ATTACHMENT D.1.
VPA MONITORING REPORT
VPA01423

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Coles Point Wastewater TP

Month: Dec 2011
Report Date: 1-9-2012

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 -

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

GARY W FRANCE — Printed Name
Gary W France — Signature
Plant Operations — Title
1-9-2012 — Date

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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: DEC 2011

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								
July		1A	NO					
August		1B	IRRIGATION					
September		2A	EVENTS					
October		2B	DURING	#1 1,936,120	1,043,120			
November		3A	THIS	#2 558,120	2,421,120			
December	33,141.612	1,045,990 3B	PERIOD	#3 1,314,360	1,264,880	7.39	3.2	<3.0

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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: DEC 2011

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										xxxxx		
July										xxxxx		
August										xxxxx		
September										xxxxx		
October				*1	13'.21"							
November				*2	28'					xxxxx		
December	2.7	0.33	2.41	205.5 *3	15'.58"	29.5	7.83	180.0	104.7	xxxxx	3.86	N/A

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

NO IRRIGATION EVENTS DURING THIS PERIOD

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

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Coles Point Wastewater TP

VPA01423

Month/Year: DEC 2011

	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						
1B						
2A	NO IRRIGATION EVENTS DURING THIS PERIOD					
2B						
3A						
3B						

	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									
1B	NO IRRIGATION EVENTS DURING THIS PERIOD								
2A									
2B									
3A									
3B									

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

Coles Point Wastewater TP

Well Number GW-1

VPA01423
Year: DEC 2011

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								
July-September								
October-December	12.58'	8.5	13.2	<2	57.7	0.3	0.02	0.05

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	4.85	5.0

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

Well Number GW-2

Coles Point Wastewater TP

VPA01423
Year: DEC 2011

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								
July-September								
October-December	12.5'	11.3	32.1	<2	605.1	0.3	0.21	0.04

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	4.25	10.8

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

Well Number GW- 3

Coles Point Wastewater TP

VPA01423
Year: DEC 2011

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								
July-September								
October-December	~~Approx~~ 3'	26.9	19.2	<2	355.4	0.7	0.16	0.43

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	6.23	41.0

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

Well Number GW-4

Coles Point Wastewater TP

VPA01423
Year: DEC 2011

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								
July-September								
October-December	10.5'	53.7	17.0	<2	505.0	<0.2	<0.01	0.12

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	3.86	69.0

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

Well Number GW-5

Coles Point Wastewater TP

VPA01423
Year: DEC 2011

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								
July-September								
October-December	12.16'	19.8	15.1	500	274.3	<0.2	<0.01	0.31

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	5.54	30.0

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

Well Number GW-6

Coles Point Wastewater TP

VPA01423
Year: DEC 2011

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								
July-September								
October-December	10.33'	28.8	13.2	<2	168.2	0.2	0.02	0.41

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	4.9	12.1

Daily Freeboard Measurement Operational Log

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

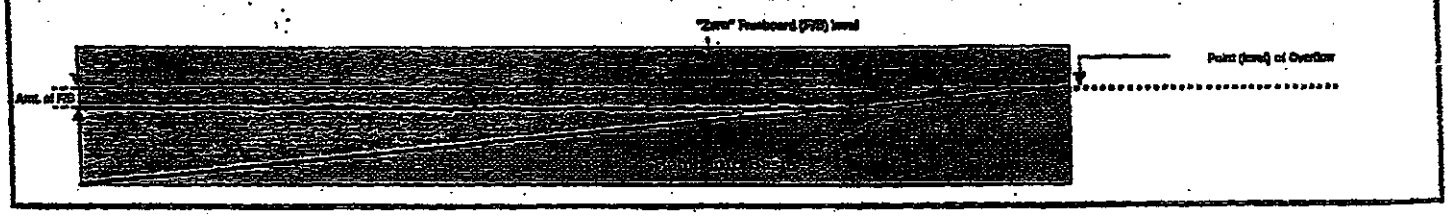
pH Method: Standard Methods 18th Edition 4500-H B and Manufacturer's Instructions
Freeboard Method: Ruler Measurement from calibrated 'Zero' freeboard point

