

**Quarterly Groundwater Monitoring Report**

Prepared for  
**Black & Decker (U.S.) Inc.**

Hampstead, Maryland

April 2008

Prepared by

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## 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.
- 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.

## **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 2008.

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. For the reporting period of January through March 2008, the extraction wells were pumping at an average combined rate of approximately 162 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 2008 are included in Appendix B.

### **2.3 GROUNDWATER QUALITY DATA**

For the reporting period of January through March 2008, approximately 16.3 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 trichloroethene (TCE) (82 %) and tetrachloroethene (PCE) (18 %). Analytical results of the groundwater collected from the air stripper for the period of January through March 2008 are included in Appendix C.

A summary of the analytical results from the first quarter (February 2008) groundwater sampling round of the extraction and monitor wells is included in Table 2-4. The complete

**Table 2-1**  
**Treatment System Pumping Records - 1st Quarter 2008**  
**Black & Decker**  
**Hampstead, Maryland**

Date	Water Pumped (gallons)
January 2008	6,534,090
February 2008	5,852,190
March 2008	5,961,384

**Table 2-2**  
**Groundwater Elevation Data - 1st Quarter 2008**  
**Black & Decker**  
**Hampstead, Maryland**

WELL NO.	TOC ELEV.	TOTAL DEPTH	1/9/2008		2/19/2008		3/25/2008	
			DTW	ELEV	DTW	ELEV	DTW	ELEV
EW-1	847.21	55	DRY	NA	DRY	NA	DRY	NA
EW-2	849.21	110	78.91	770.30	82.80	766.41	78.94	770.27
EW-3	846.64	118	92.93	753.71	93.63	753.01	95.11	751.53
EW-4	858.01	97.5	NA	NA	NA	NA	NA	NA
EW-5	864.17	98	81.73	782.44	85.12	779.05	80.04	784.13
EW-6	831.98	115	102.60	729.38	101.84	730.14	99.23	732.75
EW-7	818.38	78	63.30	755.08	55.71	762.67	57.40	760.98
EW-8	811.13	98	93.20	717.93	92.64	718.49	89.74	721.39
EW-9	811.35	141	102.61	708.74	101.64	709.71	102.10	709.25
EW-10	807.74	NA	63.47	744.27	62.98	744.76	63.40	744.34
RFW-1A	864.37	78	54.47	809.90	54.91	809.46	55.07	809.30
RFW-1B	864.23	200	54.50	809.73	54.75	809.48	54.94	809.29
RFW-2A	857.41	35	20.85	836.56	18.01	839.40	17.47	839.94
RFW-2B	857.73	75	21.22	836.51	18.65	839.08	17.88	839.85
RFW-3B	839.21	153	41.38	797.83	40.04	799.17	41.10	798.11
RFW-4A	830.37	62	39.14	791.23	38.94	791.43	39.07	791.30
RFW-4B	830.37	120	39.06	791.31	39.18	791.19	39.41	790.96
RFW-5A	817.50	30	DRY	NA	DRY	NA	DRY	NA
RFW-6	785.04	120	4.61	780.43	4.59	780.45	3.99	781.05
RFW-7	805.14	29	7.94	797.20	6.37	798.77	7.41	797.73
RFW-8	860.07	56	DRY	NA	DRY	NA	DRY	NA
RFW-9	862.02	49	30.27	831.75	28.35	833.67	30.07	831.95
RFW-10	852.06	58	DRY	NA	DRY	NA	NA	NA
RFW-11A	849.32	72	NA	NA	NA	NA	NA	NA
RFW-11B	849.62	116	69.83	779.79	69.29	780.33	70.10	779.52
RFW-12B	844.87	264	55.71	789.16	52.66	792.21	54.17	790.70
RFW-13	849.11	150	65.73	783.38	66.08	783.03	64.36	784.75
RFW-14B	812.39	281	NA	NA	NA	NA	NA	812.39
RFW-16	856.14	41	DRY	NA	DRY	NA	DRY	NA
RFW-17	834.66	60.5	30.34	804.32	29.54	805.12	29.47	805.19
RFW-20	842.49	142	39.26	803.23	38.05	804.44	39.41	803.08
RFW-21	832.65	102	25.61	807.04	24.51	808.14	24.54	808.11
PH-7	805.94	89	41.07	764.87	40.74	765.20	39.42	766.52
PH-9	814.94	98	47.11	767.83	47.84	767.10	47.17	767.77
PH-11	820.68	78	48.84	771.84	50.01	770.67	49.11	771.57
PH-12	828.35	87	51.73	776.62	52.76	775.59	50.61	777.74
B-3	803.02	83	NA	NA	NA	NA	9.90	793.12
Amoco	842.29	NA	NA	NA	NA	NA	NA	NA
Hamp. Town #22	804.96	NA	24.61	780.35	26.11	778.85	31.14	773.82
Pembroke #1	NA	NA	17.12	NA	16.94	NA	15.33	NA
Pembroke #2	NA	NA	NA	NA	NA	NA	NA	NA
N. Houcks. Rd.	NA	NA	10.30	NA	9.88	NA	9.94	NA
E. Century St.	NA	NA	17.41	NA	19.63	NA	23.41	NA
Lwr. Beckleys. Rd.	NA	NA	51.48	NA	52.06	NA	53.02	NA

NA - Not Available/Not Accessible

Table 2-3  
 Effluent Characteristics Summary - 1st Quarter 2008  
 Black & Decker  
 Hampstead, Maryland

Discharge Number	Parameter	Units	Permit Limits	DMR DATE			
				January 2008	February 2008	March 2008	
001	FLOW	average	MGD	NA	0.194	0.199	0.192
		maximum	MGD	NA	0.273	0.301	0.315
	1,1,1-Trichloroethane	ug/l	5	<1	<1	<1	
	Tetrachloroethylene	ug/l	5	<1	<1	<1	
	Trichloroethylene	ug/l	5	<1	<1	<1	
	Total Residual Chlorine	mg/l	<0.1	<0.1	<0.1	<0.1	
	Oil & Grease	maximum	mg/l	15	6	<5	15*
		monthly average	mg/l	10	6	<5	15*
	pH	minimum	STD	6.0	6.00	6.10	6.30
		maximum	STD	8.5	6.60	6.70	6.50
	BOD		mg/l	15	2.0	2.0	<2
TSS	maximum	mg/l	30	5.0	<4	7.0	
	monthly average	mg/l	20	5.0	<4	7.0	
101 (Monitoring Point)	FLOW	average	MGD	NA	0.203	0.261	0.325
		maximum	MGD	NA	0.790	0.464	0.399
	Fecal Coliform	MPN/100ml	200	<1.8	<2	<1.8	
201 (Monitoring Point)	FLOW	average	MGD	NA	NR	NR	0.192
		maximum	MGD	NA	NR	NR	0.225
	1,1,1-Trichloroethane	ug/l	NA	<1	NR	NR	
	Tetrachloroethylene	ug/l	NA	<1	NR	NR	
	Trichloroethylene	ug/l	NA	<1	NR	NR	

DMR - Discharge Monitoring Report

NA - Not Applicable

NR - Not Reported

\* - See the Non-Compliance Report Form in Appendix B for the cause of the non-compliance and the preventative measures that will be taken in the future.



Table 2-4  
 Summary of Groundwater Analytical Results - February 2008  
 Black & Decker  
 Hampstead, Maryland

PARAMETER	Units	EW-1	EW-2	EW-3	EW-4	EW-5	EW-6	EW-7	EW-8	EW-9	EW-9 (DUP)	EW-10
Chloromethane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	ug/L	NS	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Acetone	ug/L	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	ug/L	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1.2	1 U	1 U	1 U
1,2-Dichloroethene (total)	ug/L	NS	3	1.6	1 U	1 U	1 U	6.4	18	1 U	1 U	1 U
Chloroform	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	NS	350	130	830	150	8.7	5.4	9.2	1.4	1.4	1 U
Dibromochloromethane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	ug/L	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	ug/L	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	ug/L	NS	57	3.4	18	4.4	15	11	62	160	170	4.2
1,1,2,2-Tetrachloroethane	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylene (total)	ug/L	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

