

**Quarterly Groundwater Monitoring Report**

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

Hampstead, Maryland

January 2006

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 October through December 2005.

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 October through December 2005, 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 October through December 2005 are included in Appendix B.

### **2.3 GROUNDWATER QUALITY DATA**

For the reporting period of October through December 2005, approximately 29 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) (67 %) and tetrachloroethene (PCE) (33 %). Analytical results of the groundwater collected at the inlet to the air stripper for the period of October through December 2005 are included in Appendix C.

A summary of the analytical results from the fourth quarter (November 2005) groundwater sampling round of the extraction and monitor wells is included in Table 2-4. The complete

**Table 2-1**  
**Treatment System Pumping Records - 4th Quarter 2005**  
**Black & Decker**  
**Hampstead, Maryland**

<b>Date</b>	<b>Water Pumped (gallons)</b>
<b>October 2005</b>	6,891,562
<b>November 2005</b>	6,662,063
<b>December 2005</b>	6,522,500

**Table 2-2**  
**Groundwater Elevation Data - 4th Quarter 2005**  
**Black & Decker**  
**Hampstead, Maryland**

WELL NO.	TOC ELEV.	TOTAL DEPTH	10/26/2005		11/29/2005		12/15/2005	
			DTW	ELEV	DTW	ELEV	DTW	ELEV
EW-1	847.21	55	DRY	NA	DRY	NA	DRY	NA
EW-2	849.21	110	92.00	757.21	95.46	753.75	88.22	760.99
EW-3	846.64	118	90.80	755.84	78.81	767.83	81.42	765.22
EW-4	858.01	97.5	NA	NA	NA	NA	NA	NA
EW-5	864.17	98	79.43	784.74	82.06	782.11	82.99	781.18
EW-6	831.98	115	86.48	745.50	92.40	739.58	91.00	740.98
EW-7	818.38	78	42.14	776.24	43.50	774.88	44.72	773.66
EW-8	811.13	98	49.18	761.95	48.95	762.18	51.11	760.02
EW-9	811.35	141	102.57	708.78	103.20	708.15	100.84	710.51
EW-10	807.74	NA	50.97	756.77	52.47	755.27	51.71	756.03
RFW-1A	864.37	78	50.81	813.56	51.67	812.70	51.60	812.77
RFW-1B	864.23	200	50.87	813.36	51.73	812.50	51.62	812.61
RFW-2A	857.41	35	12.26	845.15	15.55	841.86	15.30	842.11
RFW-2B	857.73	75	12.93	844.80	16.28	841.45	15.99	841.74
RFW-3B	839.21	153	27.84	811.37	33.08	806.13	32.98	806.23
RFW-4A	830.37	62	28.08	802.29	38.53	791.84	38.21	792.16
RFW-4B	830.37	120	38.03	792.34	38.33	792.04	38.06	792.31
RFW-5A	817.50	30	DRY	NA	DRY	NA	DRY	NA
RFW-6	785.04	120	3.51	781.53	4.41	780.63	2.43	782.61
RFW-7	805.14	29	6.89	798.25	7.10	798.04	7.94	797.20
RFW-8	860.07	56	DRY	NA	DRY	NA	DRY	NA
RFW-9	862.02	49	26.87	835.15	26.50	835.52	26.41	835.61
RFW-10	852.06	58	DRY	NA	DRY	NA	DRY	NA
RFW-11A	849.32	72	NA	NA	NA	NA	NA	NA
RFW-11B	849.62	116	72.22	777.40	69.18	780.44	70.14	779.48
RFW-12B	844.87	264	55.11	789.76	53.67	791.20	53.61	791.26
RFW-13	849.11	150	60.42	788.69	62.05	787.06	61.89	787.22
RFW-14B	812.39	281	34.11	778.28	35.88	776.51	35.94	776.45
RFW-16	856.14	41	DRY	NA	DRY	NA	DRY	NA
RFW-17	834.66	60.5	26.88	807.78	27.86	806.80	27.81	806.85
RFW-20	842.49	142	34.01	808.48	32.62	809.87	32.64	809.85
RFW-21	832.65	102	22.37	810.28	22.52	810.13	22.45	810.20
PH-7	805.94	89	20.02	785.92	24.11	781.83	23.98	781.96
PH-9	814.94	98	36.26	778.68	37.04	777.90	37.13	777.81
PH-11	820.68	78	42.41	778.27	42.55	778.13	42.47	778.21
PH-12	828.35	87	42.87	785.48	42.98	785.37	42.63	785.72
B-3	803.02	83	NA	NA	NA	NA	NA	NA
Amoco	842.29	NA	NA	NA	NA	NA	NA	NA
Hamp. Town #22	804.96	NA	27.11	777.85	24.00	780.96	33.02	771.94
Pembroke #1	NA	NA	NA	NA	12.37	NA	11.78	NA
Pembroke #2	NA	NA	NA	NA	NA	NA	NA	NA
N. Houcks. Rd.	NA	NA	9.89	NA	9.41	NA	10.40	NA
E. Century St.	NA	NA	19.94	NA	29.21	NA	27.59	NA
Lwr. Beckleys. Rd.	NA	NA	55.89	NA	55.17	NA	53.98	NA

NA - Not Available/Not Accessible

**Table 2-3**  
**Effluent Characteristics Summary - 4th Quarter 2005**  
**Black & Decker**  
**Hampstead, Maryland**

Discharge Number	Parameter	Units	Permit Limits	DMR DATE			
				October 2005	November 2005	December 2005	
001	FLOW	average	MGD	NA	0.326	0.129	0.147
		maximum	MGD	NA	0.739	0.300	0.308
	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	6.10	6.10	6.00
		maximum	STD	8.5	7.30	7.10	7.40
BOD		mg/l	15	< 2	3.0	< 2	
TSS	maximum	mg/l	30	9.5	4.5	5.5	
	quarterly average	mg/l	20	NR	NR	2.5	
101 (Monitoring Point)	FLOW	average	MGD	NA	0.224	0.217	0.245
		maximum	MGD	NA	0.235	0.232	0.253
	Fecal Coliform		MPN/100ml	200	< 2	< 2	< 2
201 (Monitoring Point)	FLOW	average	MGD	NA	0.222	0.222	0.210
		maximum	MGD	NA	0.244	0.259	0.247
	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



Table 2-4  
 Summary of Groundwater Analytical Results - November 2005  
 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
			(2)		(2)	(2)						
Chloromethane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Acetone	ug/L	NS	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	ug/L	NS	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	ug/L	NS	2 U	1 U	2 U	2 U	1 U	0.9 J	0.9 J	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene (total)	ug/L	NS	3.6	1.9	2 U	2 U	.1 U	6.9	22	1.1	1.3	1 U
Chloroform	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	NS	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	NS	620	210	800	280	11	6.6	14	2.1	2.2	1 U
Dibromochloromethane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	ug/L	NS	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	ug/L	NS	10 U	5 U	10 U	10 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	ug/L	NS	79	6.2	19	11	26	13	92	310	300	11
1,1,2,2-Tetrachloroethane	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	ug/L	NS	2 U	1 U	2 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylene (total)	ug/L	NS	2 U	1 U	2 U	2 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 - November 2005  
 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	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
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	1.1	1 U	1 U	1 U	NS	1 U	1 U	NS	1.1	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	8.2	1.4	1.2	5.7	NS	1.3	1 U	NS	6.2	NS
Chloroform	ug/L	1 U	1 U	1 U	1 U	1 U	1	0.9 J	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	1.5	1 U	1 U	1 U	NS	1 U	1 U	NS	1.5	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	1.8	1.9	7.8	48	46	8.6	NS	8.9	6.7	NS	19	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	5 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	8.1	62	59	59	NS	7.3	1 U	NS	3.9	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 - November 2005**  
**Black & Decker**  
**Hampstead, Maryland**

PARAMETER	Units	RFW-11A	RFW-11B	RFW-12B	RFW-13	RFW-16	RFW-17	RFW-20	RFW-21	Town #22	Town #23	Leister Dairy	Leister Res. #1	Leister Res. #2	Trip Blank
Chloromethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Bromomethane	ug/L	NS	1 U	1 U	1 U	NS	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	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Acetone	ug/L	NS	5 U	5 U	5 U	NS	5 U	10 U	10 U	10 U	10 U	5 U	5 U	5 U	5 U
Carbon Disulfide	ug/L	NS	5 U	5 U	5 U	NS	5 U	NA	NA	NA	NA	5 U	5 U	5 U	5 U
1,1-Dichloroethene	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene (total)	ug/L	NS	1 U	4.2	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Chloroform	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	NS	5 U	5 U	5 U	NS	5 U	10 U	10 U	10 U	10 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	NS	20	660	14	NS	1 U	1.5	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Dibromochloromethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Benzene	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone	ug/L	NS	5 U	5 U	5 U	NS	5 U	10 U	10 U	10 U	10 U	5 U	5 U	5 U	5 U
2-Hexanone	ug/L	NS	5 U	5 U	5 U	NS	5 U	10 U	10 U	10 U	10 U	5 U	5 U	5 U	5 U
Tetrachloroethene	ug/L	NS	1 U	54	45	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	2	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Toluene	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Styrene	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 U
Xylene (total)	ug/L	NS	1 U	1 U	1 U	NS	1 U	0.5 U	0.5 U	0.5 U	0.5 U	1 U	1 U	1 U	1 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 well 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 (October through December 2005) 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 - 4th Quarter 2005**  
**Black & Decker**  
**Hampstead, Maryland**