VPA01423

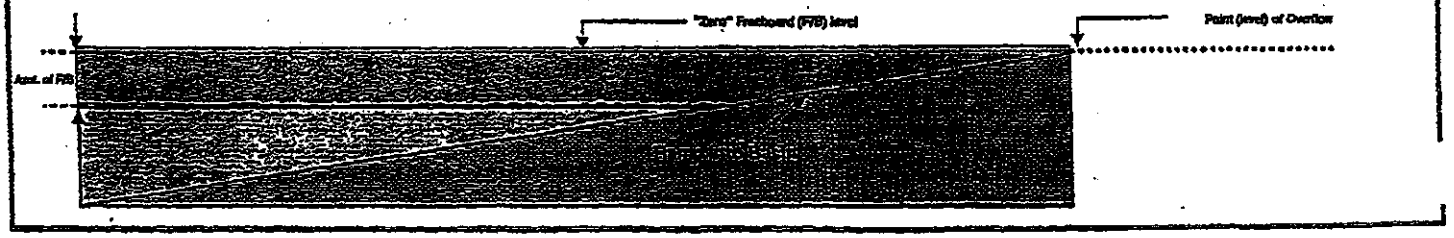
		pH Meter Calibration Record actual buffer values			pH Sample Time	pH Analysis Time	Effluent pH S.U.		Freeboard (Inches)						
									253	337.5	189	155	70.5	219	
Date	Time	Buffer 1	Buffer 2	Temp.				Initials	Basin 1	Basin 2	Basin 3	STORAGE 1	STORAGE 2	STORAGE 3	
1	0745	4.01	7.01	21.7	0800	0802	7.41	DRB	250.5	337.5	189	159.5	70.5	219	
2	0735	4.00	7.02	20.2	0750	0755	7.38	DRB	249	337.5	189	159	70.5	219	
3	0615	4.00	7.02	20.1	0645	0653	7.41	DRB	247	337.5	189	161	70.5	219	
4	0750	4.00	7.01	20.7	0800	0815	7.51	DRB	243	337.5	189	165	70.5	219	
5	0730	4.01	7.01	20.5	0745	0750	7.49	DRB	238	337.5	189	170	70.5	218	5
6	0730	4.01	7.01	22.0	0810	0815	7.48	DRB	234	337.5	189	174	70.5	219	4
7	0743	4.01	7.01	22.5	0859	0858	7.40	DRB	230	337.5	189	178	70.5	219	4
8	0750	4.00	7.02	20.3	0805	0812	7.42	DRB	228	337.5	189	180	70.5	219	
9	0710	4.00	7.02	20.4	0745	0752	7.69	DRB	223	336	189	185	72	221	
10	0725	4.01	7.01	21.1	0740	0750	7.48	DRB	219	336	189	189	72	221	
11	0726	4.00	7.02	20.5	0742	0750	7.41	DRB	213	336	189	195	72	221	6
12	0734	4.00	7.02	20.5	0753	0757	7.44	DRB	207	336	189	201	72	221	6
13	0732	4.00	7.01	20.6	0820	0828	7.40	DRB	203	336	189	206	72	189	5
14	0745	4.00	7.01	21.3	0810	0820	7.39	DRB	199	336	189	211	72	189	5
15	0752	4.00	7.01	21.8	0815	0823	7.38	DRB	193	336	189	215	72	189	4
16	0740	4.01	7.01	22.0	0753	0800	7.44	DRB	203	336	189	205	72	221	
17	0725	4.01	7.01	21.0	0735	0745	7.59	DRB	200.5	336	189	209.5	72	221	
18	0740	4.00	7.01	20.6	0818	0828	7.31	DRB	193.5	336	189	214.5	72	221	7
19	0706	4.00	7.02	20.4	0730	0740	7.20	DRB	188	336	189	220	72	221	5.5
20	0716	4.00	7.01	21.4	0730	0738	7.35	DRB	183.5	336	189	224.5	72	221	4.5
21	0715	4.00	7.01	21.7	0728	0738	7.54	DRB	191	336	189	219	72	221	
22	0740	4.01	7.01	22.1	0755	0801	7.22	DRB	188.5	336	189	219.5	72	221	
23	0710	4.01	7.01	22.0	0730	0738	7.43	DRB	188	336	189	224	72	221	
24	0620	4.00	7.01	21.3	0645	0653	7.36	DRB	182	336	189	226	72	221	
25	0735	4.01	7.01	21.4	0750	0758	7.51	DRB	180	336	189	228	72	221	0
26	0730	4.01	7.01	21.7	0810	0818	7.36	DRB	178	336	189	230	72	221	0
27	0748	4.01	7.01	22.0	0803	0816	7.22	DRB	175	336	189	233	72	221	
28	0735	4.01	7.01	22.1	0745	0754	7.32	DRB	170	336	189	238	72	221	
29	0715	4.01	7.01	21.9	0725	0735	7.23	DRB	166	336	189	242	72	221	
30	0745	4.01	7.01	22.1	0800	0809	7.29	DRB	164	336	189	244	72	221	
31	0740	4.01	7.01	21.9	0750	0759	7.26	DRB	158.5	336	189	249.5	72	221	
Minimum pH							7.22					1,936,120	558,720	1,014,960	
Maximum pH							7.69					1,043,720	2,421,120	1,264,880	
Minimum F/B									13.21"	28'	15.58'				

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)



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

ANALYTICAL LABORATORY REPORT

6-Jan-12

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

Project: Coles Point
Date Received: 14-Dec-11
Date Sampled: 14-Dec-11
Work Order No: 1112171-01
Client ID: **Plant**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
TSS	3.2	1.0	mg/L	2540 D	14-Dec-11 at 16:00	HV
BOD	<3.0	3.0	mg/L	5210 B	14-Dec-11 at 8:45	PB

Date Sampled: 14-Dec-11
Work Order No: 1112171-02
Client ID: **Storage**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Alkalinity	207.5	1.0	mg/L as $CaCO_3$	2320 B	6-Jan-12 at 13:00	NA
Nitrate	2.41	0.20	mg/L	4500 NO_3 E	15-Dec-11 at 8:45	NA
Total Phosphorus	3.86	0.10	mg/L	4500P E	19-Dec-11 at 14:00	NA
Ammonia	0.33	0.01	mg/L	4500NH_3 F	20-Dec-11 at 9:30	NA
Chloride	104.7	0.1	mg/L	4500CL G	6-Jan-12 at 9:30	NA
TKN	2.7	0.2	mg/L	4500 N/NH_3	29-Dec-11 at 13:00	NA

VELAP# 460173
DCLS# 237

Primary Laboratories, Inc.
Results

6-Jan-12

Project: Coles Point
Date Received: 14-Dec-11
Date Sampled: 14-Dec-11
Work Order No: 1112171-02
Client ID: **Storage**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
METALS						
Potassium	29.5	1.0	mg/L	3120 B	5-Jan-12 at 16:00	HV
Sodium	180.0	10.0	mg/L	3120 B	5-Jan-12 at 16:00	HV

* All methods are Standard Methods 18th Edition unless otherwise noted.
Note: All analyses are NELAC certified except where noted with a (#).

Signature: Larry Bragg Date: 1/6/12
Larry L. Bragg
Laboratory Manager

These analytical results are based upon materials provided by the client and are intended for the exclusive use of the client. These analytical results represent the best judgement of Primary Laboratories, Inc. Primary Laboratories, Inc. assumes no responsibility, express or implied, as to the interpretation of the analytical results contained in this report. This report is not to be reproduced except with the written approval of Primary Laboratories, Inc.

