



**QUARTERLY GROUNDWATER MONITORING REPORT**

**Prepared for**

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

**APRIL 1997**

**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 are 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 1997.

Pumping records showing the total gallons pumped per month of treatment system operation are presented in Table 2-1. 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 176 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 1997 are included in Appendix A.

**2.3 GROUNDWATER QUALITY DATA**

For the reporting period of January through March 1997, approximately 225 lbs 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 of trichloroethene (TCE) (81 %), tetrachlorethene (PCE) (18 %), and a small percentage of 1,2-dichloroethene and 1,1,1-

**Table 2-1**  
**Treatment System Pumping Records - 1st Quarter 1997**  
**Black & Decker**  
**Hampstead, Maryland**

<b>Date</b>	<b>Water pumped (gallons)</b>
January 1997	7,968,460
February 1997	7,016,170
March 1997	7,769,265

**Table 2-2**  
**Groundwater Elevation Data - 1st Quarter 1997**  
**Black & Decker**  
**Hampstead, Maryland**

WELL NO.	TOC ELEV.	TOTAL DEPTH	1/27/97		2/18/97		3/13/97	
			DTW	ELEV	DTW	ELEV	DTW	ELEV
EW-1	847.21	55	NA	--	NA	--	NA	--
EW-2	849.21	110	91.89	757.32	94.45	754.76	87.33	761.88
EW-3	846.64	118	84.55	762.09	85.83	760.81	83.79	762.85
EW-4	858.01	97.5	85.63	772.38	88.13	769.88	86.40	771.61
EW-5	864.17	98	94.12	770.05	87.93	776.24	78.46	785.71
EW-6	831.98	115	61.12	770.86	57.40	774.58	58.63	773.35
EW-7	818.38	78	33.81	784.57	33.10	785.28	33.74	784.64
EW-8	811.13	98	49.33	761.80	54.63	756.50	53.11	758.02
EW-9	811.35	141	81.37	729.98	79.66	731.69	79.37	731.98
EW-10	807.74	NA	47.02	760.72	49.64	758.10	46.74	761.00
RFW-1A	864.37	78	45.11	819.26	45.81	818.56	45.96	818.41
RFW-1B	864.23	200	45.05	819.18	45.87	818.36	45.99	818.24
RFW-2A	857.41	35	11.73	845.68	11.50	845.91	11.53	845.88
RFW-2B	857.73	75	12.00	845.73	12.14	845.59	12.06	845.67
RFW-3B	839.21	153	27.51	811.70	25.99	813.22	26.22	812.99
RFW-4A	830.37	62	34.86	795.51	34.99	795.38	34.72	795.65
RFW-4B	830.37	120	34.81	795.56	34.96	795.41	34.61	795.76
RFW-5A	817.50	30	DRY	--	DRY	--	DRY	--
RFW-6	785.04	120	2.52	782.52	2.38	782.66	2.28	782.76
RFW-7	805.14	29	5.29	799.85	5.46	799.68	5.68	799.46
RFW-8	860.07	56	55.53	804.54	DRY	--	DRY	--
RFW-9	862.02	49	23.14	838.88	23.14	838.88	23.37	838.65
RFW-10	852.06	58	56.31	795.75	56.70	795.36	56.58	795.48
RFW-11A	849.32	72	67.28	782.04	67.45	781.87	62.58	786.74
RFW-11B	849.62	116	75.43	774.19	75.69	773.93	74.21	775.41
RFW-12B	844.87	264	52.17	792.70	51.82	793.05	52.02	792.85
RFW-13	849.11	150	56.81	792.30	54.14	794.97	53.86	795.25
RFW-14B	812.39	281	35.85	776.54	35.61	776.78	35.79	776.60
RFW-16	856.14	41	35.47	820.67	36.89	819.25	36.63	819.51
RFW-17	834.66	60.5	24.91	809.75	25.04	809.62	24.90	809.76
RFW-18	843.67	50	2.78	840.89	1.80	841.87	2.71	840.96
RFW-19	858.28	60	5.47	852.81	4.74	853.54	5.11	853.17
PH-7	805.94	89	26.53	779.41	26.39	779.55	26.21	779.73
PH-9	814.94	98	32.37	782.57	27.95	786.99	28.74	786.20
PH-11	820.68	78	37.88	782.80	37.69	782.99	37.91	782.77
PH-12	828.35	87	39.70	788.65	39.45	788.90	39.48	788.87
B-2	807.68	100	4.41	803.27	4.35	803.33	4.71	802.97
B-3	803.02	83	5.37	797.65	6.37	796.65	6.64	796.38
Amoco	842.29	NA	20.21	822.08	19.12	823.17	19.47	822.82
Hamp. Town #22	NA	NA	0.71	--	0.68	--	0.71	--
Pembroke #1	NA	NA	9.41	--	8.50	--	9.08	--
Pembroke #2	NA	NA	NA	--	NA	--	NA	--
N. Houcks. Rd.	NA	NA	6.83	--	6.87	--	7.53	--
E. Century St.	NA	NA	10.17	--	10.31	--	10.47	--
Lwr. Beckleys. Rd.	NA	NA	47.31	--	NA	--	NA	--

