

**Quarterly Groundwater Monitoring Report**

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

Hampstead, Maryland

January 2011

Prepared by

**WESTON SOLUTIONS, INC.**

**West Chester, Pennsylvania 19380-1499**

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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 2010.

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 2010, the extraction wells were pumping at an average combined rate of approximately 168 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 2010 are included in Appendix B.

### **2.3 GROUNDWATER QUALITY DATA**

For the reporting period of October through December 2010, approximately 15.6 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) (87.1 %) and tetrachloroethene (PCE) (12.9 %). Analytical results of the groundwater collected from the air stripper for the period of October through December 2010 are included in Appendix C.

A summary of the analytical results from the fourth quarter (November 2010) 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 2010**  
**Black & Decker**  
**Hampstead, Maryland**

<b>Date</b>	<b>Water Pumped (gallons)</b>
October 2010	6,597,998
November 2010	6,297,390
December 2010	6,990,442

**Table 2-2**  
**Groundwater Elevation Data - 4th Quarter 2010**

**Black & Decker**  
**Hampstead, Maryland**

WELL NO.	TOC ELEV.	TOTAL DEPTH	10/14/2010		11/2/2010		12/17/2010	
			DTW	ELEV	DTW	ELEV	DTW	ELEV
EW-1	847.21	55	DRY	NC	DRY	NC	DRY	NC
EW-2	849.21	110	92.81	756.40	56.22*	849.21	91.36	757.85
EW-3	846.64	118	85.80	760.84	89.41	757.23	82.61	764.03
EW-4	858.01	97.5	PC	NC	PC	NC	PC	NC
EW-5	864.17	98	91.33	772.84	92.01	772.16	92.10	772.07
EW-6	831.98	115	98.71	733.27	102.93	729.05	100.32	731.66
EW-7	818.38	78	53.30	765.08	48.69	769.69	52.58	765.80
EW-8	811.13	98	91.80	719.33	91.60	719.53	91.82	719.31
EW-9	811.35	141	102.00	709.35	102.00	709.35	102.50	708.85
EW-10	807.74	INA	56.43	751.31	56.29	751.45	54.48	753.26
RFW-1A	864.37	78	51.82	812.55	53.75	810.62	53.26	811.11
RFW-1B	864.23	200	51.85	812.38	53.80	810.43	53.30	810.93
RFW-2A	857.41	35	17.93	839.48	18.29	839.12	17.84	839.57
RFW-2B	857.73	75	18.57	839.16	18.92	838.81	18.11	839.62
RFW-3B	839.21	153	35.41	803.80	32.53	806.68	34.99	804.22
RFW-4A	830.37	62	37.79	792.58	38.16	792.21	38.58	791.79
RFW-4B	830.37	120	37.74	792.63	38.08	792.29	38.51	791.86
RFW-5A	817.50	30	DRY	NC	DRY	NC	DRY	NC
RFW-6	785.04	120	4.10	780.94	1.55	783.49	4.25	780.79
RFW-7	805.14	29	7.63	797.51	6.95	798.19	7.04	798.10
RFW-8	860.07	56	DRY	NC	DRY	NC	DRY	NC
RFW-9	862.02	49	28.32	833.70	28.47	833.55	27.94	834.08
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	64.77	784.85	64.78	784.84	65.46	784.16
RFW-12B	844.87	264	53.46	791.41	56.29	788.58	54.59	790.28
RFW-13	849.11	150	60.04	789.07	61.58	787.53	58.01	791.10
RFW-14B	812.39	281	55.71	756.68	55.78	756.61	54.17	758.22
RFW-16	856.14	41	DRY	NC	DRY	NC	DRY	NC
RFW-17	834.66	60.5	27.22	807.44	27.51	807.15	25.77	808.89
RFW-20	842.49	142	34.51	807.98	35.50	806.99	35.34	807.15
RFW-21	832.65	102	21.42	811.23	22.26	810.39	22.20	810.45
PH-7	805.94	89	29.31	776.63	34.22	771.72	35.15	770.79
PH-9	814.94	98	39.73	775.21	35.51	779.43	44.40	770.54
PH-11	820.68	78	52.14	768.54	45.41	775.27	47.94	772.74
PH-12	828.35	87	53.96	774.39	46.80	781.55	48.78	779.57
B-3	803.02	83	9.98	793.04	10.09	792.93	9.83	793.19
Amoco	842.29	INA	NA	NC	NA	NC	NA	NC
Hamp. Town #22	804.96	INA	4.16	800.80	3.87	801.09	5.02	799.94
Pembroke #1	INA	INA	10.94	NC	11.04	NC	11.33	NC
Pembroke #2	INA	INA	Damaged	NC	Damaged	NC	Damaged	NC
N. Houcks. Rd.	INA	INA	9.78	NC	10.48	NC	10.41	NC
E. Century St.	INA	INA	19.31	NC	19.27	NC	19.36	NC
Lwr. Beckleys. Rd.	INA	INA	56.14	NC	56.11	NC	55.09	NC

