

**Quarterly Groundwater Monitoring Report**

Prepared for

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

Hampstead, Maryland

October 2008

Prepared by

**WESTON SOLUTIONS, INC.**

**West Chester, Pennsylvania 19380-1499**

---

## TABLE OF CONTENTS

---

Section	Page
1. INTRODUCTION.....	1-1
2. SITE CHARACTERISTICS.....	2-1
2.1 HYDRAULIC PROPERTIES .....	2-1
2.2 EFFLUENT CHARACTERISTICS .....	2-1
2.3 GROUNDWATER QUALITY DATA .....	2-1
3. OPERATION AND MAINTENANCE OF THE TREATMENT SYSTEM.....	3-1
4. RECOMMENDATIONS.....	4-1

---

## LIST OF APPENDICES

---

**APPENDIX A - GROUNDWATER TREATMENT SYSTEM PUMPING RECORDS**

**APPENDIX B - DISCHARGE MONITORING REPORTS**

**APPENDIX C - GROUNDWATER TREATMENT SYSTEM ANALYTICAL RESULTS**

**APPENDIX D - GROUNDWATER ANALYTICAL DATA PACKAGE**

---

## LIST OF TABLES

---

Table	Page
Table 2-1 Treatment System Pumping Records – 3rd Quarter 2008 .....	2-2
Table 2-2 Groundwater Elevation Data – 3rd Quarter 2008.....	2-3
Table 2-3 Effluent Characteristics Summary – 3rd Quarter 2008.....	2-4
Table 2-4 Summary of Groundwater Analytical Results - August 2008.....	2-5
Table 3-1 Treatment System Maintenance Activities – 3rd Quarter 2008.....	3-2

## 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 July through September 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 July through September 2008, the extraction wells were pumping at an average combined rate of approximately 147 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 2008 are included in Appendix B.

### **2.3 GROUNDWATER QUALITY DATA**

For the reporting period of July through September 2008, approximately 22.3 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) (85.5 %) and tetrachloroethene (PCE) (14.5 %). 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 third quarter (August 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 - 3rd Quarter 2008**  
**Black & Decker**  
**Hampstead, Maryland**

<b>Date</b>	<b>Water Pumped (gallons)</b>
<b>July 2008</b>	6,306,339
<b>August 2008</b>	6,110,707
<b>September 2008</b>	5,079,145

