t_{1/2}$)

C = initial concentration
C_o = final concentration

And: $k = 0.693/720 = 0.000963$
C = 1 ug/L (NJGQS)
C_o= 8.4 ug/L

So:

$$t = \frac{-\ln 1/8.4}{0.000963}$$

t = 2,210 days (6.05 years)

The concentration of TCE at monitoring well MW-07 is expected to naturally degrade from the current value of 3.3 ug/L to less than the New Jersey Groundwater Quality Standard of 1 ug/L in approximately 7.80 years. The estimated half-life for TCE is 1,653 days (Howard and others).

CEA calculation:

$$t = \frac{-\ln C/C_o}{k}$$

Where: t = time (days)
k = degradation rate ($days^{-1}$) or ($0.693/t_{1/2}$)
C = initial concentration
C_o = final concentration

And: $k = 0.693/1{,}653 = 0.00042$
C = 1 ug/L (NJGQS)
C_o= 3.3 ug/L

So:

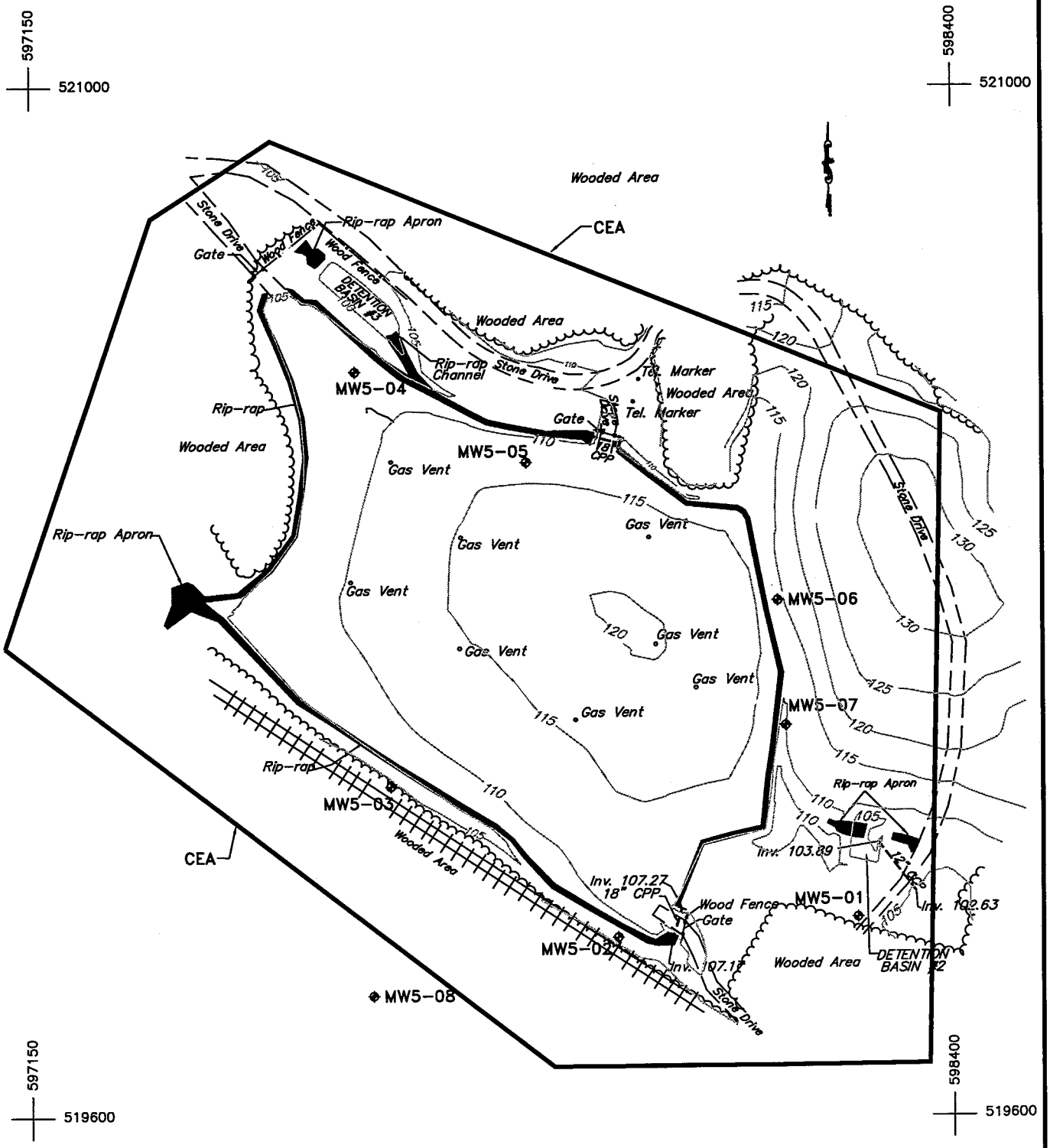
$$t = \frac{-\ln 1/2.6}{0.00042}$$

t = 2,843 days (7.80 years)

The timeframe of this proposed CEA should be re-evaluated periodically, based on future groundwater sampling results.

References:

Howard, P.H., Boethling, R.S., Jarvis, W.F., Meylan, W.M., and Michalenko, E.M., 1991, Handbook of Environmental Degradation Rates, Lewis Publishers, Boca Raton, Florida.



NOTE: RIP-RAP DENOTES LIMIT OF FINAL COVER

Topographic survey, 8/26/98,
French & Parrello Assoc.

NJ State Plane Coordinates

0 200
FEET

U.S. Navy RAC
Earle N.W.S., Colts Neck, N.J.

