

QUARTERLY GROUNDWATER MONITORING REPORT

Prepared for

**BLACK & DECKER (U.S.) INC.
Hampstead, Maryland**

October 1998

Prepared by

**Roy F. Weston, Inc.
One Weston Way
West Chester, Pennsylvania 19380**

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
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 APPENDICIES

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

<u>Table</u>	<u>Title</u>	<u>Page</u>
2-1	Treatment System Pumping Records – 3rd Quarter 1998	2-3
2-2	Groundwater Elevation Data – 3rd Quarter 1998	2-4
2-3	Effluent Characteristics Summary – 3rd Quarter 1998	2-5
2-4	Summary of Groundwater Analytical Results - August 1998	2-6
3-1	Treatment System Maintenance Activities – 3rd Quarter 1998	3-2

SECTION 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; and 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.

SECTION 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 1998.

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. At the time the water level measurements were collected, the extraction wells were pumping at an average combined rate of approximately 158 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 1998 are Appendix B.

2.3 GROUNDWATER QUALITY DATA

For the reporting period of July through September 1998, approximately 157 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) (79 %) and tetrachlorethene (PCE) (21 %). Analytical results of the groundwater collected at the inlet to the air stripper for the period of July through September 1998 are included in Appendix C.

A summary of the analytical results from the third quarter (August 1998) groundwater sampling round of the extraction and monitor wells is included in Table 2-4. The complete 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-2 and the highest concentration of PCE was detected in the groundwater sample collected from extraction well EW-9. VOCs detected at lower concentrations were 1,2-dichloroethene and 1,1,1-trichloroethane. The remainder of VOCs present were detected at levels well below the Federal Maximum Contaminant Levels (MCL).

Table 2-1
Treatment System Pumping Records - 3rd Quarter 1998
Black & Decker
Hampstead, Maryland

Date	Water pumped (gallons)
Jul-98	7,189,264
Aug-98	7,302,213
Sep-98	6,834,425

Table 2-2
Groundwater Elevation Data - 3rd Quarter 1998
Black & Decker
Hampstead, Maryland

WELL NO.	TOC ELEV.	TOTAL DEPTH	07/23/98		08/18/98		09/24/98	
			DTW	ELEV	DTW	ELEV	DTW	ELEV
EW-1	847.21	55	NA	--	NA	--	NA	--
EW-2	849.21	110	80.19	769.02	80.74	768.47	81.11	768.10
EW-3	846.64	118	86.33	760.31	87.36	759.28	87.67	758.97
EW-4	858.01	97.5	87.42	770.59	88.43	769.58	88.94	769.07
EW-5	864.17	98	83.11	781.06	87.94	776.23	88.31	775.86
EW-6	831.98	115	57.12	774.86	59.12	772.86	60.41	771.57
EW-7	818.38	78	31.46	786.92	37.44	780.94	38.74	779.64
EW-8	811.13	98	73.11	738.02	74.21	736.92	74.94	736.19
EW-9	811.35	141	75.67	735.68	74.58	736.77	74.63	736.72
EW-10	807.74	NA	48.01	759.73	45.99	761.75	46.51	761.23
RFW-1A	864.37	78	47.51	816.86	49.29	815.08	50.11	814.26
RFW-1B	864.23	200	47.52	816.71	49.33	814.90	50.10	814.13
RFW-2A	857.41	35	12.45	844.96	14.77	842.64	14.43	842.98
RFW-2B	857.73	75	13.12	844.61	15.41	842.32	15.02	842.71
RFW-3B	839.21	153	26.86	812.35	26.77	812.44	27.23	811.98
RFW-4A	830.37	62	35.06	795.31	34.86	795.51	35.21	795.16
RFW-4B	830.37	120	34.98	795.39	34.81	795.56	35.17	795.20
RFW-5A	817.50	30	DRY	--	DRY	--	DRY	--
RFW-6	785.04	120	2.43	782.61	3.14	781.90	2.78	782.26
RFW-7	805.14	29	6.86	798.28	6.83	798.31	6.47	798.67
RFW-8	860.07	56	DRY	--	DRY	--	DRY	--
RFW-9	862.02	49	24.12	837.90	24.11	837.91	24.43	837.59
RFW-10	852.06	58	57.16	794.90	57.31	--	58.09	793.97
RFW-11A	849.32	72	67.79	781.53	67.78	781.54	67.88	781.44
RFW-11B	849.62	116	75.85	773.77	75.88	773.74	75.94	773.68
RFW-12B	844.87	264	52.81	792.06	52.43	792.44	52.53	792.34
RFW-13	849.11	150	58.21	790.90	59.11	790.00	59.34	789.77
RFW-14B	812.39	281	38.09	774.30	38.20	774.19	38.31	774.08
RFW-16	856.14	41	37.91	818.23	38.23	817.91	38.74	817.40
RFW-17	834.66	60.5	25.11	809.55	25.08	809.58	25.17	809.49
RFW-18	843.67	50	5.74	837.93	6.36	837.31	6.46	837.21
RFW-19	858.28	60	3.81	854.47	3.22	855.06	3.30	854.98
RFW-20	842.49	142	32.67	809.82	32.84	809.65	33.16	809.33
RFW-21	832.65	102	19.73	812.92	19.22	813.43	19.42	813.23
PH-7	805.94	89	28.11	777.83	28.00	777.94	28.08	777.86
PH-9	814.94	98	30.87	784.07	31.09	783.85	31.13	783.81
PH-11	820.68	78	37.94	782.74	38.59	782.09	38.48	782.20
PH-12	828.35	87	40.61	787.74	41.17	787.18	41.42	786.93
B-2	807.68	100	5.94	801.74	5.81	801.87	5.87	801.81
B-3	803.02	83	7.31	795.71	6.94	796.08	7.01	796.01
Amoco	842.29	NA	21.22	821.07	21.40	820.89	21.63	820.66
Hamp. Town #22	804.96	NA	0.94	--	0.69	--	0.78	--
Pembroke #1	NA	NA	10.43	--	10.11	--	10.87	--
Pembroke #2	NA	NA	NA	--	NA	--	NA	--
N. Houcks. Rd.	NA	NA	NA	--	NA	--	NA	--
E. Century St.	NA	NA	11.26	--	11.23	--	11.19	--
Lwr. Beckleys. Rd.	NA	NA	48.11	--	47.36	--	47.84	--