NA - Not Available/Not Accessible

Table 2-3  
Effluent Characteristics Summary - 1st Quarter 1997  
Black & Decker  
Hampstead, Maryland

Discharge Number	Parameter	Units	Permit Limits	DMR DATE			
				January 1997	February 1997	March 1997	
001	FLOW	average	MGD	NA	0.272	0.200	0.270
		maximum	MGD	NA	0.362	0.294	0.415
	1,1,1-Trichloroethane		ug/l	5	ND	ND	ND
	Tetrachloroethylene		ug/l	5	ND	ND	ND
	Trichloroethylene		ug/l	5	ND	ND	ND
	Total Residual Chlorine		mg/l	<0.1	<0.1	<0.1	<0.1
	Oil & Grease	average	mg/l	10	NR	NR	ND
		maximum	mg/l	15	ND	ND	ND
	pH	minimum	STD	6.0	6.86	6.79	6.88
		maximum	STD	8.5	7.30	8.04	7.25
BOD		mg/l	15	4	7	12	
TSS	quarterly average	mg/l	20	NR	NR	8	
	maximum	mg/l	30	7	8	8	
101 (Monitoring Point)	FLOW	average	MGD	NA	0.552	0.554	0.553
		maximum	MGD	NA	0.567	0.557	0.554
	Fecal Coliform		MPN/100ml	200	ND	ND	ND
201 (Monitoring Point)	FLOW	average	MGD	NA	0.257	0.251	0.251
		maximum	MGD	NA	0.283	0.268	0.278
	1,1,1-Trichloroethane		ug/l	NA	ND	ND	ND
	Tetrachloroethylene		ug/l	NA	ND	ND	ND
Trichloroethylene		ug/l	NA	ND	ND	ND	

NA = Not Applicable  
ND = Not Detected  
NR = Not Reported



trichloroethane. Analytical results of the groundwater at the inlet to the air stripper for the period of January through March 1997 are included in Appendix B.

A summary of the analytical results from the first quarter (February 1997) groundwater sampling round of the extraction and monitor wells is included in Table 2-4. The complete analytical data package is included in Appendix C. 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 sample collected from monitor well RFW-16 and the highest concentration of PCE was detected in the groundwater sample collected from extraction well EW-9. VOCs detected at lower concentrations were 1,2-dichloroethene, 1,1,1-trichloroethane, 1,1-dichloroethene, and 1,1,2-trichloroethane. 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 1997

Black & Decker  
Hampstead, Maryland

PARAMETER	Units	EW-1	EW-2	EW-3	EW-3 (10)	EW-3 (DUP) (10)	EW-4 (25)	EW-5 (10)	EW-6	EW-7	EW-8 (2)	EW-9 (5)	EW-10	RFW-1A	RFW-1B	RFW-2A
Chloromethane	ug/L	NS	200 U	100 U	100 U	250 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	ug/L	NS	200 U	100 U	100 U	250 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U	10 U
Vinyl Chloride	ug/L	NS	200 U	100 U	100 U	250 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	ug/L	NS	200 U	100 U	100 U	250 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	ug/L	NS	210 B	92 B	100 B	220 B	74 B	7 B	8 B	18 B	41 B	7 B	8 B	8 B	7 B	
Acetone	ug/L	NS	200 U	100 U	100 U	250 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	2 J	10 U	25 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)	ug/L	NS	100 U	50 U	50 U	120 U	50 U	1 J	10	29	10 J	5 U	5 U	5 U	5 U	5 U
Chloroform	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	ug/L	NS	200 U	100 U	100 U	250 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	ug/L	NS	100 U	50 U	50 U	120 U	11 J	5 U	1 J	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Vinyl Acetate	ug/L	NS	200 U	100 U	100 U	250 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U	10 U
Bromodichloromethane	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	ug/L	NS	3500	1100	1100	3200	1500	11	16	17	13 J	2 J	5 U	5 U	5 U	1 J
Dibromochloromethane	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Benzene	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Bromoform	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	ug/L	NS	200 U	100 U	100 U	250 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	NS	200 U	100 U	100 U	250 U	100 U	10 U	10 U	20 U	50 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/L	NS	110	24 J	27 J	84 J	27 J	48	45	200	810	130	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Toluene	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Styrene	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	5 U	5 U	5 U	5 U	5 U
Xylene (total)	ug/L	NS	100 U	50 U	50 U	120 U	50 U	5 U	5 U	10 U	25 U	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.