Site 5 – CEA Boundary

FOSTER WHEELER ENVIRONMENTAL CORPORATION

earle\sites4&5\site5_cea.dwg

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence

Version 1.4

NWS-Earle
Site5 MW-06 Benzene
Run Name

Data Input Instructions:

115
↑ or
0.02

1. *Enter value directly....or*
2. *Calculate by filling in grey cells below. (To restore formulas, hit button below).*

Variable*	*Data used directly in model.*
20	*Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	5.6	*(ft/yr)*
or		↑ or	
Hydraulic Conductivity	*K*	6.5E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.0025	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.1	*(ft)*
Transverse Dispersivity*	*alpha y*	0.7	*(ft)*
Vertical Dispersivity*	*alpha z*	0.0	*(ft)*
or		↑ or	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

Retardation Factor*	*R*	1.0	*(-)*
or		↑ or	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	1.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	3.5E-1	*(per yr)*
or		↑ or	
Solute Half-Life	*t-half*	1.97	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	0	*(mg/L)*
Delta Nitrate*	*NO3*	0	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	0	*(mg/L)*
Delta Sulfate*	*SO4*	0.054	*(mg/L)*
Observed Methane*	*CH4*	0	*(mg/L)*

5. GENERAL

Modeled Area Length*	100	*(ft)*
Modeled Area Width*	75	*(ft)*
Simulation Time*	10	*(yr)*

6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

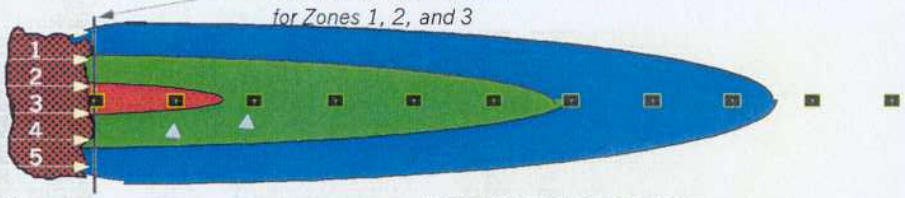
Source Zones:

Width* (ft)	Conc. (mg/L)*
0	0
0	0
20	0.0026
0	0
0	0

Source Halflife (see Help):

Infinite	Infinite	*(yr)*
Inst. React.	1st Order	
Soluble Mass	Infinite	*(Kg)*
In Source NAPL, Soil		

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Dist. from Source (ft)	0	10	20	30	40	50	60	70	80	90	100
Concentration (mg/L)											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE

View Output

RUN ARRAY

View Output

Help

Recalculate This Sheet

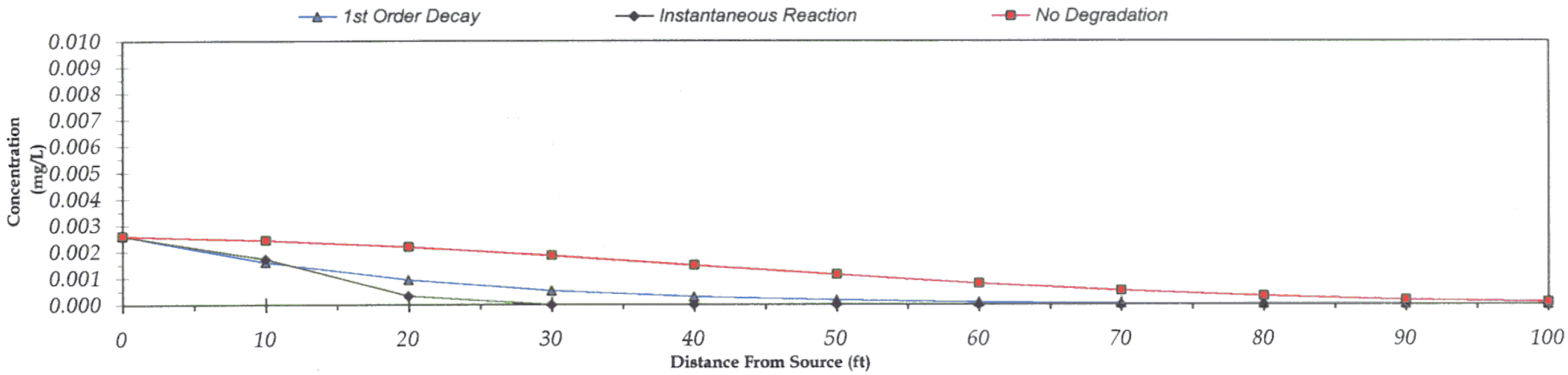
Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.003	0.002	0.002	0.002	0.001	0.001	0.001	0.001	0.000	0.000	0.000
1st Order Decay	0.003	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



Calculate Animation

Time:
10 Years

Return to Input

Recalculate This Sheet

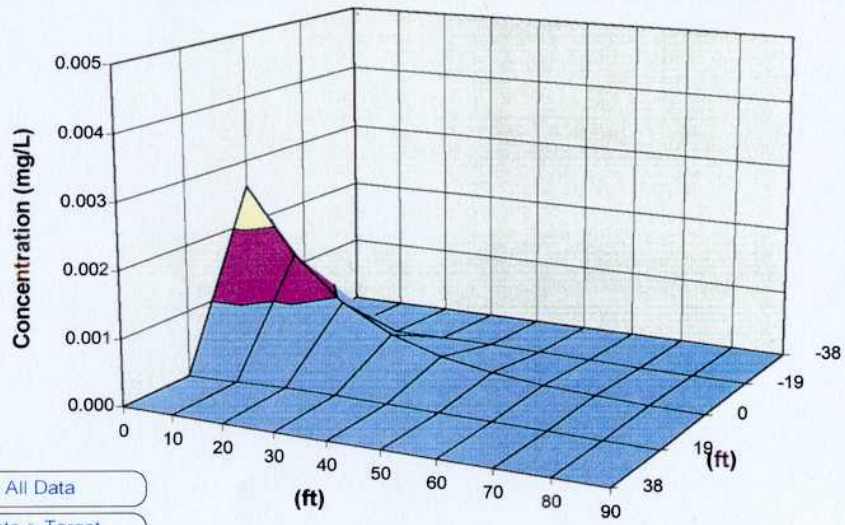
DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

