ATTACHMENT D.1
VPA MONITORING REPORT
VPA01423

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PRO

Coles Point Wastewater TP

Month: June 11
Report Date: 7-4-11

I hereby certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The following attachments are included with this submittal:

(X) Attachment D.1 - D.3 - Wastewater Monitoring (A daily operational log and any contractual lab certification sheets are required as an addendum to this report).	(1/Month)
( ) Attachment D.4 - Wastewater Monitoring	(1/5 Years)
(X) Attachments D.5 Land Application Monitoring	(1/Month)
( ) Attachments D.6 Soil Monitoring	(1/Year and 1/5 Year)
(X) Attachment D.7 Groundwater Monitoring	(1/Quarter)
( ) Attachment D.8 Groundwater Monitoring	(1/Year)
( ) Attachment D.9 Surfacewater Monitoring	(1/Quarter)
(X) Attachment D.10. Daily Freeboard Monitoring Log	(1/Month)

(X) Other Lab reports - Bench sheets - inspection data sheet

Coles Point Wastewater Treatment Plant
Westmoreland County
P.O. Box 1000
Montross, Va. 22520

Gary L France
Printed Name

Gary L France
Signature

Plant Operations
Title

7-4-11
Date

ATTACHMENT D.2
VPA MONITORING REPORT
Location: Flow Meter
Wastewater Monitoring
This monitoring is required by VPA01423, Part I.A. Wastewater Influent to Storage Pond

Coles Point Wastewater TP

VPA01423

Year: June 11

Parameter	Influent Flow (Avg.)	Influent Flow (Total)	Volume from Storage to each site	Volume in Storage	Remaining Storage Capacity	pH	TSS	BOD_5
Limits	NL	NL	NL	NL	NL	NL	60 mg/l	60 mg/l
Units	MGD	MG	MG	MG	MG	S.U.	mg/l	mg/l
Frequency	Continuous	Continuous	**********	1/Day	1/Day	1/Month	1/Month	1/Month
Sample Type	Measure	Recorded	From D.3	Calculated	Calculated	Grab	8 HC	8HC
Required Reporting	1/Month	1/Month	1/Month	1/Month	1/Month	1/Month	1/Month	1/Month
Month	**********	**********	Identify site(s):	**********	**********	**********	**********	**********
January								
February								
March								
April								
May								
June	9,319.333	279,580 1A	252275 S	1,699440	1280400	7.39	11.0	3.9
July		1B	310378 S	1,032,080	1947760			
August		2A	169610 S	1,652880	1326960			
September		2B	419845					
October		3A	1,050,524					
November		3B	580,840					
December								

ATTACHMENT D.3
VPA MONITORING REPORT

Coles Point Wastewater TP Location: Storage Pond

Monitoring Required by VPA01423 Part I.A. Wastewater from Storage Pond to Spray Fields
*Requirement of the NMP which expires July 9, 2006
Effluent Monitoring: Monthly Parameters

VPA01423
Year: June 11

Parameter	Total Kjeldahl Nitrogen (TKN)	Ammonia Nitrogen (NH_3-N)	Nitrate Nitrogen (NO_3-N)	Alkalinity	Storage Tank Freeboard	Total Potassium	pH	Total Sodium	Total Chloride	Total Boron	Total Phosphorus	Total Residual Chlorine (TRC)
Limits	NL	NL	NL	NL	2ft. min.	NL	NL	NL	NL	NL	NL	1.5 (min.)
Units	mg/l	mg/l	mg/l	mg/l	ft.	mg/l	S.U.	mg/l	mg/l	mg/l	mg/l	mg/l
Frequency	1/Month	1/Month	1/Month	1/Month	1/Day	1/Month	1/Day	1/Month	1/Month	2/Year	1/Month	1/Day
Sample Type	Grab	Grab	Grab	Grab	Measure	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Required Reporting	Monthly	Monthly	Monthly	Monthly	Monthly	Monthy	Monthly	Monthly	Monthly	2/Year	Monthly	Monthly
Month	*******	**********	*********	**********	********	********	********	********	*******	*******	********	********
January										XXXXX		
February										XXXXX		
March										XXXXX		
April												
May										XXXXX		
June	1.82	0.66	12.03	225.3 S1	15.75'	29.2	7.53/8.13	168.0	100.1	XXXXX	4.59	1.50/3.16
July				S2	22.9'					XXXXX		
August				S3	16.25'					XXXXX		
September										XXXXX		
October												
November										XXXXX		
December										XXXXX		

Parameter	Calcium*	Mag-nesium*	% Moisture*
Units	mg/l	mg/l	%
Spring Month:			
Late Summer Month:			

ATTACHMENT D.5
VPA MONITORING REPORT
Location: Land Application Site
Land Application
This monitoring is required by VPA01423 Part I.A. Land Application Monitoring
*Requirement of the NMP which expires July 9, 2006

Coles Point Wastewater TP

VPA01423

Month/Year: June 11

	Total Gallons Applied	in/hr	in/period	in/wk	Cumulative in/year	Nov through Feb. Cumulative Inches
Limit:	**********	0.25	1.0	2.0	20	5.9
Units:	gal.	in/hr	in/day	in/wk	in/yr	in/winter
Zone: 1A	252,255	.25		1.1	1.55	
1B	310,378	.25		1.36	1.36	
2A	169,610	.25	.74		.74	
2B	419,845	.25	.54 .50	.80	1.84	
3A	1,050,524	.25	.68	1.01 1.27 1.65	5.64	
3B	580840	.25	.64 .70	1.19	3.52	

	Effluent Plant Available Nitrogen (PAN) Applied	Other N Applied (Fertilizer, etc.)	Total PAN applied year to date	Effluent Phos-phorus Applied	Other Phos-phorus Applied (Fertilizer, etc.)	Effluent Phosphorus Applied Year to Date	Effluent Potassium Applied	Other Potassium Applied (Fertilizer, etc.)	Effluent Potassium Applied Year to Date
Limit	*********	**********	60 lb/a first year; 160 lb/a year 2-5; 30 lb/a Nov-Feb*	*******	********	*********	*********	*******	*******
Units	lb/acre	lb/acre	lb/acre	lb/acre	lb/acre	lb/acre	lb/acre	lb/acre	lb/acre
Zone: 1A	3.31		4.86	2.57		4.02	8.58		13.87
1B	4.08		4.08	3.17		3.17	10.55		10.55
2A	2.23		2.23	1.73		1.73	5.77		5.77
2B	5.51		5.51	4.28		4.28	14.28		14.28
3A	13.79		16.22	10.71		13.03	35.72		44.05
3B	7.63		4.92	5.92		8.11	19.75		27.59

ATTACHMENT D.7
VPA MONITORING REPORT
Location: Groundwater Monitor Wells
Groundwater Monitoring: Quarterly Parameters

Well Number GW-1

Coles Point Wastewater TP

VPA01423
Year: June 11

Parameter	Static Water Level	Chloride	Chemical Oxygen Demand (COD)	Fecal Coliform	Conductivity	Total Kjeldahl Nitrogen (TKN)	Ammonia Nitrogen (NH_3-N)	Nitrate Nitrogen (NO_3-N)
Limits	NL	NL	NL	NL	NL	NL	NL	1.5 (min.)
Units	ft/MSL	mg/l	mg/l	N/100 ml	umhos	mg/l	mg/l	mg/l
Sample Type	Measure	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Required Reporting	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Date	*******	*******	*******	*******	*******	*******	*******	*******
January-March								
April-June	9.31	21	38.5	<2	90.1	0.54	0.04	0.36
July-September								
October-December								

Parameter	pH	Sodium
Limits	NL	NL
Units	S. U.	mg/l
Sample Type	Grab	Grab
Required Reporting	Quarterly	Quarterly
Date	*******	*******
January-March		
April-June	5.01	6.0
July-September		
October-December		

ATTACHMENT D.7
VPA MONITORING REPORT
Location: Groundwater Monitor Wells
Groundwater Monitoring: Quarterly Parameters

Well Number GW-2

Coles Point Wastewater TP

VPA01423
Year: June 11

Parameter	Static Water Level	Chloride	Chemical Oxygen Demand (COD)	Fecal Coliform	Conductivity	Total Kjeldahl Nitrogen (TKN)	Ammonia Nitrogen (NH_3-N)	Nitrate Nitrogen (NO_3-N)
Limits	NL	NL	NL	NL	NL	NL	NL	1.5 (min.)
Units	ft/MSL	mg/l	mg/l	N/100 ml	umhos	mg/l	mg/l	mg/l
Sample Type	Measure	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Required Reporting	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Date	*******	*******	*******	*******	********	*******	********	********
January-March								
April-June	8.3'	5.5	32.8	<2	518.0	0.40	0.14	0.04
July-September								
October-December								

Parameter	pH	Sodium
Limits	NL	NL
Units	S. U.	mg/l
Sample Type	Grab	Grab
Required Reporting	Quarterly	Quarterly
Date	*******	*******
January-March		
April-June	3.15	9.2
July-September		
October-December		

ATTACHMENT D.7
VPA MONITORING REPORT
Location: Groundwater Monitor Wells
Groundwater Monitoring: Quarterly Parameters

Well Number GW-3

Coles Point Wastewater TP

VPA01423
Year: June 11

Parameter	Static Water Level	Chloride	Chemical Oxygen Demand (COD)	Fecal Coliform	Conductivity	Total Kjeldahl Nitrogen (TKN)	Ammonia Nitrogen (NH_3-N)	Nitrate Nitrogen (NO_3-N)
Limits	NL	NL	NL	NL	NL	NL	NL	1.5 (min.)
Units	ft/MSL	mg/l	mg/l	N/100 ml	umhos	mg/l	mg/l	mg/l
Sample Type	Measure	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Required Reporting	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Date	*******	*******	*******	*******	********	*******	********	********
January-March								
April-June	0'	WILL SITE DRY						
July-September								
October-December								

Parameter	pH	Sodium
Limits	NL	NL
Units	S. U.	mg/l
Sample Type	Grab	Grab
Required Reporting	Quarterly	Quarterly
Date	*******	*******
January-March		
April-June		
July-September		
October-December		

ATTACHMENT D.7
VPA MONITORING REPORT
Location: Groundwater Monitor Wells
Groundwater Monitoring: Quarterly Parameters

Well Number GW-4

Coles Point Wastewater TP

VPA01423
Year: June 11

Parameter	Static Water Level	Chloride	Chemical Oxygen Demand (COD)	Fecal Coliform	Conductivity	Total Kjeldahl Nitrogen (TKN)	Ammonia Nitrogen (NH_3-N)	Nitrate Nitrogen (NO_3-N)
Limits	NL	NL	NL	NL	NL	NL	NL	1.5 (min.)
Units	ft/MSL	mg/l	mg/l	N/100 ml	umhos	mg/l	mg/l	mg/l
Sample Type	Measure	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Required Reporting	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Date	*******	*******	*******	*******	********	*******	********	********
January-March								
April-June	7.31	49.5	20.0	<2	480.0	<0.20	0.04	0.07
July-September								
October-December								

Parameter	pH	Sodium
Limits	NL	NL
Units	S. U.	mg/l
Sample Type	Grab	Grab
Required Reporting	Quarterly	Quarterly
Date	*******	*******
January-March		
April-June	4.2	28.9
July-September		
October-December		

ATTACHMENT D.7
VPA MONITORING REPORT
Location: Groundwater Monitor Wells
Groundwater Monitoring: Quarterly Parameters

Well Number GW-5

Coles Point Wastewater TP

VPA01423
Year: June 11

Parameter	Static Water Level	Chloride	Chemical Oxygen Demand (COD)	Fecal Coliform	Conductivity	Total Kjeldahl Nitrogen (TKN)	Ammonia Nitrogen (NH_3-N)	Nitrate Nitrogen (NO_3-N)
Limits	NL	NL	NL	NL	NL	NL	NL	1.5 (min.)
Units	ft/MSL	mg/l	mg/l	N/100 ml	umhos	mg/l	mg/l	mg/l
Sample Type	Measure	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Required Reporting	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Date	*******	*******	*******	*******	********	*******	********	********
January-March								
April-June	8.15'	32.1	10.9	170	248.0	<0.20	0.02	0.48
July-September								
October-December								

Parameter	pH	Sodium
Limits	NL	NL
Units	S. U.	mg/l
Sample Type	Grab	Grab
Required Reporting	Quarterly	Quarterly
Date	*******	*******
January-March		
April-June	5.37	10.4
July-September		
October-December		

ATTACHMENT D.7
VPA MONITORING REPORT
Location: Groundwater Monitor Wells
Groundwater Monitoring: Quarterly Parameters

Well Number GW-6

Coles Point Wastewater TP

VPA01423
Year: June 11

Parameter	Static Water Level	Chloride	Chemical Oxygen Demand (COD)	Fecal Coliform	Conductivity	Total Kjeldahl Nitrogen (TKN)	Ammonia Nitrogen (NH_3-N)	Nitrate Nitrogen (NO_3-N)
Limits	NL	NL	NL	NL	NL	NL	NL	1.5 (min.)
Units	ft/MSL	mg/l	mg/l	N/100 ml	umhos	mg/l	mg/l	mg/l
Sample Type	Measure	Grab	Grab	Grab	Grab	Grab	Grab	Grab
Required Reporting	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Date	*******	*******	*******	*******	********	*******	********	********
January-March								
April-June	6.25'	16.0	14.6	8	184.4	1.62	0.02	0.07
July-September								
October-December								

Parameter	pH	Sodium
Limits	NL	NL
Units	S. U.	mg/l
Sample Type	Grab	Grab
Required Reporting	Quarterly	Quarterly
Date	*******	*******
January-March		
April-June	6.41	9.1
July-September		
October-December		

Daily Freeboard Measurement Operational Log

VPA01423

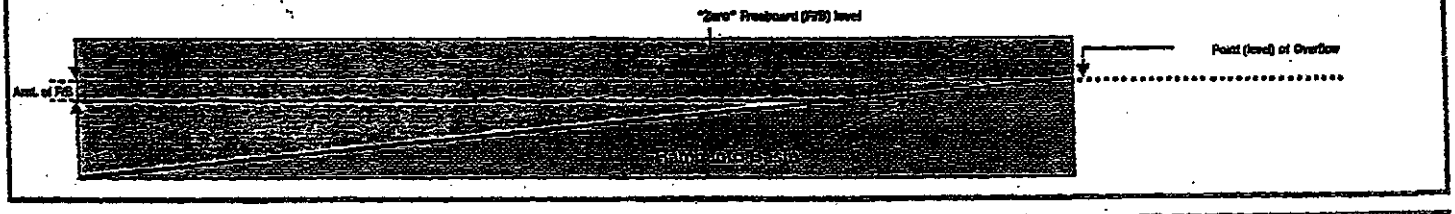
Facility Name: Coles Point WWTP
Permit #: VPA 01423
Month: June
Year: 2011

pH Method: Standard Methods 18th Edition 4500-H B and Manufacturer's Instructions
Freeboard Method: Ruler Measurement from calibrated 'Zero' freeboard point

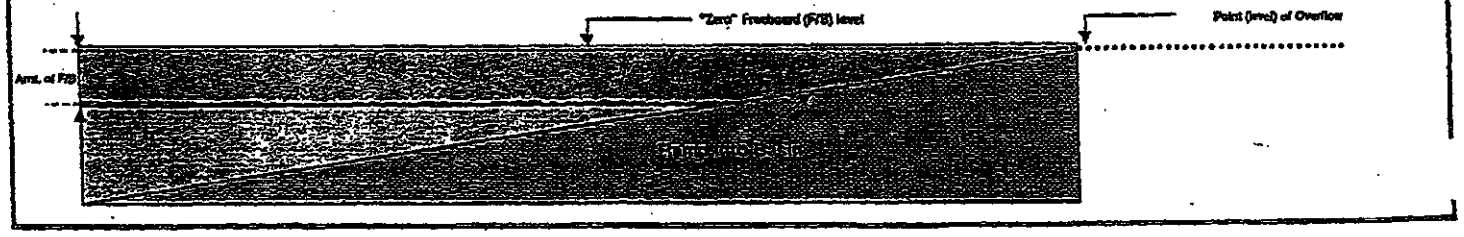
									294.5	88"	27"	113.5	320"	381"	
		pH Meter Calibration Record actual buffer values			pH Sample	pH Analysis	Effluent pH		Freeboard (Inches)						
Date	Time	Buffer 1	Buffer 2	Temp.	Time	Time	S.U.	Initials	Basin 1	Basin 2	Basin 3	STORAGE 1	STORAGE 2	STORAGE 3	
1	0815	4.01	7.00	24.6	0940	0908	7.37	DLA	292.5	104	27"	113.5"	302"	381"	2/
2	0815	4.01	7.00	24.5	0930	0938	7.74	DLA	286	120	27"	122"	288"	381"	3
3	0755	4.01	7.00	24.0	0910	0915	7.62	DRB	283	133	27"	125"	275"	381"	
4	0800	4.01	7.01	22.7	0905	0910	7.62	DRB	281	152	27"	127"	256"	381"	
5	0785	4.01	7.00	24.4	0900	0911	7.60	DLA	278	164	27"	130"	244"	381"	3
6	0833	4.01	7.00	24.0	0915	0928	7.54	DLA	275	180	27"	133"	228"	381	3
7	0740	4.01	7.01	23.5	0900	0907	7.65	DRB	270	194	27"	138"	214"	381"	
8	0845	4.01	7.00	23.4	0930	0937	7.68	DRB	268	204	27"	140"	204"	381"	
9	0805	4.01	7.00	24.1	0920	0920	7.84	DLA	266	258	27"	142	154"	381"	2
10	0750	4.01	7.00	24.8	0945	0751	7.79	DRB	264	297	27"	144"	111"	381"	.5
11	0720	4.01	7.00	24.6	0925	0932	7.75	DRB	261	312	27"	147"	96"	381"	1.5
12	0834	4.01	7.00	24.5	0940	0948	7.88	DLA	257.5	330	27"	150.5	68"	381"	3.5 1.4
13	0913	4.01	7.00	24.1	0920	0932	7.62	DLA	254.5	373	27"	153.5	35"	381"	3 2WDA
14	0810	4.01	7.01	23.9	0900	0908	7.84	DLA	252.5	199	201"	155.5	209"	207"	2
15	0810	4.01	7.00	23.6	1010	1020	[illegible]	[illegible]	251	199	201"	157	209"	207"	1.5
16	0700	4.00	7.00	23.4	0785	0775	7.64	ERS	249.5	239	201"	158.8	169	207"	1.5
17	0714	4.00	7.01	21.5	0810	0815	7.59	ERS	248.5	251	201	159.8	157	207	
18	0840	4.01	7.01	22.4	0915	0922	7.37	DRB	247	251	201	161	157	207	
19	0800	4.01	7.00	24.0	0850	0905	7.27	DLA	244	264	201"	164	144	207	3/13
20	0720	4.01	7.01	23.4	0850	0905	7.28	ERS	240.5	264	201"	167.5	144	207	3.5
21	0755	4.01	7.01	22.6	0805	0810	7.38	ERS	236.5	264	201"	171.5	144	207	4.0
22	0805	4.01	7.00	23.6	0806	0810	7.53	ERS	234.5	264	201	173.5	144	207	2.0
23	0830	4.01	7.00	23.8	0900	0905	7.59	ERS	232.5	264	201	175.5	144	207	2.0
24	0830	4.01	7.00	23.7	0910	0915	7.60	ERS	230.5	264	201	177.5	144	207	2.0
25	0830	4.01	7.00	23.6	0920	0924	8.09	ERS	228.0	264	201	180.0	144	207	2.5
26	0812	4.01	7.00	24.3	0855	0910	7.66	DLA	225	264	201	183.0	144	207	3
27	0845	4.01	7.00	23.6	0940	0950	7.65	DLA	216	268	195	192.0	150	213	3 RC4
28	0832	4.01	7.00	23.3	0920	0908	7.66	DLA	214	275	195	194.0	133	213	2
29	0740	4.01	7.00	23.9	0805	0815	7.84	DLA	212	275	195	196.0	133	213	2
30	0645	4.01	7.00	23.5	0910	0918	7.67	DRB	189	275	195	219	133	213	
31															
Minimum pH							7.28					1099440	1,032080	1,652880	
Maximum pH							8.09					1980400	1,945560	1,326,960	
Minimum F/B									15.25	22.9'	16.25				

Note: "Freeboard" measurement is the vertical distance (inches) from the water level to the level at which wastewater will leave the settling basin.
Note: If the "Freeboard" is less than 24 inches, DEQ must immediately be notified, and a written statement of explanation and corrective measures is due within 5 days.

Cross-sectional view of Settling Basin - Example 1 (Basin side wall is higher than level of overflow)



Cross-sectional view of Settling Basin - Example 2 (Basin side wall is the point/level of overflow)



COLES POINT WASTETREATMENT FACILTIY

DAILY BENCH SHEET

			PH SM18 4500-H B		DO SM18 4500-O 1		CL2 SM20 4500-CL G							MONTH June	YEAR 2011	
			SBR BASIN # 2				Chlorine Residual Sample			EFFLUENT SAMPLE				SETTLEABILITY %		
DAY	EFFLUENT TOTAL	DAILY +	TIME	Ph	DO	TEMP.	Cl2 RES.	Time Take	Time Analy	Effluent PH	Effluent Temp	Time Taken	Time Analy	30 MIN SSV	60 MIN SSV	OPR
Pevious Day	43934080															
1	43942010	8,530	0900	7.35	0.49	24.0	1.55	0900	0903	7.77	24.3	0900	0908	50%	40%	DWA
2	43950490	8,180	0930	7.31	0.44	24.3	2.15	0930	0933	7.74	23.9	0930	0938	50%	40%	DWA
3	43959840	9,050	0910	7.15	0.23	23.3	2.20	0910	0915	7.62	22.9	0910	0915	74%	53%	RRS
4	43967150	7,310	0905	7.24	1.42	22.9	2.64	0905	0910	7.62	23.1	0905	0910	61%	45%	RRS
5	43979170	12,020	0800	7.10	1.44	22.6	1.63	0800	0803	7.60	20.9	0800	0811	52%	40%	DWA
6	43990860	11,690	0915	7.30	1.68	22.9	1.59	0915	0918	7.54	23.6	0915	0928	51%	40%	DWA
7	43997200	6,340	0900	7.29	1.77	23.9	1.67	0900	0906	7.65	23.6	0900	0909	67%	47%	RRS
8	44003510	6,110	0930	7.08	2.23	24.0	1.91	0930	0933	7.68	23.2	0930	0937	54%	40%	RRS
9	44009540	6230	0920	7.32	2.17	24.8	1.86	0920	0923	7.84	25.1	0920	0932	46%	36%	DWA
10	44015740	6200	0945	7.29	1.50	25.5	1.66	0945	0949	7.79	24.8	0945	0951	53%	40%	RRS
11	44026480	10,740	0925	7.17	1.01	25.3	1.52	0925	0929	7.75	24.7	0925	0932	47%	35%	RRS
12	44040310	13,830	0940	7.23	1.44	24.6	1.56	0940	0943	7.59	23.3	0940	0948	42%	34%	DWA
13	44052630	12,320	0920	7.08	1.94	24.0	1.54	0920	0923	7.62	19.7	0920	0932	48%	37%	DWA
14	44059530	6900	0900	7.25	2.45	24.0	1.58	0900	0903	7.84	18.7	0900	0908	40%	33%	DWA
15	44065260	5730	1015	7.27	2.97	23.4	1.82	1015	1018	7.77	21.3	1015	1020	40%	33%	DWA
16	44071400	6140	0915	7.76	2.83	22.9	1.63	0915	0918	7.64	21.9	0915	0925	42%	33%	DWA
17	44079430	8030	0810	7.08	2.34	23.0	1.87	1450	1455	7.59	20.9	0810	0815	35%	30%	RRS
18	44088290	8,860	0915	7.11	1.89	24.1	1.68	0915	0919	7.37	23.7	0915	0922	39%	32%	RRS
19	44101530	13,240	0850	6.86	.47	23.7	2.15	0850	0853	7.27	23.8	0850	0905	42%	33%	DWA
20	44115000	13,470	0855	6.94	.49	23.1	1.89	1315	1318	7.28	23.4	0855	0905	46%	36%	DWA
21	44130670	15,670	0805	7.28	2.09	23.2	1.67	0805	0808	7.38	23.4	0805	0810	45%	35%	DWA
22	44138260	7,590	0905	7.22	1.87	24.3	2.03	0900	0903	7.53	24.3	0900	0905	46%	34%	RTS
23	44146100	7840	0905	7.21	2.36	24.4	2.04	0900	0903	7.59	24.2	0900	0905	43%	34%	RTS
24	44153990	7890	0915	7.22	2.71	24.8	2.05	0910	0913	7.60	24.7	0912	091	28%	25%	RTS
25	44163630	9640	0920	7.16	2.34	24.6	2.05	0915	0918	8.09	24.2	0913	0920	36%	30%	RTS
26	44176550	12920	0855	7.09	1.60	24.4	1.90	0855	0858	7.66	23.2	0855	0910	42%	32%	DWA
27	44188610	12060	0940	7.18	1.67	24.4	1.54	0940	0943	7.69	23.5	0940	0950	40%	30%	DWA
28	44195560	6950	0900	7.03	2.02	24.6	1.62	0900	0903	7.66	24.4	0900	0908	46%	35%	DWA
29	44203580	8,020	0805	7.03	2.43	24.7	1.58	0805	0808	7.84	23.3	0805	0815	43%	34%	DWA
30	44213660	10,080	0910	7.08	2.95	24.9	1.62	0910	0913	7.67	22.9	0910	0918	47%	35%	RRS
31	Total	279,580														
	AVG	9,319,333														
* PH TAKEN OF EFFLUENT SAMPLE DURING MONTHLY TESTING								0935	0938	7.39						

Coles Point Was eatment Facility

Irrigation Data [redacted] JUNE 2011

PSI	Date	Pump #	Zone	Time Taken	Effluent Sample Time Analy	Effluent Sample CL2 Res.	PH	Totalizer Reading Start	Totalizer Reading End	Totalizer Reading Total	Sight Gage Reading Start	Sight Gage Reading End	Sight Gage Reading Total	Rain Gage Data Apply Inches	Rain Gage Data Total Flow
70	6-1-11	2	2B	0810	0815	3.16	8.71	103652290	103775040	122,750	304	288/16	124,160	.03	143640
68	6-2-11	1	3A	0915	0920	2.52	8.73	2000342	2102902	102,560	288	275/13	100,880	.11	26,600
71	6-3-11	2	3B	0920	0925	1.79	8.58	103775040	103920880	145,840	275	256/19	147,440	.35	57,000
70	6-4-11	2	3A	0950	0955	1.63	8.37	103920880	104048490	127,610	256	240/16	124,160	.20	45,600
68	6-5-11	1	2B	1000	1003	2.28	8.62	2102902	2197307	94,405	240	228/12	94,000	.4	91200
68	6-6-11	1	3A	0845	0848	1.56	8.37	2197307	2306475	109,168	228	214/14	108,944	.3	68400
58	6-7-11	1	1A	0920	0923	1.76	8.37	2306475	2433595	127,120	214	204/10	77,600	.13	30400
	6-8-11	1	1B	0900	0903	1.70	8.26	2433595	2630423	196,828	204	154/28	217,280	1.25	285,200
		2	2A	0900	0903	1.70	8.26	104048490	104218100	169,610	204	154/22	170,720	.72	163,400
	6-9-11	1	3A	0900	0903	2.42	8.13	2630423	2809983	179,560	154	111/23	178,480	.31	72,200
		2	3B	0900	0903	2.42	8.13	104218100	104382570	164,470	154	111/20	155,200	1.78	406,600
63	6-10-11	2	2B	0910	0903	1.69	8.21	104382570	104471090	88,520	111	96/15	116,400	.66	150,480
	6-11-11	1	1A	0850	0853	2.70	8.15	2809983	2935138	125,155	96	68/24	108,640	.9	205,200
		2	1B	0850	0852	2.70	8.15	104471090	104584640	113,550	96	68/24	108,640	.85	193,800
58	6-12-11	1	3A	0900	0903	1.58	8.11	2935138	3064956	129,818	68	35/17	131,920	.30	68,400
60		2	3B	0900	0903	1.58	8.11	104584640	104707150	122,510	68	35/16	124,160	.62	141,360
	6-15-11	1	3A	0935	0938	2.54	7.39	3064956	3225684	160,728	209	169/20	162,960	.28	64,000
	6-15-11	2	3B	0935	0938	2.54	7.39	104707150	104855170	148,020	209	169/29	147,440	1.36	311,600
	6-16-11	2	2B	0850	0853	1.61	7.41	104855170	104969340	114,170	169	157/12	93,120	.86	197,600
	6-18-11	2	3A	0930	0935	2.01	8.05	104969340	105056100	86,760	157	144/13	100,800	.25	57,000
	6-27-11	2	3A	0900	0903	1.50	7.53	105056100	105210420	154,320	150	133/17	131,920	.43	98,040
	Monthly Totals														

Primary Laboratories, Inc.

7423 Lee Davis Road • Mechanicsville, VA 23111 • Telephone (804) 559-9004 • Fax (804) 559-9306

ANALYTICAL LABORATORY REPORT

Westmoreland County
Attn: Gary France
P.O. Box 1000
Montross, Va. 22520

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106146-01
Client ID: **Plant**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
TSS	11.0	1.0	mg/L	2540 D	16-Jun-11 at 16:30	HV
BOD	3.9	3.0	mg/L	5210 B	17-Jun-11 at 11:00	NA

Date Sampled: 15-Jun-11
Work Order No: 1106146-02
Client ID: **Storage**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Alkalinity	225.7	1.0	mg/L as $CaCO_3$	2320 B	27-Jun-11 at 15:00	NA
Nitrate	12.03	0.20	mg/L	4500 NO_3^- E	20-Jun-11 at 16:00	NA
pH	8.36	-	pH Units	4500H^+B	27-Jun-11 at 12:38	HV
Total Phosphorus	4.59	0.10	mg/L	4500P E	27-Jun-11 at 10:00	NA
Ammonia	0.66	0.01	mg/L	4500NH_3 F	27-Jun-11 at 9:00	NA
Chloride	106.1	1.0	mg/L	4500CL G	23-Jun-11 at 9:45	NA
TKN	1.82	0.20	mg/L	4500 N/NH_3	27-Jun-11 at 16:00	NA

Primary Laboratories, Inc.
Results

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106146-02
Client ID: **Storage**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
METALS						
Potassium	29.2	1.0	mg/L	EPA 200.2/3120B	28-Jun-11 at 16:00	HV
Sodium	168.0	1.0	mg/L	EPA 200.2/3120B	28-Jun-11 at 16:00	HV

* All methods are Standard Methods 18th Edition unless otherwise noted.

Signature: Parry L. Bragg Date: 6/29/11
Parry L. Bragg
Laboratory Manager

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Primary Laboratories, Inc.

7423 Lee Davis Road • Mechanicsville, VA 23111 • Telephone (804) 559-9004 • Fax (804) 559-9306

ANALYTICAL LABORATORY REPORT

29-Jun-11

Westmoreland County
Attn: Gary France
P.O. Box 1000
Montross, Va. 22520

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106147-01
Client ID: **Groundwater MW-1**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Fecal Coliform	<2	2	MPN/100ml	9221E	15-Jun-11 at 15:00	MS
Specific Conductance	97.1	0.2	umhos/cm	2510 B	27-Jun-11 at 14:00	HV
pH	5.01	-	pH Units	4500H$^+$B	27-Jun-11 at 12:45	HV
Nitrite	<0.05	0.05	mg/L	4500 NO_2^-B	16-Jun-11 at 15:00	NA
Nitrate	0.36	0.01	mg/L	4500 NO_3^-E	20-Jun-11 at 16:30	NA
Chloride	7.1	0.1	mg/L	4500CL B	27-Jun-11 at 15:00	NA
TKN	0.54	0.20	mg/L	4500 $N/_{NH3}$	23-Jun-11 at 9:45	NA
Total Phosphorus	0.74	0.10	mg/L	4500P E	27-Jun-11 at 10:00	NA
COD	38.5	3.0	mg/L	5220 C	23-Jun-11 at 12:00	NA
Ammonia	0.04	0.01	mg/L	4500NH_3 F	27-Jun-11 at 9:00	NA

Primary Laboratories, Inc.
Results

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106147-01
Client ID: **Groundwater MW-1**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
METALS						
Boron	<0.100	0.100	mg/L	3120 B	28-Jun-11 at 16:15	HV
Cadmium	<0.010	0.010	mg/L	3120 B	28-Jun-11 at 16:15	HV
Chromium	0.029	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Copper	0.024	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Lead	0.015	0.005	mg/L	3113 B	28-Jun-11 at 12:00	HV
Manganese	0.037	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Nickel	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Sodium	6.0	0.1	mg/L	3120 B	28-Jun-11 at 16:15	HV
Zinc	0.031	0.010	mg/L	3120 B	28-Jun-11 at 16:15	HV

Primary Laboratories, Inc.
Results

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106147-02
Client ID: **Groundwater MW-2**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Fecal Coliform	<2	2	MPN/100ml	9221E	15-Jun-11 at 15:00	MS
Specific Conductance	778.0	0.2	umhos/cm	2510 B	27-Jun-11 at 14:00	HV
pH	3.15	-	pH Units	4500H^+B	27-Jun-11 at 12:45	HV
Nitrite	<0.005	0.005	mg/L	4500 NO_2^-B	16-Jun-11 at 15:00	NA
Nitrate	0.04	0.01	mg/L	4500 NO_3^-E	20-Jun-11 at 16:30	NA
Chloride	7.5	0.1	mg/L	4500CL B	27-Jun-11 at 15:00	NA
TKN	0.40	0.20	mg/L	4500 $N/_{NH3}$	23-Jun-11 at 9:45	NA
Total Phosphorus	0.15	0.02	mg/L	4500P E	27-Jun-11 at 10:00	NA
COD	32.8	2.0	mg/L	5220 C	23-Jun-11 at 12:00	NA
Ammonia	0.14	0.01	mg/L	4500NH_3 F	27-Jun-11 at 9:00	NA

Primary Laboratories, Inc.
Results

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106147-02
Client ID: **Groundwater MW-2**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
METALS						
Boron	<0.100	0.100	mg/L	3120 B	28-Jun-11 at 16:15	HV
Cadmium	<0.010	0.010	mg/L	3120 B	28-Jun-11 at 16:15	HV
Chromium	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Copper	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Lead	0.008	0.005	mg/L	3113 B	28-Jun-11 at 12:00	HV
Manganese	2.890	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Nickel	0.023	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Sodium	9.2	0.1	mg/L	3120 B	28-Jun-11 at 16:15	HV
Zinc	0.035	0.010	mg/L	3120 B	28-Jun-11 at 16:15	HV

Primary Laboratories, Inc.
Results

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106147-03
Client ID: **Groundwater MW-4**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Fecal Coliform	<2	2	MPN/100ml	9221E	15-Jun-11 at 15:00	MS
Specific Conductance	490.0	0.2	umhos/cm	2510 B	27-Jun-11 at 14:00	HV
pH	4.2	-	pH Units	4500H$^+$B	27-Jun-11 at 12:45	HV
Nitrite	<0.005	0.005	mg/L	4500 NO_3^-E	16-Jun-11 at 15:00	NA
Nitrate	0.07	0.10	mg/L	4500P E	20-Jun-11 at 16:30	NA
Chloride	49.5	0.1	mg/L	4500NH_3 F	27-Jun-11 at 15:00	NA
TKN	<0.20	0.20	mg/L	4500 $N/_{NH3}$	23-Jun-11 at 9:45	NA
Total Phosphorus	0.11	0.01	mg/L	4500CL B	27-Jun-11 at 10:00	NA
COD	20.0	2.0	mg/L	4500SO_4^{2}E	23-Jun-11 at 12:00	NA
Ammonia	0.04	0.01	mg/L	5210 B	27-Jun-11 at 9:00	NA