NA - Not Available/Not Accessible

Table 2-3
Effluent Characteristics Summary - XX Quarter 19XX
Black & Decker
Hampstead, Maryland

Discharge Number	Parameter	Units	Permit Limits	DMR DATE			
				July 1998	August 1998	September 1998	
001	FLOW	average	MGD	NA	0.202	0.179	0.132
		maximum	MGD	NA	0.246	0.719	0.154
	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	6.18	6.71	6.68
		maximum	STD	8.5	7.22	7.86	7.34
	BOD		mg/l	15	3	4	3
TSS	maximum	mg/l	30	18	9	12	
	quarterly average	mg/l	20	NR	NR	10	
101 (Monitoring Point)	FLOW	average	MGD	NA	0.473	0.463	0.475
		maximum	MGD	NA	0.473	0.470	0.500
	Fecal Coliform		MPN/100ml	200	< 2	< 2	< 2
201 (Monitoring Point)	FLOW	average	MGD	NA	0.240	0.236	0.228
		maximum	MGD	NA	0.271	0.249	0.235
	1,1,1-Trichloroethane		ug/l	NA	< 5	< 5	< 5
	Tetrachloroethylene		ug/l	NA	< 5	< 5	11
	Trichloroethylene		ug/l	NA	< 5	< 5	< 5

NA - Not Applicable
 NR - Not Reported

Table 2-4
Summary of Groundwater Analytical Results - August 1998
Black & Decker
Hampstead, Maryland

PARAMETER	Units	EW-1	EW-2 (20)	EW-2 DUP (20)	EW-3 (5)	EW-4 (20)	EW-5 (10)	EW-6	EW-7	EW-8 (2)	EW-9 (5)	EW-10	RFW-1A	RFW-1B	RFW-2A
Chloromethane	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U
Bromomethane	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U
Vinyl Chloride	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U
Chloroethane	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U
Methylene Chloride	ug/L	NS	480 B	460 B	130 B	67 JB	31 JB	24 B	2 JB	2 JB	12 JB	2 JB	2 JB	2 JB	2 JB
Acetone	ug/L	NS	200 U	200 U	14 JB	200 U	100 U	10 U	10 U	10 U	50 U	10 U	10 U	6 JB	10 U
Carbon Disulfide	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	1 J	1 J	25 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	8	31	25 U	5 U	5 U	5 U	5 U
Chloroform	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
2-Butanone	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Carbon Tetrachloride	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Bromodichloromethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Trichloroethene	ug/L	NS	2400	2400	830	2200	1500	12	12	18	8 J	5 U	5 U	5 U	2 J
Dibromochloromethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Benzene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Bromoform	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U
2-Hexanone	ug/L	NS	200 U	200 U	50 U	200 U	100 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U
Tetrachloroethene	ug/L	NS	76 JB	81 JB	13 JB	39 JB	26 JB	53 B	28	170	730	72	1 J	5 U	5 U
1,1,2,2-Tetrachloroethane	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Toluene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Chlorobenzene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Ethylbenzene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Styrene	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U
Xylene (total)	ug/L	NS	100 U	100 U	25 U	100 U	50 U	5 U	5 U	5 U	25 U	5 U	5 U	5 U	5 U

Notes: 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.