Transverse Distance (ft)	Distance from Source (ft) 0	10	20	30	40	50	60	70	80	90	100
38	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.003	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-19	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-38	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	6.7E-2	3.9E-2	2.5E-2	1.6E-2	9.5E-3	5.6E-3	3.3E-3	1.8E-3	9.5E-4	4.6E-4	2.1E-4

Time: **10 Years** Target Level: **0.001** mg/L Displayed Model: **1st Order Decay**

Model to Display:

- *No Degradation Model*
- *1st Order Decay Model*
- *Instantaneous Reaction Model*



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	0.0	(Kg)
- Actual Plume Mass	0.0	(Kg)
= Plume Mass Removed by Biodeg	**0.0**	(Kg) (64 %)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years)	Infinite	(Kg)
Contam. Mass in Source Now (t=10Years)	Infinite	(Kg)
Current Volume of Groundwater in Plume	0.0	(ac-ft)
Flowrate of Water Through Source Zone	0.008	(ac-ft/yr)

Mass HELP

Recalculate

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence

Version 1.4

NWS-Earle	
Site5 MW-07 Benzene	
Run Name	

Data Input Instructions:

115	1. *Enter value directly....or*
↑ *or*	2. *Calculate by filling in grey cells below. (To restore formulas, hit button below).*
0.02	
Variable*	*Data used directly in model.*
20	*Value calculated by model. (Don't enter any data).*

1. HYDROGEOLOGY

Seepage Velocity*	*Vs*	1.6	*(ft/yr)*
or		↑ *or*	
Hydraulic Conductivity	*K*	2.1E-04	*(cm/sec)*
Hydraulic Gradient	*i*	0.00222	*(ft/ft)*
Porosity	*n*	0.3	*(-)*

2. DISPERSION

Longitudinal Dispersivity*	*alpha x*	7.1	*(ft)*
Transverse Dispersivity*	*alpha y*	0.7	*(ft)*
Vertical Dispersivity*	*alpha z*	0.0	*(ft)*
or		↑ *or*	
Estimated Plume Length	*Lp*	100	*(ft)*

3. ADSORPTION

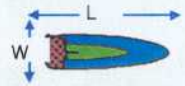
Retardation Factor*	*R*	1.0	*(-)*
or		↑ *or*	
Soil Bulk Density	*rho*	1.7	*(kg/l)*
Partition Coefficient	*Koc*	38	*(L/kg)*
FractionOrganicCarbon	*foc*	1.0E-4	*(-)*

4. BIODEGRADATION

1st Order Decay Coeff*	*lambda*	3.5E-1	*(per yr)*
or		↑ *or*	
Solute Half-Life	*t-half*	1.97	*(year)*
or Instantaneous Reaction Model			
Delta Oxygen*	*DO*	0	*(mg/L)*
Delta Nitrate*	*NO3*	0	*(mg/L)*
Observed Ferrous Iron*	*Fe2+*	0	*(mg/L)*
Delta Sulfate*	*SO4*	0.031	*(mg/L)*
Observed Methane*	*CH4*	0	*(mg/L)*

5. GENERAL

Modeled Area Length*	100	*(ft)*
Modeled Area Width*	75	*(ft)*
Simulation Time*	10	*(yr)*



6. SOURCE DATA

Source Thickness in Sat.Zone* 10 *(ft)*

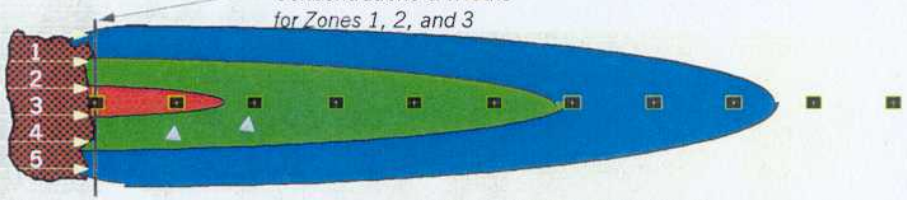
Source Zones:

Width* (ft)	Conc. (mg/L)*
0	0
0	0
20	0.0084
0	0
0	0

Source Halflife (see Help):

Infinite	Infinite	*(yr)*
Inst. React.	1st Order	
Soluble Mass	Infinite	*(Kg)*
In Source NAPL, Soil		

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

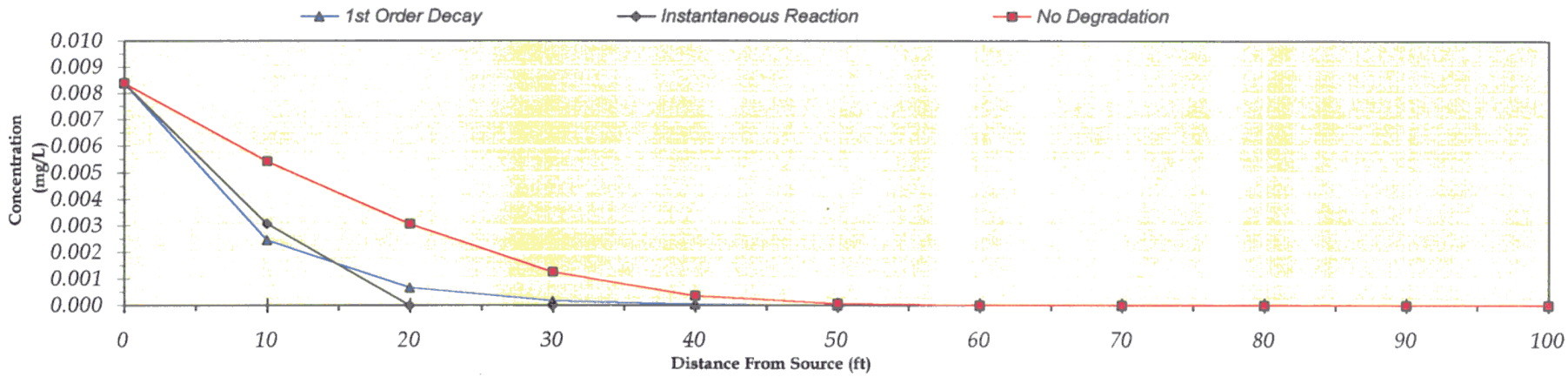
Concentration (mg/L)											
Dist. from Source (ft)	0	10	20	30	40	50	60	70	80	90	100

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE	**RUN ARRAY**	***Help***	Recalculate This Sheet
		Paste Example Dataset	
View Output	**View Output**	Restore Formulas for Vs, Dispersivities, R, lambda, other	

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft) 0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.008	0.005	0.003	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
1st Order Decay	0.008	0.002	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	0.008	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



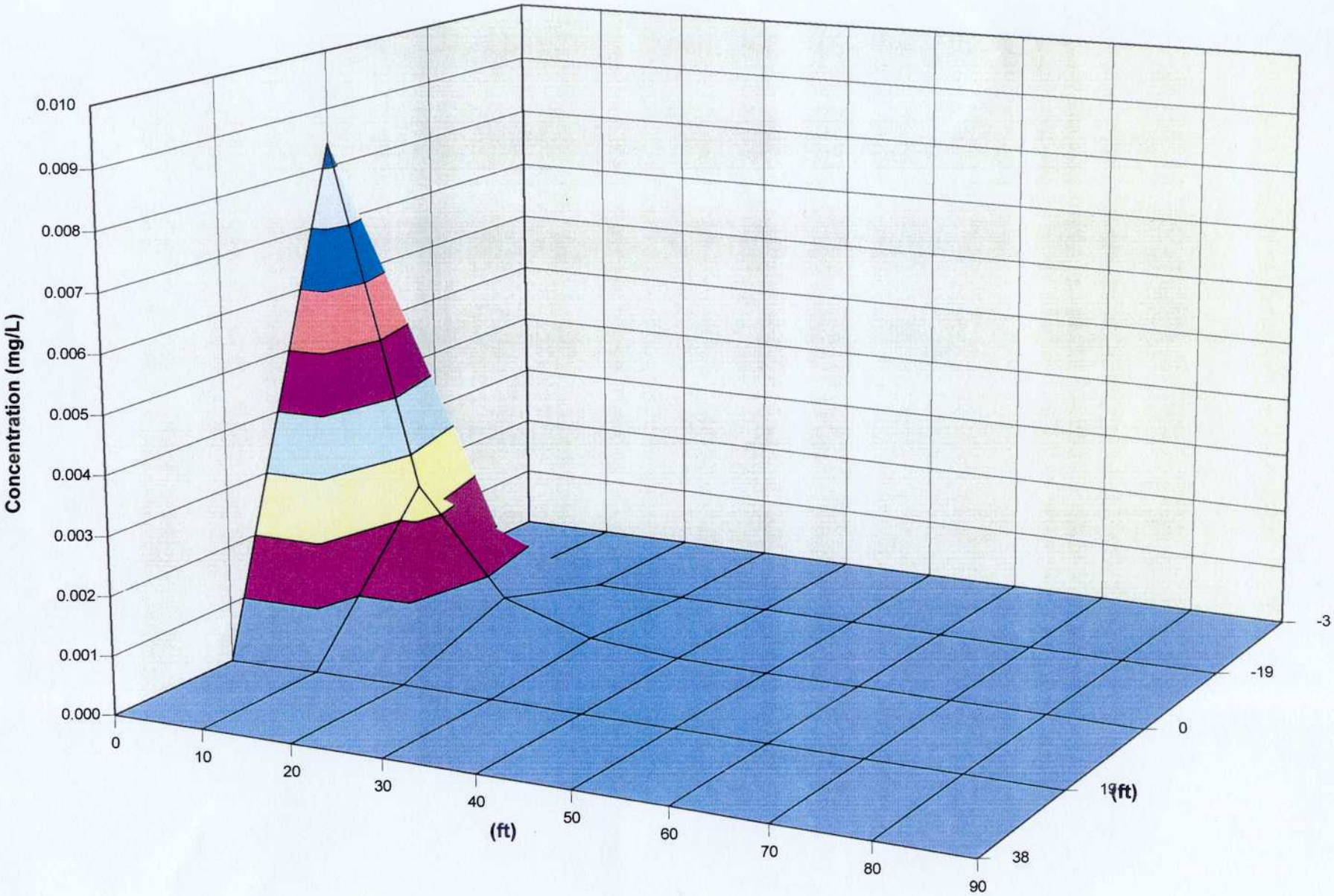
Calculate Animation

Time: 10 Years

Return to Input

Recalculate This Sheet

Plume Output Chart 5



BIOCHLOR Natural Attenuation Decision Support System

Version 1.1

NWS-Earle
Site5 MW-07
Run Name

TYPE OF CHLORINATED SOLVENT: Ethenes ● Ethanes ○

1. ADVECTION

Seepage Velocity*	Vs		1.6	(ft/yr)
or				
Hydraulic Conductivity	K		2.1E-04	(cm/sec)
Hydraulic Gradient	i		0.00222	(ft/ft)
Effective Porosity	n		0.3	(-)