**Table 2-2**  
**Groundwater Elevation Data - 3rd Quarter 2008**  
**Black & Decker**  
**Hampstead, Maryland**

WELL NO	TOC ELEV	TOTAL DEPTH	7/26/2008		8/27/2008		9/29/2008	
			DTW	ELEV	DTW	ELEV	DTW	ELEV
EW-1	847.21	55	DRY	NC	DRY	NC	DRY	NC
EW-2	849.21	110	78.90	770.31	62.10	787.11	72.12	777.09
EW-3	846.64	118	95.78	750.86	97.40	749.24	83.14	763.50
EW-4	858.01	97.5	PC	NC	PC	NC	PC	NC
EW-5	864.17	98	80.71	783.46	64.69	799.48	65.33	798.84
EW-6	831.98	115	94.60	737.38	103.20	728.78	79.08	752.90
EW-7	818.38	78	66.43	751.95	71.71	746.67	71.50	746.88
EW-8	811.13	98	86.11	725.02	91.70	719.43	91.17	719.96
EW-9	811.35	141	102.00	709.35	103.70	707.65	102.30	709.05
EW-10	807.74	INA	58.64	749.10	59.90	747.84	57.82	749.92
RFW-1A	864.37	78	51.65	812.72	48.21	816.16	49.11	815.26
RFW-1B	864.23	200	51.59	812.64	48.24	815.99	49.14	815.09
RFW-2A	857.41	35	14.21	843.20	17.51	839.90	16.84	840.57
RFW-2B	857.73	75	14.82	842.91	18.11	839.62	17.30	840.43
RFW-3B	839.21	153	38.01	801.20	35.86	803.35	37.41	801.80
RFW-4A	830.37	62	37.41	792.96	35.51	794.86	37.79	792.58
RFW-4B	830.37	120	37.30	793.07	35.43	794.94	37.71	792.66
RFW-5A	817.50	30	DRY	NC	DRY	NC	DRY	NC
RFW-6	785.04	120	4.14	780.90	4.85	780.19	4.06	780.98
RFW-7	805.14	29	7.89	797.25	7.51	797.63	7.84	797.30
RFW-8	860.07	56	DRY	NC	DRY	NC	DRY	NC
RFW-9	862.02	49	28.37	833.65	28.16	833.86	28.26	833.76
RFW-10	852.06	58	DRY	NC	DRY	NC	DRY	NC
RFW-11A	849.32	72	Damaged	NC	Damaged	NC	Damaged	NC
RFW-11B	849.62	116	66.75	782.87	65.48	784.14	66.63	782.99
RFW-12B	844.87	264	55.12	789.75	48.90	795.97	51.11	793.76
RFW-13	849.11	150	65.10	784.01	65.46	783.65	65.22	783.89
RFW-14B	812.39	281	54.53	757.86	49.58	762.81	44.83	767.56
RFW-16	856.14	41	DRY	NC	DRY	NC	DRY	NC
RFW-17	834.66	60.5	29.78	804.88	27.41	807.25	27.84	806.82
RFW-20	842.49	142	38.83	803.66	35.63	806.86	35.69	806.80
RFW-21	832.65	102	24.18	808.47	23.18	809.47	24.63	808.02
PH-7	805.94	89	39.31	766.63	37.69	768.25	38.26	767.68
PH-9	814.94	98	47.43	767.51	55.23	759.71	50.09	764.85
PH-11	820.68	78	49.40	771.28	50.78	769.90	51.30	769.38
PH-12	828.35	87	50.66	777.69	51.52	776.83	52.02	776.33
B-3	803.02	83	10.78	792.24	9.17	793.85	9.47	793.55
Amoco	842.29	INA	NA	NC	NA	NC	NA	NC
Hamp. Town #22	804.96	INA	17.14	787.82	17.11	787.85	34.74	770.22
Pembroke #1	INA	INA	14.47	NC	16.00	NC	14.70	NC
Pembroke #2	INA	INA	Damaged	NC	Damaged	NC	Damaged	NC
N. Houcks. Rd.	INA	INA	11.08	NC	12.11	NC	11.08	NC
E. Century St.	INA	INA	22.31	NC	19.46	NC	19.21	NC
Lwr. Beckleys. Rd.	INA	INA	54.83	NC	54.64	NC	53.74	NC

NA - Not Available/Not Accessible  
NC - Not Calculable  
INA - Information not available  
PC - Pump Cycles

**Table 2-3  
Effluent Characteristics Summary - 3rd Quarter 2008  
Black & Decker  
Hampstead, Maryland**

Discharge Number	Parameter	Units	Permit Limits	DMR DATE			
				July 2008	August 2008	September 2008	
001	FLOW	average	MGD	NA	0.097	0.058	0.133
		maximum	MGD	NA	0.151	0.089	0.400
	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	< 5	< 5	< 5
		quarterly average	mg/l	10	< 5	< 5	< 5
	pH	minimum	STD	6.0	6.50	6.20	6.30
		maximum	STD	8.5	7.00	6.80	8.10
BOD		mg/l	15	5.0	4.0	0.0	
TSS	maximum	mg/l	30	14.0	12.0	6.0	
	quarterly average	mg/l	20	14.0	12.0	11.0	
101 (Monitoring Point)	FLOW	average	MGD	NA	0.200	0.234	0.262
		maximum	MGD	NA	0.293	0.367	0.352
	Fecal Coliform	MPN/100ml	200	2.0	1.0	1.0	
201 (Monitoring Point)	FLOW	average	MGD	NA	NR	NR	0.190
		maximum	MGD	NA	NR	NR	0.254
	1,1,1-Trichloroethane	ug/l	NA	NR	NR	< 1	
	Tetrachloroethylene	ug/l	NA	NR	NR	< 1	
	Trichloroethylene	ug/l	NA	NR	NR	< 1	

DMR - Discharge Monitoring Report

NA - Not Applicable

NR - Not Reported



**Table 2-4**  
**Summary of Groundwater Analytical Results - August 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	1.1	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	1.1	1 U	1 U	1 U
1,2-Dichloroethene (total)	ug/L	NS	3.1	2.4	1 U	1 U	1 U	9.8	27	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	1.8	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	150	1600	250	12	7.1	13	1.6	1.5	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	74	3.6	36	15	21	14	81	160	170	1 U
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.

