ATTACHMENT D.1.
VPA MONITORING REPORT
VPA01423

Piedmont Regional Office
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Coles Point Wastewater TP

Month: Aug 2011
Report Date: 9-6-11

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)
( ) 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 sheet- irrigation bench sheet

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
9-6-11 — 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: Aug 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	205,021 ST1	1,839,120	1,140,120			
August	31,198.709	985,160 1B	189,190 ST2	1,482,160	1,497,680	7.29	2.2	<3.0
September		2A	ST3	1063,120	1,916,120			
October		2B	168,923					
November		3A	496,860					
December		3B	95,075					

TOTAL 4,384,400 4,555,120

ATTACHMENT D.3
VPA MONITORING REPORT

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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: Aug 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	6.88	5.94	6.20	285.5 ~~ft~~	14.25'	20.7	7.50/7.82	153.0	81.6	xxxxx	5.24	1.54/2.14
September				~~ft~~	18.08'					xxxxx		
October				~~ft~~	22.58'							
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

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Coles Point Wastewater TP

VPA01423

Month/Year: Aug 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	205,021	0.25	.90		2.65	
1B	189,790	0.25	.83		2.19	
2A					.74	
2B	168,923	0.25	.74		4.6	
3A	496,860	0.25	.82	.89 .47	9.68	
3B	95,075	0.25	.42		5.54	

	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	2.27	N/A	7.13	2.39	N/A	6.41	6.61	N/A	20.48
1B	2.10	N/A	6.18	2.21	N/A	5.38	6.12	N/A	16.67
2A			2.23			1.73			5.77
2B	1.87	N/A	9.05	1.97	N/A	8.8	5.45	N/A	26.54
3A	5.50	N/A	24.79	5.79	N/A	21.2	16.03	N/A	64.29
3B	1.05	N/A	13.58	1.11	N/A	11.03	3.07	N/A	33.49

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Attach. D.10. VPA Monitoring / Coles Point WWTP

Daily Freeboard Measurement Operational Log

Facility Name: Coles Point LWTP
Permit #: VPA01423
Month: Aug
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

Date	Time	pH Meter Calibration Record actual buffer values Buffer 1	Buffer 2	Temp.	pH Sample Time	pH Analysis Time	Effluent pH S.U.	Initials	Freeboard (Inches) Basin 1	Basin 2	Basin 3	STORAGE 1	STORAGE 2	STORAGE 3	
									83	284	286	325	124	122	
1	0855	4.01	7.00	24.5	0910	0915	7.31	DWA	79	299	286	329	109	122	4/15
2	0835	4.01	7.00	24.1	0940	0950	7.48	DWA	76	299	286	332	109	122	3
3	0740	4.01	7.00	24.2	0800	0810	8.18	DRB	73	299	286	335	109	122	3
4	0950	4.01	7.00	24.7	0930	0938	7.83	DWA	68	324	286	340	84	122	3
5	0800	4.01	7.00	24.3	0910	0917	7.83	DRB	168	219	286	234	189	122	3
6	0745	4.01	7.00	25.0	0955	1000	7.71	DRB	164	219	286	214	189	122	5
7	0821	4.01	7.00	25.2	0910	0920	7.42	DWA	151	219	286	251	189	122	7
8	0845	4.01	7.00	24.3	0910	0918	7.48	DWA	143.5	240	286	258.5	168	122	3.5/2
9	0822	4.01	7.00	24.7	0920	0928	7.52	DWA	145.5	240	286	262.5	168	122	4
10	0815	4.01	7.00	24.5	0900	0910	7.69	DWA	148.5	292	286	265.5	116	122	3
11	0832	4.01	7.00	24.5	0810	0820	7.47	DWA	140.5	318	286	261.5	90	122	2/5
12	0845	4.01	7.00	24.3	0900	0910	7.45	DRB	136	318	286	272	90	122	4.5"
13	0830	4.01	7.00	24.7	1035	1043	7.41	DRB	239	240	286	169	168	122	
14	0740	4.01	7.00	25.3	0900	0910	7.30	DWA	233	240	286	175	168	122	6
15	0825	4.01	7.00	24.1	0850	0900	7.36	DWA	226	240	286	182	168	122	7
16	0743	4.01	7.00	23.8	0848	0855	7.38	DWA	221	240	286	187	168	122	5
17	0745	4.01	7.00	24.0	0840	0850	7.40	DWA	217	240	286	191	168	122	4
18	0735	4.01	7.00	24.5	0910	0918	7.36	DWA	214	240	286	194	168	122	3
19	0815	4.01	7.00	24.4	0930	0935	7.54	DRB	211	240	286	197	168	122	
20	0855	4.01	7.00	24.1	0905	0912	7.52	DRB	206	240	286	202	168	122	
21	0925	4.01	7.00	24.3	0935	0942	7.52	S.C	200	240	286	208	168	122	6
22	0800	4.01	7.00	24.2	0810	0820	7.30	DRB	197	240	286	211	168	122	3
23	0805	4.01	7.01	22.2	0825	0834	7.33	DRB	194	240	286	214	168	122	3
24	0825	4.01	7.01	22.3	0915	0923	7.80	DRB	191	240	286	217	168	122	3
25	0905	4.01	7.01	23.4	0945	0953	7.66	DRB	188	240	286	220	168	122	3
26	0855	4.01	7.01	23.0	0905	0913	7.99	DRB	185	240	286	223	168	122	3
27	0700	4.01	7.00	23.5	1015	1025	7.66	DRB	181.5	240	286	226.5	168	122	3.5"
28	0745	4.01	7.00	23.6	1020	1032	7.39	DWA	175.5	240	286	232.5	168	122	6
(29)	0850	4.01	7.01	22.3	1005	1012	7.72	DWA	176	219	271	232	191	137	1 15"
30	0736	4.01	7.01	22.4	1000	1008	7.81	DWA	174	219	271	234	191	137	0
31	0740	4.01	7.01	22.3	0940	0950	7.47	DWA	171	219	271	237	191	137	3
Minimum pH							7.30				STOR	1,839,120	1,482,160	1,063,120	
Maximum pH							8.18				REV	1,140,720	1,497,680	1,916,720	
Minimum F/B									171	219	271				

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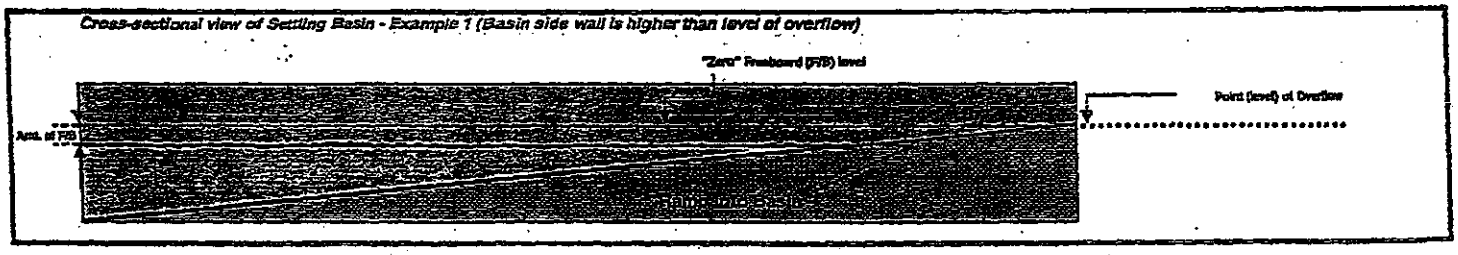
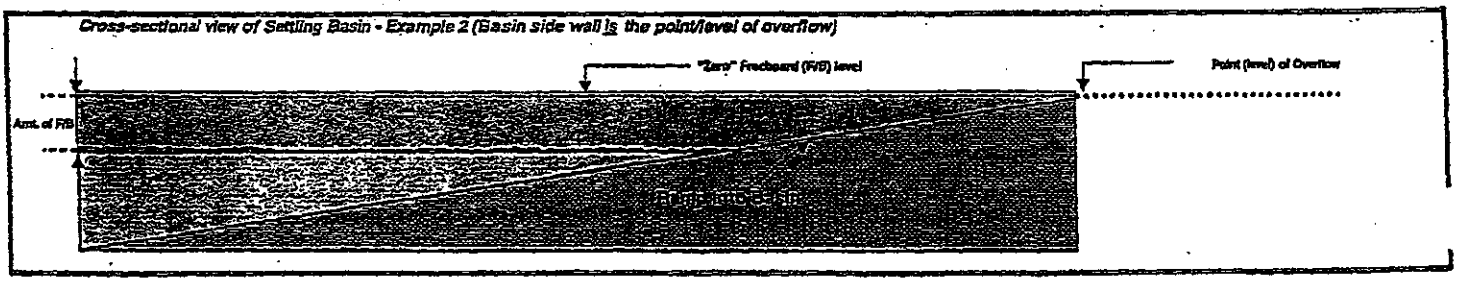
Note: "Freeboard" measurement is the vertical distance (inches) from the water level to the level at which wastewater will leave the settling basin.
Note: If the "Freeboard" is less than 24 inches, DEQ must immediately be notified, and a written statement of explanation and corrective measures is due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



IN STORAGE = 4,384,400

REV = 4555,120

Coles Point Wat eatment Facility

Irrigation Data 2010

				Effluent Sample			Totalizer Reading			Sight Gage Reading			Rain Gage Data	
Date	Pump #	Zone	Time Taken	Time Analy	CL2 Res.	PH	Start	End	Total	Start	End	Total	Apply Inches	Total Flow
8-3-11	2	3A	0815	0818	1.54	7.82	105748760	105935280	186,520	109	85/19	147,440	N/A	N/A
8-7-11	1	2B	0820	0823	1.68	7.62	37014 51	38703374	168,923	189	168/21	162,960	1.05	239,400
8-9-11	1	1A	0830	0833	2.14	7.58	38703374	40753 95	205021	168	116/28	212,280	0.93	212,800
"	2	1B	0830	0833	2.14	7.58	105935280	106125070	189,790	168	116/24	186,240	1.41	323,000
8-10-11	2	3A	0820	0823	1.82	7.50	106125070	106327500	202430	116	90/26	201,760	.4	95,000
8-12-11	2	3A	0910	0915	1.71	7.59	106327500	106435410	107,910	90	63/14	108,640	.28	64,600
8-12-11	1	3B	0910	0915	1.71	7.59	40753 95	41704 70	95,075	90	63/13	100,880	1.3	296,400
				1.54/2.14		7.50/7.82		TOTAL	1,155,669					
Monthly Totals														

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COLES POINT WASTETREATMENT FACILTIY

DAILY BENCH SHEET

														MONTH	YEAR	
			PH SM18 4500-H B	DO SM18 4500-O 1		CL2 SM20 4500-CL G								AUG	2011	
	Correction factor(2)		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	44606480															
1	44623450	33,940	0910	7.11	1.27	26.6	2.00	0910	0913	7.37	26.3	0910	0915	58%	43%	DWA
2	44634940	22980	0940	7.23	1.85	26.4	1.68	0940	0943	7.48	25.8	0940	0950	58%	46%	DWA
3	44646090	22,300	0800	7.35	1.66	26.6	1.62	0800	0803	8.18	26.5	0800	0810	62%	58%	DRS
4	44685430	39,340	0930	7.28	2.44	26.4	1.56	0930	0933	7.83	26.1	0930	0938	65%	46%	DWA
5	44708390	22,960	0910	7.28	2.17	26.5	1.61	0910	0915	7.83	25.9	0910	0917	74%	54%	DRS
6	44749420	41,030	0955	7.15	1.19	26.3	1.97	0955	1000	7.71	25.2	0955	1000	72%	52%	DRS
7	44802590	53,170	0910	7.16	0.53	26.2	1.78	0910	0913	7.42	26.2	0910	0920	62%	46%	DWA
8	44860530	57,940	0910	7.09	1.01	26.8	1.56	0910	0913	7.48	26.7	0910	0918	65%	48%	DWA
9	44890460	29,930	0920	7.34	1.98	26.9	1.51	0920	0928	7.58	26.5	0920	0928	65%	48%	DWA
10	44914290	23,830	0900	7.29	2.45	26.6	1.80	0900	0903	7.69	25.8	0900	0910	72%	55%	DWA
11	44932870	18,580	0810	7.29	2.97	26.2	1.52	0810	0813	7.47	25.8	0810	0820	65%	48%	DWA
12	44968880	36,010	0900	7.27	2.91	26.1	1.85	0900	0904	7.45	25.4	0900	0910	66%	45%	DRS
13	45005770	36,890	1035	6.70	0.75	26.2	2.07	1035	1040	7.41	26.2	1035	1043	61%	45%	DRS
14	45052490	46,720	0900	6.83	1.25	25.4	1.75	0900	0903	7.30	25.5	0900	0910	70%	50%	DWA
15	45104030	51,540	0850	7.01	1.00	25.1	2.00	0850	0853	7.36	24.7	0850	0900	72%	50%	DWA
16	45143660	39,630	0848	7.03	1.69	25.0	1.94	0848	0851	7.38	24.0	0848	0855	63%	46%	DWA
17	45173560	29,900	0840	7.07	2.13	25.1	1.56	0840	0843	7.40	24.0	0840	0850	65%	48%	DWA
18	45197340	23,780	0910	7.02	3.41	25.6	1.52	0910	0913	7.36	24.3	0910	0918	67%	48%	DWA
19	45219160	21,820	0930	7.20	2.86	25.9	1.93	0930	0933	7.54	24.0	0930	0935	69%	50%	DRS
20	45257060	37,900	0905	7.05	1.36	25.3	1.63	0905	0909	7.52	23.9	0905	0912	64%	47%	DRS
21	45302940	45,940	0925	7.21	2.82	25.7	1.71	0925	0928	7.52	23.8	0925	0942	62%	45%	S.C
22	45343990	41050	0800	7.22	1.30	25.3	1.81	08:00	08:05	7.30	22.45	0810	08:20	72%	53%	RTS
23	45367540	23,550	0825	7.15	2.78	24.6	1.52	08:25	08:29	7.33	21.2	0825	0831	73%	54%	DRS
24	45391210	23,670	0915	7.26	3.00	24.7	2.20	0915	0920	7.80	24.3	0915	0923	68%	51%	DRS
25	45415520	24,310	0945	7.19	3.09	25.1	1.95	0945	0948	7.66	25.0	0945	0953	62%	46%	DRS
26	45439300	23,780	0905	7.10	2.38	24.9	2.90	0905	0910	7.77	23.7	0905	0913	65%	47%	DRS
27	45465070	25,770	1015	6.98	0.58	25.1	2.11	1015	1020	7.66	23.7	1015	1025	57%	43%	DRS
28	45508250	43,180	1020	7.16	2.52	24.8	1.63	1020	1023	7.39	24.0	1020	1032	70%	52%	DWA
29	45515230	6,980	1005	7.18	2.57	24.8	1.53	1005	1008	7.32	22.8	1005	1012	70%	55%	DWA
30	45528890	13,660	1000	7.05	0.25	24.7	1.51	1000	1003	7.81	22.6	1000	1008	55%	42%	DWA
31	45552570	23,680	0940	7.07	0.68	24.6	1.51	0940	0943	7.47	22.5	0940	0950	65%	48%	DWA
* PH TAKEN OF EFFLUENT SAMPLE DURING MONTHLY TESTING							10	1250	1253	7.59	26.4					

TOTAL 985,760

AVG 31798.709

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

30-Aug-11

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Project: Coles Point
Date Received: 10-Aug-11
Date Sampled: 10-Aug-11
Work Order No: 1108105-01
Client ID: **Plant**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
TSS	2.2	1.0	mg/L	2540 D	15-Aug-11 at 11:30	HV
BOD	<3.0	3.0	mg/L	5210 B	12-Aug-11 at 11:00	NA

Date Sampled: 10-Aug-11
Work Order No: 1108105-02
Client ID: **Storage**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
Alkalinity	285.5	1.0	mg/L as $CaCO_3$	2320 B	30-Aug-11 at 13:30	NA
Nitrate	6.20	0.20	mg/L	4500 NO_3^- E	15-Aug-11 at 16:00	NA
Total Phosphorus	5.24	0.10	mg/L	4500P E	11-Aug-11 at 17:00	NA
Ammonia	5.94	0.01	mg/L	4500NH_3 F	16-Aug-11 at 9:30	NA
Chloride	81.6	0.1	mg/L	4500CL G	26-Aug-11 at 16:00	NA
TKN	6.88	0.10	mg/L	4500 N/NH_3	19-Aug-11 at 9:00	NA

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Primary Laboratories, Inc.
Results

30-Aug-11

Project: Coles Point
Date Received: 10-Aug-11
Date Sampled: 10-Aug-11
Work Order No: 1108105-02
Client ID: **Storage**

Test Description	Final Result	Reporting Limit	Units of Measure	Method Numbers*	Date Analyzed	Tech. Initials
pH	7.68	-	pH Units	4500H⁺B	30-Aug-11 at 15:30	HV
METALS						
Potassium	27.7	1.0	mg/L	3120 B	16-Aug-11 at 15:49	HV
Sodium	153.0	10.0	mg/L	3120 B	16-Aug-11 at 15:49	HV

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

Signature: Parry Bragg Date: 8/31/11
Parry 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.