VELAP# 460173
DCLS# 237

Primary Laboratories, Inc.
7423 Lee Davis Road, Mechanicsville, VA 23111 . Telephone (804) 559-9004 . Fax (804) 559-9306

ANALYTICAL LABORATORY REPORT

6-Jan-12

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

Project: Coles Point
Date Received: 14-Dec-11
Date Sampled: 14-Dec-11
Work Order No: 1112170-01
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	14-Dec-11 at 15:30	MS
Specific Conductance	57.7	0.2	umhos/cm	2510 B	6-Jan-12 at 9:00	HV
pH	3.84	-	pH Units	4500H$^+$B	28-Dec-11 at 15:53	HV
Nitrite	<0.005	0.005	mg/L	4500 NO_3^-E	15-Dec-11 at 8:45	NA
Nitrate	0.05	0.01	mg/L	4500 NO_3^-E	4-Jan-12 at 13:30	NA
Chloride	8.5	0.1	mg/L	4500CL B	6-Jan-12 at 9:30	NA
TKN	0.3	0.2	mg/L	4500 $N/_{NH3}$	5-Jan-12 at 13:00	NA
Total Phosphorus	0.08	0.01	mg/L	4500P E	19-Dec-11 at 14:00	NA
COD	13.2	2.0	mg/L	5220 C	20-Dec-11 at 10:00	NA
Ammonia	0.02	0.01	mg/L	4500NH_3 F	20-Dec-11 at 9:30	NA
Metals						
Sodium	5.0	10.0	mg/L	3120 B	6-Jan-12 at 13:30	HV

VELAP# 460173
DCLS# 237

Primary Laboratories, Inc.
Results

27-Jul-10

Project: Coles Point
Date Received: 14-Dec-11
Date Sampled: 14-Dec-11
Work Order No: 1007104-02
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	14-Dec-11 at 15:30	MS
Specific Conductance	605.1	0.2	umhos/cm	2510 B	6-Jan-12 at 9:00	HV
pH	2.48	-	pH Units	4500H$^+$B	28-Dec-11 at 15:53	HV
Nitrite	<0.005	0.005	mg/L	4500 NO_3^-E	15-Dec-11 at 8:45	NA
Nitrate	0.04	0.01	mg/L	4500 NO_3^-E	4-Jan-12 at 13:30	NA
Chloride	11.3	0.1	mg/L	4500CL B	6-Jan-12 at 9:30	NA
TKN	0.3	0.2	mg/L	4500 $N/_{NH3}$	5-Jan-12 at 13:00	NA
Total Phosphorus	0.07	0.01	mg/L	4500P E	19-Dec-11 at 14:00	NA
COD	32.1	2.0	mg/L	5220 C	20-Dec-11 at 10:00	NA
Ammonia	0.21	0.01	mg/L	4500NH_3 F	20-Dec-11 at 9:30	NA
Metals						
Sodium	10.8	10.0	mg/L	3120 B	6-Jan-12 at 13:30	HV

VELAP# 460173
DCLS# 237

Primary Laboratories, Inc.
Results

27-Jul-10

Project: Coles Point
Date Received: 14-Dec-11
Date Sampled: 14-Dec-11
Work Order No: 1112170-03
Client ID: **Groundwater MW-3**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Fecal Coliform	<2	2	MPN/100ml	9221E	14-Dec-11 at 15:30	MS
Specific Conductance	355.4	0.2	umhos/cm	2510 B	6-Jan-12 at 9:00	HV
pH	5.36	-	pH Units	4500H$^+$B	28-Dec-11 at 15:53	HV
Nitrite	<0.005	0.005	mg/L	4500 NO_3^-E	15-Dec-11 at 8:45	NA
Nitrate	0.43	0.01	mg/L	4500 NO_3^-E	4-Jan-12 at 13:30	NA
Chloride	26.9	0.1	mg/L	4500CL B	6-Jan-12 at 9:30	NA
TKN	0.7	0.2	mg/L	4500 $N/_{NH3}$	5-Jan-12 at 13:00	NA
Total Phosphorus	0.21	0.01	mg/L	4500P E	19-Dec-11 at 14:00	NA
COD	79.2	2.0	mg/L	5220 C	20-Dec-11 at 10:00	NA
Ammonia	0.16	0.01	mg/L	4500NH_3 F	20-Dec-11 at 9:30	NA
Metals						
Sodium	41.0	10.0	mg/L	3120 B	6-Jan-12 at 13:30	HV

