

**QUARTERLY GROUNDWATER  
MONITORING REPORT**

Prepared for  
**BLACK & DECKER (U.S.) INC.**

Hampstead, Maryland

January 2005

Prepared by

**WESTON SOLUTIONS, INC.**

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W.O. No. 02501.004.004.0200

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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 2004.

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 2004, the extraction wells were pumping at an average combined rate of approximately 179 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 2004 are included in Appendix B.

### **2.3 GROUNDWATER QUALITY DATA**

For the reporting period of October through December 2004, approximately 43 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) (73 %) and tetrachloroethene (PCE) (27 %). Analytical results of the groundwater collected at the inlet to the air stripper for the period of October through December 2004 are included in Appendix C.

A summary of the analytical results from the fourth quarter (November 2004) 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 2004**  
**Black & Decker**  
**Hampstead, Maryland**

<b>Date</b>	<b>Water Pumped (gallons)</b>
<b>October 2004</b>	7,650,322
<b>November 2004</b>	7,162,739
<b>December 2004</b>	7,427,771

**Table 2-2**  
**Groundwater Elevation Data - 4th Quarter 2004**  
**Black & Decker**  
**Hampstead, Maryland**

WELL NO.	TOC ELEV.	TOTAL DEPTH	10/28/04		11/22/04		12/16/04	
			DTW	ELEV	DTW	ELEV	DTW	ELEV
EW-1	847.21	55	DRY	NA	DRY	NA	DRY	NA
EW-2	849.21	110	79.78	769.43	81.00	768.21	81.42	767.79
EW-3	846.64	118	89.00	757.64	89.46	757.18	89.36	757.28
EW-4	858.01	97.5	NA	NA	NA	NA	NA	NA
EW-5	864.17	98	89.60	774.57	89.77	774.40	91.41	772.76
EW-6	831.98	115	75.22	756.76	74.89	757.09	76.81	755.17
EW-7	818.38	78	36.51	781.87	37.03	781.35	37.03	781.35
EW-8	811.13	98	41.50	769.63	42.46	768.67	41.27	769.86
EW-9	811.35	141	100.83	710.52	101.15	710.20	101.17	710.18
EW-10	807.74	NA	46.69	761.05	44.43	763.31	47.73	760.01
RFW-1A	864.37	78	50.70	813.67	50.76	813.61	50.43	813.94
RFW-1B	864.23	200	50.73	813.50	50.81	813.42	50.46	813.77
RFW-2A	857.41	35	13.01	844.40	14.95	842.46	12.74	844.67
RFW-2B	857.73	75	13.38	844.35	15.60	842.13	12.93	844.80
RFW-3B	839.21	153	28.63	810.58	30.23	808.98	28.13	811.08
RFW-4A	830.37	62	37.76	792.61	38.84	791.53	37.42	792.95
RFW-4B	830.37	120	37.72	792.65	38.71	791.66	37.37	793.00
RFW-5A	817.50	30	DRY	NA	DRY	NA	DRY	NA
RFW-6	785.04	120	4.16	780.88	3.92	781.12	2.83	782.21
RFW-7	805.14	29	7.15	797.99	7.11	798.03	7.61	797.53
RFW-8	860.07	56	DRY	NA	DRY	NA	DRY	NA
RFW-9	862.02	49	25.71	836.31	25.75	836.27	25.83	836.19
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	70.23	779.39	71.08	778.54	69.78	779.84
RFW-12B	844.87	264	52.06	792.81	51.69	793.18	52.51	792.36
RFW-13	849.11	150	58.78	790.33	59.46	789.65	58.67	790.44
RFW-14B	812.39	281	35.91	776.48	36.11	776.28	35.12	777.27
RFW-16	856.14	41	DRY	NA	DRY	NA	DRY	NA
RFW-17	834.66	60.5	25.17	809.49	26.50	808.16	26.02	808.64
RFW-20	842.49	142	33.06	809.43	34.32	808.17	32.94	809.55
RFW-21	832.65	102	20.52	812.13	21.31	811.34	20.86	811.79
PH-7	805.94	89	23.41	782.53	24.82	781.12	24.02	781.92
PH-9	814.94	98	31.57	783.37	32.43	782.51	31.40	783.54
PH-11	820.68	78	41.43	779.25	40.98	779.70	41.62	779.06
PH-12	828.35	87	41.80	786.55	41.59	786.76	41.98	786.37
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	29.56	NA	6.11	NA	31.50	NA
Pembroke #1	NA	NA	12.77	NA	11.88	NA	12.69	NA
N. Houcks. Rd.	NA	NA	10.47	NA	10.41	NA	9.97	NA
E. Century St.	NA	NA	19.21	NA	20.43	NA	19.76	NA
Lwr. Beckleys. Rd.	NA	NA	NA	NA	NA	NA	NA	NA

