



**QUARTERLY GROUNDWATER MONITORING REPORT**

**Prepared for**

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

**OCTOBER 1996**

**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 July through September 1996.

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 data were collected, the extraction wells were pumping at an average, combined rate of approximately 168 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 July through September 1996 are included in Appendix A.

**2.3 GROUNDWATER QUALITY DATA**

A summary of groundwater analytical results for the third quarter (August 1996) is included in Table 2-4. Analytical data packages for the third quarter of 1996 are included in Appendix B. For the reporting period of July through September 1996, approximately 225 lbs of total volatile

**Table 2-1**  
**Treatment System Pumping Records - 3rd Quarter 1996**  
**Black & Decker**  
**Hampstead, Maryland**

Date	Water pumped (gallons)
July 1996	7,626,823
August 1996	7,622,697
September 1996	7,027,815

**Table 2-2**  
**Groundwater Elevation Data - 3rd Quarter 1996**  
**Black & Decker (U.S.) Inc**  
**Hampstead, Maryland**

WELL NO.	TOC ELEV.	TOTAL DEPTH	7/3/96		8/5/96		9/30/96	
			DTW	ELEV	DTW	ELEV	DTW	ELEV
EW-1	847.21	55	NA	--	NA	--	NA	--
EW-2	849.21	110	86.14	763.07	87.65	761.56	89.96	759.25
EW-3	846.64	118	82.78	763.86	82.76	763.88	92.49	754.15
EW-4	858.01	97.5	86.34	771.67	82.05	775.96	83.64	774.37
EW-5	864.17	98	74.88	789.29	73.21	790.96	70.08	794.09
EW-6	831.98	115	59.67	772.31	58.63	773.35	60.02	771.96
EW-7	818.38	78	40.84	777.54	39.13	779.25	37.12	781.26
EW-8	811.13	98	50.86	760.27	49.65	761.48	49.91	761.22
EW-9	811.35	141	79.73	731.62	79.73	731.62	78.96	732.39
EW-10	807.74		47.00	760.74	47.76	759.98	49.11	758.63
RFW-1A	864.37	78	44.99	819.38	45.35	819.02	43.12	821.25
RFW-1B	864.23	200	45.01	819.22	45.39	818.84	43.15	821.08
RFW-2A	857.41	35	12.30	845.11	10.98	846.43	11.80	845.61
RFW-2B	857.73	75	12.94	844.79	11.62	846.11	12.36	845.37
RFW-3B	839.21	153	28.36	810.85	27.07	812.14	27.93	811.28
RFW-4A	830.37	62	33.84	796.53	34.10	796.27	35.34	795.03
RFW-4B	830.37	120	33.69	796.68	33.93	796.44	35.05	795.32
RFW-5A	817.50	30	DRY	--	DRY	--	DRY	--
RFW-6	785.04	120	1.78	783.26	2.03	783.01	2.42	782.62
RFW-7	805.14	29	6.31	798.83	5.20	799.94	5.98	799.16
RFW-8	860.07	53	54.33	805.74	54.10	805.97	50.69	809.38
RFW-9	862.02	49	23.66	838.36	23.45	838.57	23.59	838.43
RFW-10	852.06	58	54.07	797.99	54.73	797.33	50.27	801.79
RFW-11A	849.32	72	65.61	783.71	67.23	782.09	67.61	781.71
RFW-11B	849.62	116	67.82	781.80	75.25	774.37	75.65	773.97
RFW-12B	844.87	264	50.54	794.33	51.13	793.74	51.21	793.66
RFW-13	849.11	150	59.33	789.78	55.74	793.37	56.06	793.05
RFW-14B	812.39	281	37.52	774.87	37.27	775.12	37.27	775.12
RFW-16	856.14	41	36.06	820.08	36.71	819.43	35.61	820.53
RFW-17	834.66	60.5	26.61	808.05	24.85	809.81	25.14	809.52
RFW-18	843.67	50	3.33	840.34	2.09	841.58	2.46	841.21
RFW-19	858.28	60	5.26	853.02	4.64	853.64	5.21	853.07
PH-7	805.94	89	27.94	778.00	27.98	777.96	28.06	777.88
PH-9	814.94	98	30.64	784.30	30.76	784.18	31.67	783.27
PH-11	820.68	78	38.61	782.07	38.12	782.56	39.00	781.68
PH-12	828.35	87	41.06	787.29	40.92	787.43	42.01	786.34
B-2	807.68	100	4.86	802.82	4.77	802.91	4.86	802.82
B-3	803.02	83	6.24	796.78	5.77	797.25	6.03	796.99
Amoco	842.29	NA	24.06	818.23	22.83	819.46	23.61	818.68
Hamp. Town #22	NA	NA	0.47	--	0.68	--	0.70	--
Pembroke #1	NA	NA	10.11	--	9.73	--	10.02	--
Pembroke #2	NA	NA	31.31	--	NA	--	32.91	--
N. Houcks. Rd.	NA	NA	6.94	--	7.41	--	8.53	--
Century St.	NA	NA	10.67	--	10.21	--	11.46	--
Beckleys. Rd.	NA	NA	48.34	--	48.13	--	49.47	--