VELAP# 460173
DCLS# 237

Primary Laboratories, Inc.
Results

27-Jul-10

Project: Coles Point
Date Received: 14-Dec-11
Date Sampled: 14-Dec-11
Work Order No: 1112170-04
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	14-Dec-11 at 15:30	MS
Specific Conductance	505.0	0.2	umhos/cm	2510 B	6-Jan-12 at 9:00	HV
pH	3.37	-	pH Units	4500H$^+$B	28-Dec-11 at 15:53	HV
Nitrite	<0.005	0.005	mg/L	4500 NO_3^-E	15-Dec-11 at 8:45	NA
Nitrate	0.12	0.01	mg/L	4500 NO_3^-E	4-Jan-12 at 13:30	NA
Chloride	53.7	0.1	mg/L	4500CL B	6-Jan-12 at 9:30	NA
TKN	<0.2	0.2	mg/L	4500 $N/_{NH3}$	5-Jan-12 at 13:00	NA
Total Phosphorus	0.06	0.01	mg/L	4500P E	19-Dec-11 at 14:00	NA
COD	17.0	2.0	mg/L	5220 C	20-Dec-11 at 10:00	NA
Ammonia	<0.01	0.01	mg/L	4500NH_3 F	20-Dec-11 at 9:30	NA
Metals						
Sodium	69.0	10.0	mg/L	3120 B	6-Jan-12 at 13:30	HV

VELAP# 460173
DCLS# 237

Primary Laboratories, Inc.
Results

27-Jul-10

Project: Coles Point
Date Received: 14-Dec-11
Date Sampled: 14-Dec-11
Work Order No: 1112170-05
Client ID: **Groundwater MW-5**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Fecal Coliform	500	2	MPN/100ml	9221E	14-Dec-11 at 15:30	MS
Specific Conductance	274.3	0.2	umhos/cm	2510 B	6-Jan-12 at 9:00	HV
pH	5.28	-	pH Units	4500H*B	28-Dec-11 at 15:53	HV
Nitrite	<0.005	0.005	mg/L	4500 NO_3^-E	15-Dec-11 at 8:45	NA
Nitrate	0.31	0.01	mg/L	4500 NO_3^-E	4-Jan-12 at 13:30	NA
Chloride	19.8	0.1	mg/L	4500CL B	6-Jan-12 at 9:30	NA
TKN	<0.2	0.2	mg/L	4500 $N/_{NH3}$	5-Jan-12 at 13:00	NA
Total Phosphorus	0.05	0.01	mg/L	4500P E	19-Dec-11 at 14:00	NA
COD	15.1	2.0	mg/L	5220 C	20-Dec-11 at 10:00	NA
Ammonia	<0.01	0.01	mg/L	4500NH_3 F	20-Dec-11 at 9:30	NA
Metals						
Sodium	30.0	10.0	mg/L	3120 B	6-Jan-12 at 13:30	HV