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

Table 2-4  
 Summary of Groundwater Analytical Results - February 2008  
 Black & Decker  
 Hampstead, Maryland

PARAMETER	Units	RFW-1A	RFW-1B	RFW-2A	RFW-2B	RFW-3B	RFW-4A	RFW-4A (DUP)	RFW-4B	RFW-5A	RFW-6	RFW-7	RFW-8	RFW-9	RFW-10
Chloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Bromomethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Vinyl Chloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Chloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Methylene Chloride	ug/L	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NS	2 U	2 U	NS	2 U	NS
Acetone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS
Carbon Disulfide	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS
1,1-Dichloroethene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
1,1-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
1,2-Dichloroethene (total)	ug/L	1 U	1 U	1 U	1 U	5	1 U	1 U	5.5	NS	1 U	1 U	NS	11	NS
Chloroform	ug/L	1 U	1 U	1 U	1 U	1 U	1.1	1	1 U	NS	1 U	1 U	NS	1 U	NS
1,2-Dichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
2-Butanone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS
1,1,1-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1.1	NS
Carbon Tetrachloride	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Bromodichloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
1,2-Dichloropropane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
cis-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Trichloroethene	ug/L	1 U	1 U	2	1.6	1 U	28	27	11	NS	3.4	3.4	NS	16	NS
Dibromochloromethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
1,1,2-Trichloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Benzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Trans-1,3-Dichloropropene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Bromoform	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
4-Methyl-2-pentanone	ug/L	5 U	5 U	5 U	1 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS
2-Hexanone	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS
Tetrachloroethene	ug/L	1 U	1 U	1 U	1 U	1.7	22	21	51	NS	2.9	1 U	NS	6.6	NS
1,1,2,2-Tetrachloroethane	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Toluene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Chlorobenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Ethylbenzene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Styrene	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS
Xylene (total)	ug/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	1 U	1 U	NS	1 U	NS

Notes: DUP = Duplicate sample  
 NS = Not sampled

U = Compound was analyzed for but not detected. Value shown is the method detection limit for quantification.  
 J = Indicates an estimated value.

Table 2-4  
 Summary of Groundwater Analytical Results - February 2008  
 Black & Decker  
 Hampstead, Maryland

PARAMETER	Units	RFW-11A	RFW-11B	RFW-12B	RFW-13	RFW-16	RFW-17	Leister Dairy	Leister Res. #1	Leister Res. #2	Trip Blank	RFW-20	RFW-21	Town #22	Town #23	Trip Blank
		USEPA drinking water method 524.2														
Chloromethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	ug/L	NS	2 U	2 U	2 U	NS	2 U	2 U	2 U	NS	2 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Acetone	ug/L	NS	5 U	5 U	5 U	NS	5 U	5 U	5 U	NS	5 U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide	ug/L	NS	5 U	5 U	5 U	NS	5 U	5 U	5 U	NS	5 U	NA	NA	NA	NA	NA
1,1-Dichloroethene	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene (total)	ug/L	NS	1 U	1.6	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	ug/L	NS	5 U	5 U	5 U	NS	5 U	5 U	5 U	NS	5 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon Tetrachloride	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/L	NS	10	560	3.3	NS	1 U	1 U	1 U	NS	1 U	0.9	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Benzene	ug/L	NS	1 U	1 U	1 U	NS	1.6	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trans-1,3-Dichloropropene	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone	ug/L	NS	5 U	5 U	5 U	NS	5 U	5 U	5 U	NS	5 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	NS	5 U	5 U	5 U	NS	5 U	5 U	5 U	NS	5 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/L	NS	1 U	40	16	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Xylene (total)	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Notes: Samples from wells RFW-20 & 21, Town-22&23 are analyzed with the USEPA drinking water method 524.2 at the request of the MDE Source Protection and Appropriation Division. Samples from all of the other wells are analyzed with USEPA Method 8260.