NA - Not Available/Not Accessible

Table 2-3  
 Effluent Characteristics Summary - 4th Quarter 2004  
 Black & Decker  
 Hampstead, Maryland

Discharge Number	Parameter	Units	Permit Limits	DMR DATE			
				October 2004	November 2004	December 2004	
001	FLOW	average	MGD	NA	0.209	0.122	0.183
		maximum	MGD	NA	0.365	0.322	0.363
	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	6.14	6.04	6.04
		maximum	STD	8.5	7.69	7.36	7.20
BOD		mg/l	15	< 2	< 2	2.8	
TSS	maximum	mg/l	30	6.0	4.5	7.0	
	quarterly average	mg/l	20	NR	NR	5.8	
101 (Monitoring Point)	FLOW	average	MGD	NA	0.260	0.213	0.250
		maximum	MGD	NA	0.291	0.293	0.273
	Fecal Coliform	MPN/100ml	200	< 2	< 2	< 2	
201 (Monitoring Point)	FLOW	average	MGD	NA	0.247	0.239	0.239
		maximum	MGD	NA	0.291	0.345	0.345
	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 2004**  
**Black & Decker**  
**Hampstead, Maryland**

PARAMETER	Units	EW-1	EW-2 (10)	EW-3 (2)	EW-4 (10)	EW-5 (5)	EW-6	EW-7	EW-8	EW-9 (2)	EW-9 DUP (2)	EW-10
Chloromethane	ug/L	NS	100 U	20 U	100 U	50 U	10 U	10 U	10 U	20 U	20 U	10 U
Bromomethane	ug/L	NS	100 U	20 U	100 U	50 U	10 U	10 U	10 U	20 U	20 U	10 U
Vinyl Chloride	ug/L	NS	100 U	20 U	100 U	50 U	10 U	10 U	10 U	20 U	20 U	10 U
Chloroethane	ug/L	NS	100 U	20 U	100 U	50 U	10 U	10 U	10 U	20 U	20 U	10 U
Methylene Chloride	ug/L	NS	18 JB	5 JB	28 JB	13 JB	2 JB	2 JB	1 JB	4 JB	2 JB	2 JB
Acetone	ug/L	NS	100 U	20 U	100 U	50 U	10 U	10 U	10 U	20 U	20 U	10 U
Carbon Disulfide	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
1,1-Dichloroethene	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
1,1-Dichloroethane	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
1,2-Dichloroethene (total)	ug/L	NS	50 U	10 U	50 U	25 U	5 U	6	18	10 U	10 U	5 U
Chloroform	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
1,2-Dichloroethane	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
2-Butanone	ug/L	NS	100 U	20 U	100 U	50 U	10 U	10 U	10 U	20 U	20 U	10 U
1,1,1-Trichloroethane	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Carbon Tetrachloride	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Bromodichloromethane	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
1,2-Dichloropropane	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
cis-1,3-Dichloropropene	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Trichloroethene	ug/L	NS	620	200	1400 D	420	8	6	10	10 U	10 U	5 U
Dibromochloromethane	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
1,1,2-Trichloroethane	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Benzene	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Trans-1,3-Dichloropropene	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Bromoform	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
4-Methyl-2-pentanone	ug/L	NS	100 U	20 U	100 U	50 U	10 U	10 U	10 U	20 U	20 U	10 U
2-Hexanone	ug/L	NS	100 U	20 U	100 U	50 U	10 U	10 U	10 U	20 U	20 U	10 U
Tetrachloroethene	ug/L	NS	68	10 U	50 U	25 U	21	11	73	270	220	16
1,1,2,2-Tetrachloroethane	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Toluene	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Chlorobenzene	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Ethylbenzene	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Styrene	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U
Xylene (total)	ug/L	NS	50 U	10 U	50 U	25 U	5 U	5 U	5 U	10 U	10 U	5 U

DUP = Duplicate sample  
 NS = Not sampled  
 (2.5) = Dilution factor.

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.

Table 2-4  
 Summary of Groundwater Analytical Results - November 2004  
 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	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS
Bromomethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS
Vinyl Chloride	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS
Chloroethanane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS
Methylene Chloride	ug/L	3 JB	1 JB	1 JB	4 JB	4 JB	4 JB	3 JB	4 JB	NS	10 U	10 U	NS	10 U	NS
Acetone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	3 JB	3 JB	NS	2 JB	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	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-Dichloroethane	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
1,2-Dichloroethene (total)	ug/L	5 U	5 U	5 U	5 U	11	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS
Chloroform	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	14	NS
1,2-Dichloroethane	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-Butanone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS
1,1,1-Trichloroethane	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 Tetrachloride	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
Bromodichloromethane	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
1,2-Dichloropropane	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
cis-1,3-Dichloropropene	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
Trichloroethene	ug/L	5 U	5 U	5 U	5 U	9	76	72	9	NS	11	9	NS	23	NS
Dibromochloromethane	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
1,1,2-Trichloroethane	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
Benzene	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
Trans-1,3-Dichloropropene	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
Bromoform	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
4-Methyl-2-pentanone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS
2-Hexanone	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS
Tetrachloroethene	ug/L	5 U	5 U	5 U	5 U	11	93	87	37	NS	8	5 U	NS	7	NS
1,1,2,2-Tetrachloroethane	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
Toluene	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
Chlorobenzene	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
Ethylbenzene	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
Styrene	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
Xylene (total)	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

DUP = Duplicate sample  
 NS = Not sampled  
 (2.5) = Dilution factor.

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.

Table 2-4  
 Summary of Groundwater Analytical Results - November 2004  
 Black & Decker  
 Hampstead, Maryland

PARAMETER	Units	RFW-11A	RFW-11B	RFW-12B (5)	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	10 U	50 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U
Bromomethane	ug/L	NS	10 U	50 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U
Vinyl Chloride	ug/L	NS	10 U	50 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U
Chloroethane	ug/L	NS	10 U	50 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U
Methylene Chloride	ug/L	NS	2 JB	12 JB	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5
Acetone	ug/l.	NS	10 U	50 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	6 J
Carbon Disulfide	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
1,1-Dichloroethene	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
1,1-Dichloroethane	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
1,2-Dichloroethene (total)	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Chloroform	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
1,2-Dichloroethane	ug/L	NS	5 U	25 U	5 U	NS	1 J	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
2-Butanone	ug/L	NS	10 U	50 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U
1,1,1-Trichloroethane	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Carbon Tetrachloride	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Bromodichloromethane	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
1,2-Dichloropropane	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
cis-1,3-Dichloropropene	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Trichloroethene	ug/L	NS	35	520	15	NS	5 U	2 J	5 U	5 U	5 U	5 U	5 U	NS	5 U
Dibromochloromethane	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
1,1,2-Trichloroethane	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Benzene	ug/l.	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Trans-1,3-Dichloropropene	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Bromoform	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
4-Methyl-2-pentanone	ug/L	NS	10 U	50 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U
2-Hexanone	ug/L	NS	10 U	50 U	10 U	NS	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U
Tetrachloroethene	ug/L	NS	5 U	37	47	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
1,1,2,2-Tetrachloroethane	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Toluene	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Chlorobenzene	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Ethylbenzene	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Styrene	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U
Xylene (total)	ug/L	NS	5 U	25 U	5 U	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U

DUP = Duplicate sample  
 NS = Not sampled  
 (2.5) = Dilution factor.

U = Compound was analyzed for but not detected. Value shown is the method detection limit for qu  
 J = Indicates an estimated value.  
 B = Indicates that the analyte was found in the associated blank as well as in the sample.

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 samples collected from wells EW-9 and RFW-4A. A lower concentration of 1,2-dichloroethene, was also detected. The remainder of VOCs present were detected at levels well 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 2004) 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 2004**  
**Black & Decker**  
**Hampstead, Maryland**

<b>Date</b>	<b>Event/Corrective Action</b>
	No notable maintenance activities during the 4th quarter 2004.