NA - Not Available/Not Accessible

NC - Not Calculable

INA - Information not available

PC - Pump Cycles

**Table 2-3**  
**Effluent Characteristics Summary - 4th Quarter 2010**  
**Black & Decker**  
**Hampstead, Maryland**

Discharge Number	Parameter	Units	Permit Limits	DMR DATE			
				October 2010	November 2010	December 2010	
001	FLOW	average	MGD	NA	0.119	0.159	0.115
		maximum	MGD	NA	0.350	0.529	0.159
	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	9.0	6.0
		monthly average	mg/l	10	< 5	9.0	6.0
	pH	minimum	STD	6.0	6.4	6.2	6.1
		maximum	STD	8.5	7.9	6.7	6.7
	BOD		mg/l	15	8.0	3.0	< 1
TSS	maximum	mg/l	30	8.0	< 1	< 1	
	monthly average	mg/l	20	8.0	< 1	< 1	
101 (Monitoring Point)	FLOW	average	MGD	NA	0.242	0.241	0.293
		maximum	MGD	NA	0.322	0.325	0.416
	Fecal Coliform		MPN/100ml	200	< 1.8	< 1.8	33.0
201 (Monitoring Point)	FLOW	average	MGD	NA	NR	NR	0.216
		maximum	MGD	NA	NR	NR	0.299
	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 - November 2010

Black & Decker  
Hampstead, Maryland

PARAMETER	Units	EW-1	EW-2*	EW-3	EW-4	EW-4 (DUP)	EW-5	EW-6	EW-7	EW-8	EW-9	EW-10
Chloromethane	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride	ug/L	NS	NS	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Acetone	ug/L	NS	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon Disulfide	ug/L	NS	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene (total)	ug/L	NS	NS	2.3	1 U	1 U	1 U	1 U	4	25	1 U	1 U
Chloroform	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethane	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone	ug/L	NS	NS	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	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon Tetrachloride	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloropropane	ug/L	NS	NS	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	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	ug/L	NS	NS	85	1400	1200	160	8.5	3.5	9.6	0.9 J	1 U
Dibromochloromethane	ug/L	NS	NS	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	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	ug/L	NS	NS	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	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform	ug/L	NS	NS	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	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	ug/L	NS	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	ug/L	NS	NS	2.5	27	22	4.6	17	8.1	63	130	1.3
1,1,2,2-Tetrachloroethane	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	ug/L	NS	NS	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Xylene (total)	ug/L	NS	NS	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