VELAP# 460173
DCLS# 237

Primary Laboratories, Inc.
Results

27-Jul-10

Project: Coles Point
Date Received: 14-Dec-11
Date Sampled: 14-Dec-11
Work Order No: 1112170-06
Client ID: **Goundwater MW-6**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Fecal Coliform	<2	2	MPN/100ml	9221E	14-Dec-11 at 15:30	MS
Specific Conductance	168.2	0.2	umhos/cm	2510 B	6-Jan-12 at 9:00	HV
pH	4.53	-	pH Units	4500H$^+$B	28-Dec-11 at 15:53	HV
Nitrite	<0.005	0.005	mg/L	4500 NO_3^-E	15-Dec-11 at 8:45	NA
Nitrate	0.41	0.01	mg/L	4500 NO_3^-E	4-Jan-12 at 13:30	NA
Chloride	28.8	0.1	mg/L	4500CL B	6-Jan-12 at 9:30	NA
TKN	0.2	0.2	mg/L	4500 $N/_{NH3}$	5-Jan-12 at 13:00	NA
Total Phosphorus	0.11	0.01	mg/L	4500P E	19-Dec-11 at 14:00	NA
COD	13.2	2.0	mg/L	5220 C	20-Dec-11 at 10:00	NA
Ammonia	0.02	0.01	mg/L	4500NH_3 F	20-Dec-11 at 9:30	NA
Metals						
Sodium	12.1	10.0	mg/L	3120 B	6-Jan-12 at 13:30	HV

*All methods are from Standard Methods 18th Edition, unless otherwise noted.
** All analyses are NELAC certified except where noted with an asterisk (**).