#### 4. RECOMMENDATIONS

For the reporting period of October through December 2004, 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 2004)**

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MONTH / YEAR

Oct. 2004

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

PAST MONTH READING

19972620

Date	Day	Time	Integ. Reading	GPD	Pump # 11	Pump # 12
1	F	1145	20208599	↑	22637	22660
2						
3				724725		
4	M	0930	20933324	291366	22637	22730
5	T	1330	21224690	233571	22665	22730
6	W	1205	21458261	268687	22688	22730
7	T	1400	21726948	207260	22714	22730
8	F	1025	21934208	↑	22734	22730
9						
10				741840		
11	M	1025	22676048	240044	22806	22730
12	T	0940	22916092	272311	22806	22753
13	W	1205	23188403	237434	22806	22780
14	T	1110	23425837	254280	22806	22803
15	F	1155	23680117	↑	22806	22827
16						
17				749567		
18	M	1300	24429684	221292	22806	22900
19	T	1035	24650976	275211	22827	22900
20	W	1330	24926187	235520	22854	22900
21	T	1235	25161707	237046	22877	22900
22	F	1145	25398753	↑	22900	22900
23						
24				722304		
25	M	1035	26121057	263026	22971	22900
26	T	1225	26384083	213767	22971	22926
27	W	1035	26597850	237223	22971	22947
28	T	0950	26835073	252595	22971	22970
29	F	1040	27087668	237416	22971	22995
30	S	1015	27325084	252747	22971	23018
31	S	1100	27577831	281090	22971	23043
Total				7650322		
Average				246785		

NEXT MONTH READING 27858921

DATE 11-1-04

Month / Year

Nov. 2004

Black & Decker  
Air Stripper # 2  
Operating Record

Past Month Reading

27577831

Date	Day	Time	Integ. Reading	GPD	Pump # 11	Pump # 12
1	M	1335	27858921	246105	22971	23071
2	T	1430	28105024	246995	22995	23071
3	W	1450	28352021	196244	23020	23071
4	T	0945	28548265	246263	23039	23071
5	F	1005	28794528	↑	23064	23071
6						
7				729764		
8	M	1025	29524292	256975	23136	23071
9	T	1155	29781267	205896	23136	23097
10	W	0920	29987165	233095	23136	23117
11	T	0820	30220260	271973	23136	23140
12	F	1045	30492233	↑	23136	23167
13						
14				714715		
15	M	1005	31206948	171352	23136	23239
16	T	0400	31378300	345440	23153	23239
17	W	1330	31723740	208730	23188	23239
18	T	1030	31932470	172303	23208	23239
19	F	0415	32104773	↑	23224	23239
20						
21				787145		
22	M	1025	32891918	210699	23304	23239
23	T	0730	33102617	238628	23304	23260
24	W	0740	33341245	280952	23304	23284
25	T	1200	33622197	270778	23304	23312
26	F	1515	33892975	↑	23304	23339
27						
28				617889		
29	M		34410864	275519	23304	23401
30	T	0835	34786383	235279	23304	23429
31						
Total				7162739		
Average				238758		

Next Month Reading 35021662

Date 12-1-04

Month / Year

Dec. 04

Black & Decker  
Air Stripper # 2  
Operating Record

Past Month Reading

34786383

Date	Day	Time	Integ. Reading	GPD	Pump # 11	Pump # 12
1	W	0820	35021662	224769	23328	23429
2	T	0655	35246431	263427	23351	23429
3	F	0920	35509858	↑	23377	23429
4						
5				717854		
6	M	0935	36227712	232841	23449	23429
7	T	0900	36460553	224983	23449	23452
8	W	0740	36685536	288814	23449	23475
9	T	1250	36974350	224575	23449	23504
10	F	1125	37198925	↑	23449	23527
11						
12				722791		
13	M	1210	37921716	274030	23449	23599
14	T	1550	38195746	266088	23477	23599
15	W	1240	38401834	231641	23498	23599
16	T	1205	38633475	250036	23521	23599
17	F	1315	38883511	↑	23546	23599
18						
19				679278		
20	M	0950	39562789	237438	23615	23599
21	T	0945	39800227	235393	23615	23623
22	W	0935	40035620	241249	23615	23647
23	T	0955	40276869	270484	23615	23672
24	F	1330	40547353	233015	23615	23699
25	S	1336	40780368	218653	23615	23722
26	S	1100	40999021	289235	23615	23747
27	M	1400	41288256	188834	23615	23774
28	T	1130	41477090	252824	23615	23793
29	W	1310	41729914	229151	23640	23793
30	T	1225	41959065	242243	23664	23793
31	F	1316	42201368	228125	23688	23793
Total				7427771		
Average				239606		

Next Month Reading 42429433

Date 1-1-05

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**APPENDIX B**  
**DISCHARGE MONITORING REPORTS**  
**(OCTOBER - DECEMBER 2004)**

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