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

Table 2-4
 Summary of Groundwater Analytical Results - August 1998
 Black & Decker
 Hampstead, Maryland

PARAMETER	Units	RFW-2B	RFW-3B	RFW-4A	RFW-4B	RFW-5A	RFW-6	RFW-7	RFW-8	RFW-9	RFW-10	RFW-11A	RFW-11B	RFW-11B (DUP)	RFW-12B (20)
Chloromethane	ug/L	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	10 U	200 U
Bromomethane	ug/L	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	10 U	200 U
Vinyl Chloride	ug/L	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	10 U	200 U
Chloroethane	ug/L	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	10 U	200 U
Methylene Chloride	ug/L	2 JB	2 JB	3 JB	2 JB	NS	2 JB	2 JB	NS	5 U	NS	2 JB	22 B	3 JB	66 JB
Acetone	ug/L	10 U	6 JB	10 U	6 JB	NS	7 JB	10 U	NS	10 U	NS	10 U	10 U	10 U	200 U
Carbon Disulfide	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
1,1-Dichloroethene	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
1,1-Dichloroethane	ug/L	5 U	1 J	5 U	5 U	NS	5 U	5 U	NS	3 J	NS	5 U	5 U	5 U	100 U
1,2-Dichloroethene (total)	ug/L	5 U	44	2 J	3 J	NS	1 J	5 U	NS	9	NS	5 U	5 U	5 U	100 U
Chloroform	ug/L	5 U	5 U	1 J	2 J	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
1,2-Dichloroethane	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
2-Butanone	ug/L	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	10 U	200 U
1,1,1-Trichloroethane	ug/L	5 U	3 J	5 U	5 U	NS	5 U	5 U	NS	2 J	NS	5 U	5 U	5 U	100 U
Carbon Tetrachloride	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
Bromodichloromethane	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
1,2-Dichloropropane	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
cis-1,3-Dichloropropene	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
Trichloroethene	ug/L	5 U	23	100	110	NS	15	10	NS	24	NS	78	80	76	2900
Dibromochloromethane	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
1,1,2-Trichloroethane	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
Benzene	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
Trans-1,3-Dichloropropene	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
Bromoform	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
4-Methyl-2-pentanone	ug/L	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	10 U	200 U
2-Hexanone	ug/L	10 U	10 U	10 U	10 U	NS	10 U	10 U	NS	10 U	NS	10 U	10 U	10 U	200 U
Tetrachloroethene	ug/L	5 U	36	120 B	170	NS	13	5 U	NS	11	NS	1 J	2 JB	2 J	54 JB
1,1,2,2-Tetrachloroethane	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
Toluene	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
Chlorobenzene	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
Ethylbenzene	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
Styrene	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U
Xylene (total)	ug/L	5 U	5 U	5 U	5 U	NS	5 U	5 U	NS	5 U	NS	5 U	5 U	5 U	100 U

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

Table 2-4

Summary of Groundwater Analytical Results - August 1998
Black & Decker
Hampstead, Maryland

PARAMETER	Units	RFW-13	RFW-16	RFW-17	RFW-18	RFW-19	RFW-20	RFW-21	Town #2	Town #2	Leister Dairy	Leister Res. #1	Leister Res. #2	Field Blank	Trip Blank
Chloromethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
Bromomethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
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	10 U	10 U	10 U
Chloroethane	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
Methylene Chloride	ug/L	2 JB	2 JB	2 JB	2 JB	2 JB	2 JB	2 JB	2 JB	NS	2 JB	2 JB	2 JB	2 JB	3 JB
Acetone	ug/L	4 JB	10 U	3 JB	10 U	10 U	6 JB	10 U	10 U	NS	10 U	10 U	10 U	10 U	10 U
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	5 U	5 U	5 U
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	5 U	5 U	5 U
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	5 U	5 U	5 U
1,2-Dichloroethene (total)	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Chloroform	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	25	5 U
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	5 U	5 U	5 U
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	10 U	10 U	10 U
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	5 U	5 U	5 U
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	5 U	5 U	5 U
Bromodichloromethane	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	9	5 U
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	5 U	5 U	5 U
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	5 U	5 U	5 U
Trichloroethene	ug/L	9	2 J	5 U	5 U	5 U	10	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	2 J	5 U
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	5 U	5 U	5 U
Benzene	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
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	5 U	5 U	5 U
Bromoform	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
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	10 U	10 U	10 U
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	10 U	10 U	10 U
Tetrachloroethene	ug/L	55 B	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
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	5 U	5 U	5 U
Toluene	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
Styrene	ug/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NS	5 U	5 U	5 U	5 U	5 U
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	5 U	5 U	5 U

Notes: 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.