2. DISPERSION

Alpha x Calc. Method	40	(ft)
(Alpha y) / (Alpha x)	0.1	(-)
(Alpha z) / (Alpha x)	1.E-99	(-)

Change Alpha x Calc. Method

3. ADSORPTION

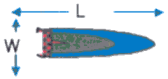
Retardation Factor*			R	
or				
Soil Bulk Density, rho	1.7	(kg/L)		
FractionOrganicCarbon, foc	1.0E-4	(-)		
Partition Coefficient	Koc			
PCE	426	(L/kg)	1.2	(-)
TCE	130	(L/kg)	1.1	(-)
DCE	125	(L/kg)	1.1	(-)
VC	30	(L/kg)	1.0	(-)
ETH	302	(L/kg)	1.2	(-)
Common R (used in model)* =			**1.1**	

4. BIOTRANSFORMATION

		-1st Order Decay Coef*		
Zone 1		λ (1/yr)	half-life (yrs)	Yield*
PCE →	TCE	0.070	9.90	0.79
TCE →	DCE	0.050	13.90	0.74
DCE →	VC	0.178	3.90	0.64
VC →	ETH	0.119	5.80	0.45
Zone 2		λ (1/yr)	half-life (yrs)	
PCE →	TCE	0.000		
TCE →	DCE	0.000		
DCE →	VC	0.000		
VC →	ETH	0.000		
ETH →	Ethane	0.000		

5. GENERAL

Simulation Time*	10	(yr)
Modeled Area Width*	75	(ft)
Modeled Area Length*	100	(ft)
Zone 1 Length*	100	(ft)
Zone 2 Length*	0	(ft)



Zone 2= L - Zone 1

6. SOURCE DATA

Source Options

TYPE: Single Planar

Source Thickness in Sat. Zone* 10 (ft)

Width* (ft)	20
Conc. (mg/L)*	C1
PCE	.0
TCE	.003
DCE	.0
VC	.004
ETH	.0

7. FIELD DATA FOR COMPARISON

PCE Conc. (mg/L)
TCE Conc. (mg/L)
DCE Conc. (mg/L)
VC Conc. (mg/L)
ETH Conc. (mg/L)
Dist. from Source (ft)

Data Input Instructions:

115
or
0.02

1. Enter value directly....or
2. Calculate by filling in gray cells. Press Enter, then

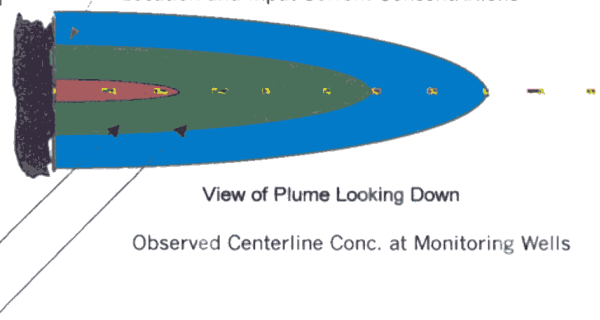
C

(To restore formulas, hit "Restore Formulas" button)

Variable* Data used directly in model.

Test if Biotransformation is Occurring → Natural Attenuation Screening Protocol

Vertical Plane Source: Determine Source Well Location and Input Solvent Concentrations