Primary Laboratories, Inc.
Results

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106147-03
Client ID: **Groundwater MW-4**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
METALS						
Boron	<0.100	0.100	mg/L	3120 B	28-Jun-11 at 16:15	HV
Cadmium	<0.010	0.010	mg/L	3120 B	28-Jun-11 at 16:15	HV
Chromium	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Copper	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Lead	<0.005	0.005	mg/L	3113 B	28-Jun-11 at 12:00	HV
Manganese	0.536	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Nickel	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Sodium	78.9	0.1	mg/L	3120 B	28-Jun-11 at 16:15	HV
Zinc	0.016	0.010	mg/L	3120 B	28-Jun-11 at 16:15	HV

Primary Laboratories, Inc.
Results

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106147-04
Client ID: **Groundwater MW-5**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Fecal Coliform	170	2	MPN/100ml	9221E	15-Jun-11 at 15:00	MS
Specific Conductance	249.0	0.2	umhos/cm	2510 B	27-Jun-11 at 14:00	HV
pH	5.87	-	pH Units	4500H^+B	27-Jun-11 at 12:45	HV
Nitrite	<0.005	0.005	mg/L	4500 NO_3^-E	16-Jun-11 at 15:00	NA
Nitrate	0.48	0.01	mg/L	4500P E	20-Jun-11 at 16:30	NA
Chloride	32.1	0.1	mg/L	4500NH_3 F	27-Jun-11 at 15:00	NA
TKN	<0.20	0.20	mg/L	4500 $N/_{NH3}$	23-Jun-11 at 9:45	NA
Total Phosphorus	0.06	0.01	mg/L	4500CL B	27-Jun-11 at 10:00	NA
COD	10.9	2.0	mg/L	4500SO_4^2E	23-Jun-11 at 12:00	NA
Ammonia	0.02	0.01	mg/L	5210 B	27-Jun-11 at 9:00	NA

Primary Laboratories, Inc.
Results

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106147-04
Client ID: **Groundwater MW-5**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
METALS						
Boron	<0.100	0.100	mg/L	3120 B	28-Jun-11 at 16:15	HV
Cadmium	<0.010	0.010	mg/L	3120 B	28-Jun-11 at 16:15	HV
Chromium	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Copper	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Lead	<0.005	0.005	mg/L	3113 B	28-Jun-11 at 12:00	HV
Manganese	0.031	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Nickel	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Sodium	17.4	0.1	mg/L	3120 B	28-Jun-11 at 16:15	HV
Zinc	<0.010	0.010	mg/L	3120 B	28-Jun-11 at 16:15	HV

Primary Laboratories, Inc.
Results

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106147-05
Client ID: **Groundwater MW-6**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Fecal Coliform	8	2	MPN/100ml	9221E	15-Jun-11 at 15:00	MS
Specific Conductance	184.4	0.2	umhos/cm	2510 B	27-Jun-11 at 14:00	HV
pH	6.41	-	pH Units	4500H^+B	27-Jun-11 at 12:45	HV
Nitrite	<0.005	0.005	mg/L	4500 NO_3^-E	16-Jun-11 at 15:00	NA
Nitrate	0.07	0.01	mg/L	4500P E	20-Jun-11 at 16:30	NA
Chloride	16.0	0.1	mg/L	4500NH_3 F	27-Jun-11 at 15:00	NA
TKN	1.62	0.20	mg/L	4500 $N/_{NH3}$	23-Jun-11 at 9:45	NA
Total Phosphorus	0.09	0.01	mg/L	4500CL B	27-Jun-11 at 10:00	NA
COD	14.6	2.0	mg/L	4500SO_4^2E	23-Jun-11 at 12:00	NA
Ammonia	0.02	0.01	mg/L	5210 B	27-Jun-11 at 9:00	NA

Primary Laboratories, Inc.
Results

29-Jun-11

Project: Coles Point
Date Received: 15-Jun-11
Date Sampled: 15-Jun-11
Work Order No: 1106147-05
Client ID: **Groundwater MW-6**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
METALS						
Boron	<0.100	0.100	mg/L	3120 B	28-Jun-11 at 16:15	HV
Cadmium	<0.010	0.010	mg/L	3120 B	28-Jun-11 at 16:15	HV
Chromium	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Copper	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Lead	0.011	0.005	mg/L	3113 B	28-Jun-11 at 12:00	HV
Manganese	0.028	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Nickel	<0.020	0.020	mg/L	3120 B	28-Jun-11 at 16:15	HV
Sodium	9.1	0.1	mg/L	3120 B	28-Jun-11 at 16:15	HV
Zinc	<0.010	0.010	mg/L	3120 B	28-Jun-11 at 16:15	HV

*All methods are from Standard Methods 18th Edition, unless otherwise noted.

Signature: Pam Bragg Date: 6/29/11
Pam L. Bragg
Laboratory Manager

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