Date	Event/Corrective Action
Dec-05	Alarm at EW-2, well shutdown due to low temperature. Heater in the well house shorted out. Heater has been replaced and the well is back online.
Dec-05	December 15, 2005 an alarm sounds at EW-10. The well will not run in auto mode. Micro Tech found that there is a broken control wire. EW-10 is being run in hand mode for approximately 12 hours a day, while Black & Decker personnel are onsite. The control wire was repaired January 9, 2006 and the well no longer requires hand-mode operation.

#### 4. RECOMMENDATIONS

For the reporting period of October through December 2005, 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**  
**(OCTOBER – DECEMBER 2005)**

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Month / Year

Oct. 2005

Black & Decker  
Air Stripper # 2  
Operating Record

Past Month Reading

58717096

Date	Day	Time	Integ. Reading	GPD	Pump # 11	Pump # 12
1				↑		
2				451962		
3	M	1325	59395038	214547	27074	27027
4	T	1240	59609585	224558	27074	27050
5	W	1305	59834143	213233	27074	27074
6	T	1220	60047376	209078	27074	27098
7	F	1105	60256454	↑	27074	27120
8						
9				645571		
10	M	0900	60902025	243683	27074	27190
11	T	1120	61145708	211142	27101	27190
12	W	1010	61356850	229517	27123	27190
13	T	1055	61586367	237026	27148	27190
14	F	1235	61823393	↑	27174	27190
15						
16				692850		
17	M	1525	62516243	206942	27249	27190
18	T	1345	62723185	206717	27249	27213
19	W	1210	62929899	206375	27249	27235
20	T	1035	63136272	227515	27249	27257
21	F	1110	63363787	↑	27249	27282
22						
23				668860		
24	M	1145	64032647	210770	27249	27355
25	T	1035	64243417	235164	27272	27355
26	W	1200	64478581	235238	27297	27355
27	T	1300	64713819	214179	27322	27355
28	F	1150	64927998	↑	27345	27355
29						
30				688706		
31	M	1215	65616704	217954	27478	27355
Total				6891562		
Average				222.308		

Next Month Reading 65834658

Date 11-1-05

Month / Year  
Nov. 2005

Black & Decker  
 Air Stripper # 2  
 Operating Record

Past Month Reading  
65616704

Date	Day	Time	Integ. Reading	GPD	Pump # 11	Pump # 12
1	T	1135	65834658	235811	27418	27378
2	W	1245	66070469	227634	27418	27403
3	T	1305	66298103	216676	27418	27427
4	F	1220	66514779	↑	27418	27451
5						
6				669282		
7	M	1205	67184061	227546	27418	27522
8	T	1230	67411607	201311	27443	27522
9	W	1010	67612918	213072	27464	27522
10	T	0900	67825990	224408	27487	27522
11	F	0910	68050398	↑	27511	27522
12						
13				672416		
14	M	0935	68722814	223180	27584	27522
15	T	0940	68945944	225325	27584	27546
16	W	1000	69171319	217744	27584	27571
17	T	0935	69389063	235884	27584	27594
18	F	1220	69624947	↑	27584	27620
19						
20				701501		
21	M	1600	70326448	↑	27584	27695
22	T			406985		
23	W	1155	70733433	↑	27628	27695
24						
25						
26						
27				1076004		
28	M	0825	71889437	<del>259039</del>	27744	27695
29	T	1235	72068476	219135	27744	27723
30	W	1225	72287611	209110	27744	27747
31						
Total	MG	=		6.662063		
Average	MG	=		0.222069		

Next Month Reading 72496721

Date 12-1-05