

Quarterly Groundwater Monitoring Report

Prepared for
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Hampstead, Maryland

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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 – 4th Quarter 2011	2-2
Table 2-2 Groundwater Elevation Data – 4th Quarter 2011	2-3
Table 2-3 Effluent Characteristics Summary – 4th Quarter 2011	2-4
Table 2-4 Summary of Groundwater Analytical Results - November 2011	2-5
Table 3-1 Treatment System Maintenance Activities – 4th Quarter 2011	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 October through December 2011.

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 2011, the extraction wells were pumping at an average combined rate of approximately 180 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 2011 are included in Appendix B.

2.3 GROUNDWATER QUALITY DATA

For the reporting period of October through December 2011, approximately 12.4 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) (83.0 %) and tetrachloroethene (PCE) (17.0 %). Analytical results of the groundwater collected from the air stripper for the period of October through December 2011 are included in Appendix C.

A summary of the analytical results from the fourth quarter (November 2011) 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 2011
Black & Decker
Hampstead, Maryland

Date	Water Pumped (gallons)
October 2011	6,695,740
November 2011	7,261,636
December 2011	7,622,161

Table 2-2
Groundwater Elevation Data - 4th Quarter 2011
Black & Decker
Hampstead, Maryland

WELL NO.	TOC ELEV.	TOTAL DEPTH	10/22/2011		11/17/2011		12/22/2011	
			DTW	ELEV	DTW	ELEV	DTW	ELEV
EW-1	847.21	55	DRY	NC	DRY	NC	DRY	NC
EW-2	849.21	110	91.41	757.80	91.73	757.48	91.64	757.57
EW-3	846.64	118	88.80	757.84	88.78	757.86	85.67	760.97
EW-4	858.01	97.5	PC	NC	PC	NC	PC	NC
EW-5	864.17	98	89.84	774.33	90.25	773.92	90.27	773.90
EW-6	831.98	115	101.00	730.98	102.00	729.98	101.57	730.41
EW-7	818.38	78	71.60	746.78	68.26	750.12	66.84	751.54
EW-8	811.13	98	43.20*	811.13	91.45	719.68	91.47	719.66
EW-9	811.35	141	102.50	708.85	103.00	708.35	103.00	708.35
EW-10	807.74	INA	53.61	754.13	46.98	760.76	46.63	761.11
RFW-1A	864.37	78	51.96	812.41	49.16	815.21	49.36	815.01
RFW-1B	864.23	200	51.97	812.26	49.23	815.00	49.38	814.85
RFW-2A	857.41	35	15.26	842.15	12.71	844.70	13.96	843.45
RFW-2B	857.73	75	15.61	842.12	13.38	844.35	14.24	843.49
RFW-3B	839.21	153	37.83	801.38	37.41	801.80	35.43	803.78
RFW-4A	830.37	62	37.04	793.33	36.92	793.45	36.40	793.97
RFW-4B	830.37	120	36.90	793.47	36.89	793.48	36.31	794.06
RFW-5A	817.50	30	DRY	NC	DRY	NC	DRY	NC
RFW-6	785.04	120	3.64	781.40	4.03	781.01	3.84	781.20
RFW-7	805.14	29	8.19	796.95	5.92	799.22	7.12	798.02
RFW-8	860.07	56	DRY	NC	DRY	NC	DRY	NC
RFW-9	862.02	49	26.23	835.79	24.97	837.05	25.13	836.89
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	64.35	785.27	63.89	785.73	63.36	786.26
RFW-12B	844.87	264	51.64	793.23	50.08	794.79	50.42	794.45
RFW-13	849.11	150	65.66	783.45	64.72	784.39	64.23	784.88
RFW-14B	812.39	281	53.60	758.79	53.49	758.90	53.37	759.02
RFW-16	856.14	41	DRY	NC	DRY	NC	DRY	NC
RFW-17	834.66	60.5	26.94	807.72	26.03	808.63	26.10	808.56
RFW-20	842.49	142	33.08	809.41	32.81	809.68	32.11	810.38
RFW-21	832.65	102	21.43	811.22	20.52	812.13	21.26	811.39
PH-7	805.94	89	34.02	771.92	25.07	780.87	24.86	781.08
PH-9	814.94	98	50.62	764.32	52.04	762.90	50.22	764.72
PH-11	820.68	78	52.73	767.95	51.71	768.97	51.63	769.05
PH-12	828.35	87	48.11	780.24	47.84	780.51	46.27	782.08
B-3	803.02	83	9.61	793.41	10.11	792.91	10.20	792.82
Amoco	842.29	INA	NA	NC	NA	NC	NA	NC
Hamp. Town #22	804.96	INA	2.16	802.80	4.88	800.08	4.19	800.77
Pembroke #1	INA	INA	11.26	NC	10.98	NC	11.18	NC
Pembroke #2	INA	INA	Damaged	NC	Damaged	NC	Damaged	NC
N. Houcks. Rd.	INA	INA	10.08	NC	10.27	NC	10.94	NC
E. Century St.	INA	INA	19.21	NC	19.20	NC	19.19	NC
Lwr. Beckleys. Rd.	INA	INA	55.87	NC	55.42	NC	55.12	NC

NA - Not Available/Not Accessible

NC - Not Calculable

INA - Information not available

PC - Pump Cycles

43.20* Pump not running due to damage sustained by a fallen tree

Table 2-3
Effluent Characteristics Summary - 4th Quarter 2011
Black & Decker
Hampstead, Maryland

Discharge Number	Parameter	Units	Permit Limits	DMR DATE			
				October 2011	November 2011	December 2011	
001	FLOW	average	MGD	NA	0.140	0.225	0.212
		maximum	MGD	NA	0.276	0.970	1.040
	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
		monthly average	mg/l	10	< 5	< 5	< 5
	pH	minimum	STD	6.0	6.3	6.5	6.4
		maximum	STD	8.5	6.9	7.0	7.4
	BOD		mg/l	15	2.0	3.0	< 1
TSS	maximum	mg/l	30	0.0	< 1	< 1	
	monthly average	mg/l	20	0.0	< 1	< 1	
101 (Monitoring Point)	FLOW	average	MGD	NA	0.213	0.246	0.293
		maximum	MGD	NA	0.240	0.305	0.345
	Fecal Coliform		MPN/100ml	200	5.0	1.0	1.0
201 (Monitoring Point)	FLOW	average	MGD	NA	NR	NR	0.235
		maximum	MGD	NA	NR	NR	0.300
	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