NA = Not Available/Not Accessible

**Effluent Characteristics Summary - 3rd Quarter 1996**  
**Black & Decker**  
**Hampstead, Maryland**

Discharge Number	Parameter	Units	Permit Limits	DMR DATE			
				July 1996	August 1996	September 1996	
001	FLOW	average	MGD	NA	0.341	0.324	0.263
		maximum	MGD	NA	1.189	1.025	0.806
	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	7.00	6.46	6.48
		maximum	STD	8.5	8.05	7.49	7.17
BOD		mg/l	15	3	5	6	
TSS	quarterly average	mg/l	20	NR	NR	10	
	maximum	mg/l	30	10	14	7	
101 (Monitoring Point)	FLOW	average	MGD	NA	0.547	0.577	0.544
		maximum	MGD	NA	0.612	0.607	0.567
	Fecal Coliform		MPN/100ml	200	ND	ND	ND
201 (Monitoring Point)	FLOW	average	MGD	NA	0.246	0.219	0.234
		maximum	MGD	NA	0.259	0.265	0.262
	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



**Table 2-4**  
**Summary of Groundwater Analytical Results - August 1996**  
**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
			(25)	(DUP) (25)	(10)	(100)	(25)				(10)				
Chloromethane	ug/L	NS	250 U	250 U	100 U	1000 U	250 U	10 U	10 U	10 U	100 U	10 U	10 U	10 U	10 U
Bromomethane	ug/L	NS	250 U	250 U	100 U	1000 U	250 U	10 U	10 U	10 U	100 U	10 U	10 U	10 U	10 U
Vinyl Chloride	ug/L	NS	250 U	250 U	100 U	1000 U	250 U	10 U	10 U	10 U	100 U	10 U	10 U	10 U	10 U
Chloroethane	ug/L	NS	250 U	250 U	100 U	1000 U	250 U	10 U	10 U	10 U	100 U	10 U	10 U	10 U	10 U
Methylene Chloride	ug/L	NS	110 JB	31 BJ	69 B	930 B	150 B	6 B	4 JB	5 JB	69 B	5 JB	4 JB	5 U	3 JB
Acetone	ug/L	NS	160 JB	250 U	72 JB	1000 B	220 JB	10 U	10 U	10 U	78 JB	10 U	5 JB	10 U	10 U
Carbon Disulfide	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	2 J	5 U	50 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	3 J	2 J	50 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)	ug/L	NS	120 U	120 U	50 U	500 U	120 U	2 J	12	27	11 J	1 J	5 U	5 U	5 U
Chloroform	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
2-Butanone	ug/L	NS	250 U	250 U	100 U	1000 U	250 U	10 U	10 U	10 U	100 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	3 J	5 U	50 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Vinyl Acetate	ug/L	NS	250 U	250 U	100 U	1000 U	250 U	10 U	10 U	10 U	100 U	10 U	10 U	10 U	10 U
Bromodichloromethane	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Trichloroethene	ug/L	NS	3900 D	3800	1400	7400	4400	16	19	16	16 J	2 J	5 U	5 U	2 J
Dibromochloromethane	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Benzene	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Bromoform	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	ug/L	NS	250 U	250 U	100 U	1000 U	250 U	10 U	10 U	10 U	100 U	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	NS	250 U	250 U	100 U	1000 U	250 U	10 U	10 U	10 U	100 U	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/L	NS	170	99 J	25 J	170 J	79 J	92	60	230 D	970	150 D	5 U	1 J	5 U
1,1,2,2-Tetrachloroethane	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Toluene	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Chlorobenzene	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Ethylbenzene	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Styrene	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 U	5 U	5 U	5 U	5 U
Xylene (total)	ug/L	NS	120 U	120 U	50 U	500 U	120 U	5 U	5 U	5 U	50 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 - August 1996**  
**Blackbecker**  
**Hampstead, Maryland**