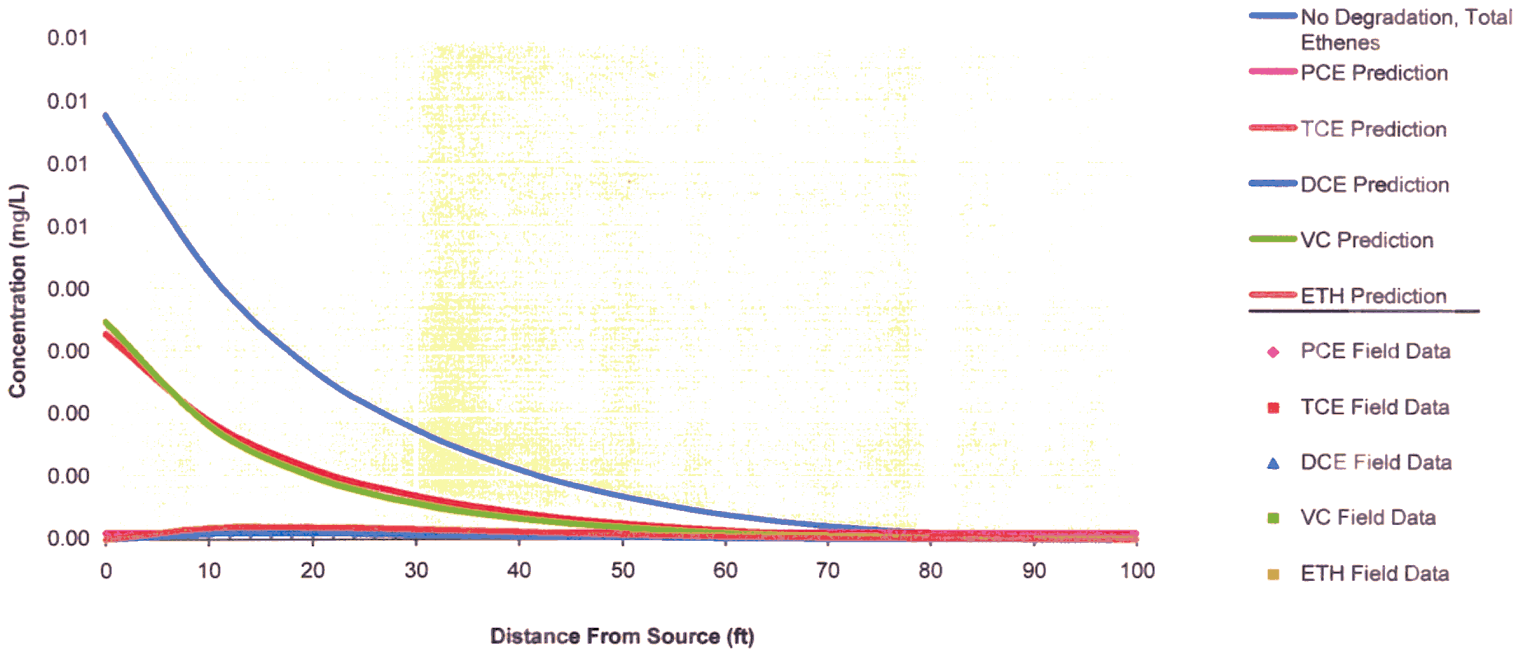
View of Plume Looking Down

Observed Centerline Conc. at Monitoring Wells

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE | RUN ARRAY | Help | Restore Formulas | RESET | SEE OUTPUT | Paste Example

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE



Log ⟺ Linear

Time:

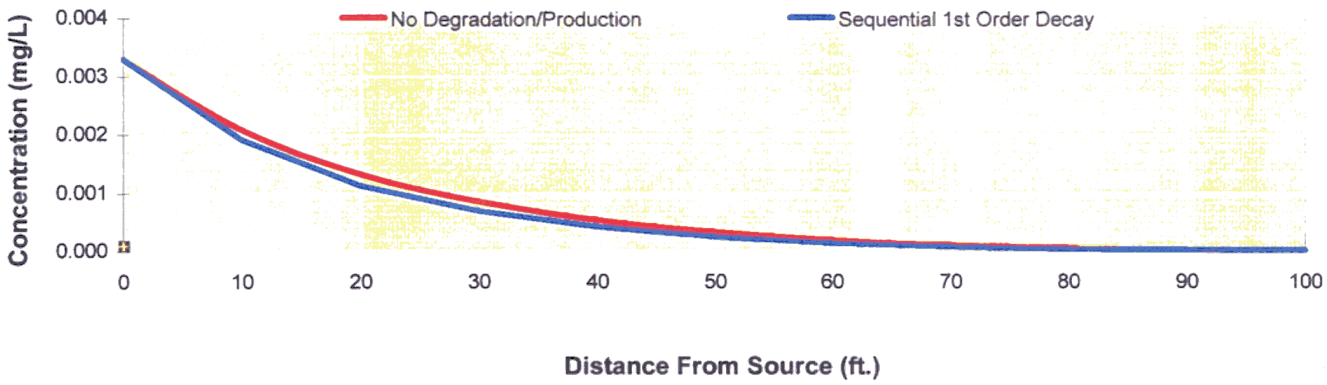
10 Years

To Input

To Individual Compounds

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE

TCE	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.003	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Monitoring Well Locations (ft)										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Log ⟺ Linear

Time: 10 Years

Return to Input

To All

To Array

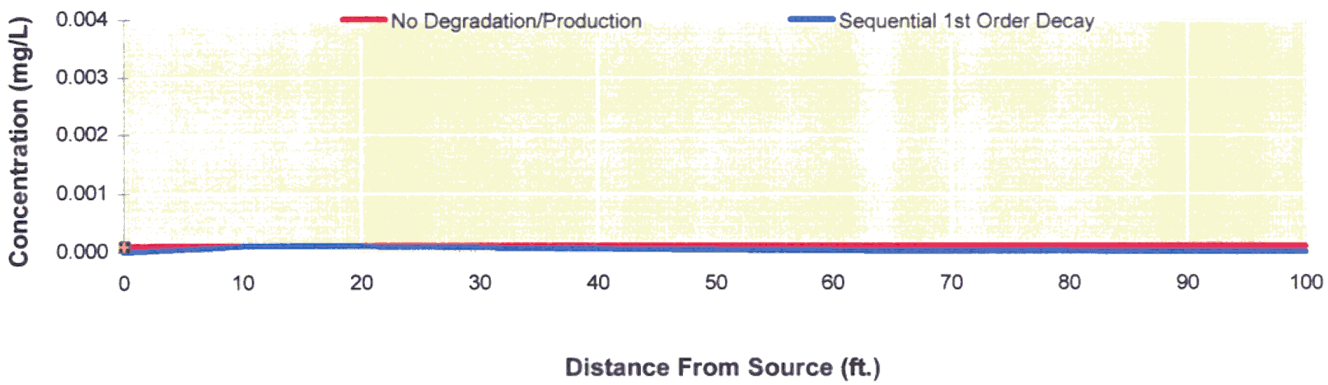
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE

Distance from Source (ft)

DCE	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Log ⟺ Linear

Time: 10 Years

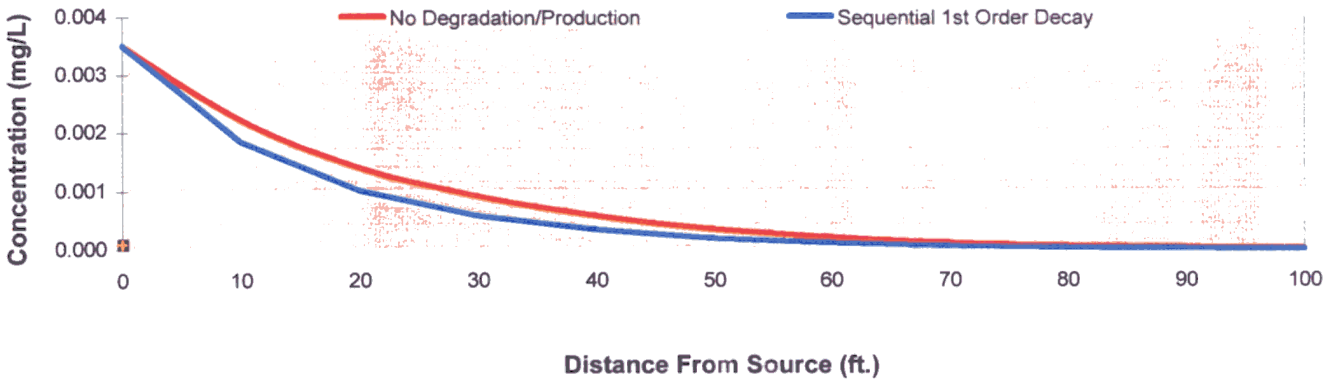
Return to Input

To All

To Array

DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE

VC	Distance from Source (ft)										
	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.004	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.003	0.002	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Monitoring Well Locations (ft)										
Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Log ⟺ Linear

Time: 10 Years

Return to Input

To All

To Array

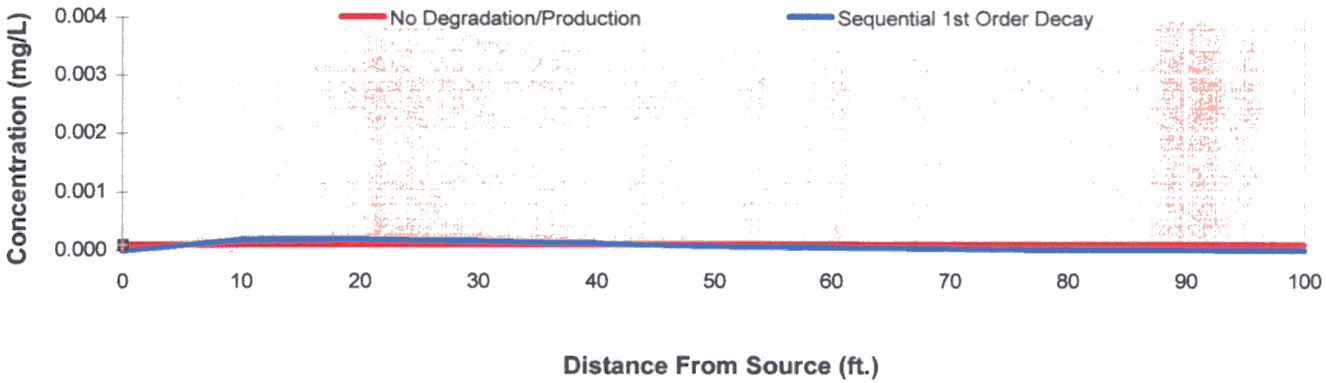
DISSOLVED CHLORINATED SOLVENT CONCENTRATIONS ALONG PLUME CENTERLINE

Distance from Source (ft)

ETH	0	10	20	30	40	50	60	70	80	90	100
No Degradation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Biotransformation	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Monitoring Well Locations (ft)

Field Data from Site											



See PCE

See TCE

See DCE

See VC

See ETH

Log ⟺ Linear

Time: 10 Years

Return to Input

To All

To Array

Start Here → PCE / TCE / DCE / VC / ETH

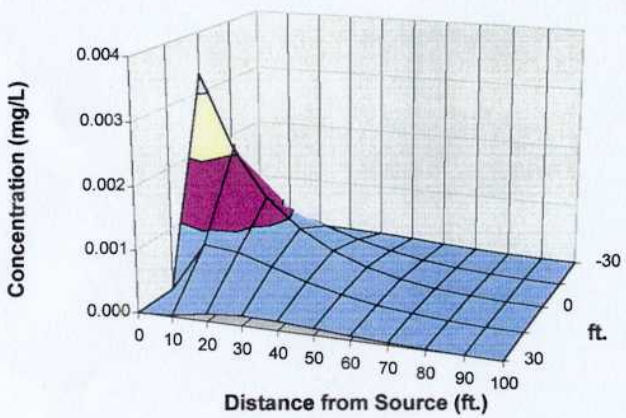
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft) →	0	10	20	30	40	50	60	70	80	90	100
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.003	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
-15	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	2.5E-2	2.1E-2	1.7E-2	1.3E-2	9.2E-3	6.0E-3	3.7E-3	2.1E-3	1.1E-3	5.5E-4	2.5E-4

Show No Degradation

Show Biotransformation

Time: 10 yr Target Level: 0.005 mg/L Displayed Model: No Degradation Displayed Compound: TCE