Signature: Parry L. Bragg Date: 1/9/12
Parry L. Bragg
Laboratory Manager

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VELAP# 460173
DCLS# 237

COLES POINT WASTETREATMENT FACILTIY

DAILY BENCH SHEET

			PH SM18 4500-H B		DO SM18 4500-O 1		CL2 SM20 4500-CL G							MONTH DEC	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	48679220															
1	48703090	23,870	0800	7.26	4.35	15.8	1.99	0800	0804	7.41	12.0	0800	0809	85%	66%	DRB
2	48728080	24,990	0750	7.15	5.80	14.4	1.79	0750	0753	7.38	9.7	0750	0755	85%	67%	DRB
3	48754930	26,850	0645	7.20	6.27	14.6	2.07	0645	0644	7.41	10.3	0645	0653	87%	69%	DRB
4	48788780	33,850	0800	7.23	5.62	14.4	1.52	0800	0804	7.51	10.7	0800	0815	68%	50%	DWA
5	48828070	39,290	0745	7.28	5.98	14.6	1.53	0745	0748	7.49	10.7	0745	0750	85%	65%	DWA
6	48857080	29,010	0810	7.15	4.51	15.7	1.80	0810	0813	7.48	13.7	0810	0815	72%	52%	DWA
7	48886560	29,480	0852	7.30	2.01	19.5	1.82	0852	0855	7.40	16.1	0852	0858	75%	58%	DWA
8	48939910	53350	0805	7.03	0.92	14.6	2.20	0805	0810	7.42	12.1	0805	0812	87%	71%	DRB
9	48989000	49,090	0745	7.11	3.84	14.8	2.02	0745	0750	7.69	9.4	0745	0752	86%	72%	DRB
10	49042380	53,380	0740	7.16	4.87	14.7	1.66	0740	0744	7.48	11.2	0740	0750	85%	71%	DRB
11	49090240	47,860	0742	7.20	5.24	13.9	1.71	0742	0745	7.41	8.6	0742	0750	86%	70%	DWA
12	49136520	46,280	0753	7.12	5.30	13.4	1.51	0753	0757	7.44	6.9	0753	0800	80%	65%	DWA
13	49178800	42,280	0820	7.13	5.28	13.3	1.52	0820	0824	7.40	7.9	0820	0828	80%	65%	DWA
14	49218620	39,820	0810	7.16	5.92	13.7	1.81	0810	0818	7.39	8.4	0810	0826	82%	64%	DWA
15	49253310	34,690	0815	7.15	5.09	14.0	1.92	0815	0819	7.39	12.0	0815	0823	85%	72%	DWA
16	49295850	42,540	0753	7.15	5.63	14.9	2.16	0753	0756	7.44	13.2	0753	0800	85%	70%	DRB
17	49341700	45,850	0735	7.22	5.95	14.0	2.03	0735	0740	7.59	10.8	0735	0745	83%	67%	DRB
18	49394230	52,530	0818	7.04	5.77	13.3	2.12	0818	0821	7.31	11.0	0818	0828	84%	68%	DWA
19	49436930	42,700	0730	7.16	6.64	12.7	2.16	0730	0733	7.27	9.2	0730	0740	86%	72%	DWA
20	49472090	35,160	0730	7.20	6.14	13.3	1.88	0730	0733	7.35	10.6	0730	0738	85%	70%	DWA
21	49512510	40,420	0728	7.09	5.96	14.1	2.01	0728	0733	7.54	12.4	0728	0738	90%	72%	DRB
22	49532970	20,460	0755	7.22	5.85	14.6	1.61	0755	0800	7.22	12.5	0755	0801	88%	66%	DRB
23	49552510	19,540	0730	7.06	4.22	15.0	2.20	0730	0735	7.43	13.1	0730	0738	84%	67%	DRB
24	49576460	23,950	0645	7.09	5.16	14.7	2.01	0645	0650	7.36	12.6	0645	0653	88%	74%	DRB
25	49593620	17,160	0750	7.20	6.41	13.4	1.83	0750	0753	7.31	9.8	0750	0758	85%	70%	DWA
26	49610740	17,120	0810	7.12	6.25	13.7	1.53	0810	0813	7.26	10.7	0810	0818	88%	72%	DWA
27	49634230	23,490	0808	7.13	6.33	13.3	1.64	0808	0811	7.22	10.6	0808	0816	82%	65%	DWA
28	49659210	24,980	0745	7.08	4.65	14.1	1.75	0745	0747	7.32	11.3	0745	0754	78%	58%	DRB
29	49681960	22,750	0725	7.09	5.35	13.4	1.59	0725	0729	7.23	10.0	0725	0735	85%	55%	DRB
30	49701080	19,120	0800	7.13	6.10	13.2	1.50	0800	0803	7.29	10.7	0800	0809	77%	54%	DRB
31	49725210	24,130	0750	7.11	5.67	13.6	1.51	0750	0754	7.26	11.0	0750	0759	90%	78%	DRB
* PH TAKEN OF EFFLUENT SAMPLE DURING MONTHLY TESTING										7.83	8.4	1140	1144			

TOTAL : 1,045,990

AVG : 33,741.612

Coles Point Wastewater Treatment Facility

GROUND WATER SAMPLE COLLECTION LOG

Well ID #:_____ Sampler: Don Gaylord / Gary Franor

Date: 12-13-11

Sample Collection Method: Teflon Bailer

PRE-SAMPLING DATA

Purge well until readings all stabilize to within 10% and turbidity is 10 ntu or lower. If these conditions do not occur, purge until 3 well volumes have been removed.

Well	Time	PH	DO	Temp	Purge Calculations	Purged Volume
6	1118	4.9	1.94	15.8	124" x .489 = 6.06	6 gals
5	1132	5.54	4.85	13.5	146 x .489 = 7.13	7 gals
4	1152	3.86	1.12	14.2	127 x .489 = 6.21 3'	6 gals
3	1208	6.23	7.48	10.5	WATER LEVEL: BELOW APPROX 3' Just enough to collect samples	
2	1221	4.25	2.08	14.8	150 x .489 = 7.3	7 gals
1	1238	4.85	6.88	12.7	151 x .489 = 7.3	7 gals

Purge calculations for 2" well: 3 well volumes = water height x 0.489= # of Gallons to purge.

SURFACE WATER SAMPLE COLLECTION DATA

Sample Collection Method: Grab

Surface water	TIME	PH	DO	Comments