



QUARTERLY GROUNDWATER MONITORING REPORT

Prepared for

**BLACK & DECKER (U.S.) INC.
Hampstead, Maryland**

APRIL 1999

Prepared by

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SECTION 1 INTRODUCTION

This Groundwater Monitoring Report has been prepared to meet the requirements of Condition IV.G of the Administrative Consent Order between the State of Maryland Department of the Environment (MDE) and Black & Decker (U.S.) Inc. (April 1995) (Consent Order). Specifically, Condition IV.G calls for preparation of a Groundwater Monitoring Report containing the following information for each reporting period: the quantities of groundwater pumped, treated, and discharged; the calculation of quantities of contaminants removed from groundwater; a summary of all sampling analyses; an explanation of all operational or other problems encountered, and the manner in which each problem was resolved; copies of all reports submitted to the Department of Natural Resources in conjunction with the Groundwater Appropriations Permit; and recommendations for changes to the Interim Groundwater Treatment System. This document is one of several which are being prepared in response to the Consent Order. Each of these documents is to be submitted to the MDE in accordance with the schedule outlined in the Consent Order. This document will become part of the Administrative Record for the site which is maintained at the Hampstead Public Library.

SECTION 2
SITE CHARACTERISTICS

2.1 HYDRAULIC PROPERTIES

In accordance with the Consent Order and the Water Appropriation Permit issued to the Black and Decker (U.S.) Inc. Hampstead, Maryland, facility, the following pumping and water level information is included for the period of January through March 1999.

Pumping records showing the total gallons pumped per month of treatment system operation are presented in Table 2-1. The complete groundwater treatment system pumping records are included in Appendix A.

Monthly water levels for wells included in the water level monitoring plan are presented in Table 2-2. At the time the water level measurements were collected, the extraction wells were pumping at an average combined rate of approximately 145 gallons per minute (gpm).

2.2 EFFLUENT CHARACTERISTICS

Effluent characteristics of the NPDES discharge points are recorded monthly on Discharge Monitoring Reports (DMRs) and are submitted to MDE, Water Management Administration, on a quarterly basis. A summary of the sample results from the DMRs is presented in Table 2-3. DMRs for the period of January through March 1999 are included in Appendix B

2.3 GROUNDWATER QUALITY DATA

For the reporting period of January through March 1999, approximately 96 pounds of total volatile organic compounds (VOCs) were removed from the groundwater by the extraction and treatment system. In general, the total VOCs removed from the groundwater were comprised primarily of

Table 2-1
Treatment System Pumping Records - 1st Quarter 1999
Black & Decker
Hampstead, Maryland

Date	Water Pumped (gallons)
January 1999	6,361,715
February 1999	5,660,960
March 1999	6,208,586

Table 2-2
Groundwater Elevation Data - 1st Quarter 1999
Black & Decker
Hampstead, Maryland

WELL NO.	TOC ELEV.	TOTAL DEPTH	1/28/99		2/22/99		3/30/99	
			DTW	ELEV	DTW	ELEV	DTW	ELEV
EW-1	847.21	55	DRY	--	DRY	--	DRY	--
EW-2	849.21	110	73.18	776.03	72.52	776.69	74.41	774.80
EW-3	846.64	118	85.72	760.92	93.53	753.11	84.61	762.03
EW-4	858.01	97.5	91.43	766.58	88.61	769.40	89.93	768.08
EW-5	864.17	98	87.98	776.19	88.23	775.94	87.41	776.76
EW-6	831.98	115	63.70	768.28	62.49	769.49	64.12	767.86
EW-7	818.38	78	45.72	772.66	58.68	759.70	44.99	773.39
EW-8	811.13	98	75.54	735.59	76.70	734.43	75.36	735.77
EW-9	811.35	141	101.00	710.35	92.97	718.38	100.33	711.02
EW-10	807.74	NA	52.77	754.97	52.93	754.81	51.90	755.84
RFW-1A	864.37	78	53.82	810.55	53.80	810.57	53.56	810.81
RFW-1B	864.23	200	53.83	810.40	53.83	810.40	53.57	810.66
RFW-2A	857.41	35	17.68	839.73	16.43	840.98	15.19	842.22
RFW-2B	857.73	75	17.93	839.80	17.06	840.67	16.21	841.52
RFW-3B	839.21	153	34.80	804.41	34.81	804.40	34.73	804.48
RFW-4A	830.37	62	39.48	790.89	39.36	791.01	38.82	791.55
RFW-4B	830.37	120	39.38	790.99	39.22	791.15	38.66	791.71
RFW-5A	817.50	30	DRY	--	DRY	--	DRY	--
RFW-6	785.04	120	2.81	782.23	4.28	780.76	1.19	783.85
RFW-7	805.14	29	7.57	797.57	7.67	797.47	7.54	797.60
RFW-8	860.07	56	DRY	--	DRY	--	DRY	--
RFW-9	862.02	49	27.43	834.59	27.14	834.88	26.84	835.18
RFW-10	852.06	58	DRY	--	DRY	--	DRY	--
RFW-11A	849.32	72	70.96	778.36	71.36	777.96	71.01	778.31
RFW-11B	849.62	116	78.18	771.44	78.24	771.38	78.17	771.45
RFW-12B	844.87	264	54.44	790.43	54.60	790.27	55.41	789.46
RFW-13	849.11	150	62.53	786.58	63.77	785.34	63.19	785.92
RFW-14B	812.39	281	47.06	765.33	47.83	764.56	47.63	764.76
RFW-16	856.14	41	DRY	--	DRY	--	DRY	--
RFW-17	834.66	60.5	28.74	805.92	29.82	804.84	29.77	804.89
RFW-18	843.67	50	7.01	836.66	6.88	836.79	6.24	837.43
RFW-19	858.28	60	5.48	852.80	5.26	853.02	5.10	853.18
RFW-20	842.49	142	36.47	806.02	32.58	809.91	32.34	810.15
RFW-21	832.65	102	22.41	810.24	22.62	810.03	22.47	810.18
PH-7	805.94	89	35.27	770.67	34.70	771.24	33.39	772.55
PH-9	814.94	98	42.79	772.15	43.21	771.73	42.94	772.00
PH-11	820.68	78	43.01	777.67	41.77	778.91	41.60	779.08
PH-12	828.35	87	48.12	780.23	48.63	779.72	48.52	779.83
B-2	807.68	100	6.40	801.28	4.55	803.13	4.60	803.08
B-3	803.02	83	9.64	793.38	7.64	795.38	7.71	795.31
Amoco	842.29	NA	27.99	814.30	34.23	808.06	32.71	809.58
Hamp. Town #22	804.96	NA	0.76	804.20	2.08	802.88	1.43	803.53
Pembroke #1	NA	NA	15.86	--	14.86	--	13.97	--
Pembroke #2	NA	NA	NA	--	NA	--	NA	--
N. Houcks. Rd.	NA	NA	9.91	--	9.58	--	9.63	--
E. Century St.	NA	NA	11.18	--	11.16	--	11.24	--
Lwr. Beckleys. Rd.	NA	NA	53.94	--	55.54	--	55.14	--

NA - Not Available/Not Accessible

Table 2-3
Effluent Characteristics Summary - 1st Quarter 1999
Black & Decker
Hampstead, Maryland

Discharge Number	Parameter	Units	Permit Limits	DMR DATE			
				January 1999	February 1999	March 1999	
001	FLOW	average	MGD	NA	0.259	0.276	0.207
		maximum	MGD	NA	1.080	0.756	0.306
	1,1,1-Trichloroethane	ug/l	5	< 5	< 5	< 5	
	Tetrachloroethylene	ug/l	5	< 5	< 5	< 5	
	Trichloroethylene	ug/l	5	< 5	< 5	< 5	
	Total Residual Chlorine	mg/l	<0.1	<0.1	<0.1	<0.1	
	Oil & Grease	maximum	mg/l	15	< 5	< 5	< 5
		quarterly average	mg/l	10	NR	NR	< 5
	pH	minimum	STD	6.0	6.07	6.51	6.49
		maximum	STD	8.5	6.67	7.07	6.86
	BOD		mg/l	15	<2	3	3
TSS	maximum	mg/l	30	3	3	6	
	quarterly average	mg/l	20	NR	NR	4	
101 (Monitoring Point)	FLOW	average	MGD	NA	0.409	0.467	0.468
		maximum	MGD	NA	0.472	0.473	0.470
	Fecal Coliform	MPN/100ml	200	< 2	< 2	< 2	
201 (Monitoring Point)	FLOW	average	MGD	NA	0.205	0.202	0.200
		maximum	MGD	NA	0.218	0.216	0.216
	1,1,1-Trichloroethane	ug/l	NA	< 5	< 5	< 5	
	Tetrachloroethylene	ug/l	NA	< 5	< 5	< 5	
	Trichloroethylene	ug/l	NA	< 5	< 5	< 5	

DMR - Discharge Monitoring Report

NA - Not Applicable

NR - Not Reported

trichloroethene (TCE) (73%) and tetrachlorethene (PCE) (27%). Analytical results of the groundwater collected at the inlet to the air stripper for the period of January through March 1999 are included in Appendix C.

A summary of the analytical results from the first quarter (February 1999) groundwater sampling round of the extraction and monitor wells is included in Table 2-4. The complete analytical data package is included in Appendix D. As found in earlier sampling events at the Black & Decker facility, TCE and PCE were the VOCs detected at the highest concentrations in the groundwater samples. The highest concentration of TCE was detected in the groundwater samples collected from wells RFW-12B and EW-2, and the highest concentration of PCE was detected in the groundwater sample collected from extraction well EW-9. Lower concentrations of 1,2-dichloroethene were also detected. The remainder of VOCs present were detected at levels well below the federal Maximum Contaminant Levels (MCL).

Table 2-4

Summary of Groundwater Analytical Results - February 1999
Black & Decker
Hampstead, Maryland

PARAMETER	Units	EW-1	EW-2	EW-2	EW-3	EW-4	EW-5	EW-6	EW-7	EW-8	EW-9	EW-10	RFW-1A	RFW-1B	RFW-2A
			(20)	(DUP) (20)	(5)	(20)	(10)			(2)	(5)				
Chloromethane	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U
Bromomethane	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U
Vinyl Chloride	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U
Chloroethane	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U
Methylene Chloride	ug/L	NS	88 JB	48 J	10 JB	81 JB	20 JB	5 U	5 U	2 JB	9 JB	5 U	5 U	5 U	5 U
Acetone	ug/L	NS	400	200 U	50 U	410	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U
Carbon Disulfide	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	2 J	10 U	25 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)	ug/L	NS	100 U	100 U	25 U	100 U	50 U	2 J	11	38	8 J	5 U	5 U	5 U	5 U
Chloroform	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
2-Butanone	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	ug/L	NS	100 U	100 U	25 U	100 U	11 J	5 U	1 J	10 U	25 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
Bromodichloromethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
Trichloroethene	ug/L	NS	2400	2500	670	2000	1300	19	15	19	12 J	5 U	5 U	5 U	3 J
Dibromochloromethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
Benzene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
Bromoform	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/L	NS	140	140	27	48 J	38 J	65	38	170	700	43	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
Toluene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
Chlorobenzene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
Ethylbenzene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
Styrene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U
Xylene (total)	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U

Notes: U = Compound was analyzed for but not detected. Value shown is the method detection limit for quantification.

J = Indicates an estimated value.

B = Indicates that the analyte was found in the associated blank as well as in the sample.

DUP = Duplicate sample

NS = Not sampled

(2.5) = Dilution factor.

Table 2-4

Summary of Groundwater Analytical Results - February 1999
 Black & Decker
 Hampstead, Maryland

PARAMETER	Units	RFW-2B	RFW-3B	RFW-4A	RFW-4A	RFW-4B	RFW-5A	RFW-6	RFW-7	RFW-8	RFW-9	RFW-10	RFW-11A	RFW-11B	RFW-12B
					(DUP)										
Chloromethane	ug/L	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	200 U
Bromomethane	ug/L	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	200 U
Vinyl Chloride	ug/L	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	200 U
Chloroethane	ug/L	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	200 U
Methylene Chloride	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	86 JB
Acetone	ug/L	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	400
Carbon Disulfide	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
1,1-Dichloroethene	ug/L	5 U	1 J	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
1,1-Dichloroethane	ug/L	5 U	2 J	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
1,2-Dichloroethene (total)	ug/L	5 U	47	4 J	3 J	7	NS	3 J	3 J	NS	6	NS	5 U	5 U	100 U
Chloroform	ug/L	5 U	5 U	2 J	2 J	2 J	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
1,2-Dichloroethane	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
2-Butanone	ug/L	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	200 U
1,1,1-Trichloroethane	ug/L	5 U	4 J	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Carbon Tetrachloride	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Bromodichloromethane	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
1,2-Dichloropropane	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
cis-1,3-Dichloropropene	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Trichloroethene	ug/L	5 U	29	120	120	74	NS	17	3 J	NS	22	NS	94	73	2500
Dibromochloromethane	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
1,1,2-Trichloroethane	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Benzene	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Trans-1,3-Dichloropropene	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Bromoform	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
4-Methyl-2-pentanone	ug/L	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	200 U
2-Hexanone	ug/L	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	200 U
Tetrachloroethene	ug/L	5 U	37	160	160	160	NS	15	5 U	NS	6	NS	2 J	2 J	82 J
1,1,2,2-Tetrachloroethane	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Toluene	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Chlorobenzene	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Ethylbenzene	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Styrene	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U
Xylene (total)	ug/L	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	100 U

Notes: U = Compound was analyzed for but not detected. Value shown is the method detection limit for quantification.

J = Indicates an estimated value.

B = Indicates that the analyte was found in the associated blank as well as in the sample.

DUP = Duplicate sample

NS = Not sampled

(2.5) = Dilution factor.

Table 2-4

Summary of Groundwater Analytical Results - February 1999
Black & Decker
Hampstead, Maryland

PARAMETER	Units	RFW-13	RFW-16	RFW-17	RFW-18	RFW-19	RFW-20	RFW-21	Town #22	Town #23	Leister Dairy	Leister Res. #1	Leister Res. #2	Field Blank	Trip Blank
Chloromethane	ug/L	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
Bromomethane	ug/L	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	ug/L	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
Chloroethane	ug/L	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	2 JB
Acetone	ug/L	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Chloroform	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	8	5 U
1,2-Dichloroethane	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
2-Butanone	ug/L	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Trichloroethene	ug/L	13	NS	5 U	5 U	5 U	11	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Benzene	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Bromoform	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	ug/L	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/L	73	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	2 J	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Toluene	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Styrene	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Xylene (total)	ug/L	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U

Notes: U = Compound was analyzed for but not detected. Value shown is the method detection limit for quantification.

J = Indicates an estimated value.

B = Indicates that the analyte was found in the associated blank as well as in the sample.

DUP = Duplicate sample

NS = Not sampled

(2.5) = Dilution factor.

SECTION 3
OPERATION AND MAINTENANCE OF THE TREATMENT SYSTEM

A summary of the maintenance activities that were undertaken with the extraction and treatment system during the reporting period (January through March 1999) is provided in Table 3-1. This table is comprehensive in summarizing significant maintenance events or activities, while not including those activities considered unworthy of note (such as replacement of light bulbs, lubrication of moving parts, as appropriate, or other routine activities).

Table 3-1
Treatment System Maintenance Activities - 1st Quarter 1999
Black & Decker
Hampstead, Maryland

Date	Event/Corrective Action
January 1999	Frozen water main caused the air stripper to be shut down for the morning, the water main was fixed and the stripper was back on line that afternoon.
January 1999	The well field was cycling on and off, a faulty air flow switch was found and replaced, the stripper was back online.
January 1999	Relay switch for blower 2A, was bad. The switch was replaced and the system was back online.



SECTION 4

RECOMMENDATIONS

For the reporting period of January through March 1999, the treatment system continued to create a hydraulic boundary preventing off-site migration of groundwater. Operation of the extraction system as currently configured will continue, adjusting pumping rates as necessary according to the amount of groundwater recharge. Operation of the treatment system as currently configured will also continue, because the treatment system is fully effective in removing VOCs from the extracted groundwater.

APPENDIX A
GROUNDWATER TREATMENT SYSTEM PUMPING RECORDS
(JANUARY – MARCH 1999)

MONTH / YEAR

**BLACK DECKER
AIR STRIPPER # 2
OPERATING RECORD**

PAST MONTH READING

Jan. 99

382057644

Distribution line broke along side
 * Hydro Tanks, under ground.

Date	Day	Time	Integ. Reading	GPD	Pump # 12	Pump # 11
1				↑		
2						
3				624993		
4	M	1045	383099299	200362	19364	19479
5	T	1000	383299661	200003	19387	19479
6	W	0915	383499664	205231	19410	19479
7	T	0915	383704895	206361	19434	19479
8	F	0915	383911256	↑	19458	19479
9						
10				623191		
11	M	2950	384534447	205514	19531	19479
12	T	0950	384739961	208090	19531	19503
13	W	1010	384948051	197253	19531	19527
14	T	0915	385145304	211121	19531	19551
15	F	0945	385356425	↑	19531	19595
16						
17				618519		
18	M	1015	385974944	201325	19531	19648
19	T	0955	386176269	199980	19542	19666
20	W	0920	386376249	203179	19542	19690
21	T	0905	386579428	214257	19542	19713
22	F	1005	386793685	↑	19542	19738
23						
24				594503		
25	M	0750	387388188	218440	19542	19808
26	T	0925	387606628	213550	19568	19808
27	W	1025	387820178	203482	19593	19808
28	T	1020	388023660	202140	19617	19808
29	F	1005	388225800	↑	19641	19868
30						
31				610221		
Total				6361715		
Average				205217		

NEXT MONTH READING 388836021

date 2-1-99

MONTH / YEAR

Feb 99

**BLACK DECKER
AIR STRIPPER # 2
OPERATING RECORD**

PAST MONTH READING

388325800

Date	Day	Time	Integ. Reading	GPD	Pump # 12	Pump # 11
1	M	1000	388836021	197949	19712	19808
2	T	0915	389033970	208139	19735	19808
3	W	0945	389242109	215991	19760	19808
4	T	1100	389458100	192642	19785	19808
5	F	1000	389650742	↑	19808	19808
6				↑	10	
7				611795		
8	M	1000	390262537	195107	19880	19808
9	T	0915	390457644	195996	19880	19831
10	W	0830	390653640	208978	19880	19854
11	T	0915	390862618	202062	19880	19879
12	F	0910	391064680	↑	19880	19903
13				↑		
14				615358		
15	M	1000	391680038	197369	19880	19976
16	T	0935	391877467	210335	19904	19976
17	W	1035	392087442	199253	19909	19976
18	T	1010	392286995	193940	19952	19976
19	F	0915	392480935	↑	19975	19976
20				↑		
21				620767		
22	M	1100	393107702	189421	20049	19976
23	T	0935	393291123	208083	20049	19999
24	W	1020	393499206	193026	20049	20023
25	T	0945	393692232	214033	20049	20046
26	F	1050	393906265	↑	20049	20072
27				↑		
28				590716		
29						
30						
31						
Total				5660960		
Average				202177		

NEXT MONTH READING

394496981Date 3-1-99

MONTH / YEAR

**BLACK DECKER
AIR STRIPPER # 2
OPERATING RECORD**

PAST MONTH READING

March 99

393906265

Date	Day	Time	Integ. Reading	GPD	Pump # 12	Pump # 11
1	M	0930	394496981	215858	20049	20143
2	T	1130	394712839	182400	20075	20143
3	W	0925	394895239	189748	20097	20143
4	T	1000	395084987	203631	20118	20145
5	F	1015	395288618	↑	20118	20169
6						
7				600761		
8	M	0945	395889379	189740	20118	20241
9	T	0835	396079119	209044	20140	20241
10	W	0930	396288163	193940	20165	20241
11	T	0845	396482103	207791	20188	20241
12	F	0935	396689894	↑	20213	20241
13						
14				601886		
15	M	0930	397291780	211061	20285	20241
16	T	1035	397502841	189908	20285	20266
17	W	0940	397692749	205842	20285	20289
18	T	1020	397898591	201572	20285	20313
19	F	1025	398100163	↑	20285	20337
20						
21				599458		
22	M	1015	398699621	206365	20285	20409
23	T	1045	398905986	189703	20310	20409
24	W	1000	399095689	202606	20333	20410
25	T	1000	399298395	197511	20357	20410
26	F	0930	399495866	↑	20380	20410
27						
28				608040		
29	M	1030	400103844	201006	20453	20410
30	T	1030	400304850	196410	20453	20434
31	W	1000	400501260	204305	20453	20458
Total				6208586		
Average				200277		

NEXT MONTH READING 400705565

Date 4/1/99

APPENDIX B
DISCHARGE MONITORING REPORTS
(JANUARY - MARCH 1999)