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	0.0	(Kg)
Plume Mass If Biotransformation/Production	0.0	(Kg)
Mass Removed	0.0	(Kg)
% Biotransformed =	+15.1%	
% Change in Mass Flux =	99.0 %	

If "Can't Calc" make model area larger

See acre-ft

Current Volume of Ground Water in Plume	0.00	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	#DIV/0!	
# Pore Volumes to Clean-Up		
Clean Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE
○ TCE
◉ DCE
○ VC
○ ETH

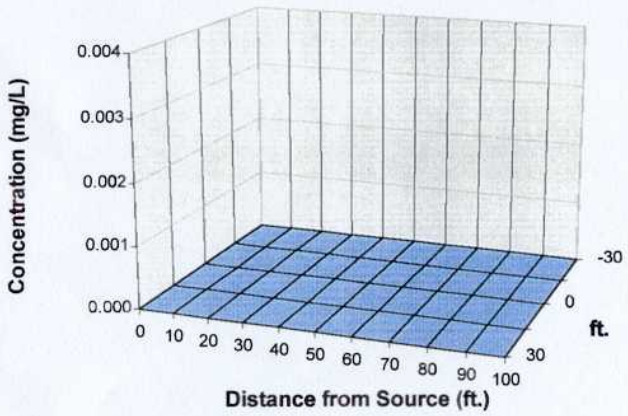
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft) →	0	10	20	30	40	50	60	70	80	90	100
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 10 yr Target Level: 0.070 mg/L Displayed Model: No Degradation Displayed Compound: DCE



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	0.0	(kg)
- Plume Mass If Biotransformation/Production	0.0	(kg)
Mass Removed	0.0	(kg)
% Biotransformed =		
% Change in Mass Flux =		

If "Can't Calc," make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.00	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr	#DIV/0!	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE
○ TCE
○ DCE
◉ VC
○ ETH

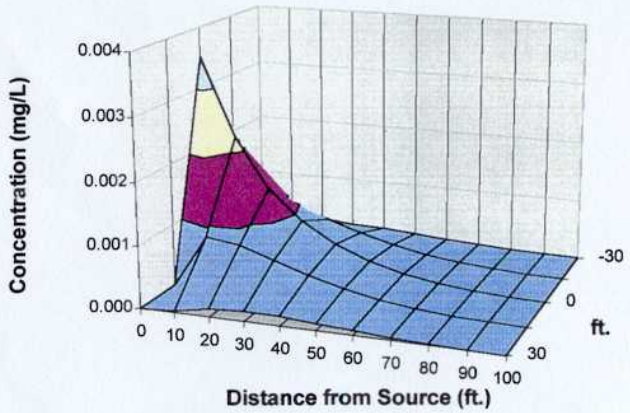
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft) →	0	10	20	30	40	50	60	70	80	90	100
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.004	0.002	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000
-15	0.000	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	2.6E-2	2.2E-2	1.8E-2	1.4E-2	9.7E-3	6.4E-3	3.9E-3	2.2E-3	1.2E-3	5.8E-4	2.6E-4

Show No Degradation

Show Biotransformation

Time: 10 yr Target Level: 0.002 mg/L Displayed Model: No Degradation Displayed Compound: VC



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	0.0	(Kg)
Plume Mass If Biotransformation/Production	0.0	(Kg)
Mass Removed	0.0	(Kg)
% Biotransformed =	+28.4%	
% Change in Mass Flux =	99.0 %	

If "Can't Calc", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.00	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	#DIV/0!	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input

Start Here → ○ PCE
○ TCE
○ DCE
○ VC
◉ ETH

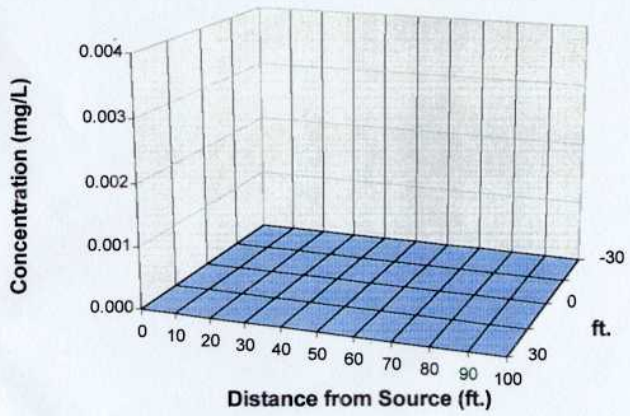
DISSOLVED SOLVENT CONCENTRATIONS IN PLUME

Transverse Distance (ft) ↓ / Distance from Source (ft) →	0	10	20	30	40	50	60	70	80	90	100
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-15	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0	0.0E+0

Show No Degradation

Show Biotransformation

Time: 10 yr Target Level: mg/L Displayed Model: No Degradation Displayed Compound: ETH



Plume Mass (Order-of-Magnitude Accuracy)

See Gallons

Plume Mass If No Degradation	0.0	(Kg)
Plume Mass If Biotransformation/Production	0.0	(Kg)
Mass Removed	0.0	(Kg)
% Biotransformed =		
% Change in Mass Flux =		

If "Can't Calc", make model area longer

See acre-ft

Current Volume of Ground Water in Plume	0.00	MGal
Flow Rate of Water Through Source Area	0.000	MGD

Compare to Pump and Treat

Pumping Rate		(gpm)
# Pore Volumes Removed Per Yr.	#DIV/0!	
# Pore Volumes to Clean-Up		
Clean-Up Time		(yr)

Plot All Data Plot Data > Target Mass HELP To Centerline Return to Input