NS = Not sampled

U = Compound was analyzed but not detected.

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-4 and the highest concentration of PCE was detected in the groundwater sample collected from wells RFW-4B and EW-9. The remainder of VOCs present were detected at levels below the Federal Maximum Contaminant Levels (MCL).

### 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 2008) 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 2008**  
**Black & Decker**  
**Hampstead, Maryland**

<b>Date</b>	<b>Event/Corrective Action</b>
<b>Jan-08</b>	Alarm at air stripper. High column, reset the system everything back online.
<b>Jan-08</b>	Alarm at the stripper. EW-6 went down due to faulty heater. The heater was replaced well back online.
<b>Feb-08</b>	Alarm at the stripper. EW-7 went down due to faulty heater. The heater was replaced well back online.
<b>Mar-08</b>	2 Short power outages. The system was reset and is back online.
<b>Mar-08</b>	Alarm at stripper. High wet well, checked and reset the system, everything back online.
<b>Mar-08</b>	The pump in EW-3 was drawing high amps. The well was run during the day and turned off at night during the last week of March. The pump has been replaced and the well is back up and running all day.

#### 4. RECOMMENDATIONS

For the reporting period of January through March 2008, the treatment system continued to create a hydraulic boundary preventing off-site migration of groundwater. The extraction system will continue to operate as currently configured to pump and treat contaminated groundwater. Depth-to-water measurements will continue to be collected on a monthly basis in all site monitor wells to construct a groundwater elevation contour map for the site. The groundwater elevation contour map will be used to verify that the required area of groundwater capture is being maintained. If necessary, pumping rates will be adjusted to maintain groundwater capture due to seasonal fluctuations in groundwater elevations. The treatment system will also continue to operate as currently configured, as data collected have proven that the treatment system is fully effective in removing VOCs from the extracted groundwater.

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**APPENDIX A**  
**GROUNDWATER TREATMENT SYSTEM PUMPING RECORDS**  
**(JANUARY - MARCH 2008)**

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MARYLAND DEPARTMENT of the ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION, 1800 WASHINGTON BLVD, BALTIMORE, MD 21230

Operator Earle Villarreal, ESS Certification # 1017

**Black & Decker WTP**

PWSID # 106-0004

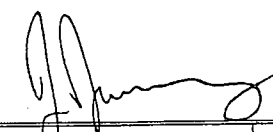
County: Carroll

Month: January

Operated by  
Maryland Environmental Service

Address: BTR CAPITAL GROUP, Hampstead, MD 21073  
625 Hanover Pike, Hampstead, Carroll County, Maryland

Year: 2008



GENERAL (DOMESTIC WATER)			CHEMICAL								MONITORING				DISTRIBUTION		RAW WATER		Comments	
Date	Day	Weather	Flow meter reading o	MGD Total FQIR	pH P.O.E	Free Cl2	Na2CO3 Level	Na2CO3 (gpd)	NaOCl Level	NaOCl (gpd)	VOC'S (ppb)	Bacti Pos/Neg	pH su	TRC mg/l	DISTRIBUTION LOCATION	Operator Initials	pH su	TOTAL RAW WATER WELL (mgd)		
1	tue	clr	0	0.0029	7.3	1.54	39.00	0.00	60.00	1.00						djones		0.217659	Jan	
2	wed	cldy	0	0.0058	7.0	1.50	39.00	1.00	59.00	0.00			6.80	1.30	Eng Lab	djones	5.00	0.208581		
3	thur	clr	0	0.0056	6.9	1.45	38.00	2.00	59.00	0.00						djones		0.207409		
4	fri	clr	0	0.0027	6.9	1.48	36.00	1.00	59.00	0.00			6.7	1.20	Admin Bldg 1st fl	djones		0.215103		
5	sat	clr	0	0.0024	7.3	1.38	35.00	0.00	59.00	0.00						bc		0.208359		
6	sun	cldy	0	0.0026	7.0	1.37	35.00	2.00	59.00	0.00						bc		0.190723		
7	mon	clr	0	0.0066	7.4	1.48	33.00	2.00	59.00	0.00			7.3	1.20	Loading Dock	djones		0.212234		
8	tue	clr	0	0.0067	7.4	1.55	31.00	2.00	59.00	0.00						djones		0.203872		
9	wed	clr	0	0.0058	7.4	1.53	29.00	2.00	59.00	0.00			7.4	1.30	Eng Lab	djones	5.10	0.212678		
10	thur	clr	0	0.0054	7.4	1.39	27.00	2.00	59.00	0.00						djones		0.214263		
11	fri	rain	0	0.0051	7.0	1.63	45.00	2.00	59.00	0.00			7.0	1.40	Admin Bldg 1st fl	djones		0.220867		
12	sat	clr	0	0.0000	7.2	1.51	43.00	0.00	59.00	0.00						djones		0.208915		
13	sun	clr	0	0.0024	7.3	1.36	43.00	1.00	59.00	0.00						djones		0.197202		
14	mon	rain	0	0.0081	7.3	1.50	42.00	1.00	59.00	0.00			7.0	1.40	Eng Lab	bc		0.231873		
15	tue	snow	0	0.0051	7.2	1.43	41.00	1.00	59.00	0.00						ss		0.198425		
16	wed	clr	0	0.0051	7.4	1.62	40.00	2.00	59.00	0.00			7.1	1.40	Loading Dock	djones	5.20	0.200270		
17	thur	cldy	0	0.0054	7.5	1.64	38.00	1.00	59.00	0.00						djones		0.236780		
18	fri	clr	0	0.0026	7.8	1.56	37.00	1.00	59.00	0.00			7.4	1.30	Admin Bldg 1st fl	djones		0.192312		
19	sat	cldy	0	0.0023	7.3	1.29	36.00	1.00	59.00	0.00						ss		0.209022		
20	sun	cldy	0	0.0028	7.2	1.40	35.00	1.00	59.00	0.00						ss		0.231290		
21	mon	clr	0	0.0059	7.5	1.46	34.00	2.00	59.00	0.00						djones		0.189296		
22	tue	cldy	0	0.0057	7.8	1.54	32.00	2.00	59.00	0.00			7.4	1.30	Eng Lab	djones	4.90	0.226944		
23	wed	clr	0	0.0028	7.5	1.51	30.00	1.00	59.00	0.00			7.0	1.30	Loading Dock	djones		0.201547		
24	thur	cldy	0	0.0049	7.3	1.52	29.00	1.00	59.00	0.00						djones		0.216145		
25	fri	clr	0	0.0053	7.4	1.44	28.00	3.00	59.00	0.00			7.0	1.40	Admin Bldg 1st fl	djones		0.242970		
26	sat	clr	0	0.0019	7.5	1.61	45.00	0.00	59.00	0.00						bc		0.194979		
27	sun	clr	0	0.0036	7.5	1.41	45.00	1.00	59.00	0.00						bc		0.207925		
28	mon	clr	0	0.0038	7.1	1.32	91.00	1.00	59.00	0.00			7.6	1.50	Loading Dock	gd		0.210892		
29	tue	rain	0	0.0065	7.4	1.08	90.00	2.00	59.00	0.00						djones		0.214753		
30	wed	clr	0	0.0054	7.5	1.45	88.00	2.00	59.00	0.00			7.2	1.20		djones	5.20	0.214929		
31	thur	clr	0	0.0034	7.7	1.32	86.00	1.00	59.00	0.00						djones		0.195871		
Total				0.1346	227.4	45.27	1340.0	41.00	1830.0	1.00	0.0	0.0	92.9	17.2					6.534088	
Average				0.0043	7.3	1.46	43.23	1.32	59.03	0.03	0.0	0.0	7.15	1.32					0.210777	
Minimum				0.0000	6.9	1.08	27.00	0.00	59.00	0.00	0.0	0.0	6.70	1.20					0.189296	MOR
Maximum				0.0081	7.8	1.64	91.00	3.00	60.00	1.00	0.0	0.0	7.60	1.50					0.242970	04/09/07