DUP = Duplicate sample

NS = Not sampled

(2.5) = Dilution factor.

SECTION 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 1998) 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 1998
Black & Decker
Hampstead, Maryland

Date	Event/Corrective Action
July 1998	EW-3 down because of high water alarm. A pinhole hole was found in the flow meter control valve. The Valve was replaced, EW-3 back on line.
September 1998	Bad shaft in blower #1, put blower #2 on line. Blower #1 fixed and back on line.

SECTION 4
RECOMMENDATIONS

For the reporting period of July through September 1998, the treatment system continued to create a hydraulic boundary preventing off-site migration of groundwater. Operation of the extraction system as currently configured will continue, adjusting pumping rates as necessary according to the amount of groundwater recharge. Operation of the treatment system as currently configured will also continue, because the treatment system is fully effective in removing VOCs from the extracted groundwater.

APPENDIX A
GROUNDWATER TREATMENT SYSTEM PUMPING RECORDS
(July – September 1998)

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

MONTH / YEAR

PAST MONTH READING

July 1998

341517312

Date	Day	Time	Integ. Reading	GPD	Pump # 12	Pump # 11
1	W	0830	341741419	271358	17164	17193
2	T	1025	342012777	↑	17164	17219
3	F					
4	S					
5	S			880741		
6	M	0910	342893518	248651	17164	17313
7	T	0930	343142169	250049	17188	17313
8	W	1020	343392218	238024	17213	17313
9	T	1030	343630242	222110	17237	17313
10	F	0935	343852352	↑	17260	17313
11	S					
12	S			696009		
13	M	1005	344548361	228135	17332	17313
14	T	1015	344776496	236361	17332	17339
15	W	1100	345012857	215286	17322	17362
16	T	0940	345228143	232242	17332	17384
17	F	1005	345460385	↑	17332	17409
18	S					
19	S			679103		
20	M	0930	346139488	222161	17332	17479
21	T	0915	346361649	241834	17358	17479
22	W	1030	346603483	231554	17364	17497
23	T	1045	346835637	226353	17364	17522
24	F	1040	347061390	↑	17364	17545
25	S				17364	17618
26	S			688018		
27	M	1100	347749408	236330	17364	17618
28	T	1045	347985738	225368	17388	17618
29	W	0920	348211106	257186	17410	17618
30	T	1050	348468292	222926	17410	17643
31	F	0915	348691318	239465	17410	17666
Total				7189264		
Average				239642		

NEXT MONTH READING 349409612 on Aug. 3

BLACK DECKER

MONTH / YEAR

AIR STRIPPER # 2

PAST MONTH READING

Aug. 98

OPERATING RECORD

348691218

Date	Day	Time	Integ. Reading	GPD	Pump # 12	Pump # 11
1				↑		
2				478929		
3	M	0920	349409612	249254	17476	17672
4	T	1010	349658866	239646	17501	17672
5	W	1010	349898512	241860	17525	17672
6	T	1025	350140372	237852	17549	17672
7	F	1010	350378224	↑	17573	17672
8						
9				719402		
10	M	1025	351097626	226277	17645	17672
11	T	0925	351323903	233233	17668	17672
12	W	0905	351557136	241089	17692	17672
13	T	0925	351798225	245559	17716	17672
14	F	1035	352043784	↑	17741	17672
15						
16				699821		
17	M	1000	352743605	234789	17813	17672
18	T	1000	352978394	237738	17813	17696
19	W	1010	353216132	227877	17813	17720
20	T	0935	353444009	230546	17813	17744
21	F	0915	353674555	↑	17813	17768
22						
23				704189		
24	M	0945	354378744	245120	17813	17840
25	T	1100	354623864	219976	17838	17840
26	W	0945	354843840	237975	17861	17840
27	T	1020	355081815	226980	17885	17840
28	F	1000	355308795	↑	17909	17840
29						
30				696701		
31	M	1005	356005496	227400	17981	17840
Total				7,302,213		
Average				235,555		

NEXT MONTH READING 356232896 on Sept. 1