\*Well EW-2 down for maintenance during sampling

Table 2-4

**Summary of Groundwater Analytical Results - November 2010**  
**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	2 U	0.5 U	0.5 U	0.5 U	0.5 U	6.4
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	2.5	1	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	0.3 J	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	6.6	190	3.3	NS	1 U	ABD	ABD	ABD	1 U	0.7	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	1.4	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	14	16	NS	1 U	ABD	ABD	ABD	1 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1,2-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-4A 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 (October through December 2010) 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 2010**  
**Black & Decker**  
**Hampstead, Maryland**

<b>Date</b>	<b>Event/Corrective Action</b>
<b>Oct-10</b>	Alarm at the air stripper, EW-2 tripped off due to two bad relays, the relays were replaced. The system is back online.
<b>Oct-10</b>	EW-2 down due to a burned out pump motor. The pump motor was replaced and the well is back up and running.
<b>Nov-10</b>	Alarm at the stripper due to blower failure and high column. Reset the system, the system is back online.
<b>Nov-10</b>	Pulled and replaced the pump in EW-7 to increase the pumping rate in the well. The pumping rate had fallen in recent months.
<b>Nov-10</b>	Alarm at the stripper due to the high wet well, reset the system, the system is back online.
<b>Nov-10</b>	Alarm at the stripper due to a power outage. Reset the system, the system is back online.

#### 4. RECOMMENDATIONS

For the reporting period of October through December 2010, 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 2010)**

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MARYLAND DEPARTMENT of the ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION, 1800 WASHINGTON BLVD, BALTIMORE, MD 21230

Operated By:  
Maryland Environmental Service  
259 Najoles Road, Millersville MD

Facility: BTR Capital Group  
Address: 626 Hanover Pike, Hampstead Maryland  
Additional Op's & cert # - Dorrance Jones 0763, Gary Dickerson 0782, David Smith 9153, Brian Musselman 2775