Table 2-4 (continued)  
 Summary of Groundwater Analytical Results - February 1997  
 Black & Decker  
 Hampstead, Maryland

PARAMETER	Units	RFW-2B	RFW-3B	RFW-4A	RFW-4B	RFW-5A	RFW-6	RFW-7	RFW-8	RFW-9	RFW-10	RFW-11A	RFW-11B	RFW-12B
					(2)						(20)			(25)
Chloromethane	ug/L	10 U	10 U	10 U	20 U	NS	10 U	10 U	NS	10 U	200 U	10 U	10 U	250 U
Bromomethane	ug/L	10 U	10 U	10 U	20 U	NS	10 U	10 U	NS	10 U	200 U	10 U	10 U	250 U
Vinyl Chloride	ug/L	10 U	10 U	10 U	20 U	NS	10 U	10 U	NS	10 U	200 U	10 U	10 U	250 U
Chloroethane	ug/L	10 U	10 U	10 U	20 U	NS	10 U	10 U	NS	10 U	200 U	10 U	10 U	250 U
Methylene Chloride	ug/L	8 B	8 B	7 B	14 B	NS	7 B	8 B	NS	8 B	110 B	8 B	7 B	270 B
Acetone	ug/L	10 U	10 U	10 U	20 U	NS	10 U	10 U	NS	10 U	200 U	10 U	10 U	250 U
Carbon Disulfide	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
1,1-Dichloroethene	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
1,1-Dichloroethane	ug/L	5 U	2 J	5 U	10 U	NS	5 U	5 U	NS	6	100 U	5 U	5 U	120 U
1,2-Dichloroethene (total)	ug/L	5 U	49	3 J	6 J	NS	3 J	5 U	NS	14	100 U	5 U	5 U	120 U
Chloroform	ug/L	5 U	5 U	1 J	2 J	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
1,2-Dichloroethane	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
2-Butanone	ug/L	10 U	10 U	10 U	20 U	NS	10 U	10 U	NS	10 U	200 U	10 U	10 U	250 U
1,1,1-Trichloroethane	ug/L	5 U	3 J	5 U	10 U	NS	5 U	5 U	NS	3 J	27 J	5 U	5 U	120 U
Carbon Tetrachloride	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
Vinyl Acetate	ug/L	10 U	10 U	10 U	20 U	NS	10 U	10 U	NS	10 U	200 U	10 U	10 U	250 U
Bromodichloromethane	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
1,2-Dichloropropane	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
cis-1,3-Dichloropropene	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
Trichloroethene	ug/L	1 J	23	88	130	NS	26	7	NS	30	1300	86	31	2800
Dibromochloromethane	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
1,1,2-Trichloroethane	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
Benzene	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
Trans-1,3-Dichloropropene	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
Bromoform	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
4-Methyl-2-pentanone	ug/L	10 U	10 U	10 U	20 U	NS	10 U	10 U	NS	10 U	200 U	10 U	10 U	250 U
2-Hexanone	ug/L	10 U	10 U	10 U	20 U	NS	10 U	10 U	NS	10 U	200 U	10 U	10 U	250 U
Tetrachloroethene	ug/L	5 U	49	95	200	NS	24	5 U	NS	18	89 J	2 J	5 U	73 J
1,1,2,2-Tetrachloroethane	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
Toluene	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
Chlorobenzene	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
Ethylbenzene	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
Styrene	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 U
Xylene (total)	ug/L	5 U	5 U	5 U	10 U	NS	5 U	5 U	NS	5 U	100 U	5 U	5 U	120 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 (continued)  
 Summary of Groundwater Analytical Results - February 1997  
 Black & Decker  
 Hampstead, Maryland

PARAMETER	Units	RFW-13	RFW-16	RFW-16	RFW-17	RFW-18	RFW-19	Town #22	Town #23	Leister Dairy	Leister Res. #1	Leister Res. #2	Field Blank	Trip Blank
			(500)	(DUP) (500)										
Chloromethane	ug/L	10 U	5000 U	5000 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U
Bromomethane	ug/L	10 U	5000 U	5000 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U
Vinyl Chloride	ug/L	10 U	5000 U	5000 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U
Chloroethane	ug/L	10 U	5000 U	5000 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U
Methylene Chloride	ug/L	6 B	2000 BJ	1500 BJ	8 B	8 B	9 B	8 B	11 B	7 B	5 U	9 BJ	8 B	7 B
Acetone	ug/L	10 U	5000 U	5000 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U
Carbon Disulfide	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
1,1-Dichloroethene	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
1,1-Dichloroethane	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
1,2-Dichloroethene (total)	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Chloroform	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
1,2-Dichloroethane	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
2-Butanone	ug/L	10 U	5000 U	5000 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U
1,1,1-Trichloroethane	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Carbon Tetrachloride	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Vinyl Acetate	ug/L	10 U	5000 U	5000 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U
Bromodichloromethane	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
1,2-Dichloropropane	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
cis-1,3-Dichloropropene	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Trichloroethene	ug/L	5 J	31000	32000	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Dibromochloromethane	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
1,1,2-Trichloroethane	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Benzene	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Trans-1,3-Dichloropropene	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Bromoform	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
4-Methyl-2-pentanone	ug/L	10 U	5000 U	5000 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U
2-Hexanone	ug/L	10 U	5000 U	5000 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	20 U	10 U	10 U
Tetrachloroethene	ug/L	37	450 J	2500 U	5 U	5 U	5 U	5 U	5 U	4 J	5 U	10 U	5 U	5 U
1,1,2,2-Tetrachloroethane	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Toluene	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Chlorobenzene	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Ethylbenzene	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Styrene	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	5 U	5 U
Xylene (total)	ug/L	5 U	2500 U	2500 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 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.

2-8

**SECTION 3**  
**OPERATION AND MAINTENANCE OF THE TREATMENT SYSTEM**

A summary of the maintenance activities which were undertaken with the extraction and treatment system during the reporting period (January through March 1997) 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 1997**  
**Black & Decker**  
**Hampstead, Maryland**

<b>Date</b>	<b>Event/Corrective Action</b>
January 1997	Check valves on pumps P-11 and P-12 at air stripper not operating properly.
February 1997	Replaced check valves on pumps P-11 and P-12 at air stripper.
March 1997	Extraction well EW-3 pumping at lower rate. Cleaned control valve and regulator and replaced check valve. EW-3 operating properly.



## SECTION 4

### RECOMMENDATIONS

For the reporting period of January through March 1997, 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**  
**DISCHARGE MONITORING REPORTS**  
**(JANUARY - MARCH 1997)**



PERMITTEE NAME/ADDRESS: (Include Facility Name/Location if different)

NAME: **BLACK & DECKER (U.S.) INC.**  
 ADDRESS: **626 HANOVER PIKE**  
**HAMPSTEAD, MD. 21074**

FACILITY:

LOCATION: **CARROLL COUNTY**

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

**93-DP-0022**  
 PERMIT NUMBER  
 (2-16)

**001**  
 DISCHARGE NUMBER  
 (17-16)

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
97	01	01	97	01	31
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)

FORM APPROVED  
 OMB No.2040-0004

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	X	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45)				NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-66)	SAMPLE TYPE (69-70)
		AVERAGE (54-61)	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	0.272	0.362	MGD					0	CONTINUOUS MEASURED	
	PERMIT REQUIREMENT	NO LIMIT	NO LIMIT							CONTINUOUS MEASURED	
1,1,1-TRICHLOROETHANE	SAMPLE MEASUREMENT						ND	ppb	0	1/MONTH	GRAB
	PERMIT REQUIREMENT						5			1/MONTH	GRAB
TETRACHLOROETHYLENE	SAMPLE MEASUREMENT						ND	ppb	0	1/MONTH	GRAB
	PERMIT REQUIREMENT						5			1/MONTH	GRAB
TRICHLOROETHYLENE	SAMPLE MEASUREMENT						ND	ppb	0	1/MONTH	GRAB
	PERMIT REQUIREMENT						5			1/MONTH	GRAB
TOTAL RESIDUAL CHLORINE	SAMPLE MEASUREMENT						<0.1	mg/l	0	3/MONTH	GRAB
	PERMIT REQUIREMENT						<0.1			1/MONTH	GRAB
OIL & GREASE	SAMPLE MEASUREMENT						ND	mg/l	0	1/MONTH	GRAB
	PERMIT REQUIREMENT						10	15		1/MONTH	GRAB
pH	SAMPLE MEASUREMENT				6.86		7.30	STD	0	2/WEEK	GRAB
	PERMIT REQUIREMENT				6.00		8.50			2/WEEK	GRAB

NAME / TITLE PRINCIPAL EXECUTIVE OFFICER

**LaVere N. Grimes**  
**Facilities Manager**

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN. AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SBB 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to \$10,000 and/or maximum imprisonment of between 6 months and 5 years.)

*LaVere N. Grimes*

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE	DATE
410-239-5555	97   02   04
AREA CODE-NUMBER	YEAR   MO   DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS

(Reference all attachments here)