NS = Not Sampled

**Table 2-4**  
**Summary of Groundwater Analytical Results - August 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	6.5	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	1.4	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	1.1	NS
1,2-Dichloroethene (total)	ug/L	1 U	1 U	1 U	1 U	4.5	1 U	1 U	3.7	NS	1 U	1 U	NS	14	NS
Chloroform	ug/L	1 U	1 U	1 U	1 U	1 U	1.3	1.2	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	1.6	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	1.5	1.7	1 U	29	28	16	NS	4.8	10	NS	17	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	21	20	35	NS	3.9	1 U	NS	6.7	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 - August 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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	3.4	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	ABD	ABD	ABD	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	ABD	ABD	ABD	5 U	NA	NA	NA	NA	NA
1,1-Dichloroethene	ug/L	NS	1 U	1 U	1 U	NS	1 U	ABD	ABD	ABD	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	ABD	ABD	ABD	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	2.1	1 U	NS	1 U	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	ug/L	NS	13	430	5.5	NS	1 U	ABD	ABD	ABD	1 U	0.6	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	1.3	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	5 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/L	NS	1 U	36	24	NS	1 U	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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	ABD	ABD	ABD	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.

ABD = Well has been abandoned

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 (July through September 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 - 3rd Quarter 2008**  
**Black & Decker**  
**Hampstead, Maryland**

Date	Event/Corrective Action
Jul-08	Alarm at air stripper. High column blower failure, reset the system. System back online.
Aug-08	Alarm at air stripper due to high wet well, reset the system. System back online.
Aug-08	Micro-Tech performed routine calibration of the air stripper.
Aug-08	Power is out to the air stripper building. System is left off for two days prior to Primo Electric arriving onsite to run a temporary 70 AMP electric line from the boiler room to the stripper building.
Sep-08	Alarm at stripper. Circuit breaker in the boiler room tripped. The system is drawing too many Amps from the temporary feed. Wells 5 and 8 are turned off for three days so the system was not pulling as many Amps.
Sep-08	Alarm at stripper. Due to a loose neutral wire on the terminal block in well 2. The wire is reconnected and all wells are back online.
Sep-08	Alarm at stripper. Circuit breaker in the boiler room tripped again. The system is drawing too many Amps from the temporary feed. Wells 7 and 8 were turned off so the system is not pulling as many Amps. Weston directed B&D to turn wells 7 and 8 on and turn off wells 6 and 10.
Sep-08	IES Electric ran a temporary 200 AMP electric feed from the old weld shop to the air stripper. The system was running with 2 wells down for approximately 20 days. All wells are now back online.
Sep-08	Alarm at the stripper, well 6 tripped out. Replaced the timing relay in well 6. All wells are back online.

#### 4. RECOMMENDATIONS

For the reporting period of July through September 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.

---

**APPENDIX A**  
**GROUNDWATER TREATMENT SYSTEM PUMPING RECORDS**  
**(JULY – SEPTEMBER 2008)**

---



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: July

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	MGD Total FQIR	pH P.O.E	Free Cl <sub>2</sub>	Na <sub>2</sub> CO <sub>3</sub> Level	Na <sub>2</sub> CO <sub>3</sub> (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	0.0024	7.4	0.97	42.00	1.00	56.00	0.00						ss		0.166944	
2	wed	clr	0	0.0026	7.1	1.16	41.00	1.00	56.00	0.00						djones		0.211680	
3	thur	clr	0	0.0049	7.5	1.20	40.00	1.00	56.00	0.00			6.90	0.70	Eng Lab	djones	5.10	0.227484	
4	fri	cldy	0	0.0003	7.2	1.15	39.00	1.00	56.00	0.00						ss		0.212144	
5	sat	cldy	0	0.0000	7.1	1.16	38.00	1.00	56.00	0.00						gk		0.198410	
6	sun	cldy	0	0.0007	7.1	1.16	37.00	0.00	56.00	0.00						gk		0.185334	
7	mon	clr	0	0.0042	7.6	1.12	37.00	1.00	56.00	0.00			7.40	1.00	Admin 1st FI	djones		0.206078	
8	tue	clr	0	0.0050	7.4	1.26	36.00	2.00	56.00	0.00						djones		0.223603	
9	wed	clr	0	0.0023	7.3	1.33	34.00	1.00	56.00	0.00			6.70	0.80	Eng Lab	djones	5.10	0.178639	
10	thur	clr	0	0.0050	7.3	1.20	33.00	1.00	56.00	0.00						djones		0.206440	
11	fri	clr	0	0.0035	7.4	1.34	32.00	1.00	56.00	0.00			6.90	0.90	Admin 2nd FI	djones		0.217456	
12	sat	clr	0	0.0000	7.9	1.22	31.00	0.00	56.00	0.00						ss		0.214776	
13	sun	clr	0	0.0027	7.6	1.36	31.00	1.00	56.00	0.00						gk		0.203576	
14	mon	clr	0	0.0027	7.0	1.08	30.00	1.00	56.00	0.00			7.43	0.82	Admin 1st FI	ss		0.182986	
15	tue	clr	0	0.0045	7.4	1.10	29.00	1.00	56.00	0.00						djones		0.213086	
16	wed	clr	0	0.0051	7.4	1.28	28.00	2.00	56.00	0.00			7.05	0.92	Eng Lab	djones	5.10	0.189759	
17	thur	clr	0	0.0026	7.2	1.16	26.00	1.00	56.00	0.00						ss		0.212910	
18	fri	clr	0	0.0021	7.5	1.20	25.00	1.00	56.00	0.00			7.31	1.08	Admin 2nd FI	djones		0.206697	
19	sat	clr	0	0.0023	7.6	1.01	44.00	1.00	56.00	0.00						djones		0.200405	
20	sun	clr	0	0.0080	7.8	1.02	43.00	1.00	56.00	0.00						djones		0.218179	
21	mon	clr	0	0.0029	7.8	1.39	42.00	2.00	56.00	0.00			6.85	0.91	Admin 1st FI	ss		0.206172	
22	tue	clr	0	0.0036	7.4	1.27	40.00	1.00	56.00	5.00						ss		0.187136	
23	wed	cldy	0	0.0050	7.2	1.14	39.00	1.00	51.00	0.00			7.27	1.06	Eng Lab	djones	5.00	0.219718	
24	thur	CLR	0	0.0041	7.0	1.45	38.00	2.00	51.00	0.00						djones		0.205131	
25	fri	CLR	0	0.0000	7.5	1.34	36.00	0.00	51.00	0.00			7.94	0.97	Admin 2nd FI	SS		0.195127	
26	sat	CLR	0	0.0023	7.2	1.10	36.00	1.00	51.00	0.00						SS		0.204407	
27	sun	CLDY	0	0.0027	7.4	1.36	35.00	1.00	51.00	0.00						SS		0.203410	
28	mon	CLR	0	0.0048	8.1	1.41	72.00	1.00	51.00	0.00			7.64	0.80	Eng Lab	GAD		0.208263	
29	tue	CLR	0	0.0026	6.8	0.79	71.00	6.00	51.00	0.00						GAD		0.200477	
30	wed	CLR	0	0.0024	7.8	0.63	65.00	0.00	51.00	0.00			6.84	0.62	Admin 1st FI	SS		0.174221	
31	thur	CLDY	0	0.0052	6.4	0.91	65.00	5.00	51.00	0.00						GAD		0.225691	
Total				0.0965	228.1	36.27	1235.0	40.00	1691.0	5.00	0.0	0.0	86.2	10.6				6.306339	
Average				0.0031	7.36	1.17	39.84	1.29	54.55	0.16	0.0	0.0	7.19	0.88				0.203430	
Minimum				0.0000	6.36	0.63	25.00	0.00	51.00	0.00	0.0	0.0	6.70	0.62				0.166944	MOR
Maximum				0.0080	8.08	1.45	72.00	6.00	56.00	5.00	0.0	0.0	7.94	1.08				0.227484	04/09/07