Permit Number: 02-DP-0022  
Superintendent: Earle Villarreal

Certification # 1017

Month: October  
Year: 2010

Date	Appearance	Discharge MGD	pH	Cl <sub>2</sub> mg/l	Final Effluent outfall 001					Outfall 101					Outfall 201				Operator			
					Tetrachloroethylene ug/l	1,1,1-Trichloroethane ug/l	Trichloroethylene ug/l	BOD <sub>5</sub> mg/l	TSS mg/l	O&G mg/l	Flow MGD	Fecal mpn	Basin Inches	AJum Gpd	Hypochlorite Gpd	Post Cl <sub>2</sub> mg/l	Tetrachloroethylene ug/l	1,1,1-Trichloroethane ug/l		Trichloroethylene ug/l	Discharge mgd	
1	Clear	0.10240										0.203000		0.0	2.0	1.5	5.0				0.241989	Djones
2	Clear	0.15300										0.229000		0.0	5.0	1.5	5.0				0.174640	Djones
3	Clear	0.11600										0.272000		0.0	5.0	1.5	5.0				0.219110	Djones
4	Clear	0.17400										0.221000		0.0	5.0	1.5	5.0				0.260823	Gdickerson
5	Clear	0.25700	7.22	0.00								0.249000	< 1.8	0.0	5.0	1.5	5.0				0.198676	Gdickerson
6	Clear	0.10400										0.251000		0.0	5.0	1.5	5.0				0.237532	Djones
7	Clear	0.09500	7.88	0.00								0.228000		0.0	5.0	1.5	5.0				0.221207	Djones
8	Clear	0.09700										0.284000		0.0	5.0	1.5	5.0				0.197396	Gdickerson
9	Clear	0.08700										0.137000		0.0	5.0	1.5	5.0				0.182875	Dsmith
10	Clear	0.09300										0.141000		0.0	5.0	1.5	5.0				0.216747	Dsmith
11	Clear	0.10400	6.38	0.00								0.200000		0.0	5.0	1.5	5.0				0.262419	Djones
12	Clear	0.08100			< 1.00	< 1.00	< 1.00	8.0	8.0	< 5.3		0.286000	< 1.8	0.0	1.0	1.5	5.0	< 1.0	< 1.0	< 1.0	0.225332	Djones
13	Clear	0.10900										0.210000		0.0	1.0	1.5	5.0				0.215028	Djones
14	Clear	0.08300	7.92	0.00								0.250000		0.0	1.0	1.5	5.0				0.214269	Djones
15	Clear	0.35000										0.265000		0.0	1.0	1.5	5.0				0.199242	Djones
16	Clear	0.11300										0.247000		0.0	1.0	1.5	5.0				0.209353	Brusselman
17	Clear	0.09100										0.247000		0.0	1.0	1.5	5.0				0.212425	Gdickerson
18	Clear	0.09100	7.75	0.00								0.213000		0.0	1.0	1.5	5.0				0.215241	Dsmith
19	Clear	0.08300	7.04	0.00								0.318000	< 1.8	0.0	1.0	1.5	5.0				0.207269	Djones
20	Clear	0.11000										0.262000		0.0	1.0	1.5	5.0				0.251609	Djones
21	Clear	0.08900	7.32	0.00								0.254000		0.0	1.0	1.5	5.0				0.213106	Djones
22	Clear	0.08600										0.243000		0.0	5.0	1.5	5.0				0.195121	Djones
23	Clear	0.08000										0.283000		0.0	5.0	1.5	5.0				0.183609	Djones
24	Clear	0.08800										0.246000		0.0	1.0	1.5	5.0				0.178244	Djones
25	Clear	0.09500										0.188000		0.0	1.0	1.5	5.0				0.241088	Gdickerson
26	Clear	0.08400	7.01	0.00								0.221000	< 1.8	0.0	1.0	1.5	5.0				0.205251	Gdickerson
27	Clear	0.19300										0.217000		0.0	1.0	1.5	5.0				0.233916	Djones
28	Clear	0.18200	6.50	0.00								0.293000		0.0	1.0	1.5	5.0				0.190123	Djones
29	Clear	0.11600										0.251000		0.0	3.0	1.5	5.0				0.231463	Djones
30	Clear	0.07700										0.282000		0.0	2.0	1.5	5.0				0.164574	Dsmith
31	Clear	0.09800										0.322000		0.0	2.0	1.5	5.0				0.198321	Dsmith
Total		3.68140										7.513000									6.597998	
Average		0.11875	7.2	<0.10	0	0	0	8	8	0		0.242355	1	0.0	2.7	1.5	5.0	0	0	0	0.212839	
Minimum		0.07700	6.4	0.00	0	0	0	8	8	0		0.137000	1	0.0	1.0	1.5	5.0	0	0	0	0.164574	
Maximum		0.35000	7.9	<0.10	0	0	0	8	8	0		0.322000	1	0.0	5.0	1.5	5.0	0	0	0	0.262419	MOR 5-11-09

COMMENTS:



MARYLAND DEPARTMENT of the ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION, 1800 WASHINGTON BLVD, BALTIMORE, MD 21230