PARAMETER	Units	RFW-2B	RFW-3B	RFW-4A (2)	RFW-4B (2)	RFW-5A	RFW-6	RFW-7	RFW-8 (10)	RFW-8 (DUP) (10)	RFW-9	RFW-10 (2.5)	RFW-11A	RFW-11B	RFW-12B (2.5)
Chloromethane	ug/L	10 U	10 U	20 U	20 U	NS	10 U	10 U	100 U	100 U	10 U	25 U	7 J	10 U	250 U
Bromomethane	ug/L	10 U	10 U	20 U	20 U	NS	10 U	10 U	100 U	100 U	10 U	25 U	10 U	10 U	250 U
Vinyl Chloride	ug/L	10 U	10 U	20 U	20 U	NS	10 U	10 U	100 U	100 U	10 U	25 U	10 U	10 U	250 U
Chloroethane	ug/L	10 U	10 U	20 U	20 U	NS	10 U	10 U	100 U	100 U	10 U	25 U	10 U	10 U	250 U
Methylene Chloride	ug/L	5 B	5 B	14 B	13 B	NS	1 JB	3 BJ	73 B	45 JB	4 JB	16 B	5 JB	5 B	170 B
Acetone	ug/L	10 U	10 U	20 U	20 U	NS	10 U	4 BJ	150 B	100 U	10 U	25 U	10 U	10 U	250 U
Carbon Disulfide	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
1,1-Dichloroethene	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	15	5 U	5 U	120 U
1,1-Dichloroethane	ug/L	5 U	2 J	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 J	12 U	5 U	5 U	120 U
1,2-Dichloroethene (total)	ug/L	5 U	46	7 J	8 J	NS	5	3 J	50 U	11 J	14	12 U	5 U	5 U	120 U
Chloroform	ug/L	5 U	1 J	2 J	3 J	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
1,2-Dichloroethane	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
2-Butanone	ug/L	10 U	10 U	20 U	20 U	NS	10 U	10 U	100 U	100 U	10 U	25 U	10 U	10 U	250 U
1,1,1-Trichloroethane	ug/L	5 U	4 J	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	78	5 U	5 U	120 U
Carbon Tetrachloride	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
Vinyl Acetate	ug/L	10 U	10 U	20 U	20 U	NS	10 U	10 U	100 U	100 U	10 U	25 U	10 U	10 U	250 U
Bromodichloromethane	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
1,2-Dichloropropane	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
cis-1,3-Dichloropropene	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
Trichloroethene	ug/L	3 J	27	200	170	NS	31	11	1100	1500	37	2200 D	67	47	4100
Dibromochloromethane	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
1,1,2-Trichloroethane	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
Benzene	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
Trans-1,3-Dichloropropene	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
Bromoform	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
4-Methyl-2-pentanone	ug/L	10 U	10 U	20 U	20 U	NS	10 U	10 U	100 U	100 U	10 U	25 U	10 U	10 U	250 U
2-Hexanone	ug/L	10 U	10 U	20 U	20 U	NS	10 U	10 U	100 U	100 U	10 U	25 U	10 U	10 U	250 U
Tetrachloroethene	ug/L	5 U	67	360	400	NS	30	5 U	20 J	31 J	18	120	2 J	1 J	81 J
1,1,2,2-Tetrachloroethane	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
Toluene	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
Chlorobenzene	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
Ethylbenzene	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
Styrene	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 U	5 U	5 U	120 U
Xylene (total)	ug/L	5 U	5 U	10 U	10 U	NS	5 U	5 U	50 U	50 U	5 U	12 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**  
**Summary of Groundwater Analytical Results - August 1996**  
**Black & Decker**  
**Hampstead, Maryland**

PARAMETER	Units	RFW-13	RFW-16	RFW-17	RFW-18	RFW-19	TOWN #22	TOWN #23	LEISTER DAIRY	LEISTER RES. #1	LEISTER RES. #2	FIELD BLANK	TRIP BLANK
Chloromethane	ug/L	10 U	10000 U	10 U	10 U	10 U	10 U	10 U	100 U	100 U	NS	10 U	10 U
Bromomethane	ug/L	10 U	10000 U	10 U	10 U	10 U	10 U	10 U	100 U	100 U	NS	10 U	10 U
Vinyl Chloride	ug/L	10 U	10000 U	10 U	10 U	10 U	10 U	10 U	100 U	100 U	NS	10 U	10 U
Chloroethane	ug/L	10 U	10000 U	10 U	10 U	10 U	10 U	10 U	100 U	100 U	NS	10 U	10 U
Methylene Chloride	ug/L	5 JB	9400 B	3 JB	1 JB	1 JB	6 B	4 JB	88 B	89 B	NS	13 B	4 JB
Acetone	ug/L	10 U	10000 U	10 U	10 U	10 U	10 U	10 U	40 JB	100 U	NS	10 U	10 U
Carbon Disulfide	ug/L	5 U	5000 U	5 U	5 U	5 U	1 J	5 U	50 U	50 U	NS	5 U	5 U
1,1-Dichloroethene	ug/L	2 J	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
1,1-Dichloroethane	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
1,2-Dichloroethene (total)	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Chloroform	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
1,2-Dichloroethane	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
2-Butanone	ug/L	10 U	10000 U	10 U	10 U	10 U	10 U	10 U	100 U	100 U	NS	10 U	10 U
1,1,1-Trichloroethane	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Carbon Tetrachloride	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Vinyl Acetate	ug/L	10 U	10000 U	10 U	10 U	10 U	10 U	10 U	100 U	100 U	NS	10 U	10 U
Bromodichloromethane	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
1,2-Dichloropropane	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
cis-1,3-Dichloropropene	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Trichloroethene	ug/L	5	110000	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Dibromochloromethane	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
1,1,2-Trichloroethane	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Benzene	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Trans-1,3-Dichloropropene	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Bromoform	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
4-Methyl-2-pentanone	ug/L	10 U	10000 U	10 U	10 U	10 U	10 U	10 U	100 U	100 U	NS	10 U	10 U
2-Hexanone	ug/L	10 U	10000 U	10 U	10 U	10 U	10 U	10 U	100 U	100 U	NS	10 U	10 U
Tetrachloroethene	ug/L	52	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
1,1,2,2-Tetrachloroethane	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Toluene	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Chlorobenzene	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Ethylbenzene	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Styrene	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	5 U	5 U
Xylene (total)	ug/L	5 U	5000 U	5 U	5 U	5 U	5 U	5 U	50 U	50 U	NS	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.

2-7

organic compounds (VOCs) were removed from the groundwater. In general, the total VOCs were comprised of trichloroethene (TCE) (81%), tetrachlorethene (PCE) (18%), and a small percentage of 1,2-dichloroethene and 1,1,1-trichloroethane. In general, the VOCs detected in the groundwater samples at the highest concentrations were TCE and PCE. Those compounds detected at lower concentrations were 1,2-dichloroethene and 1,1,1-trichloroethane. The remainder of VOCs present were detected at levels well below the Federal Maximum Contaminant Levels (MCL).

As found in earlier sampling events at the Black & Decker facility, the highest concentrations of TCE were found on the eastern half of the Black & Decker facility in monitor well RFW-16. The highest concentrations of PCE were found in the vicinity of recovery well EW-9.

**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 (July through September 1996) 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 - 3rd Quarter 1996**  
**Black & Decker**  
**Hampstead, Maryland**

Date	Event	Corrective Action
August 1996	Pump P-11 Shutdown	Leaking shaft and seal.
September 1996	Pump P-11 Operational	A new shaft installed and the seal replaced.
September 1996	EW-5 Shutdown	No flow, checked out motor winding and power wire.
September 1996	EW-5 Operational	Cleared control valve of rust and dirt.

**SECTION 4**  
**RECOMMENDATIONS**

For the reporting period of July through September 1996, 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  
(JULY THROUGH SEPTEMBER 1996)**



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

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

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

DISCHARGE MONITORING REPORT (DMR)

FORM APPROVED  
 OMB NO. 2004

93-DP-0022 PERMIT NUMBER  
 001 DISCHARGE NUMBER

FACILITY:

LOCATION: **CARROLL COUNTY**

MONITORING PERIOD					
FROM			TO		
YEAR	MO	DAY	YEAR	MO	DAY
96	07	01	96	07	31
(20-21)	(22-23)	(24-25)	(26-27)	(28-29)	(30-31)

NOTE: Read instructions before completing this form.

PARAMETER (32-37)	SAMPLE MEASUREMENT	(3 Card Only) QUANTITY OR LOADING (46-53)			(4 Card Only) QUALITY OR CONCENTRATION (38-45)			NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM			
FLOW	SAMPLE MEASUREMENT	0.341	1.189	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	ppb		1/MONTH GRAB	
TETRACHLOROETHYLENE	SAMPLE MEASUREMENT					ND	ppb	0	1/MONTH GRAB	
	PERMIT REQUIREMENT					5	ppb		1/MONTH GRAB	
TRICHLOROETHYLENE	SAMPLE MEASUREMENT					ND	ppb	0	1/MONTH GRAB	
	PERMIT REQUIREMENT					5	ppb		1/MONTH GRAB	
TOTAL RESIDUAL CHLORINE	SAMPLE MEASUREMENT					<0.1	mg/l	0	3/MONTH GRAB	
	PERMIT REQUIREMENT					<0.1	mg/l		1/MONTH GRAB	
OIL & GREASE	SAMPLE MEASUREMENT					ND	mg/l	0	1/MONTH GRAB	
	PERMIT REQUIREMENT					10	mg/l		1/MONTH GRAB	
pH	SAMPLE MEASUREMENT				7.00	8.05	STD	0	2/WEEK GRAB	
	PERMIT REQUIREMENT				6.00	8.50	STD		2/WEEK GRAB	
NAME / TITLE PRINCIPAL EXECUTIVE OFFICER	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. SEE 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 1 year.)							TELEPHONE	DATE	
LaVere N. Grimes Facilities Manager	<i>LaVere N. Grimes</i> SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT							410-239-5555	96   08   13	
TYPED OR PRINTED								AREA CODE-NUMBER	YEAR   MO   DAY	

COMMENT AND EXPLANATION OF ANY VIOLATIONS

(Reference all attachments here)