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Date	Appearance	Discharge MGD	pH su	Cl2 mg/l	Final Effluent outfall 001						Outfall 101						Outfall 201			Operator		
					Tetrachloroethylene ug/l	1,1,1-Trichloroethane ug/l	Trichloroethene ug/l	BOD <sub>5</sub> mg/l	TSS mg/l	O&G mg/l	Flow MGD	Fecal mpn	Basin Inches	Alum Gpd	Hypochlorite Gpd	Post Cl2 mg/l	Tetrachloroethylene ug/l	1,1,1-Trichloroethane ug/l	Trichloroethene ug/l		Discharge mgd	
1	Clear	0.10900									0.253000		0.0	5.0	1.5	5.0				0.223819	Djones	
2	Clear	0.07800	6.61	0.00	< 1.00	< 1.00	< 1.00	3.0	< 4.0	9.4	0.325000	< 1.8	0.0	3.0	1.5	5.0				0.192479	APhillips	
3	Clear	0.08500									0.312000		0.0	2.0	1.5	5.0				0.204926	Djones	
4	Clear	0.22400	6.30	0.00							0.273000		0.0	2.0	1.5	5.0				0.203390	APhillips	
5	Clear	0.52900									0.263000		0.0	1.0	1.5	5.0				0.190019	Djones	
6	Clear	0.22300									0.251000		0.0	1.0	1.5	5.0				0.195254	Gdickerson	
7	Clear	0.20000									0.268000		0.0	1.0	1.5	5.0				0.193619	Gdickerson	
8	Clear	0.20900									0.200000		0.0	1.0	1.5	5.0				0.213117	Djones	
9	Clear	0.18600	6.58	0.00							0.229000	< 1.8	0.0	4.0	1.5	5.0				0.204792	Djones	
10	Clear	0.18300	6.63	0.00							0.228000		0.0	2.0	1.5	5.0				0.210334	Djones	
11	Clear	0.16700									0.244000		0.0	2.0	1.5	5.0				0.169333	Dsmith	
12	Clear	0.18600									0.215000		0.0	1.0	1.5	5.0				0.238048	Dsmith	
13	Clear	0.12400									0.219000		0.0	1.0	1.5	5.0				0.229233	Fschmidt	
14	Clear	0.11800									0.250000		0.0	2.0	1.5	5.0				0.221719	Fschmidt	
15	Clear	0.14900									0.168000		0.0	1.0	1.5	5.0				0.273300	Djones	
16	Clear	0.12700	6.23	0.00							0.298000	< 1.8	0.0	1.0	1.5	5.0				0.229090	Djones	
17	Clear	0.14300									0.156000		0.0	2.0	0.3	5.0				0.230841	Djones	
18	Clear	0.11300	6.65	0.00							0.257000		0.0	3.0	1.0	5.0				0.210370	Djones	
19	Clear	0.13500									0.201000		0.0	5.0	1.0	5.0				0.124050	Djones	
20	Clear	0.11900									0.232000		0.0	5.0	1.0	5.0				0.123166	Djones	
21	Clear	0.13300									0.181000		0.0	2.0	0.8	5.0				0.227104	Djones	
22	Clear	0.15600									0.310000		0.0	1.0	0.8	5.0				0.273949	Bmusselman	
23	Clear	0.13200	6.51	0.00							0.258000	< 1.8	0.0	2.0	0.8	5.0				0.201274	Gdickerson	
24	Clear	0.14100	6.55	0.00							0.241000		0.0	2.0	0.8	5.0				0.259374	Djones	
25	Clear	0.12700									0.230000		0.0	2.0	0.8	5.0				0.110754	Jdowns	
26	Clear	0.13400									0.290000		0.0	1.0	0.8	5.0				0.205095	Djones	
27	Clear	0.16000									0.217000		0.0	1.0	0.8	5.0				0.269825	Gdickerson	
28	Clear	0.12200									0.252000		0.0	1.0	0.8	5.0				0.210403	Gdickerson	
29	Clear	0.13500									0.201000		0.0	1.0	0.8	5.0				0.256156	APhillips	
30	Clear	0.11800	6.67	0.00							0.212000	< 1.8	0.0	1.0	0.8	5.0				0.202557	Djones	
31																						
Total		4.76500									7.234000										6.297390	
Average		0.15883	6.5	<0.10	0	0	0	3	0	9	0.241133	1	0.0	2.0	1.2	5.0	#DIV/0!	#DIV/0!	#####	0.209913		
Minimum		0.07800	6.2	0.00	0	0	0	3	0	9	0.156000	1	0.0	1.0	0.3	5.0	0	0	0	0.110754		
Maximum		0.52900	6.7	<0.10	0	0	0	3	0	9	0.325000	1	0.0	5.0	1.5	5.0	0	0	0	0.273949	MOR 5-11-09	

COMMENTS: