

**2014 WATER QUALITY MONITORING
BLUE MARSH RESERVOIR
LEESPORT, PENNSYLVANIA**



**U.S. Army Corps of Engineers
Philadelphia District
Environmental Resources Branch**

January 2015

**2014 Water Quality Monitoring
Blue Marsh Reservoir
Leesport, Pennsylvania**

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1.0 INTRODUCTION

1.1 PURPOSE OF THE MONITORING PROGRAM

The U.S. Army Corps of Engineers (USACE) manages Blue Marsh Reservoir located in east-central Pennsylvania on the Tulpehocken Creek, which is within the Delaware River Basin. Blue Marsh Reservoir provides flood control and a dependable water supply to downstream communities west of Reading, PA. Additionally, the reservoir provides important habitat for fish, waterfowl, and other wildlife, and recreational opportunities through fishing, boating, and swimming. Due to the broad range of uses and demands that Blue Marsh Reservoir serves, the USACE monitors water quality, and other aspects related to ecological health, primarily to ensure public health safety. Results from water quality monitoring are compared to state water quality standards and used to diagnose other problems that commonly affect reservoir health such as low dissolved oxygen, nutrient enrichment and toxic loadings. This report summarizes the results of water quality monitoring at Blue Marsh Reservoir in 2014.

1.2 DESCRIPTION OF BLUE MARSH RESERVOIR

Blue Marsh Reservoir was designed to provide flood control, a water supply, and enhanced water quality to downstream communities along Tulpehocken Creek. Located about six miles northwest of Reading, Pennsylvania near Route 183, the reservoir dams a drainage area of 175 square miles. The dam, completed in 1979, can impound up to 42.3 billion gallons of water. The primary surface water inputs into Blue Marsh Reservoir other than Tulpehocken Creek include Wolf, Northkill, and Little Northkill Creek from the northwest; Spring Creek from the west; and Licking Creek from the northeast. The reservoir is approximately 6 miles long and is 52 feet deep immediately above the dam near Lower Heidelberg.

1.3 ELEMENTS OF THE STUDY

The USACE, Philadelphia District, has been monitoring the water quality of Blue Marsh Reservoir since 1979. Over this time, the yearly monitoring designs have evolved to address new concerns such as health of public drinking water and contamination of reservoir bottom sediments. The 2014 monitoring program follows that in most recent years and includes the following major elements:

- Monthly water quality and bacteria monitoring of reservoir and upstream sources to evaluate compliance with Pennsylvania state water quality standards and to evaluate the health of the reservoir ecosystem starting on 20 May and ending on 9 September 2014;
- Monthly profile samples for temperature, dissolved oxygen, chlorophyll, pH, turbidity, and conductivity at all stations in the reservoir and watershed; and
- Twice weekly coliform bacteria monitoring at three beach stations - to ensure public health and safety at the Blue Marsh Reservoir swimming beach area.

2.0 METHODS

2.1 PHYSICAL STRATIFICATION MONITORING

Physical stratification monitoring of the water column was conducted monthly at Blue Marsh Reservoir from May to September 2014 (Table 2-1). Stratification parameters included temperature, dissolved oxygen (DO), pH, Chlorophyll a, turbidity, and conductivity. Monitoring was conducted at ten fixed stations located throughout the reservoir watershed (Fig. 2-1). Six stations were located within the reservoir body (BM-2, BM-6, BM-7, BM-8, BM-9, and BM-10) for which water quality was measured from surface to bottom at 5-ft depth intervals. Three stations (BM-1S, BM-5S, and BM-11S) were monitored for surface water quality only. All water quality parameters were measured with a calibrated YSI 6600 V2-4 water quality meter. For this report, all of the stratification monitoring results, when applicable, were summarized and compared to water quality standards enacted by the Pennsylvania Department of Environmental Protection (PADEP – Chapter 93 Water Quality Standards).

2.2 WATER COLUMN CHEMISTRY MONITORING

Water column chemistry monitoring was conducted five times (once a month) at Blue Marsh Reservoir during the 2014 sampling season (Table 2-1). Water samples were collected at 9 fixed stations in the reservoir watershed (Fig. 2-1). Surface water samples were collected at stations downstream of the reservoir (BM-1S), and upstream of the reservoir on Tulpehocken Creek (BM-5S) and Northkill Creek (BM-11S). Surface, middle, and bottom water samples were collected at the 6 stations within the reservoir (BM-2, BM-6, BM-7, BM-8, BM-9, and BM-10). Surface water samples were collected by opening sample containers approximately one foot below the surface of the water. Middle and bottom water samples were collected with a Van Dorn design horizontal water bottle.

Water samples from all depths were analyzed for ammonia, nitrite, nitrate, total Kjeldahl nitrogen (TKN), total phosphorus, ortho-phosphate, soluble phosphorus, total dissolved solids (TDS), total suspended solids (TSS), biochemical oxygen demand (BOD), alkalinity, and total organic carbon. Table 2-2 summarizes the laboratory methods detection limits, state water quality standards, and sample holding times for each water quality parameter monitored.

Table 2-1. Water quality monitoring schedule of Blue Marsh Reservoir during 2014. Monitoring was conducted at 9 fixed stations located throughout the reservoir watershed.

Date of Sample Collection	Physical Stratification Monitoring (all stations)	Water Column Chemistry Monitoring (all stations)	Trophic State Assessment (BM—6)	Coliform Bacteria Monitoring (all stations)	Drinking Water Monitoring *
20 May	X	X	X	X	
17 June	X	X	X	X	
22 July	X	X	X	X	
11 August	X	X	X	X	
9 September	X	X	X	X	

*Drinking water samples are collected quarterly by personnel at each reservoir. This data is not included.

2.3 TROPHIC STATE DETERMINATION

The trophic state of Blue Marsh Reservoir was determined by methods outlined by Carlson (1977). In general, this method calculated trophic state indices (TSIs) independently for measures of total phosphorus, chlorophyll *a*, and secchi disk depth. Surface water measures of total phosphorus and chlorophyll *a* from chemistry monitoring were averaged in the calculation of monthly TSIs (Table 2-1). Secchi disk depth was measured at station BM-6. Trophic state determinations were made using criteria defined by Carlson and EPA (1983).

2.4 RESERVOIR COLIFORM BACTERIA MONITORING

Monitoring for coliform bacteria contaminants was conducted monthly at Blue Marsh Reservoir. Water samples were analyzed for total and fecal coliforms. Surface water samples were tested at all stations. Table 2-3 presents the test methods, detection limits, PADEP water quality standards, and sample holding times for the bacteria parameters monitored at Blue Marsh Reservoir in 2014. The bacteria analytical method was based on a membrane filtration technique. All of the samples were analyzed within their respective maximum allowable hold times.

Table 2-2. Water quality test methods, detection limits, state regulatory criteria, and sample holding times for water quality parameters monitored at Blue Marsh Reservoir in 2014

Parameter	(2) Method	Reporting Limit	PADEP Surface Water Quality Criteria	Allowable Hold Times (Days)
Total Alkalinity	SM20 2320B	1.0 mg/L	Min. 20 mg/L CaCO ₃	14
Biochemical Oxygen Demand (BOD)	SM20 5210B	2.0 mg/L	None	2
Total Phosphorus	SM20 4500-PE	0.01 mg/L	None	28
Diss./Ortho-Phosphate	SM20 4500-PE	0.01 mg/L	None	28
Soluble Phosphorus	SM20 4500-PE	0.05 mg/L	None	28
Total Organic Carbon (TOC)	SM20 5310C	1.0 mg/L	None	28
(3) Total Inorganic Carbon (TIC)	SM20 5310B	NA	None	28
(3) Total Carbon (TOC + TIC)	SM20 5310B	NA	None	28
(1) Chlorophyll a	YSI Probe	---	None	
Total Kjeldahl Nitrogen	351.2 MCAWW	0.25 mg/L	None	28
Ammonia	D6919-03	0.05 mg/L	Temp. and pH dependent	28
Nitrate	MCAWW 353.2	0.05 mg/L	Maximum 10 mg/L (nitrate + nitrite)	28
Nitrite	MCAWW 353.2	0.05 mg/L		28
Total Dissolved Solids	SM20 2540C	5.0 mg/L	Maximum 750 mg/L	7
Total Suspended Solids	SM20 2540D	3.0 mg/L	None	7

(1) Chlorophyll a samples were recorded using a YSI 6600 with a chlorophyll sensor.

(2) Laboratory Methods Reference:

MCAWW- "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SM-20- "Standard Methods for the Examination of Water and Wastewater", 22nd Edition, 2012.

SW846- "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", 3rd. Edition, November 1986 and updates.

(3) Samples were not analyzed for Total Carbon and Total Inorganic Carbon in 2014

NA- Not sampled or analyzed by lab

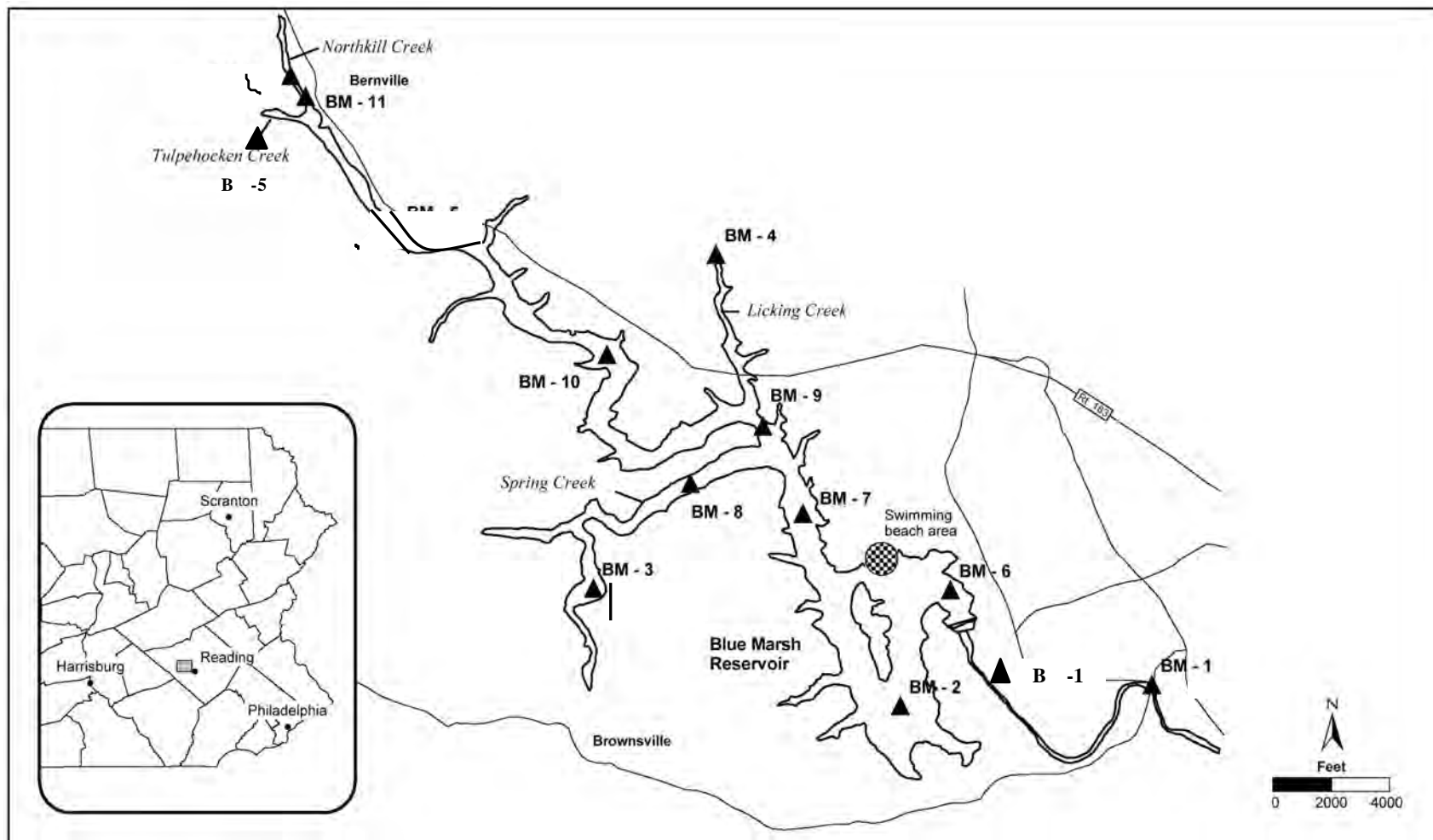


Figure 2-1. Blue Marsh Reservoir and the location of the 9 fixed stations monitored for water quality during 2014

Table 2-3. Water quality test methods, detection limits, PADEP water quality standards, and sample holding times for bacteria parameters monitored at Blue Marsh Reservoir in 2014.		
Parameter	Total Coliform/E-Coli	Fecal Coliform
Test method	SM 9223B	SM9222D
Minimum Detection limit	1 clns/100-mls	2 clns/100-mls
PADEP water quality standard	-	Geometric mean < 200 clns/100-mls
PA Department of Health	-	Geometric mean < 200 clns/100-mls. No sample > 1000 clns/100-mls
Maximum allowable holding time	30 hours	30 hours
Achieved holding time	< 30 hours	< 30 hours

The PADEP monthly coliform bacteria standard is defined as a maximum geometric mean of 200 colonies/100-ml based on 5 consecutive samples collected on different days. In addition, a single sample standard of 1000 colonies/100-ml can also be used. These standards are most applicable at bathing beaches. The Philadelphia District maintains a bathing beach at Blue Marsh Reservoir and conducts separate bacteria sampling of that area. Given our logistical limitations (all monthly reservoir sampling conducted on one day) and the fact that water contact recreation is permitted within the reservoir, the reservoir coliform data collected by the Corps is compared to the single sample standard as a method of collecting and evaluating background coliform data on the main body of the reservoir. Although our sampling design does not fully meet PADEP guidelines for bathing beach monitoring, we feel that this interpretation of the coliform data meets the intent of the PADEP water quality standard for evaluating Blue Marsh Reservoir bacteria levels within the main reservoir body.

2.5 SWIMMING BEACH MONITORING

Additional coliform bacteria monitoring was conducted twice weekly near the public swimming beach at the Dry Brooks day use area (Table 2-4). Three stations (SB-1, SB-2, and SB-3) were monitored in the swimming beach area for total coliform, fecal coliform, and Escherichia coli (Figure 2-2). The coliform bacteria samples were collected and analyzed by the same methods used for monthly coliform bacteria sampling. The bacteria monitoring for Blue Marsh Swimming Beach followed a 4-step program of conditional monitoring. Each step or “condition” of monitoring responded to incremental increases of coliform contamination, and therefore reflected the risk to public health at the swimming beach area.

Week 1	12 and 15 May	Week 10	14 and 17 July
Week 2	19 and 22 May	Week 11	21 and 24 July
Week 3	27 and 29 May	Week 12	28 and 31 July
Week 4	02 and 05 June	Week 13	04 and 07 August
Week 5	09 and 12 June	Week 14	11 and 14 August
Week 6	16 and 19 June	Week 15	18 and 21 August
Week 7	23 and 26 June	Week 16	25 and 28 August
Week 8	30 June and 03 July	Week 17	02 and 04 September
Week 9	07 and 10 July		

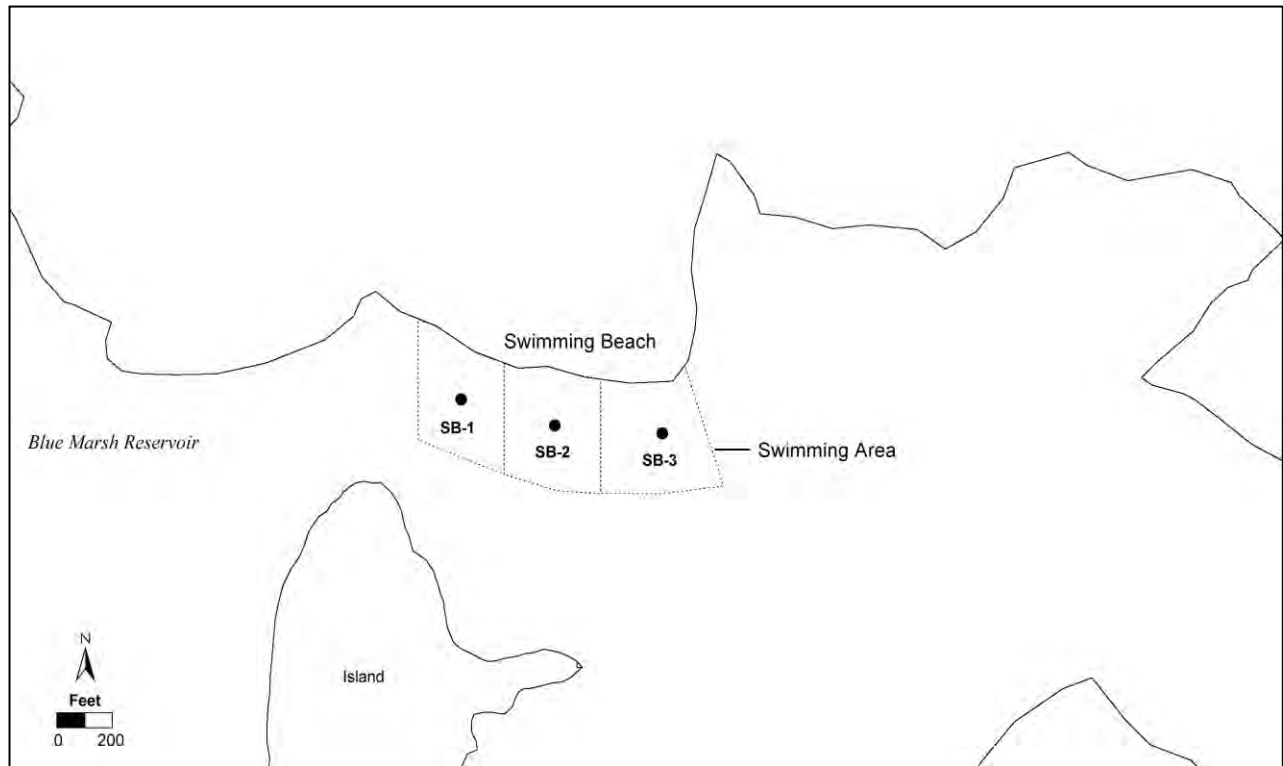


Figure 2-2. Swimming beach bacteriological monitoring stations at Blue Marsh Reservoir in 2014

3.0 RESULTS AND DISCUSSION

3.1 STRATIFICATION MONITORING

The following sections summarize the results of water quality monitoring for physical and chemical parameters: temperature, dissolved oxygen, and pH. Seasonal and spatial patterns of surface water quality measured throughout the reservoir watershed, and seasonal and depth related patterns of the stratified water column based on measures from the deepest portion of the reservoir (station BM-6 or the “Tower”) are described. It is appropriate to focus discussion on tributary sampling stations and stratification at station BM-6 as water quality problems related to depth are generally most severe in deep water habitats. Corps personnel collected the physical/chemical water quality data discussed herein over the monitoring period from May to September 2014, the most productive time of the year for the reservoir. All of the parameters were measured with a calibrated YSI 6600 V2-4 water quality meter and are presented in Appendix A.

3.1.1 Temperature

Temperature is the primary influencing factor on water density, affects the solubility of many chemicals' compounds, and can therefore influence the effect of pollutants on aquatic life. Increased temperatures elevate the metabolic oxygen demand, in conjunction with reduced oxygen solubility, and can impact many species. Vertical stratification patterns naturally occurring in lakes affect the distribution of dissolved and suspended compounds.

Surface water temperature seasonal patterns upstream of the reservoir at stations BM-5 and BM-11 closely resembled each other throughout the sampling season (Fig. 3-1). Maximum temperatures of 21.22°C and 21.38°C were recorded at station BM-5S and BM-11S respectively in August. The maximum surface water temperature downstream of the reservoir at station BM-1S was 21.68°C in September with a minimum of 15.75°C in May. Downstream temperatures are influenced through selective withdrawals at the Blue Marsh Dam. Annually the Corps performs selective withdrawal releases in an attempt to maintain temperatures downstream in the Tulpehocken Creek of less than 20°C in support of the trout fishery. The ability to meet this objective is dependent on meteorological conditions and other physical and operational limitations. The temperature objective was routinely exceeded in 2014 from July through September.

Blue Marsh Reservoir was stratified with respect to temperature during 2014. The stratification pattern was most apparent at station BM-6 or the “Tower” station located in the deepest part of the reservoir (Fig. 3-2). The onset of stratification was evident in May sampling. May sampling showed the lake being stratified with temperatures from surface to bottom differing by 7.23 °C. The deeper and cooler temperature (<20°C) water was available for selective withdrawal to meet downstream temperature objectives through late July. Stratification peaked in late-July and a noticeable shift to deeper warmer water temperatures

was evident into August and September. An erosion of the epilimnion was seen in August sampling as the lake began the process of de-stratifying.

3.1.2 Dissolved Oxygen

Dissolved oxygen (DO) is the measure of the amount of DO in water. Typically, DO concentrations in surface waters are less than 10 mg/L. Dissolved Oxygen concentrations are subject to diurnal and seasonal fluctuations that can be influenced, in part, by temperature, river discharge, and photosynthetic activity. Dissolved Oxygen is essential to the respiratory metabolism of most aquatic organisms. It affects the availability and solubility of nutrients and subsequently the productivity of aquatic ecosystems. Low levels of oxygen can facilitate the release of nutrients from bottom sediments.

Surface waters upstream of the reservoir at tributary stations BM-5S and BM-11S had similar seasonal DO patterns except for August (Fig. 3-3). The maximum DO concentration of 10.34 mg/L was recorded in August at station BM-5S. The maximum surface water DO concentration downstream of the dam at station BM-1S was 10.72 mg/L recorded in May with a minimum of 7.89 recorded in September. The spike in DO at station BM-5S in August may be associated with an algal bloom and subsequent increase in surface DO levels.

Seasonal stratification and chemical and biological processes at Blue Marsh Reservoir dramatically influenced the distribution of DO in the water column during 2014 (Fig. 3-4). In May, the influence of stratification was apparent at station BM-6, as DO concentrations decreased from 12.01 mg/L near the surface to 3.03 mg/L near the lake bottom. Historically, the lower oxygen levels deeper in the lake progressively move up the water column to within approximately 15-feet of the surface in mid- to late August. In 2014, this pattern was recorded in July and continued into September. In most years the surface waters remain oxygenated as a result of surface algal productivity. In August, dissolved oxygen concentrations decreased from 11.59 mg/L at the surface to 3.84 mg/L at a depth of 10 feet and from 10 feet to the lake bottom ranged from 0.17 to 0.23 mg/L. Dissolved oxygen concentrations in the upper water column of Blue Marsh Reservoir were in compliance with PADEP water quality standards during the 2014 sampling season. The Pennsylvania water quality standard for DO is a minimum concentration of 5 mg/L within the epilimnion of stratified lakes.

The health of aquatic ecosystems can be impaired by low DO concentrations in the water column. Hypoxia, or conditions of DO concentrations less than 2 mg/L, is generally accepted as the threshold at which the most severe effects on biota occur. In June through September of 2014, the lower water column of Blue Marsh was severely affected by hypoxia (Fig. 3-4). Hypoxic water occupied more than half of the water column in some of these months. Hypoxia in the lower water column is a symptom of eutrophication. Nutrients in the water column feed explosive algal growth at the surface photic zone. Dead and decaying algae sink to lower levels of the water column and during the process of decay; oxygen is removed from the water.

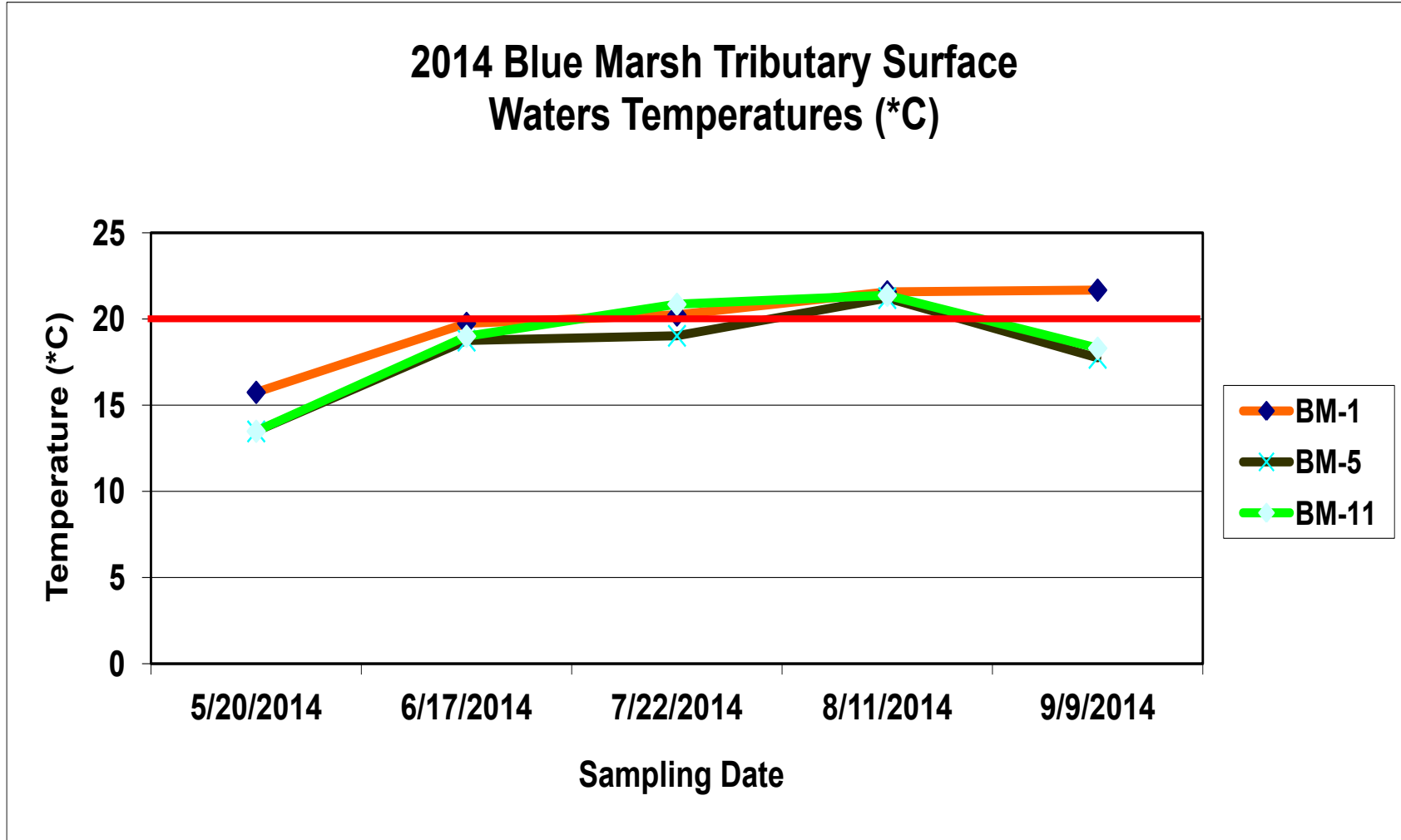


Figure 3-1. Tributary and downstream surface water temperatures (°C) measured at Blue Marsh Reservoir in 2014. Station BM-1S is located downstream of the reservoir. See Appendix A for summary of plotted values.

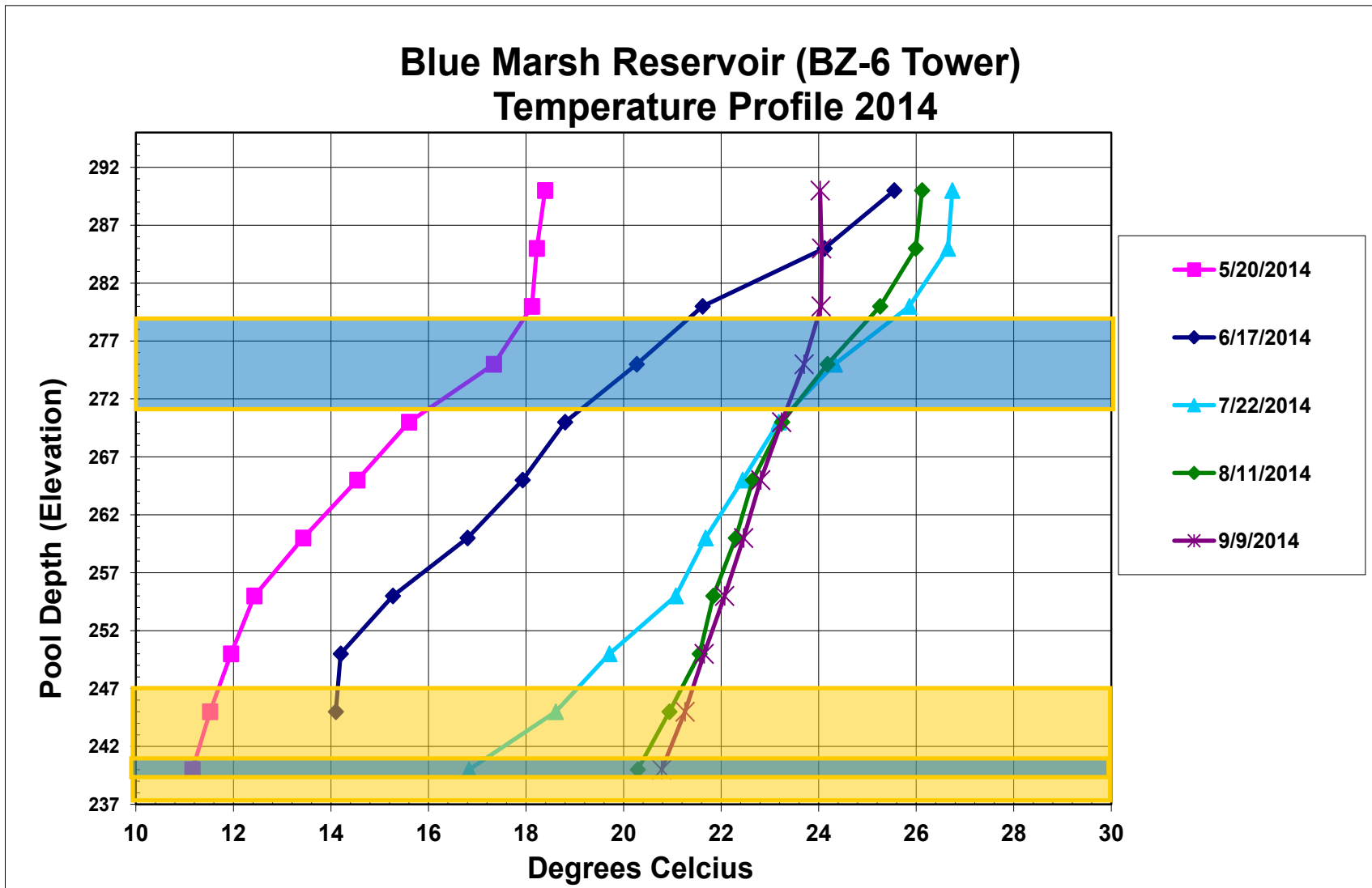


Figure 3-2. Temperature stratification and release portal elevations at station BM-6 of Blue Marsh Reservoir in 2014. See Appendix A for summary of plotted values.

3.1.3 pH

The hydrogen –ion concentration in water is measured as pH. The pH scale is 0-14. A pH below 7 is considered acidic and a pH above 7 is basic. High pH values tend to facilitate solubilization of ammonia, salts, and heavy metals. Low pH levels tend to increase carbonic acid and carbon dioxide concentrations. Lethal effects of pH on aquatic life typically occur below pH 4.5 and above pH 9.5.

Measures of pH in the surface waters of Blue Marsh Reservoirs upstream and downstream sampling stations followed a similar pattern during 2014 (Fig. 3-5). In the months sampled, no pH measures violated the PADEP water quality standard maximum or minimum pH level of 9.0 and 6.0, respectively. For the entire monitoring period and at all tributary stations, pH ranged from 7.69 to 8.45.

The pH profile in the water column of Blue Marsh Reservoir was consistent with a stratified lake during 2014 (Fig. 3-6). Throughout the monitoring period the upper 10 feet of the water column had consistently higher pH measures than the deeper waters. During most months, pH at the surface to a depth of 10 feet ranged between 7.86 and 9.04. In contrast, measures of pH in the lower water column (>10 feet) were consistently lower during the monitoring period and ranged between 6.94 and 8.13. The higher pH in surface waters (euphotic zone) of the reservoir is most likely a result of excessive algal blooms. As a function of increased productivity during photosynthesis, algae remove CO₂ from the water column. Dissolved CO₂ is slightly acidic; its reduction in the water column manifests an increase in pH. In May through September of 2014, one surface water sample at Blue Marsh Reservoir station BM-6 violated the PADEP pH standard. No other samples violated the state standard during the sampling season.

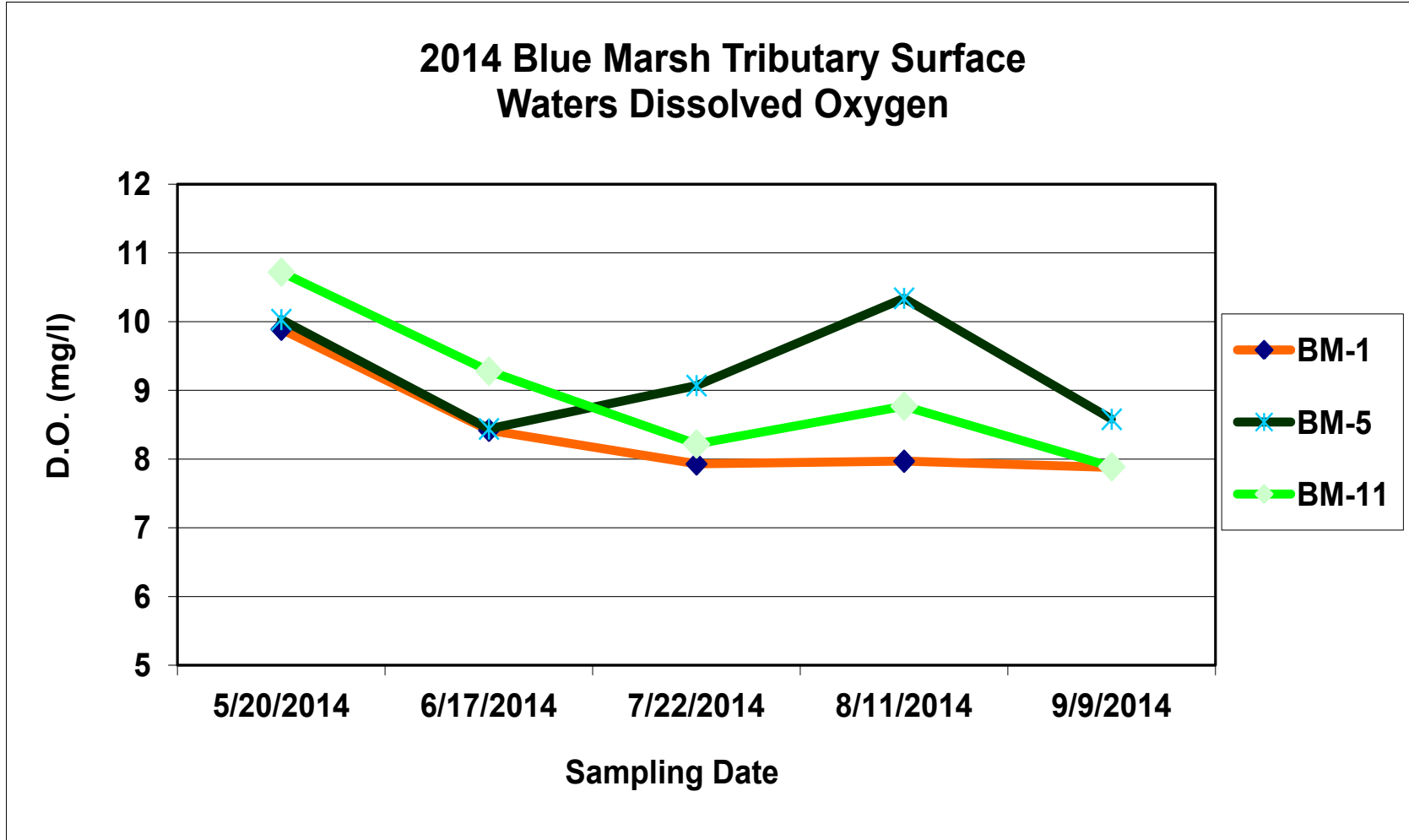


Figure 3-3. Tributary and outflow surface water dissolved oxygen concentrations measured at Blue Marsh Reservoir in 2014. (The PADEP water quality standard for DO is a minimum concentration of 5 mg/L.) See Appendix A for summary of plotted values.

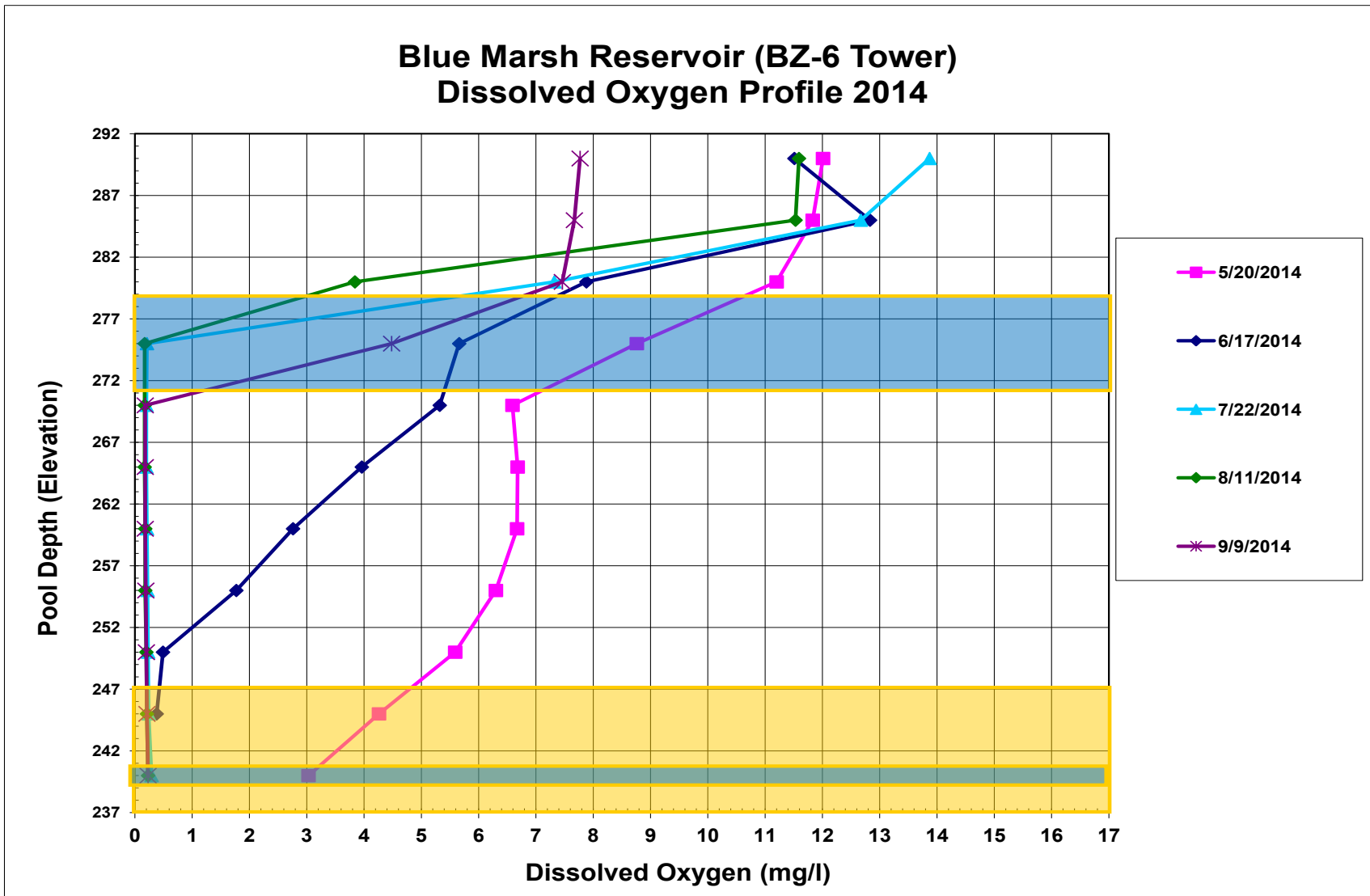


Figure 3-4. Release portal elevations and dissolved oxygen stratification at station BM-6 of Blue Marsh Reservoir in 2014. (PADEP water quality standard for DO is a minimum concentration of 5 mg/L.) See Appendix A for summary of plotted values.

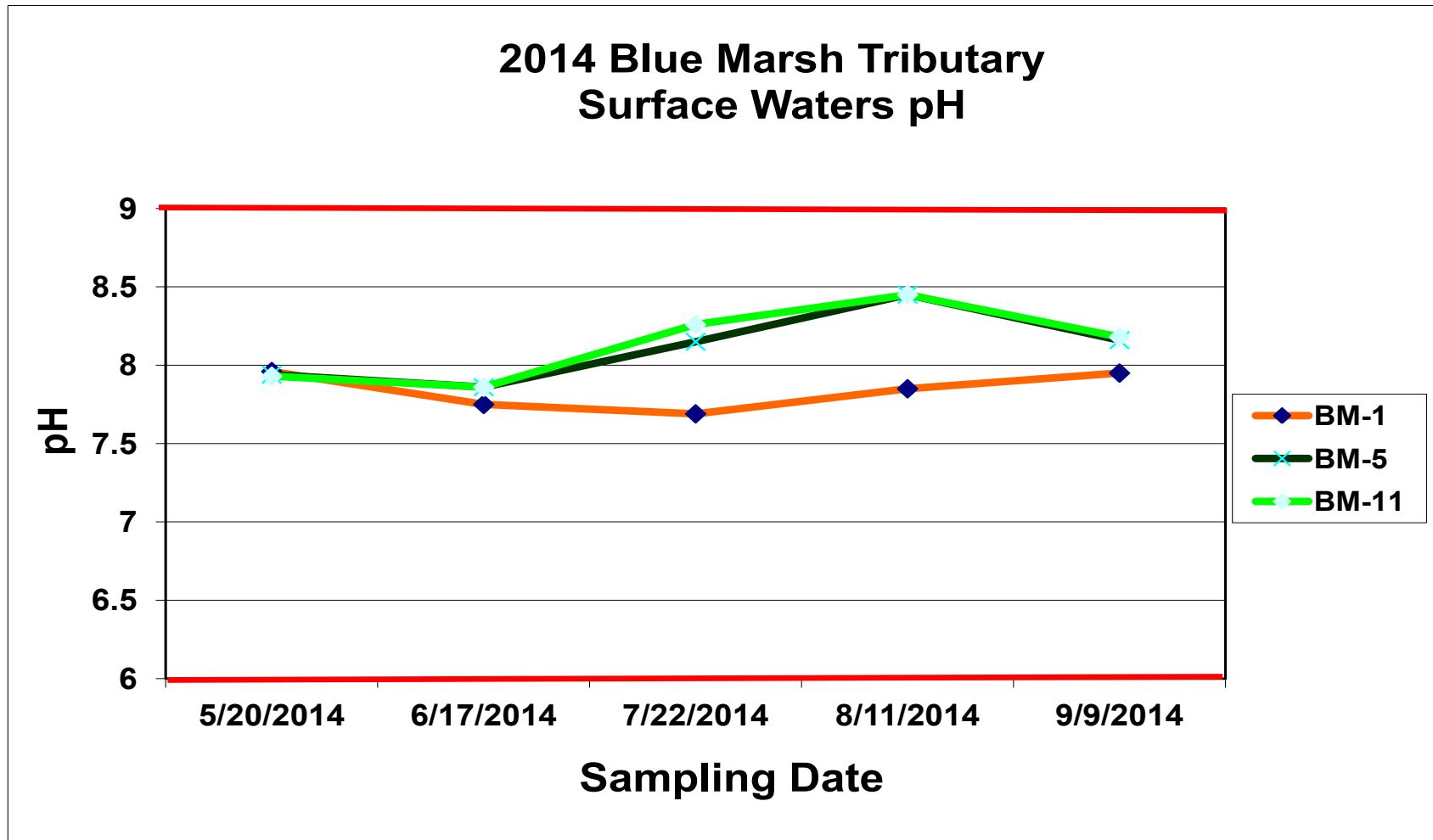


Figure 3-5. Tributary and outflow surface water pH measured at Blue Marsh Reservoir in 2014. (The PADEP water quality standard for pH is a range from 6 to 9.) See Appendix A for summary of plotted values.

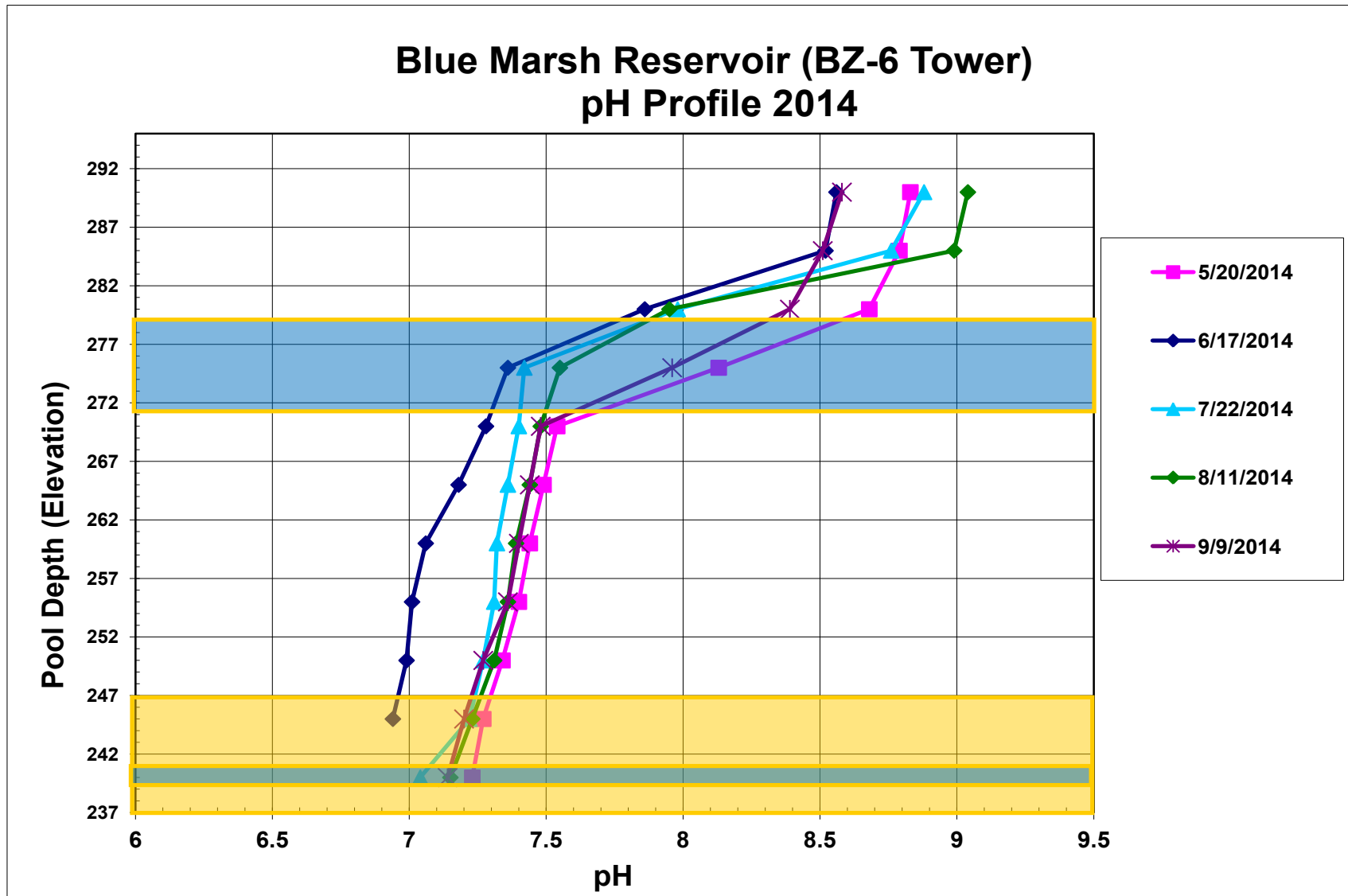


Figure 3-6. Release portal elevations and stratification of pH at station BM-6 of Blue Marsh Reservoir in 2014. (The PADEP water quality standard for pH is a range from 6 to 9.) See Appendix A for summary of plotted values.

3.2 WATER COLUMN CHEMISTRY MONITORING

The following sections describe temporal, spatial, and depth patterns for the water quality parameters measured in surface, middle, and bottom waters of Blue Marsh Reservoir during 2014 (Table 3-1).

3.2.1 Ammonia

Total Ammonia (NH₃) is a measure of the most reduced inorganic form of nitrogen in water and includes dissolved ammonia and the ammonium ion. Ammonia is a small component of the nitrogen cycle but as an essential plant nutrient, it contributes to the trophic status of a water body. Excess ammonia contributes to eutrophication of water bodies. This can result in excessive algal growths and impacts on recreation and drinking water supplies. In high concentrations, ammonia is toxic to aquatic life.

In general, ammonia remained relatively low in the waters of Blue Marsh Reservoir with most upstream tributary and all lake surface samples less than the reporting limit (0.05 mg/L). Algal uptake in the surface waters may account for the low concentrations at these stations. Higher concentrations were seen in the middle and deep water samples at the deeper lake stations (Table 3-1). The maximum value recorded during the sampling season of 1.79 mg/L was measured in the lake bottom waters at station BM-6B during September. Concentrations of ammonia measured at Blue Marsh Reservoir were in compliance with PADEP water quality standards during all of the 2014 sampling season. The state water quality standard for ammonia is dependent on temperature and pH (Table 3-2).

Ph	10 °C	15 °C	20 °C	25 °C	30 °C
6.50	25.5	17.4	12.0	8.4	5.9
6.75	23.6	16.0	11.1	7.7	5.5
7.00	20.6	14.0	9.7	6.8	4.8
7.25	16.7	11.4	7.8	5.5	3.9
7.50	12.4	8.5	5.9	4.1	2.9
7.75	8.5	5.8	4.0	2.8	2.0
8.00	5.5	5.8	4.0	2.8	2.0
8.25	3.4	2.3	1.6	1.2	0.9
8.50	2.0	1.4	1.0	0.7	0.6
8.75	1.2	0.9	0.6	0.5	0.4
9.00	0.8	0.5	0.4	0.3	0.3
9.25	0.36	0.24	0.17	0.12	0.08
9.50	0.20	0.13	0.10	0.07	0.05

Table 3-1. Summary of surface, middle, and bottom water quality monitoring data for Blue Marsh Reservoir in 2014

Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-01S	05/20/2014	101	<2	<0.05	<0.05	<0.05	4.63	<0.01	207	0.35	2.3	<0.01	<3
	06/17/2014	130	<2	<0.05	0.1	0.06	4.44	0.21	268	0.49	2	0.23	5
	07/22/2014	134	<2	<0.05	0.26	0.1	3.42	<0.01	234	0.54	2.2	0.06	4
	08/11/2014	147	3	<0.05	0.74	0.05	2.56	0.05	178	0.48	2.3	0.05	4
	09/09/2014	136	3	<0.05	0.79	0.11	1.98	<0.01	218	1.16	2.2	<0.01	<3
	Mean	129.6	2.4	0.05	0.388	0.074	3.406	0.058	221	0.604	2.2	0.072	3.8
	Stdev	17.184	0.548	0	0.353	0.029	1.153	0.087	33.287	0.319	0.122	0.091	0.837
	Max	147	3	0.05	0.79	0.11	4.63	0.21	268	1.16	2.3	0.23	5
	Min	101	2	0.05	0.05	0.05	1.98	0.01	178	0.35	2	0.01	3
No. of Dects	5	2	0	4	4	5	2	5	5	5	3	3	
BM-02S	05/20/2014	112	3	<0.05	<0.05	<0.05	4.58	0.35	154	0.45	2.7	0.33	<3
	06/17/2014	103	2	<0.05	<0.05	<0.05	4.07	0.02	204	0.37	2.4	0.03	5
	07/22/2014	64	<2	<0.05	<0.05	0.05	3.09	<0.01	145	0.6	2.9	0.01	5
	08/11/2014	64	4	<0.05	<0.05	<0.05	2.68	0.04	124	0.37	2.4	0.04	6
	09/09/2014	127	5	<0.05	0.71	0.16	2.26	<0.01	224	0.92	2.1	<0.01	<3
	Mean	94	3.2	0.05	0.182	0.072	3.336	0.086	170.2	0.542	2.5	0.084	4.4
	Stdev	28.697	1.304	0	0.295	0.049	0.966	0.148	42.038	0.231	0.308	0.138	1.342
	Max	127	5	0.05	0.71	0.16	4.58	0.35	224	0.92	2.9	0.33	6
	Min	64	2	0.05	0.05	0.05	2.26	0.01	124	0.37	2.1	0.01	3
No. of Dects	5	4	0	1	2	5	3	5	5	5	4	3	

Table 3-1 continued. Summary of surface, middle, and bottom water quality monitoring data for Blue Marsh Reservoir in 2014

Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-02M	05/20/2014	92	3	<0.05	<0.05	<0.05	4.58	0.02	108	0.38	3	0.02	<3
	06/17/2014	115	<2	0.06	0.12	<0.05	4.24	0.02	231	0.51	2.9	0.1	8
	07/22/2014	126	<2	<0.05	0.12	0.18	3.9	<0.01	197	0.57	2.2	<0.01	6
	08/11/2014	102	4	<0.05	<0.05	0.1	3.05	0.12	172	0.48	2.1	0.12	4
	09/09/2014	96	<2	<0.05	0.12	0.11	2.39	<0.01	166	0.56	2.2	0.02	4
	Mean	106.2	2.6	0.052	0.092	0.098	3.632	0.036	174.8	0.5	2.48	0.054	5
	Stdev	14.078	0.894	0.004	0.038	0.054	0.897	0.047	45.274	0.076	0.432	0.052	2
	Max	126	4	0.06	0.12	0.18	4.58	0.12	231	0.57	3	0.12	8
	Min	92	2	0.05	0.05	0.05	2.39	0.01	108	0.38	2.1	0.01	3
No. of Dects	5	2	1	3	3	5	3	5	5	5	4	4	
BM-02B	05/20/2014	100	<2	<0.05	0.06	<0.05	5	0.05	205	0.35	1.9	0.058	3
	06/17/2014	147	<2	0.24	0.52	0.09	3.07	0.11	274	0.76	1.6	0.28	6
	07/22/2014	147	4	<0.05	0.52	0.21	3.03	0.05	244	2.12	2	0.25	64
	08/11/2014	128	6	<0.05	0.5	0.15	2.94	0.21	201	0.89	2.1	0.21	7
	09/09/2014	75	<2	<0.05	<0.05	0.09	2.06	0.03	169	0.68	2.5	0.03	4
	Mean	119.4	3.2	0.088	0.33	0.118	3.22	0.09	218.6	0.96	2.02	0.166	16.8
	Stdev	31.405	1.789	0.085	0.251	0.063	1.078	0.073	40.833	0.678	0.327	0.114	26.433
	Max	147	6	0.24	0.52	0.21	5	0.21	274	2.12	2.5	0.28	64
	Min	75	2	0.05	0.05	0.05	2.06	0.03	169	0.35	1.6	0.03	3
No. of Dects	5	2	1	4	4	5	5	5	5	5	5	5	

Table 3-1 continued. Summary of surface, middle, and bottom water quality monitoring data for Blue Marsh Reservoir in 2014

Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-05S	05/20/2014	171	<2	0.06	<0.05	<0.05	8.07	0.05	306	<0.25	1.4	0.07	7
	06/17/2014	200	<2	<0.05	<0.05	<0.05	8.13	0.2	366	0.34	1.3	0.2	14
	07/22/2014	225	<2	<0.05	<0.05	<0.05	7.82	<0.01	348	<0.25	1.2	0.05	11
	08/11/2014	184	<2	<0.05	<0.05	<0.05	7.5	<0.01	300	<0.25	1.4	0.02	9
	09/09/2014	141	<2	<0.05	<0.05	<0.05	4.87	0.03	273	0.43	2.3	0.06	10
	Mean	184.2	2	0.052	0.05	0.05	7.278	0.06	318.6	0.304	1.52	0.08	10.2
	Stdev	31.444	0	0.004	0	0	1.369	0.08	37.733	0.08	0.444	0.07	2.588
	Max	225	2	0.06	0.05	0.05	8.13	0.2	366	0.43	2.3	0.2	14
	Min	141	2	0.05	0.05	0.05	4.87	0.01	273	0.25	1.2	0.02	7
	No. of Dects	5	0	1	0	0	5	3	5	2	5	5	5
BM-06S	05/20/2014	99	2	<0.05	<0.05	<0.05	4.53	0.02	193	0.3	2.4	0.07	4
	06/17/2014	109	<2	0.22	<0.05	<0.05	4.09	0.22	216	0.46	2.4	0.24	4
	07/22/2014	74	2	<0.05	<0.05	0.06	3.2	<0.01	154	0.43	2.7	<0.01	5
	08/11/2014	68	3	<0.05	<0.05	<0.05	2.75	<0.01	119	0.51	2.6	<0.01	4
	09/09/2014	80	2	<0.05	<0.05	0.1	2.14	<0.01	177	0.51	3	<0.01	4
	Mean	86	2.2	0.084	0.05	0.062	3.342	0.054	171.8	0.442	2.62	0.068	4.2
	Stdev	17.335	0.447	0.076	0	0.022	0.973	0.093	37.198	0.086	0.249	0.1	0.447
	Max	109	3	0.22	0.05	0.1	4.53	0.22	216	0.51	3	0.24	5
	Min	68	2	0.05	0.05	0.05	2.14	0.01	119	0.3	2.4	0.01	4
	No. of Dects	5	4	1	0	2	5	2	5	5	5	2	5

Table 3-1 continued. Summary of surface, middle, and bottom water quality monitoring data for Blue Marsh Reservoir in 2014

Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-06M	05/20/2014	105	<2	<0.05	0.06	<0.05	5	0.02	206	0.38	2.1	0.03	<3
	06/17/2014	148	<2	0.09	0.14	0.05	4.76	0.1	256	0.3	2	0.11	5
	07/22/2014	147	<2	<0.05	0.21	0.28	3.64	0.01	209	0.4	2.1	0.02	3
	08/11/2014	112	3	<0.05	0.26	<0.05	2.94	0.11	184	0.4	2.1	0.11	3
	09/09/2014	116	3	<0.05	0.18	<0.05	2.19	<0.01	205	0.66	2	0.02	3
	Mean	125.6	2.4	0.058	0.17	0.096	3.706	0.05	212	0.428	2.06	0.058	3.4
	Stdev	20.379	0.548	0.018	0.075	0.103	1.191	0.05	26.524	0.136	0.055	0.048	0.894
	Max	148	3	0.09	0.26	0.28	5	0.11	256	0.66	2.1	0.11	5
	Min	105	2	0.05	0.06	0.05	2.19	0.01	184	0.3	2	0.02	3
	No. of Dects	5	2	1	5	2	5	4	5	5	5	5	4
BM-06B	05/20/2014	108	<2	0.07	0.38	0.06	3.96	0.05	167	0.79	2.7	0.09	3
	06/17/2014	148	<2	<0.05	0.37	0.1	3.47	0.04	218	0.53	1.6	0.05	5
	07/22/2014	145	<2	<0.05	0.36	0.18	3.21	<0.01	204	0.63	2.1	0.04	6
	08/11/2014	146	8	<0.05	1.09	0.07	2.13	<0.01	218	1.34	2.3	0.03	5
	09/09/2014	162	3	<0.05	1.79	0.09	1.42	0.18	222	3.88	4.5	0.8	26
	Mean	141.8	3.4	0.054	0.798	0.1	2.838	0.058	205.8	1.434	2.64	0.202	9
	Stdev	20.105	2.608	0.009	0.636	0.047	1.038	0.07	22.742	1.403	1.113	0.335	9.566
	Max	162	8	0.07	1.79	0.18	3.96	0.18	222	3.88	4.5	0.8	26
	Min	108	2	0.05	0.36	0.06	1.42	0.01	167	0.53	1.6	0.03	3
	No. of Dects	5	2	1	5	5	5	3	5	5	5	5	5

Table 3-1 continued. Summary of surface, middle, and bottom water quality monitoring data for Blue Marsh Reservoir in 2014

Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-07S	05/20/2014	105	3	<0.05	<0.05	<0.05	4.6	<0.01	196	0.5	3	<0.01	<3
	06/17/2014	108	3	<0.05	<0.05	<0.05	4.05	0.04	229	0.86	2.3	0.04	7
	07/22/2014	74	3	<0.05	<0.05	<0.05	3.21	<0.01	160	0.5	2.6	0.02	11
	08/11/2014	65	4	<0.05	<0.05	<0.05	2.76	<0.01	134	0.46	3.7	<0.01	4
	09/09/2014	84	<2	<0.05	<0.05	0.08	2.14	<0.01	166	0.83	2.4	0.03	6
	Mean	87.2	3	0.05	0.05	0.056	3.352	0.016	177	0.63	2.8	0.022	6.2
	Stdev	18.887	0.707	0	0	0.013	0.985	0.013	36.483	0.197	0.57	0.013	3.114
	Max	108	4	0.05	0.05	0.08	4.6	0.04	229	0.86	3.7	0.04	11
	Min	65	2	0.05	0.05	0.05	2.14	0.01	134	0.46	2.3	0.01	3
	No. of Dects	5	4	0	0	1	5	1	5	5	5	3	4
BM-07M	05/20/2014	107	3	<0.05	<0.05	<0.05	4.64	0.03	197	0.37	2.4	0.03	3
	06/17/2014	106	<2	0.09	<0.05	<0.05	4.12	0.09	229	0.47	2.6	0.09	7
	07/22/2014	120	<2	<0.05	0.07	0.07	3.8	<0.01	221	0.5	2.2	<0.01	5
	08/11/2014	83	3	<0.05	0.11	0.08	3.09	<0.01	148	0.48	2.2	<0.01	4
	09/09/2014	78	<2	<0.05	0.09	0.08	2.34	<0.01	166	0.66	2.3	<0.01	3
	Mean	98.8	2.4	0.058	0.074	0.066	3.598	0.03	192.2	0.496	2.34	0.03	4.4
	Stdev	17.683	0.548	0.018	0.026	0.015	0.9	0.035	34.809	0.105	0.167	0.035	1.673
	Max	120	3	0.09	0.11	0.08	4.64	0.09	229	0.66	2.6	0.09	7
	Min	78	2	0.05	0.05	0.05	2.34	0.01	148	0.37	2.2	0.01	3
	No. of Dects	5	2	1	3	3	5	2	5	5	5	2	5

Table 3-1 continued. Summary of surface, middle, and bottom water quality monitoring data for Blue Marsh Reservoir in 2014													
Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-07B	05/20/2014	107	<2	<0.05	0.14	<0.05	4.41	0.05	222	0.26	1.9	0.06	13
	06/17/2014	107	<2	<0.05	0.11	<0.05	5.04	<0.01	222	0.45	2.1	0.1	13
	07/22/2014	137	<2	<0.05	0.12	0.08	4.21	<0.01	252	0.6	2.2	0.04	9
	08/11/2014	118	3	<0.05	0.1	0.2	3.42	0.12	197	0.26	1.9	0.12	3
	09/09/2014	130	3	<0.05	0.42	0.13	2.68	<0.01	209	0.92	2	0.09	24
	Mean	119.8	2.4	0.05	0.178	0.102	3.952	0.04	220.4	0.498	2.02	0.082	12.4
	Stdev	13.517	0.548	0	0.136	0.064	0.917	0.048	20.501	0.276	0.13	0.032	7.668
	Max	137	3	0.05	0.42	0.2	5.04	0.12	252	0.92	2.2	0.12	24
	Min	107	2	0.05	0.1	0.05	2.68	0.01	197	0.26	1.9	0.04	3
	No. of Depts	5	2	0	5	3	5	2	5	5	5	5	5
BM-08S	05/20/2014	100	4	<0.05	<0.05	<0.05	4.32	0.01	197	0.5	2.6	0.01	5
	06/17/2014	104	2	<0.05	<0.05	<0.05	3.88	0.04	191	0.59	2.3	0.04	5
	07/22/2014	58	5	<0.05	<0.05	<0.05	3.04	<0.01	127	0.86	3.1	<0.01	11
	08/11/2014	71	5	<0.05	<0.05	<0.05	2.72	<0.01	152	0.8	3.2	0.02	8
	09/09/2014	76	2	<0.05	<0.05	0.06	2.11	0.05	154	0.87	2.5	0.05	6
	Mean	81.8	3.6	0.05	0.05	0.052	3.214	0.024	164.2	0.724	2.74	0.026	7
	Stdev	19.627	1.517	0	0	0.004	0.889	0.019	29.287	0.169	0.391	0.018	2.55
	Max	104	5	0.05	0.05	0.06	4.32	0.05	197	0.87	3.2	0.05	11
	Min	58	2	0.05	0.05	0.05	2.11	0.01	127	0.5	2.3	0.01	5
	No. of Depts	5	5	0	0	1	5	3	5	5	5	4	5

Table 3-1 continued. Summary of surface, middle, and bottom water quality monitoring data for Blue Marsh Reservoir in 2014

Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-08M	05/20/2014	99	3	<0.05	<0.05	<0.05	4.33	<0.01	207	0.52	2.6	<0.01	<3
	06/17/2014	91	2	<0.05	<0.05	<0.05	3.76	0.06	206	0.61	2.4	0.06	8
	07/22/2014	69	3	<0.05	<0.05	<0.05	3.2	<0.01	162	0.93	2.4	<0.01	8
	08/11/2014	70	3	<0.05	0.09	<0.05	2.82	<0.01	160	0.7	2.3	0.02	6
	09/09/2014	75	<2	<0.05	<0.05	0.06	2.12	<0.01	159	0.52	2.4	<0.01	7
	Mean	80.8	2.6	0.05	0.058	0.052	3.246	0.02	178.8	0.656	2.42	0.022	6.4
	Stdev	13.461	0.548	0	0.018	0.004	0.85	0.022	25.312	0.17	0.11	0.022	2.074
	Max	99	3	0.05	0.09	0.06	4.33	0.06	207	0.93	2.6	0.06	8
	Min	69	2	0.05	0.05	0.05	2.12	0.01	159	0.52	2.3	0.01	3
No. of Dects	5	4	0	1	1	5	1	5	5	5	2	4	
BM-08B	05/20/2014	91	<2	0.06	<0.05	<0.05	3.69	0.03	198	0.29	2.3	0.07	3
	06/17/2014	101	<2	0.09	0.14	<0.05	3.32	0.09	232	0.61	2.1	0.11	32
	07/22/2014	99	<2	<0.05	0.09	<0.05	3.38	<0.01	214	0.63	2	0.1	35
	08/11/2014	89	4	<0.05	0.27	0.06	2.88	0.17	183	1.72	3.4	0.43	74
	09/09/2014	85	2	<0.05	0.21	0.06	2.34	<0.01	190	0.48	2.4	0.09	17
	Mean	93	2.4	0.06	0.152	0.054	3.122	0.062	203.4	0.746	2.44	0.16	32.2
	Stdev	6.782	0.894	0.017	0.089	0.005	0.524	0.069	19.718	0.561	0.559	0.152	26.64
	Max	101	4	0.09	0.27	0.06	3.69	0.17	232	1.72	3.4	0.43	74
	Min	85	2	0.05	0.05	0.05	2.34	0.01	183	0.29	2	0.07	3
No. of Dects	5	2	2	4	2	5	3	5	5	5	5	5	

Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-09S	05/20/2014	97	3	<0.05	<0.05	<0.05	4.59	0.04	214	0.53	2.7	0.04	4
	06/17/2014	102	3	0.07	<0.05	<0.05	4.07	0.06	218	0.96	4	0.07	6
	07/22/2014	67	6	<0.05	<0.05	<0.05	3.15	0.01	164	1.22	2.8	0.06	14
	08/11/2014	70	4	<0.05	<0.05	<0.05	2.75	<0.01	149	0.7	2.4	<0.01	6
	09/09/2014	77	<2	<0.05	<0.05	0.07	2.23	<0.01	168	0.35	2.6	<0.01	5
	Mean	82.6	3.6	0.054	0.05	0.054	3.358	0.026	182.6	0.752	2.9	0.038	7
	Stdev	15.947	1.517	0.009	0	0.009	0.963	0.023	31.334	0.345	0.632	0.028	4
	Max	102	6	0.07	0.05	0.07	4.59	0.06	218	1.22	4	0.07	14
	Min	67	2	0.05	0.05	0.05	2.23	0.01	149	0.35	2.4	0.01	4
	No. of Depts	5	4	1	0	1	5	3	5	5	5	3	5
BM-09M	05/20/2014	103	2	<0.05	<0.05	<0.05	4.6	0.02	214	0.51	2.5	0.02	3
	06/17/2014	108	<2	0.1	<0.05	<0.05	4.47	0.16	213	0.49	2.8	0.16	6
	07/22/2014	121	<2	<0.05	<0.05	0.06	4.15	<0.01	228	0.25	2.3	0.02	5
	08/11/2014	92	3	<0.05	0.12	<0.05	3.23	0.18	183	0.81	2.3	0.19	8
	09/09/2014	81	<2	<0.05	0.06	0.07	2.29	<0.01	159	<0.25	2.2	0.04	7
	Mean	101	2.2	0.06	0.066	0.056	3.748	0.076	199.4	0.462	2.42	0.086	5.8
	Stdev	15.281	0.447	0.022	0.03	0.009	0.975	0.086	27.916	0.231	0.239	0.082	1.924
	Max	121	3	0.1	0.12	0.07	4.6	0.18	228	0.81	2.8	0.19	8
	Min	81	2	0.05	0.05	0.05	2.29	0.01	159	0.25	2.2	0.02	3
	No. of Depts	5	2	1	2	2	5	3	5	4	5	5	5

Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-09B	05/20/2014	127	<2	<0.05	0.05	<0.05	5.66	0.09	233	0.3	2	0.09	19
	06/17/2014	131	<2	0.09	0.17	0.06	4.17	0.25	222	0.34	1.8	0.26	20
	07/22/2014	163	<2	<0.05	0.32	0.08	4.25	<0.01	237	1.33	2.5	0.35	147
	08/11/2014	134	2	<0.05	0.28	0.06	4.2	0.18	256	0.94	2.1	0.18	25
	09/09/2014	127	4	<0.05	0.66	0.1	2.39	<0.01	238	<0.25	2	0.07	12
	Mean	136.4	2.4	0.058	0.296	0.07	4.134	0.108	237.2	0.632	2.08	0.19	44.6
	Stdev	15.159	0.894	0.018	0.229	0.02	1.161	0.106	12.276	0.48	0.259	0.117	57.431
	Max	163	4	0.09	0.66	0.1	5.66	0.25	256	1.33	2.5	0.35	147
	Min	127	2	0.05	0.05	0.05	2.39	0.01	222	0.25	1.8	0.07	12
	No. of Dects	5	2	1	5	4	5	3	5	4	5	5	5
BM-10S	05/20/2014	109	3	0.07	<0.05	<0.05	4.83	0.06	210	0.7	3.4	0.08	3
	06/17/2014	85	9	<0.05	<0.05	<0.05	3.72	0.04	174	1.85	3.7	0.1	20
	07/22/2014	62	6	<0.05	<0.05	<0.05	3.13	<0.01	137	0.92	2.9	<0.01	11
	08/11/2014	74	7	<0.05	<0.05	<0.05	2.65	<0.01	156	1.9	2.9	0.13	14
	09/09/2014	80	3	<0.05	<0.05	0.06	2.24	<0.01	167	0.51	2.6	0.06	9
	Mean	82	5.6	0.054	0.05	0.052	3.314	0.026	168.8	1.176	3.1	0.076	11.4
	Stdev	17.364	2.608	0.009	0	0.004	1.011	0.023	26.939	0.655	0.442	0.045	6.269
	Max	109	9	0.07	0.05	0.06	4.83	0.06	210	1.9	3.7	0.13	20
	Min	62	3	0.05	0.05	0.05	2.24	0.01	137	0.51	2.6	0.01	3
	No. of Dects	5	5	1	0	1	5	2	5	5	5	4	5

Table 3-1 continued. Summary of surface, middle, and bottom water quality monitoring data for Blue Marsh Reservoir in 2014

Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-10M	05/20/2014	116	<2	<0.05	<0.05	<0.05	6.2	0.09	242	<0.25	1.8	0.1	8
	06/17/2014	107	2	0.12	<0.05	<0.05	4.77	0.12	185	0.37	2.6	0.11	10
	07/22/2014	92	<2	<0.05	0.08	<0.05	3.94	<0.01	167	0.53	2.3	0.04	10
	08/11/2014	73	5	<0.05	<0.05	<0.05	2.9	<0.01	166	1.03	2.6	0.05	10
	09/09/2014	73	3	<0.05	<0.05	0.06	2.27	<0.01	165	<0.25	2.4	0.06	9
	Mean	92.2	2.8	0.064	0.056	0.052	4.016	0.048	185	0.486	2.34	0.072	9.4
	Stdev	19.512	1.304	0.031	0.013	0.004	1.552	0.053	32.917	0.325	0.329	0.031	0.894
	Max	116	5	0.12	0.08	0.06	6.2	0.12	242	1.03	2.6	0.11	10
	Min	73	2	0.05	0.05	0.05	2.27	0.01	165	0.25	1.8	0.04	8
	No. of Depts	5	3	1	1	1	5	2	5	3	5	5	5
BM-10B	05/20/2014	120	<2	<0.05	<0.05	<0.05	6.22	0.04	244	<0.25	1.6	0.05	25
	06/17/2014	131	<2	0.07	0.13	<0.05	6.22	0.07	236	0.44	1.7	0.15	73
	07/22/2014	150	<2	0.07	0.13	<0.05	5.58	<0.01	246	0.78	1.8	0.25	75
	08/11/2014	141	4	<0.05	0.19	<0.05	4.78	<0.01	258	1.06	2.2	0.27	154
	09/09/2014	115	<2	<0.05	0.06	<0.05	3.53	<0.01	225	<0.25	2.5	0.18	45
	Mean	131.4	2.4	0.058	0.112	0.05	5.266	0.028	241.8	0.556	1.96	0.18	74.4
	Stdev	14.467	0.894	0.011	0.058	0	1.137	0.027	12.256	0.355	0.378	0.088	49.1
	Max	150	4	0.07	0.19	0.05	6.22	0.07	258	1.06	2.5	0.27	154
	Min	115	2	0.05	0.05	0.05	3.53	0.01	225	0.25	1.6	0.05	25
	No. of Depts	5	1	2	4	0	5	2	5	3	5	5	5

Station	Date	ALK	BOD5	DISS-P	NH3	NO2	NO3	PO4	TDS	TKN	TOC	TP	TSS
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
BM-11S	05/20/2014	26	<2	<0.05	<0.05	<0.05	3.7	0.05	86	<0.25	1.8	0.05	4
	06/17/2014	31	<2	0.2	<0.05	<0.05	4.36	0.21	108	<0.25	1.8	0.31	11
	07/22/2014	145	<2	<0.05	<0.05	<0.05	5.78	0.05	243	0.45	1.9	0.08	10
	08/11/2014	120	4	<0.05	<0.05	<0.05	3.92	0.02	228	0.71	2.4	0.09	28
	09/09/2014	140	<2	<0.05	<0.05	<0.05	4.61	0.14	260	0.45	2.4	0.14	14
	Mean	92.4	2.4	0.08	0.05	0.05	4.474	0.094	185	0.422	2.06	0.134	13.4
	Stdev	59.104	0.894	0.067	0	0	0.813	0.079	81.498	0.19	0.313	0.104	8.933
	Max	145	4	0.2	0.05	0.05	5.78	0.21	260	0.71	2.4	0.31	28
	Min	26	2	0.05	0.05	0.05	3.7	0.02	86	0.25	1.8	0.05	4
	No. of Dects	5	1	1	0	0	5	5	5	3	5	5	5

3.2.2 Nitrite and Nitrate

Nitrite (NO₂) is a measure of a form of nitrogen that occurs as an intermediate in the nitrogen cycle. It is unstable and can rapidly be oxidized to nitrate or reduced to nitrogen gas. Nitrite is a source of nutrients for plants and can be toxic to aquatic life in relatively low concentrations. Nitrite concentrations were low at Blue Marsh Reservoir during 2014 (Table 3-1). Concentrations ranged from less than the reporting limit of 0.05 mg/L to 0.28 mg/L during the sampling season.

Nitrate (NO₃) is the measure of the most oxidized and stable form of nitrogen. It is the principal form of combined nitrogen in natural waters. Nitrate is the primary form of nitrogen used by plants as a nutrient to stimulate plant growth. Nitrate concentrations were similar across stations in Blue Marsh Reservoir in 2014 except for the consistently higher concentrations measured at upstream tributary station BM-5S (Table 3-1). Concentrations at all sampling locations and depths averaged 3.79 mg/L and ranged from 1.42 to 8.13 mg/L. Throughout the sampling period, concentrations at surface tributary station BM-5S averaged 7.28 mg/L with a maximum concentration of 8.13 mg/L in June and a minimum measure of 4.87 mg/L in September. It appears that the elevated nitrate concentrations at BM-5S are originating from somewhere in the Tulpehocken Creek watershed.

Concentrations of nitrate and nitrite measured at Blue Marsh Reservoir were in compliance with PADEP water quality standards during 2014. The state water quality standard for nitrogen from nitrite and nitrate sources is a summed concentration of not more than 10 mg/L. Summed concentrations at all stations were less than the State standard. The highest nitrogen summed concentration of 8.18 mg/L occurred in the surface waters at station BM-5S in May.

3.2.3 Total Kjeldahl Nitrogen

Total Kjeldahl nitrogen (TKN) is a measure of organic nitrogen that is inclusive of ammonia. Organic nitrogen is not immediately available for biological activity and is therefore not available for plant growth until decomposition to inorganic form occurs. In general, TKN remained low but variable throughout the water column of Blue Marsh Reservoir in 2014 (Table 3-1). Concentrations measured at all stations of the reservoir and tributaries ranged from less than the reporting limit of 0.25 mg/L to 3.88 mg/L. Higher readings were typically seen in the deeper waters of the reservoir.

3.2.4 Total Phosphorus

Total phosphorus (TP) is a measure of both organic and inorganic forms of phosphorus. It is an essential plant nutrient and is often the most limiting nutrient to plant growth in freshwater systems. Inputs of phosphorus are the prime contributing factors to eutrophication in most freshwater systems. Phosphorus bound to bottom sediments in lakes can be released when oxygen levels are depleted in bottom waters. This phosphorus then becomes available for plant growth.

EPA guidance for nutrient criteria in lakes and reservoirs suggests a maximum concentration for total phosphorus of 0.01-mg/L (EPA 2000). Lakes and reservoirs exceeding this concentration are more likely to experience algal bloom problems during the growing season. Total phosphorus in the watershed and lake body of Blue Marsh Reservoir was frequently measured at concentrations well above this standard during 2014 (Table 3-1). Bottom waters within the lake routinely had the highest measured concentrations. This may be a direct result of phosphorus release from bottom sediments during anoxic conditions. In 2014, only 18 of the 105 samples measured for total phosphorus at Blue Marsh Reservoir, including its tributaries, were less than the EPA guideline. The single sample values for all stations and depths ranged from 0.80 mg/L to <0.01 mg/L. Agriculture and other land use found in the watershed contribute to the elevated total phosphorus level in Blue Marsh reservoir.

3.2.5 Total Dissolved Phosphorus

Total dissolved phosphorus (DISS P) in the water column of Blue Marsh Reservoir was consistently low during 2014. Eighty one out of the 105 samples collected during the sampling season were less than the laboratory reporting limit of 0.05 mg/L (Table 3-1). Most stations showed their highest readings during the June sampling period.

3.2.6 Dissolved Phosphate

Orthophosphate (PO₄) is a measure of the inorganic oxidized form of soluble phosphorus. This form of phosphorus is the most readily available for uptake during photosynthesis. In freshwater environments, dissolved phosphate is usually a limiting nutrient and is readily taken up by freshwater plants and algae. Dissolved phosphate in the waters of Blue Marsh Reservoir was consistently low during 2014 (Table 3-1) with the majority of higher sample results occurring in the deeper waters of the reservoir. The single sample values for all stations and depths ranged from 0.35 mg/L to <0.01 mg/L (laboratory reporting limit).

3.2.7 Total Dissolved Solids

Total dissolved solids (TDS) are a measure of the amount of non-filterable dissolved material in the water. Dissolved salts such as sulfate, magnesium, chloride, and sodium contribute to elevated levels. Total dissolved solids (TDS) in the water column of Blue Marsh Reservoir at all stations and depths ranged from 366 mg/L to 86 mg/L in 2014 (Table 3-1). Among all sampled waters, upstream tributary station BM-5S had the highest single sample concentration of 366 mg/L in June and the highest sampling station seasonal average of 319 mg/L. The state water quality standard for TDS is a maximum concentration of 500 mg/L. Concentrations of total dissolved solids measured at Blue Marsh Reservoir did not exceed the PADEP water quality standard during 2014.

3.2.8 Total Suspended Solids

Total suspended solids (TSS) are a measure of the amount of filterable particulate matter that is suspended within the water column. High concentrations increase the turbidity of

the water and can hinder photosynthetic activity, result in damage to fish gills, and cause impairment to spawning habitat (smothering). Total suspended solids in the waters of Blue Marsh Reservoir were generally low during the 2014 sampling period (Table 3-1). Sample results at all stations and depths ranged from 154 mg/L to <3 mg/L (laboratory reporting limit). The maximum TSS readings were taken in the bottom water samples at reservoir deep water sampling locations. Uncharacteristically high single sample readings from bottom water samples can be attributed to sample collection error. On occasion, bottom sediments are re-suspended during the sample collection process and are inadvertently included in the sample. All elevated sample results occurred at bottom water sampling stations. The Pennsylvania Department of Environmental Protection (PADEP) has not issued a water quality standard for TSS.

3.2.9 Biochemical Oxygen Demand

Five-day biochemical oxygen demand (BOD) is a measure of the oxygen-depleting burden imposed by organic material present in water. It measures the rate of oxygen uptake by organisms in the water sample over a period of time. It is an indicator of the quality of a water body and the degree of pollution by biodegradable organic matter can therefore be inferred. The five-day biochemical oxygen demand and commonly accepted water quality inferences are as follows:

- 1-2 mg/L is associated with very clean water and little biodegradable wastes;
- 3-5 mg/L is associated with moderately clean water with some biodegradable wastes;
- 6-9 mg/L is associated with fairly polluted water, many bacteria, and much biodegradable wastes;
- 10+ mg/L is associated with very polluted water and large amounts of biodegradable wastes.

BOD in the water column of Blue Marsh Reservoir, for the most part, was relatively low during the 2014 sampling period (Table 3-1) with many concentrations less than the laboratory reporting limit of 2.0 mg/L primarily in the Spring time period. The BOD at all monitoring stations and depths ranged from <2.0 mg/L to 9.0 mg/L for the sampling period. Based on the overall BOD results from 2014, it is inferred that Blue Marsh Reservoir and its tributaries range from very clean with little biodegradable wastes in Spring and transitioning to moderately clean waters with some biodegradable wastes in Summer and Fall. The Pennsylvania Department of Environmental Protection (PADEP) does not issue a water quality standard for BOD.

3.2.10 Alkalinity

Alkalinity is a measure of the acid-neutralizing capacity of water. Waters that have high alkalinity values are considered undesirable because of excessive hardness and high concentrations of sodium salts. Water with low alkalinity has little capacity to buffer acidic inputs and is susceptible to acidification (low pH). The PADEP standard is a minimum concentration of 20-mg/L CaCO₃ except where natural conditions are less.

Throughout the monitoring period in 2014, concentrations at all stations and depths for Blue Marsh Reservoir ranged from 26 mg/L CaCO₃ to 225 mg/L CaCO₃ (Table 3-1). Concentrations of alkalinity measured at Blue Marsh Reservoir were in compliance with PADEP water quality standards for all samples collected during 2014.

3.2.11 Total Organic Carbon

Total organic carbon (TOC) is a measurement of the amount of dissolved and particulate carbon that is bound in organic compounds. TOC can be derived from decaying vegetation, bacterial growth, and metabolic activities of living organisms. The bulk of organic carbon in water is composed of humic substances and partly degraded animal and plant materials. Other sources of TOC can include agricultural chemicals such as herbicides and insecticides and also wastewater treatment plants. The amount of carbon in a freshwater stream is an indicator of the organic character of a water body. High organic content can increase the growth of microorganisms which contribute to the depletion of oxygen. Total organic carbon concentrations in the water column and tributaries of Blue Marsh Reservoir were low during 2014 (Table 3-1). Concentrations of TOC at all stations and depths ranged from 1.2 mg/L to 4.5 mg/L.

3.2.12 Chlorophyll a

Chlorophyll a is the measure of the plant chlorophyll “a” primary pigment which helps plants get energy from light. It is found in most plants, algae, and cyanobacteria. Chlorophyll a measures increase in relation to algal densities in a water body. Chlorophyll a is used as a measure of algal biomass. In 2014, the average concentration during the monitoring period for lake surface waters (<10 feet) at lake station BM-6 was 14.95 ug/L. (Appendix A). For all reservoir sampling stations, a maximum concentration of 54.6 ug/L was measured in the surface waters at station BM-8 in July and the minimum concentration of 0.5 ug/L was measured at the upstream surface water station BM-5S in September.

3.3 TROPIC STATE DETERMINATION

Carlson’s (1977) trophic state index (TSI) is a method of quantitatively expressing the magnitude of eutrophication for a lake. The trophic state analysis calculates separate indices for eutrophication based on measures of total phosphorus, chlorophyll a, and secchi disk depth. Index values for each parameter range on the same scale from 0 (least enriched) to 100 (most enriched). The resulting indices can also be compared to qualitative threshold values that correspond to levels of eutrophication: oligotrophic (TSI <40), mesotrophic (TSI >40), and eutrophic (TSI >50).

During 2014, TSI’s calculated for measures of secchi disk depth classified Blue Marsh Reservoir as eutrophic in May (56.22), June (56.22), July (53.68), August (53.23) and September (52.78) (Fig. 3-7). TSI’s calculated for measures of total phosphorus classified Blue Marsh Reservoir as eutrophic in May (65.41) and June (83.18) and oligotrophic in July (37.35), August (37.35) and September (37.35). TSI’s calculated for measures of chlorophyll a classified Blue Marsh Reservoir as eutrophic in May (57.77), June (50.62), July (56.80), August (59.04) and September (51.99). Carlson (1977) warned against averaging TSI values estimated for different parameters, and instead suggested giving priority to chlorophyll a in the summer and to

phosphorus in the spring, fall, and winter. With this in mind, the trophic state of the reservoir based on TSI's was eutrophic in all months sampled.

The EPA (1983) also provides criteria for defining the trophic conditions of lakes of the North Temperate Zone based on concentrations of total phosphorus, chlorophyll *a*, and secchi depth (Table 3-3). Based on these ranges of classification, Blue Marsh Reservoir was eutrophic throughout most of the 2014 monitoring period.

Table 3-3. EPA trophic classification criteria and average monthly measures for Blue Marsh Reservoir in 2014

Water Quality Variable	Oligo-trophic	Meso-trophic	Eutrophic	20 May	17 June	22 July	11 August	9 September
Total phos. (ppb)	<10	10-20	>20	70	240	10	10	10
Chlorophyll (ppb)	<4	4-10	>10	15.95	7.7	14.45	18.15	8.85
Secchi depth (m)	>4	2-4	<2	1.3	1.3	1.55	1.6	1.65

3.4 RESERVOIR COLIFORM BACTERIA MONITORING

Three forms of coliform bacteria contamination were monitored in the tributary and lake surface waters at Blue Marsh Reservoir during 2014 including total and fecal coliform (Table 3-4). Total coliform includes *escherica coliform* (*E. coli*) and related bacteria that are associated with fecal discharges. Escherica coliform is used as an indicator of the presence of other potentially dangerous pathogens. Fecal coliform bacteria are a subgroup of the total coliform and are normally associated with waste derived from human and other warm-blooded animals and indicate the presence of fecal contamination but not the associated risk.

Total coliform contamination of Blue Marsh Reservoir was relatively high at most stations during the 2014 monitoring period and exceeded the sample detection limit of 2400 colonies/100-ml in all months sampled at upstream tributary stations BM-5S and BM-11S. Total coliform values for all stations ranged from <1 colonies/100-ml to greater than the detection limit of 2400 colonies/100-ml. Bacteria in natural waters are common and their presence in the sample is not necessarily a human health concern. No State or federal standards exist for total coliform for water contact recreation.

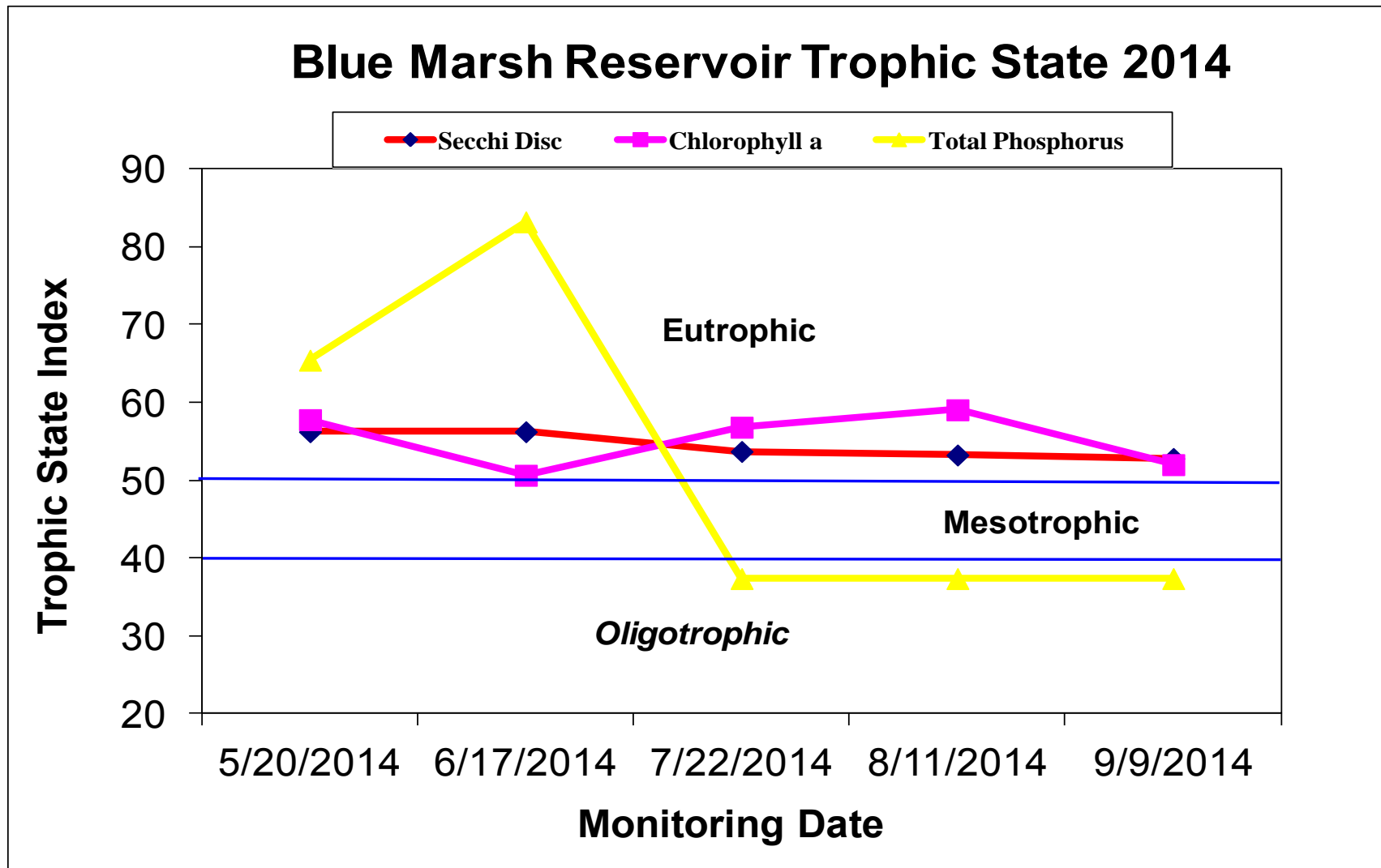


Figure 3-7. Trophic state indices calculated from secchi disk depth and concentrations of total phosphorus and chlorophyll *a* at Blue Marsh Reservoir in 2014.

Results and Discussion

The PADEP standard for fecal coliform bacteria during the swimming season (from 1 May to 30 September) is a geometric mean not greater than 200 colonies/100-ml calculated for not less than five fecal coliform samples collected over a consecutive thirty day period. Given that our regular monitoring was completed on one day as grab samples, single sample results were then compared to the Pennsylvania Department of Health single sample standard of <1000 colonies/100-ml. Fecal coliform contamination in surface waters of Blue Marsh Reservoir during 2014 ranged from less than the 2 clns/100-ml detection limit to a high of 990 clns/100-ml. Elevated bacteria readings were most often seen in upstream tributary surface waters to include stations BM-11S and BM-5S. The fecal coliform samples collected at Blue Marsh Reservoir did not exceed the State single sample standard in 2014. Water contact recreation, such as water skiing, is permitted at Blue Marsh Reservoir. The Corps recreational swimming beach is monitored and managed separately from the monthly routine water quality sampling (see Section 3.5).

Escherichia coli (E. coli) was monitored in the lake and tributaries to better understand bacteria trends. E. coli is the most reliable indicator of fecal bacterial contamination of surface waters in the United States according to water quality standards set by the EPA (2000). The EPA recommended recreational water quality standard for E. coli is based on two criteria: a geometric mean of 126 organisms/ 100 ml (geometric mean) threshold and 235 organisms/ 100 ml (single water sample) threshold. *Escherichia coli* measures exceeded the EPA single sample standard for swimming beaches on nine occasions during the sampling season. All of the samples were collected at upstream surface water tributary stations BM-11 and BM-5. High bacteria readings at these locations indicate that surface water bacterial contamination is originating from somewhere upstream of the Blue Marsh Reservoir.

Table 3-4. Bacteria counts (colonies/100 ml) at Blue Marsh Reservoir during 2014. Shaded values exceed the Pennsylvania Department of Health water quality standard for bathing beach of 1,000 fecal coliform colonies/100-ml or the EPA 235 colonies/100-ml single sample beach standard.

STATION	DATE	Total Coliform	Fecal Coliform (FC)	Escherichia coli
BM-1S	5/20/2014	2400	120	91
	6/17/2014	1200	200	75
	7/22/2014	> 2400	16	6
	8/11/2014	> 2400	3	4
	9/9/2014	1600	5	4
BM-2S	5/20/2014	33	3	4
	6/17/2014	170	< 2	3
	7/22/2014	550	2	2
	8/11/2014	580	< 2	< 1
	9/9/2014	190	5	< 1
BM-5S	5/20/2014	> 2400	690	650
	6/17/2014	> 2400	980	980
	7/22/2014	> 2400	390	260
	8/11/2014	> 2400	240	260
	9/9/2014	> 2400	990	980

Table 3-4. Continued

STATION	DATE	Total Coliform	Fecal Coliform (FC)	Escherichia coli
BM-6S	5/20/2014	30	< 2	< 1
	6/17/2014	200	10	< 1
	7/22/2014	2400	6	1
	8/11/2014	< 1	2	2
	9/9/2014	> 2400	5	4
BM-7S	5/20/2014	180	38	32
	6/17/2014	58	< 2	2
	7/22/2014	520	< 2	< 1
	8/11/2014	1700	< 2	< 1
	9/9/2014	980	3	2
BM-8S	5/20/2014	410	52	52
	6/17/2014	240	< 2	3
	7/22/2014	310	< 2	< 1
	8/11/2014	610	< 2	< 1
	9/9/2014	1300	3	2
BM-9S	5/20/2014	410	74	26
	6/17/2014	120	< 2	2
	7/22/2014	1100	5	4
	8/11/2014	980	2	< 1
	9/9/2014	690	2	1
BM-10	5/20/2014	1700	190	160
	6/17/2014	280	16	16
	7/22/2014	870	5	1
	8/11/2014	730	60	< 1
	9/9/2014	1100	50	46
BM-11	5/20/2014	> 2400	440	410
	6/17/2014	> 2400	520	490
	7/22/2014	> 2400	500	330
	8/11/2014	> 2400	210	160
	9/9/2014	> 2400	930	920

3.5 WEEKLY SWIMMING BEACH BACTERIA MONITORING

Weekly coliform bacteria monitoring was conducted at the public swimming beach of the Dry Brooks Day Use Area of Blue Marsh Reservoir to gauge compliance with Pennsylvania Department of Health bathing beach water quality standards to ensure public safety in this water contact recreation area. The bathing beach contamination standard, like the PADEP swimming season water quality standard, is based on a geometric mean of less than 200 colonies/100-ml for five samples collected over not more than a 30 consecutive day period, but also stipulates that no single sample should exceed 1,000 fecal coliform colonies/100-ml. Samples for coliform analysis were collected twice weekly from 3 fixed stations on each date in the regulated swimming area. During 2014, fecal coliform contamination at the swimming beach area of Blue Marsh Reservoir never exceeded the State single sample or geometric mean fecal criteria (Table 3-5).

Escherichia coli (E. coli) was monitored at the swimming beach to better understand bacteria trends. E. coli is the most reliable indicator of fecal bacterial contamination of surface waters in the United States according to water quality standards set by the EPA (2000). The EPA recommendation for recreational water quality standard for E. coli is based on two criteria: a geometric mean of 126 organisms/ 100 ml (geometric mean) threshold and 235 organisms/ 100 ml (single water sample) threshold. *Escherichia coli* measures never exceeded the EPA single sample or geometric mean standard at the Blue Marsh Reservoir swimming beach area in 2014.

Table 3-5. Single sample Maximum counts and 5-day running fecal coliform geometric means at the three swimming beach stations of Blue Marsh Reservoir in 2014. Shaded values indicate results were not in compliance with PA Dep. of Health water quality standards for bathing beaches: maximum count greater than 1,000 colonies/100-ml; 5-day geometric mean greater than 200 colonies/100-ml.

Week	Date	Single Maximum Count	5-Day Geometric Means		
			sb1	sb2	sb3
Week 1	12-May	3	-	-	-
	15-May	2	-	-	-
Week 2	19-May	2	-	-	-
	22-May	3	-	-	-
Week 3	27-May	2	2.00	2.00	2.35
	29-May	3	2.00	2.17	2.17
Week 4	02-June	3	2.00	2.35	2.17
	05-June	2	2.00	2.35	2.17
Week 5	9-June	3	2.00	2.35	2.17
	12-June	30	3.10	4.04	3.53
Week 6	16-June	8	3.73	4.92	4.25
	19-June	110	7.36	10.11	8.83
Week 7	23-June	3	7.98	10.11	8.83
	26-June	56	15.54	18.02	14.09
Week 8	30-June	2	10.02	10.49	8.65
	03-July	31	13.59	12.95	12.46
Week 9	07-July	6	8.58	6.30	6.49
	10-July	3	7.91	6.30	7.04
Week 10	14-July	18	5.71	5.49	4.89
	17-July	3	6.19	5.95	4.89
Week 11	21-July	5	4.12	3.96	3.39
	24-July	11	4.65	4.82	3.13
Week 12	28-July	43	8.59	8.28	4.96
	31-July	3	6.63	5.33	4.13
Week 13	4-August	11	6.63	6.92	5.70
	7-August	3	6.63	6.92	4.74
Week 14	11-August	3	5.11	5.69	4.74
	14-August	6	3.45	3.31	2.76
Week 15	18-August	8	3.82	4.36	2.99
	21-August	5	4.23	3.10	2.35
Week 16	25-August	6	4.86	3.44	2.93
	28-August	10	5.38	3.95	4.04
Week 17	2-September	5	5.19	4.28	4.86
	4-September	18	6.28	4.92	6.95

Results and Discussion

Table 3-6. Maximum counts and 5-day e-coli running geometric means of the three swimming beach stations of Blue Marsh Reservoir in 2014. Shaded values indicate results were not in compliance with PA Dep. of Health water quality standards for E-coli levels at bathing beaches: maximum single count greater than 235 colonies/100-ml; 5-day geometric mean greater than 126 colonies/100-ml.

Week	Date	Single Maximum Count	5-Day Geometric Means		
			sb1	sb2	sb3
Week 1	12-May	1	-	-	-
	15-May	2	-	-	-
Week 2	19-May	1	-	-	-
	22-May	2	-	-	-
Week 3	27-May	2	1.00	1.15	1.32
	29-May	3	1.00	1.43	1.52
Week 4	02-June	2	1.15	1.64	1.32
	05-June	2	1.15	1.89	1.32
Week 5	9-June	3	1.15	2.05	1.52
	12-June	23	2.15	3.76	2.40
Week 6	16-June	5	2.97	4.17	2.09
	19-June	93	5.86	8.99	4.99
Week 7	23-June	1	5.86	7.82	4.99
	26-June	43	12.43	11.07	8.45
Week 8	30-June	1	6.64	6.02	4.64
	03-July	19	8.38	7.17	8.37
Week 9	07-July	5	5.10	3.61	4.03
	10-July	1	5.10	3.61	4.03
Week 10	14-July	10	3.81	2.93	2.96
	17-July	3	3.81	3.65	2.96
Week 11	21-July	3	2.51	2.77	1.89
	24-July	2	2.09	2.22	1.64
Week 12	28-July	10	2.99	3.37	2.61
	31-July	3	2.35	2.35	1.82
Week 13	4-August	4	2.35	2.17	2.40
	7-August	1	2.05	1.74	2.09
Week 14	11-August	3	2.22	1.74	2.09
	14-August	4	2.05	1.43	1.64
Week 15	18-August	2	1.64	1.43	1.89
	21-August	2	1.89	1.25	1.64
Week 16	25-August	6	2.61	1.64	2.35
	28-August	11	2.99	2.49	3.80
Week 17	2-September	3	2.27	2.49	3.80
	4-September	13	3.79	4.16	5.13

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APPENDIX A

STRATIFICATION DATA TABLES

2014 Blue Marsh Stratification/Profile

Station	Date	Time	Depth	Temp	DO	DO	pH	pHmV	ORP	Turbidity	Chloro.	SpCond
	M/D/Y	hh:mm:ss	ft	C	%	mg/L		mV	mV	NTU	ug/L	mS/cm
BM-1	5/20/2014	13:08:10	1	15.75	99.8	9.89	7.96	-82	140	21.2	6.7	0.532
	6/17/2014	13:15:07	1	19.75	92.2	8.42	7.75	-70.7	171	22.9	5.4	0.567
	7/22/2014	12:55:38	1	20.24	87.7	7.93	7.69	-67.4	36	20.8	1.2	0.435
	8/11/2014	13:07:05	1	21.58	90.5	7.97	7.85	-76.7	149	21.3	0.7	0.443
	9/9/2014	12:09:32	1	21.68	89.6	7.88	7.95	-82.9	185	19.6	1.3	0.403
BM-2	5/20/2014	9:32:33	0.5	18.86	137.4	12.76	8.89	-136.1	100	20.6	13.2	0.502
		9:30:55	5	18.53	131.4	12.29	8.84	-133	98	21	24.6	0.503
		9:29:47	10	18.43	124.7	11.68	8.76	-128.5	96	20.9	21.6	0.503
		9:28:06	15	17.46	89.6	8.57	8.17	-94.3	98	21	14.1	0.506
		9:26:05	20	15.42	62.3	6.22	7.51	-56.4	100	24.5	6.2	0.492
		9:24:47	25	14.87	59.6	6.02	7.49	-55.1	98	25.4	5.4	0.497
		9:22:58	30	13.81	55.2	5.7	7.48	-54.7	94	23.2	2.8	0.542
		9:20:56	35	12.37	52	5.54	7.47	-53.8	87	22.6	3.3	0.544
		9:18:58	40	11.82	36.5	3.95	7.44	-52.2	76	33.8	8.1	0.547
BM-2	6/17/2014	9:37:02	0.5	25.16	145.2	11.95	8.77	-131.6	130	23.9	4.7	0.502
		9:34:34	5	24.48	147.1	12.26	8.59	-120.8	128	26.9	11.5	0.507
		9:33:26	10	21.9	93.1	8.15	8.11	-91.9	129	23.4	12	0.544
		9:32:33	15	19.64	65.8	6.02	7.53	-58.3	134	27.9	6.1	0.548
		9:30:52	20	18.46	57.9	5.43	7.44	-52.8	132	30.4	4.5	0.546
		9:29:01	25	17.84	46.3	4.39	7.4	-50.4	129	29.2	4.1	0.594
		9:26:57	30	16.81	33.4	3.23	7.33	-46.5	124	24.7	2.4	0.648
		9:25:42	35	15.49	20.6	2.05	7.29	-44	120	24.3	2.2	0.639
		9:24:17	40	14.3	3.9	0.4	7.27	-42.7	110	25.6	2.8	0.653
9:22:05	45	13.58	4.3	0.45	7.33	-46.6	82	61.3	3.3	0.658		
BM-2	7/22/2014	9:27:31	0.5	26.79	190.8	15.25	9.05	-148.3	31	20.5	11.7	0.29
		9:26:22	5	26.52	180.4	14.49	8.93	-141.5	22	22.1	19.8	0.289
		9:25:30	10	25.85	111.7	9.08	8.33	-106	20	23.1	16	0.326
		9:24:32	15	24.58	10.9	0.91	7.48	-56	18	21.9	11.6	0.39
		9:23:20	20	23.01	2.6	0.22	7.44	-53.3	13	21	3.6	0.424
		9:22:19	25	22.4	2.7	0.23	7.43	-52.6	10	20.6	3.1	0.426
		9:21:03	30	21.72	2.9	0.26	7.43	-52.5	6	20.5	2.6	0.436
		9:19:53	35	21.03	3.1	0.27	7.43	-52.5	-5	20.9	1.6	0.444
		9:18:42	40	20.06	3.6	0.33	7.45	-53.8	1	21	0.8	0.448
9:17:25	45	19.44	4.3	0.39	7.49	-56	-2	22.3	0.6	0.45		
BM-2	8/11/2014	9:37:20	0.5	26.15	156.7	12.67	9.27	-160.9	55	22.4	15.1	0.289
		9:34:39	5	26.04	153.6	12.44	9.19	-156.1	43	22.6	17.4	0.289
		9:33:03	10	25.44	94.7	7.76	8.51	-116	40	23	15	0.313
		9:31:31	15	23.95	49	4.12	7.76	-71.8	40	21.6	5.8	0.342
		9:29:19	20	23.36	2.2	0.19	7.61	-63	25	20.3	2.9	0.387
		9:26:52	25	22.69	2.3	0.2	7.58	-61.1	17	20.1	2.2	0.407
		9:24:44	30	22.28	2.5	0.21	7.56	-60.2	11	21.4	1	0.412
		9:23:27	35	21.97	2.7	0.23	7.57	-61	5	20.9	2.4	0.417
		9:21:26	40	21.49	3.1	0.27	7.58	-61	-13	22.7	1.8	0.427
9:19:57	43	21.23	3.6	0.32	7.61	-63.1	-18	22.7	1.9	0.431		

2014 Blue Marsh Stratification/Profile

Station	Date	Time	Depth	Temp	DO	DO	pH	pHmV	ORP	Turbidity	Chloro.	SpCond	
	M/D/Y	hh:mm:ss	ft	C	%	mg/L		mV	mV	NTU	ug/L	mS/cm	
BM-2	9/9/2014	9:27:50	0.5	24.29	110.1	9.21	8.88	-137.6	88.1	22.3	11.7	0.299	
		9:27:18	5	24.29	109.5	9.16	8.86	-136.6	86.2	22.1	11.9	0.299	
		9:26:19	10	24.27	107.7	9.01	8.8	-132.7	82.5	22.4	11.7	0.299	
		9:25:26	15	24.25	103.5	8.66	8.68	-125.6	78.5	22.1	11.2	0.3	
		9:23:30	20	23.19	6.5	0.56	7.68	-67.2	80	21.2	4.5	0.364	
		9:22:08	25	22.84	7.7	0.66	7.66	-66.1	75.4	21.2	3.6	0.379	
		9:21:19	30	22.25	3	0.26	7.65	-65.3	70.8	20.9	1.5	0.387	
		9:20:23	35	21.84	3.2	0.28	7.64	-64.9	67.3	20.9	1.1	0.396	
		9:19:27	40	21.43	3.6	0.32	7.65	-65.5	54.2	22.4	1.7	0.417	
		9:18:18	43	21.33	4.7	0.41	7.72	-69.6	33.2	23.3	2	0.419	
BM-4													
			Inactive Sampling Station										
BM-5													
	5/20/2014	12:37:36	1	13.48	96.4	10.03	7.94	-80.5	157	24.3	1.1	0.73	
	6/17/2014	12:46:23	1	18.75	90.7	8.44	7.86	-76.7	153	30.8	1.4	0.775	
	7/22/2014	12:21:26	1	19.03	98	9.07	8.15	-94	161	21.4	0.7	0.602	
	8/11/2014	12:32:29	1	21.22	116.7	10.34	8.45	-111.4	183	25.4	5.6	0.478	
	9/9/2014	11:45:03	1	17.75	90.3	8.58	8.16	-93.7	187.9	23.4	0.5	0.496	
BM-6 Secchi 1.30 m	5/20/2014	8:58:08	0.5	18.39	128	12.01	8.83	-132.4	146	20.6	9.6	0.495	
		8:56:20	5	18.22	125.7	11.83	8.79	-130	145	21.1	22.3	0.495	
		8:55:00	10	18.12	118.8	11.2	8.68	-124	146	21.4	22	0.495	
		8:53:30	15	17.34	91.4	8.76	8.13	-92.4	150	21.7	14	0.505	
		8:51:56	20	15.6	66.3	6.59	7.54	-58.5	154	22.7	5.7	0.517	
		8:50:22	25	14.54	65.6	6.68	7.49	-55.3	156	21.8	4.9	0.529	
		8:49:10	30	13.43	64	6.67	7.44	-52.6	156	21.5	4.4	0.526	
		8:46:44	35	12.43	59.1	6.3	7.4	-49.9	156	21.4	4	0.514	
		8:45:16	40	11.95	51.9	5.59	7.34	-46.8	156	21.3	3.9	0.531	
		8:43:00	45	11.52	39.2	4.26	7.27	-42.9	155	22	4.4	0.532	
		8:40:45	50	11.16	27.6	3.03	7.23	-40.3	154	23	4.9	0.532	
	8:37:42	52	10.91	25.8	2.85	7.23	-40.5	150	22.4	4.9	0.528		
BM-6 Secchi 1.30 m	6/17/2014	9:05:43	0.5	25.55	140.9	11.51	8.56	-119.5	207	23.9	5.6	0.497	
		9:04:33	5	24.12	153	12.83	8.52	-116.1	209	25.2	9.8	0.499	
		9:02:42	10	21.62	89.6	7.88	7.86	-77.5	220	24.2	11.8	0.565	
		9:01:06	15	20.27	62.7	5.66	7.36	-48.4	227	22.5	7.7	0.63	
		9:00:08	20	18.8	57.2	5.32	7.28	-43.6	229	27.8	5.3	0.587	
		8:57:49	25	17.93	41.8	3.96	7.18	-38	231	23.5	3.6	0.664	
		8:55:30	30	16.8	28.5	2.76	7.06	-31.1	231	23.1	3.1	0.647	
		8:54:24	35	15.27	17.7	1.77	7.01	-28.5	231	22.8	3	0.649	
		8:53:35	40	14.2	4.7	0.49	6.99	-27.2	230	23	2.1	0.659	
		8:51:51	45	14.1	3.7	0.38	6.94	-24.3	230	27	2.2	0.67	

2014 Blue Marsh Stratification/Profile

Station	Date	Time	Depth	Temp	DO	DO	pH	pHmV	ORP	Turbidity	Chloro.	SpCond
	M/D/Y	hh:mm:ss	ft	C	%	mg/L		mV	mV	NTU	ug/L	mS/cm
BM-6 Secchi 1.55 m	7/22/2014	8:59:50	0.5	26.74	173.4	13.87	8.88	-138.3	22	21	13.6	0.301
		8:59:05	5	26.65	158.1	12.67	8.76	-131.4	16	21.3	15.3	0.304
		8:57:43	10	25.86	90	7.32	7.98	-85.5	10	22.3	12	0.344
		8:54:46	15	24.33	2.5	0.21	7.42	-52.4	-45	22.6	6.9	0.4
		8:53:19	20	23.18	2.3	0.2	7.4	-51.2	-52	20.9	4.4	0.405
		8:52:13	25	22.44	2.4	0.2	7.36	-48.7	-55	20.4	2	0.419
		8:50:49	30	21.68	2.4	0.21	7.32	-46.5	-62	20.2	1.4	0.424
		8:49:45	35	21.07	2.4	0.22	7.31	-45.3	-67	20.5	1.3	0.425
		8:48:16	40	19.71	2.6	0.23	7.27	-43.2	-76	20.5	1.2	0.429
		8:46:43	45	18.61	2.6	0.24	7.22	-40.2	-84	21.8	1.2	0.442
8:44:37	50	16.83	3	0.29	7.04	-29.8	-121	23.5	2.4	0.475		

BM-6 Secchi 1.60 M	8/11/2014	8:59:10	0.5	26.12	143.3	11.59	9.04	-147.5	79	21.1	8.9	0.301
		8:58:12	5	25.99	142.1	11.53	8.99	-144.4	76	22.3	27.4	0.3
		8:55:47	10	25.26	46.7	3.84	7.95	-83.3	78	23.8	38.9	0.338
		8:53:39	15	24.18	2	0.17	7.55	-59.8	77	21.6	5.7	0.384
		8:52:24	20	23.25	2	0.17	7.48	-55.6	77	19.9	2.8	0.407
		8:50:45	25	22.65	2	0.17	7.44	-53.4	77	19.7	2.9	0.417
		8:46:33	30	22.3	2.1	0.18	7.39	-50.1	75	19.6	2.3	0.423
		8:45:15	35	21.84	2.1	0.18	7.36	-48.7	74	19.6	1.4	0.428
		8:41:23	40	21.56	2.3	0.2	7.31	-45.4	68	20.1	1.8	0.43
		8:39:31	45	20.94	2.4	0.21	7.23	-41.2	64	21.7	2.4	0.436
8:37:13	50	20.29	2.6	0.23	7.15	-36.2	47	25.2	1.3	0.445		

BM-6 Secchi 1.65 m	9/9/2014	9:01:57	0.5	24.03	92.4	7.77	8.58	-119.6	93.8	21.5	8.5	0.310
		9:00:50	5	24.06	91.3	7.67	8.51	-116.1	89.3	21.8	9.2	0.310
		8:59:42	10	24.05	88.8	7.46	8.39	-108.9	83.4	21.9	9.4	0.310
		8:58:18	15	23.7	53	4.48	7.96	-83.8	79	21.4	6.5	0.322
		8:56:41	20	23.24	2.1	0.18	7.48	-55.7	74.3	20.6	4.8	0.364
		8:55:59	25	22.81	2.1	0.18	7.44	-53.4	72.9	20.1	2.7	0.376
		8:54:55	30	22.46	2.1	0.18	7.4	-50.9	72.2	20.3	2.3	0.384
		8:53:41	35	22.07	2.2	0.19	7.36	-48.7	74.6	20.3	2	0.391
		8:50:22	40	21.65	2.3	0.2	7.27	-43.2	70.7	20.9	1.4	0.399
		8:49:04	45	21.26	2.4	0.21	7.2	-39.5	65.7	21.8	1.3	0.417
8:48:00	50	20.78	2.5	0.23	7.14	-35.9	55.7	23.9	1.4	0.427		
8:46:28	53	20.67	2.7	0.24	7.1	-33.4	36.7	24.4	1	0.429		

BM-7	5/20/2014	10:06:57	0.5	18.29	129.6	12.18	8.76	-128.6	138	20.8	21.9	0.505
		10:06:08	5	18.04	128.3	12.12	8.75	-127.8	138	21.1	28.3	0.506
		10:04:36	10	17.82	120.3	11.42	8.65	-122.1	138	21.4	32.1	0.508
		10:03:36	15	17.79	119.4	11.34	8.59	-118.4	138	21.6	32.2	0.512
		10:01:43	20	16.2	73.6	7.22	7.62	-63	145	22.9	8.3	0.495
		10:00:18	25	14.39	75.3	7.68	7.6	-61.8	146	26.2	6.3	0.521
		9:58:51	30	13.71	63.4	6.57	7.55	-58.7	146	29.7	4.7	0.541
		9:56:55	35	12.25	30	3.21	7.39	-49.6	146	27.2	3.3	0.558

2014 Blue Marsh Stratification/Profile

Station	Date	Time	Depth	Temp	DO	DO	pH	pHmV	ORP	Turbidity	Chloro.	SpCond
	M/D/Y	hh:mm:ss	ft	C	%	mg/L		mV	mV	NTU	ug/L	mS/cm
BM-7	6/17/2014	10:05:26	0.5	25.36	147.9	12.13	8.83	-134.9	166	25.8	5.1	0.503
		10:03:10	5	23.41	147.5	12.54	8.71	-127.3	168	25.5	12.9	0.516
		10:01:48	10	21.46	99.5	8.78	8.22	-98.5	172	25	12.1	0.515
		10:00:40	15	19.89	75.6	6.88	7.65	-65.1	177	27.5	6.3	0.524
		9:59:44	20	18.16	71.1	6.7	7.59	-61.2	177	31.6	4.8	0.534
		9:58:32	25	17.51	68.7	6.56	7.59	-61.3	176	32.8	3.8	0.549
		9:55:10	30	17.05	52.5	5.06	7.57	-60.4	171	45.9	5.4	0.573
BM-7	7/22/2014	9:56:03	0.5	26.84	193.6	15.46	9.07	-149.5	93	21.3	20.2	0.292
		9:54:47	5	26.53	184.2	14.8	8.94	-142	90	22.1	22.7	0.292
		9:53:43	10	26.18	149.6	12.09	8.48	-114.9	89	21.5	10.7	0.302
		9:52:34	15	24.24	60.8	5.09	7.63	-64.7	94	20.9	9.9	0.377
		9:51:10	20	23.14	26.3	2.25	7.55	-59.8	91	20.6	8.9	0.398
		9:48:03	25	22.18	22.3	1.94	7.6	-62.6	77	22.1	4.8	0.434
		9:46:28	30	21.79	10.8	0.94	7.66	-65.8	66	23.6	4.9	0.449
BM-7	8/11/2014	10:04:13	0.5	26.01	135.5	10.98	9.09	-150.4	113	22.7	4.5	0.296
		10:03:01	5	25.78	136.1	11.08	9.07	-149.3	110	22.4	17.1	0.295
		10:01:38	10	25.56	121.4	9.93	8.89	-138.4	108	22.6	14.5	0.297
		9:59:54	15	23.95	58.8	4.95	7.85	-77.3	112	21.3	5.4	0.336
		9:57:45	20	23.14	29.2	2.5	7.69	-67.9	106	21.1	2.8	0.37
		9:56:49	25	22.68	14.5	1.25	7.65	-65.2	104	21.2	1.8	0.387
		9:55:44	30	22.31	4.8	0.42	7.63	-64.3	100	24	2.7	0.405
BM-7	9/9/2014	9:52:29	0.5	24.19	112.4	9.43	8.84	-135.4	143	22.8	10.1	0.304
		9:51:28	5	24.2	111.7	9.37	8.8	-132.5	138.6	22.8	11.5	0.304
		9:50:22	10	24.18	107.1	8.98	8.64	-123.5	132	22.7	10.9	0.304
		9:49:09	15	24.04	76.6	6.44	8.1	-91.8	128.5	22.6	7.4	0.33
		9:47:51	20	22.85	8.8	0.76	7.67	-66.6	127.7	24	2.9	0.404
		9:46:49	25	22.35	2.9	0.25	7.69	-68	119.8	22	2.4	0.395
		9:44:27	30	22.1	3.4	0.3	7.77	-72.2	88.1	22.5	2.4	0.401
BM-8	5/20/2014	11:45:33	0.5	18.86	159.1	14.78	8.92	-137.9	182	20.6	25.3	0.509
		11:42:41	5	18.15	141.8	13.36	8.73	-126.7	187	21.4	47.9	0.513
		11:41:51	10	17.6	110	10.48	8.36	-105.1	189	21.4	35.4	0.511
		11:40:33	15	16.27	97.3	9.54	7.91	-79.4	190	22.8	14.2	0.493
		11:39:17	20	15.26	85.5	8.56	7.72	-68.4	190	24	6.3	0.496
BM-8	6/17/2014	11:53:45	0.5	26.95	189.1	15.07	8.82	-135.1	181	25.1	4.2	0.458
		11:52:48	5	23.3	165.3	14.08	8.68	-125.6	186	29.5	16.2	0.49
		11:50:58	10	21.4	123.7	10.93	8.54	-116.9	187	27.5	11.7	0.484
		11:49:14	15	19.42	76	6.98	7.72	-68.8	193	27.6	6.7	0.482
		11:47:57	20	18.31	65.3	6.13	7.61	-62.7	193	34.6	5.5	0.521
		11:46:24	22	17.81	56	5.31	7.6	-62.2	191	37.3	5.6	0.53

2014 Blue Marsh Stratification/Profile

Station	Date	Time	Depth	Temp	DO	DO	pH	pHmV	ORP	Turbidity	Chloro.	SpCond
	M/D/Y	hh:mm:ss	ft	C	%	mg/L		mV	mV	NTU	ug/L	mS/cm
BM-8	7/22/2014	11:21:52	0.5	27.22	286.6	22.73	9.52	-176.3	138	24.9	54.6	0.272
		11:20:47	5	26.68	213.7	17.11	9.08	-150	139	22.6	47.9	0.273
		11:19:59	10	25.41	162.4	13.31	8.45	-112.8	145	22.1	24.2	0.309
		11:19:15	15	24.22	133	11.14	8.14	-94.5	147	23.3	19.5	0.338
		11:17:59	20	23.02	78	6.68	7.9	-80	146	27.7	9	0.369
		11:16:39	22	22.58	87.2	7.54	8.01	-86.2	141	39.9	9.3	0.374
BM-8	8/11/2014	11:33:11	0.5	26.3	164.2	13.24	9.3	-162.8	173	24.1	11.6	0.292
		11:31:35	5	25.94	156.2	12.68	9.22	-157.8	173	24	19.5	0.292
		11:30:28	10	25.31	131.3	10.78	8.99	-144.5	174	22.9	9.5	0.29
		11:29:15	15	24.01	125.4	10.55	8.74	-129.4	175	25.1	7.4	0.313
		11:27:58	20	23.08	82.4	7.05	8.21	-98	179	30.5	7.1	0.349
		11:26:59	22	22.67	89.8	7.74	8.26	-100.8	177	50.2	11.3	0.361
BM-8	9/9/2014	10:52:14	0.5	24.12	137.5	11.54	9.11	-150.6	165.1	24.5	10.8	0.297
		10:51:31	5	24.14	137	11.5	9.1	-150	163.1	25.1	11.9	0.297
		10:50:38	10	24.1	133.1	11.17	9.04	-146.7	160.9	24.8	12.3	0.299
		10:49:28	15	24.03	127	10.67	8.94	-141.1	156.9	24.8	11.5	0.3
		10:48:19	20	22.74	92	7.93	8.53	-116.6	159.1	36.5	7.6	0.348
BM-9	5/20/2014	10:34:25	0.5	18.21	131.7	12.4	8.73	-126.7	157	21	24	0.337
		10:33:21	5	17.83	124.7	11.83	8.67	-123	156	21.2	34.6	0.513
		10:30:35	10	17.65	106.8	10.17	8.41	-108	157	21.4	27.1	0.512
		10:28:52	15	16.46	82.3	8.03	7.77	-71.7	160	22.4	15.1	0.496
		10:27:40	20	15.46	81.8	8.16	7.73	-69.2	161	23.9	8	0.522
		10:26:39	25	14.2	82.4	8.44	7.74	-69.5	161	27.9	5.8	0.545
		10:25:03	30	13.82	82.3	8.5	7.78	-71.8	159	33	4.4	0.555
		10:23:51	32	13.79	82	8.48	7.81	-73.4	157	35.5	4.2	0.556
BM-9	6/17/2014	10:45:43	0.5	26.09	155.4	12.57	8.85	-136.2	128	26.6	5.9	0.498
		10:43:56	5	24.45	146.4	12.21	8.71	-127.8	127	26.1	11.8	0.508
		10:44:35	10	24.33	151	12.62	8.76	-130.8	128	25.8	12.8	0.508
		10:41:25	15	19.97	97.1	8.82	7.96	-82.7	129	28.9	7	0.516
		10:40:03	20	18.2	74.9	7.05	7.6	-62.3	129	31.3	4.7	0.541
		10:38:45	25	17.38	70.2	6.72	7.54	-58.7	127	33.9	3.5	0.566
		10:36:28	30	16.62	30.9	3.01	7.36	-48.4	118	31.8	3.9	0.579
		10:34:57	32	16.22	17.3	1.7	7.31	-45.4	100	28.4	3.5	0.636
BM-9	7/22/2014	10:15:56	0.5	26.76	218.2	17.45	9.18	-155.9	85	22.6	49	0.285
		10:14:32	5	26.57	200.9	16.12	9.01	-146.3	81	22.3	33.3	0.285
		10:13:32	10	25.96	142.1	11.53	8.36	-107.6	83	21.4	29.4	0.313
		10:12:20	15	24.22	76.7	6.42	7.74	-70.7	84	22.6	23	0.383
		10:10:49	20	23.18	32.5	2.77	7.64	-64.9	80	21.5	16.1	0.407
		10:08:24	25	22.45	55.2	4.78	7.78	-72.7	68	26.2	7.2	0.459
		10:07:16	30	21.61	13.4	1.18	7.73	-70.1	59	37.9	7.5	0.485
		10:06:07	33	20.64	17.2	1.54	7.85	-77	40	57.6	12.2	0.505

2014 Blue Marsh Stratification/Profile

Station	Date	Time	Depth	Temp	DO	DO	pH	pHmV	ORP	Turbidity	Chloro.	SpCond
	M/D/Y	hh:mm:ss	ft	C	%	mg/L		mV	mV	NTU	ug/L	mS/cm
BM-9	8/11/2014	10:26:51	0.5	25.79	136.1	11.08	9.1	-150.7	142	23.3	12	0.295
		10:25:57	5	25.66	131.5	10.73	9.04	-147.4	141	22.3	16	0.295
		10:24:31	10	25.27	108.3	8.9	8.8	-133.3	141	22.1	11.7	0.3
		10:21:49	15	24.04	105.4	8.86	8.37	-107.8	140	23.5	7.5	0.33
		10:20:30	20	23.1	61.8	5.29	7.93	-81.5	143	22.5	4.8	0.373
		10:19:28	25	22.56	51	4.41	7.89	-79.3	142	24.3	3.5	0.402
		10:17:33	30	21.97	63.5	5.55	7.97	-84.2	137	32.9	6	0.442
		10:16:15	32	21.58	44.8	3.94	7.97	-83.8	134	53.7	7.5	0.461
BM-9	9/9/2014	10:10:53	0.5	24.14	110.5	9.27	8.76	-130.2	117.7	22.8	10	0.307
		10:10:05	5	24.14	108	9.06	8.69	-126.5	113.5	22.7	10.3	0.309
		10:09:03	10	24.11	103.2	8.66	8.56	-118.9	106.6	22.8	9.6	0.313
		10:07:47	15	23.97	84.7	7.13	8.22	-99.1	97.4	23.7	7.3	0.319
		10:06:13	20	23.24	38.3	3.27	7.77	-72.3	85.6	27.9	4.1	0.411
		10:04:56	25	22.35	3	0.26	7.69	-67.7	61.2	25.7	3.5	0.412
		10:03:32	30	22.04	3.4	0.3	7.74	-70.5	18.4	28.2	2.6	0.410
		10:01:58	32	21.97	4.5	0.4	7.84	-76.2	-4.5	35.9	4.1	0.413
BM-10	5/20/2014	11:06:49	0.5	17.73	124.8	11.87	8.45	-110.8	178	21.8	16.9	0.524
		11:05:57	5	16.93	111.1	10.74	8.27	-100.1	179	22.2	36.6	0.529
		11:02:24	10	14.6	97.8	9.93	7.96	-81.7	181	23.4	10.2	0.556
		11:01:14	15	13.71	95.1	9.84	7.95	-81	180	29	3.2	0.579
		11:00:02	20	13.73	94.1	9.73	8	-83.9	177	36.8	2.4	0.587
BM-10	6/17/2014	11:16:04	0.5	27.46	264	20.84	9.25	-160.4	151	44	12.1	0.433
		11:14:05	5	24.12	213.6	17.92	8.77	-130.9	156	30.5	21.6	0.468
		11:12:27	10	21.95	141	12.33	8.4	-108.8	156	28.4	15	0.499
		11:10:55	15	19.57	87.7	8.03	7.81	-74.4	157	33.1	5.9	0.583
		11:09:48	20	18.76	78.2	7.28	7.75	-70.8	151	47.7	5	0.61
BM-10	7/22/2014	10:49:02	0.5	26.72	242.4	19.4	9.3	-163.1	124	21.2	41.8	0.282
		10:47:06	5	26.51	222.6	17.89	9.14	-153.7	121	20.7	13.8	0.285
		10:45:40	10	25.63	190.2	15.52	8.8	-133.2	122	21.7	7.6	0.334
		10:43:36	15	24.53	165.2	13.76	8.61	-121.6	117	25.7	6.4	0.379
		10:41:46	20	22.57	121.5	10.49	8.25	-100.5	114	56.6	4.8	0.472
BM-10	8/11/2014	11:01:21	0.5	26.25	171.8	13.87	9.38	-167.6	160	25.6	15.2	0.289
		11:00:21	5	25.63	153.8	12.55	9.28	-161.5	160	27.1	19.4	0.289
		10:55:29	10	25.12	154.8	12.75	9.1	-150.9	158	26.9	14.2	0.299
		10:54:29	15	24.66	144.4	12	8.96	-142.4	159	28.1	13.2	0.316
		10:52:52	20	22.25	97.8	8.5	8.24	-99.9	167	65.6	10.2	0.452
BM-10	9/9/2014	10:31:06	0.5	24.06	146.6	12.32	9.1	-150.3	151	26	16.6	0.305
		10:30:32	5	24.06	145	12.18	9.07	-148.4	149.2	26.1	15.2	0.306
		10:29:40	10	23.95	136.6	11.5	8.96	-142.1	146.9	26.7	14.3	0.311
		10:28:44	15	23.58	122.7	10.41	8.76	-130	145.3	29.5	11.5	0.326
		10:27:38	20	21.48	97.8	8.63	8.38	-107.8	149	68.89999	9.4	0.422

2014 Blue Marsh Stratification/Profile

Station	Date	Time	Depth	Temp	DO	DO	pH	pHmV	ORP	Turbidity	Chloro.	SpCond
	M/D/Y	hh:mm:ss	ft	C	%	mg/L		mV	mV	NTU	ug/L	mS/cm
BM-11	5/20/2014	12:40:45	1	13.49	103	10.72	7.93	-80	167	23	2.4	0.371
	6/17/2014	12:49:32	1	19	100.2	9.28	7.86	-77.1	167	26.6	2.3	0.319
	7/22/2014	12:18:57	1	20.86	92.1	8.22	8.26	-100.5	143	24	0.9	0.386
	8/11/2014	12:29:11	1	21.38	99.2	8.77	8.45	-111.6	168	27.3	3.7	0.384
	9/9/2014	11:41:32	1	18.31	84	7.89	8.18	-95.4	174.3	25.5	1.6	0.297

APPENDIX B

BACTERIA SAMPLING DATA TABLES

BLUE MARSH RESERVOIR SWIMMING BEACH MONITORING PROGRAM RESULTS
Fecal/e-coli Coliform 2014

<u>DAY</u>	<u>DATE</u>	<u>FECAL COLIFORM</u>				<u>E-COLI</u>			
		<u>SB1</u>	<u>SB2</u>	<u>SB3</u>	<u>Arith. AVG.&LOG</u>	<u>SB1</u>	<u>SB2</u>	<u>SB3</u>	<u>Ave./LOG</u>
Mon.	12-May	2.00	2.00	3.00	2.33	1.00	1.00	1.00	1.00
Thur.	15-May	2.00	2.00	2.00	2.00	1.00	1.00	2.00	1.33
Mon.	19-May	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00
Thur.	22-May	2.00	2.00	3.00	2.33	1.00	2.00	1.00	1.33
Tues.	27-May	2.00	2.00	2.00	2.00	1.00	1.00	2.00	1.33
5 smpl. Log Value		0.30	0.30	0.37	0.33	0.00	0.06	0.12	0.07
5 smpl. Geo. Mean		2.00	2.00	2.35	2.13	1.00	1.15	1.32	1.19
Thur.	29-May	2.00	3.00	2.00	2.33	1.00	3.00	2.00	2.00
5 smpl. Log Value		0.30	0.34	0.34	0.33	0.00	0.16	0.18	0.14
5 smpl. Geo. Mean		2.00	2.17	2.17	2.13	1.00	1.43	1.52	1.37
Mon.	2-Jun	2.00	3.00	2.00	2.33	2.00	2.00	1.00	1.67
5 smpl. Log Value		0.30	0.37	0.34	0.34	0.06	0.22	0.12	0.15
5 smpl. Geo. Mean		2.00	2.35	2.17	2.19	1.15	1.64	1.32	1.43
Thur.	5-Jun	2.00	2.00	2.00	2.00	1.00	2.00	1.00	1.33
5 smpl. Log Value		0.30	0.37	0.34	0.34	0.06	0.28	0.12	0.18
5 smpl. Geo. Mean		2.00	2.35	2.17	2.19	1.15	1.89	1.32	1.51
Mon.	9-Jun	2.00	2.00	3.00	2.33	1.00	3.00	2.00	2.00
5 smpl. Log Value		0.30	0.37	0.34	0.34	0.06	0.31	0.18	0.21
5 smpl. Geo. Mean		2.00	2.35	2.17	2.19	1.15	2.05	1.52	1.64
Thur.	12-Jun	18.00	30.00	23.00	23.67	23.00	21.00	20.00	21.33
5 smpl. Log Value		0.49	0.61	0.55	0.56	0.33	0.58	0.38	0.46
5 smpl. Geo. Mean		3.10	4.04	3.53	3.60	2.15	3.76	2.40	2.85
Mon.	16-Jun	5.00	8.00	5.00	6.00	5.00	5.00	1.00	3.67
5 smpl. Log Value		0.57	0.69	0.63	0.64	0.47	0.62	0.32	0.51
5 smpl. Geo. Mean		3.73	4.92	4.25	4.34	2.97	4.17	2.09	3.22
Thur.	19-Jun	60.00	110.00	78.00	82.67	60.00	93.00	77.00	76.67
5 smpl. Log Value		0.87	1.00	0.95	0.95	0.77	0.95	0.70	0.84
5 smpl. Geo. Mean		7.36	10.11	8.83	8.87	5.86	8.99	4.99	6.93

Mon.	23-Jun	3.00	2.00	2.00	2.33	1.00	1.00	1.00	1.00
5 smpl. Log Value		0.90	1.00	0.95	0.96	0.77	0.89	0.70	0.82
5 smpl. Geo. Mean		7.98	10.11	8.83	9.14	5.86	7.82	4.99	6.54
Thur.	26-Jun	56.00	36.00	31.00	41.00	43.00	17.00	28.00	29.33
5 smpl. Log Value		1.19	1.26	1.15	1.21	1.09	1.04	0.93	1.05
5 smpl. Geo. Mean		15.54	18.02	14.09	16.22	12.43	11.07	8.45	11.20
Mon.	30-Jun	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00
5 smpl. Log Value		1.00	1.02	0.94	1.00	0.82	0.78	0.67	0.78
5 smpl. Geo. Mean		10.02	10.49	8.65	9.90	6.64	6.02	4.64	6.07
Thur.	3-Jul	23.00	23.00	31.00	25.67	16.00	12.00	19.00	15.67
5 smpl. Log Value		1.13	1.11	1.10	1.12	0.92	0.86	0.92	0.91
5 smpl. Geo. Mean		13.59	12.95	12.46	13.23	8.38	7.17	8.37	8.12
Mon.	7-Jul	6.00	3.00	3.00	4.00	5.00	3.00	2.00	3.33
5 smpl. Log Value		0.93	0.80	0.81	0.86	0.71	0.56	0.61	0.64
5 smpl. Geo. Mean		8.58	6.30	6.49	7.22	5.10	3.61	4.03	4.34
Thur.	10-Jul	2.00	2.00	3.00	2.33	1.00	1.00	1.00	1.00
5 smpl. Log Value		0.90	0.80	0.85	0.86	0.71	0.56	0.61	0.64
5 smpl. Geo. Mean		7.91	6.30	7.04	7.22	5.10	3.61	4.03	4.34
Mon.	14-Jul	11.00	18.00	5.00	11.33	10.00	6.00	6.00	7.33
5 smpl. Log Value		0.76	0.74	0.69	0.75	0.58	0.47	0.47	0.52
5 smpl. Geo. Mean		5.71	5.49	4.89	5.58	3.81	2.93	2.96	3.29
Thur.	17-Jul	3.00	3.00	2.00	2.67	1.00	3.00	1.00	1.67
5 smpl. Log Value		0.79	0.77	0.69	0.77	0.58	0.56	0.47	0.56
5 smpl. Geo. Mean		6.19	5.95	4.89	5.91	3.81	3.65	2.96	3.64
Mon.	21-Jul	3.00	3.00	5.00	3.67	2.00	3.00	2.00	2.33
5 smpl. Log Value		0.61	0.60	0.53	0.60	0.40	0.44	0.28	0.40
5 smpl. Geo. Mean		4.12	3.96	3.39	4.01	2.51	2.77	1.89	2.49
Thur.	24-Jul	11.00	8.00	2.00	7.00	2.00	1.00	1.00	1.33
5 smpl. Log Value		0.67	0.68	0.50	0.65	0.32	0.35	0.22	0.32
5 smpl. Geo. Mean		4.65	4.82	3.13	4.48	2.09	2.22	1.64	2.07
Mon.	28-Jul	43.00	30.00	30.00	34.33	6.00	8.00	10.00	8.00
5 smpl. Log Value		0.93	0.92	0.70	0.89	0.48	0.53	0.42	0.50

5 smpl. Geo. Mean		8.59	8.28	4.96	7.68	2.99	3.37	2.61	3.14
Thur.	31-Jul	3.00	2.00	2.00	2.33	3.00	1.00	1.00	1.67
5 smpl. Log Value		0.82	0.73	0.62	0.75	0.37	0.37	0.26	0.37
5 smpl. Geo. Mean		6.63	5.33	4.13	5.60	2.35	2.35	1.82	2.33
Mon.	4-Aug	3.00	11.00	10.00	8.00	1.00	2.00	4.00	2.33
5 smpl. Log Value		0.82	0.84	0.76	0.84	0.37	0.34	0.38	0.40
5 smpl. Geo. Mean		6.63	6.92	5.70	6.97	2.35	2.17	2.40	2.50
Thur.	7-Aug	3.00	3.00	2.00	2.67	1.00	1.00	1.00	1.00
5 smpl. Log Value		0.82	0.84	0.68	0.82	0.31	0.24	0.32	0.32
5 smpl. Geo. Mean		6.63	6.92	4.74	6.54	2.05	1.74	2.09	2.11
Mon.	11-Aug	3.00	3.00	2.00	2.67	3.00	1.00	1.00	1.67
5 smpl. Log Value		0.71	0.75	0.68	0.73	0.35	0.24	0.32	0.34
5 smpl. Geo. Mean		5.11	5.69	4.74	5.39	2.22	1.74	2.09	2.20
Thur.	14-Aug	6.00	2.00	2.00	3.33	4.00	3.00	3.00	3.33
5 smpl. Log Value		0.54	0.52	0.44	0.53	0.31	0.16	0.22	0.27
5 smpl. Geo. Mean		3.45	3.31	2.76	3.38	2.05	1.43	1.64	1.85
Mon.	18-Aug	5.00	8.00	3.00	5.33	1.00	1.00	2.00	1.33
5 smpl. Log Value		0.58	0.64	0.48	0.60	0.22	0.16	0.28	0.25
5 smpl. Geo. Mean		3.82	4.36	2.99	3.99	1.64	1.43	1.89	1.77
Thur.	21-Aug	5.00	2.00	3.00	3.33	2.00	1.00	2.00	1.67
5 smpl. Log Value		0.63	0.49	0.37	0.52	0.28	0.10	0.22	0.22
5 smpl. Geo. Mean		4.23	3.10	2.35	3.35	1.89	1.25	1.64	1.65
Mon.	25-Aug	6.00	5.00	6.00	5.67	5.00	4.00	6.00	5.00
5 smpl. Log Value		0.69	0.54	0.47	0.59	0.42	0.22	0.37	0.36
5 smpl. Geo. Mean		4.86	3.44	2.93	3.89	2.61	1.64	2.35	2.28
Thur.	28-Aug	5.00	6.00	10.00	7.00	6.00	8.00	11.00	8.33
5 smpl. Log Value		0.73	0.60	0.61	0.67	0.48	0.40	0.58	0.50
5 smpl. Geo. Mean		5.38	3.95	4.04	4.72	2.99	2.49	3.80	3.15
Tues.	2-Sep	5.00	3.00	5.00	4.33	1.00	3.00	3.00	2.33
5 smpl. Log Value		0.71	0.63	0.69	0.70	0.36	0.40	0.58	0.47
5 smpl. Geo. Mean		5.19	4.28	4.86	4.98	2.27	2.49	3.80	2.93
Thur.	4-Sep	13.00	16.00	18.00	15.67	13.00	13.00	9.00	11.67
5 smpl. Log Value		0.80	0.69	0.84	0.79	0.58	0.62	0.71	0.66
5 smpl. Geo. Mean		6.28	4.92	6.95	6.17	3.79	4.16	5.13	4.52

APPENDIX C

LABORATORY CUSTODY SHEETS



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015752
 Date Collected: 05/20/14 13:15
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-1 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	91	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
Fecal Coliform	120	/100mL	2	1	SM 9222D	05/20	16:00	PLW
Total Coliform	2400	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	05/20	16:33	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	05/21	17:11	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/04	14:47	JCL
Nitrogen, Nitrate	4.63	mg/L	.05	1	EPA 353.2	05/21	15:14	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	11:46	JCL
Nitrogen, Total Kjeldahl	0.35	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	05/27	09:21	ALD
RESIDUES								
Solids, Total Dissolved	207	mg/L	5	1	SM 2540C	05/21	12:30	TMH
Solids, Total Suspended	<3	mg/L	3	1	SM 2540D	05/21	12:30	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	101	mg/L	1	1	SM 2320 B	05/27	10:00	HRG

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015752
 Date Collected: 05/20/14 13:15
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-1 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator at 05/20/14 at 15:15.

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Christina Kistler
 Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015753
 Date Collected: 05/20/14 09:20
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-2 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
BACTI								
MICROBIOLOGY								
Escherichia coli	4	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
Fecal Coliform	3	/100mL	2	1	SM 9222D	05/20	16:00	PLW
Total Coliform	33	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.35	mg/L	.01	1	SM 4500P-E	05/20	16:38	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.33	mg/L	.01	1	SM 4500P-E	05/21	17:11	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/04	15:02	JCL
Nitrogen, Nitrate	4.58	mg/L	.05	1	EPA 353.2	05/21	15:15	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	11:52	JCL
Nitrogen, Total Kjeldahl	0.45	mg/L	.25	1	EPA 351.2	05/28	16:07	ALD
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.7	mg/L	1	1	SM5310 C	05/27	09:33	ALD
RESIDUES								
Solids, Total Dissolved	154	mg/L	5	1	SM 2540C	05/21	12:30	TMH
Solids, Total Suspended	<3	mg/L	3	1	SM 2540D	05/21	12:30	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	112	mg/L	1	1	SM 2320 B	05/27	10:00	HRG

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 Account Executive

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015753
 Date Collected: 05/20/14 09:20
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-2 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 02 The total coliform sample was placed in the incubator at 05/20/14 at 15:15.

- 03 The SM 5210B sample did not have a DO depletion of at least 2 mg/L.

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Christina Kistler
 Account Executive

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 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015754

Date Collected: 05/20/14 09:20
 Collected By: Client

Sample Desc: BM-2 Mid-Depth

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.02	mg/l	.01	1	SM 4500P-E	05/20	16:38	ALD
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.02	mg/l	.01	1	SM 4500P-E	05/21	17:30	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/l	.05	1	D6919-03	06/04	15:17	JCL
Nitrogen, Nitrate	4.58	mg/l	.05	1	EPA 353.2	05/21	15:16	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	05/21	11:53	JCL
Nitrogen, Total Kjeldahl	0.38	mg/l	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/l	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	3.0	mg/l	1	1	SM5310 C	05/27	09:46	ALD
RESIDUES								
Solids, Total Dissolved	108	mg/l	5	1	SM 2540C	05/21	12:30	TMH
Solids, Total Suspended	<3	mg/l	3	1	SM 2540D	05/21	12:30	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	92	mg/l	1	1	SM 2320 B	05/27	10:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Christina Kistler
 Account Executive

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Suite 100
Columbia MD 21045-1934

Date of Report: 06/05/14
Lab ID: 2294-14-0015754

Date Collected: 05/20/14 09:20
Collected By: Client

Sample Desc: BM-2 Mid-Depth

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The SM 5210B sample did not have a DO depletion of at least 2 mg/L.							

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 Suite 100
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Date of Report: 06/05/14
 Lab ID: 2294-14-0015755

Date Collected: 05/20/14 09:20
 Collected By: Client

Sample Desc: BM-2 Deep

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.05	mg/L	.01	1	SM 4500P-E	05/20	16:38	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.058	mg/L	.01	1	SM 4500P-E	05/28	14:15	HRG
NITROGENS								
Nitrogen, Ammonia	0.06	mg/L	.05	1	D6919-03	06/04	16:00	JCL
Nitrogen, Nitrate	5.00	mg/L	.05	1	EPA 353.2	05/21	15:17	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	11:54	JCL
Nitrogen, Total Kjeldahl	0.35	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	1.9	mg/L	1	1	SM5310 C	05/27	09:59	ALD
RESIDUES								
Solids, Total Dissolved	205	mg/L	5	1	SM 2540C	05/21	12:30	TMH
Solids, Total Suspended	3	mg/L	3	1	SM 2540D	05/21	12:30	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	100	mg/L	1	1	SM 2320 B	05/27	10:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Christina M. Kistler
 Christina Kistler
 Account Executive

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015756
 Date Collected: 05/20/14 12:40
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-5 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	650	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
Fecal Coliform	690	/100mL	2	1	SM 9222D	05/20	16:00	PLW
Total Coliform	>2400	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.05	mg/L	.01	1	SM 4500P-E	05/20	16:38	ALD
Phosphorus as P, Dissolved	0.06	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.07	mg/L	.01	1	SM 4500P-E	05/28	14:15	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/04	16:15	JCL
Nitrogen, Nitrate	8.07	mg/L	.1	2	EPA 353.2	05/21	15:55	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	11:55	JCL
Nitrogen, Total Kjeldahl	<.25	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	1.4	mg/L	1	1	SM5310 C	05/27	10:11	ALD
RESIDUES								
Solids, Total Dissolved	306	mg/L	5	1	SM 2540C	05/21	12:30	TMH
Solids, Total Suspended	7	mg/L	3	1	SM 2540D	05/21	12:30	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	171	mg/L	1	1	SM 2320 B	05/27	10:15	HRG

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015756
 Date Collected: 05/20/14 12:40
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-5 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator at 05/20/14 at 15:15.

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Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015757
 Date Collected: 05/20/14 08:40
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-6 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
Fecal Coliform	<2	/100mL	2	1	SM 9222D	05/20	16:00	PLW
Total Coliform	30	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.02	mg/L	.01	1	SM 4500P-E	05/20	16:38	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.07	mg/L	.01	1	SM 4500P-E	05/28	14:15	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/04	16:30	JCL
Nitrogen, Nitrate	4.53	mg/L	.05	1	EPA 353.2	05/21	15:21	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	11:56	JCL
Nitrogen, Total Kjeldahl	0.30	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	05/27	10:23	ALD
RESIDUES								
Solids, Total Dissolved	193	mg/L	5	1	SM 2540C	05/21	12:30	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	05/21	12:30	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	99	mg/L	1	1	SM 2320 B	05/27	10:15	HRG

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015757
 Date Collected: 05/20/14 08:40
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-6 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator at 05/20/14 at 15:15.
- 03 The SM 5210B sample did not have a DO depletion of at least 2 mg/L.

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9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 06/05/14
Lab ID: 2294-14-0015758

Date Collected: 05/20/14 08:40
Collected By: Client

Sample Desc: BM-6 Mid-Depth

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.02	mg/L	.01	1	SM 4500P-E	05/20	16:38	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.03	mg/L	.01	1	SM 4500P-E	05/28	14:15	HRG
NITROGENS								
Nitrogen, Ammonia	0.06	mg/L	.05	1	D6919-03	06/04	16:44	JCL
Nitrogen, Nitrate	5.00	mg/L	.05	1	EPA 353.2	05/21	15:22	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	11:57	JCL
Nitrogen, Total Kjeldahl	0.38	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.1	mg/L	1	1	SM5310 C	05/27	10:35	ALD
RESIDUES								
Solids, Total Dissolved	206	mg/L	5	1	SM 2540C	05/21	12:30	TMH
Solids, Total Suspended	<3	mg/L	3	1	SM 2540D	05/21	12:30	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	105	mg/L	1	1	SM 2320 B	05/27	10:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015759
 Date Collected: 05/20/14 08:40
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-6 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.05	mg/l	.01	1	SM 4500P-E	05/20	16:38	ALD
Phosphorus as P, Dissolved	0.07	mg/l	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.09	mg/l	.01	1	SM 4500P-E	05/21	17:30	ALD
NITROGENS								
Nitrogen, Ammonia	0.38	mg/l	.05	1	D6919-03	06/04	16:59	JCL
Nitrogen, Nitrate	3.96	mg/l	.05	1	EPA 353.2	05/21	15:23	JCL
Nitrogen, Nitrite	0.06	mg/l	.05	1	EPA 353.2	05/21	11:58	JCL
Nitrogen, Total Kjeldahl	0.79	mg/l	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/l	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.7	mg/l	1	1	SM5310 C	05/27	10:48	ALD
RESIDUES								
Solids, Total Dissolved	167	mg/l	5	1	SM 2540C	05/21	12:30	TMH
Solids, Total Suspended	3	mg/l	3	1	SM 2540D	05/21	12:30	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	108	mg/l	1	1	SM 2320 B	05/27	10:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015760
 Date Collected: 05/20/14 10:00
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-7 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	32	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
Fecal Coliform	38	/100mL	2	1	SM 9222D	05/20	16:00	PLW
Total Coliform	180	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	05/20	16:49	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	05/21	17:30	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/04	17:13	JCL
Nitrogen, Nitrate	4.60	mg/L	.05	1	EPA 353.2	05/21	15:26	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	12:01	JCL
Nitrogen, Total Kjeldahl	0.50	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	3.0	mg/L	1	1	SM5310 C	05/27	11:00	ALD
RESIDUES								
Solids, Total Dissolved	196	mg/L	5	1	SM 2540C	05/21	12:30	TMH
Solids, Total Suspended	<3	mg/L	3	1	SM 2540D	05/21	12:30	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	105	mg/L	1	1	SM 2320 B	05/27	10:15	HRG

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Christina M. Kistler

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015760

Date Collected: 05/20/14 10:00
 Collected By: Client

Sample Desc: BM-7 Surface

Date Received: 05/20/14 14:30

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator at 05/20/14 at 15:15.
- 03 The SM 5210B sample did not have a DO depletion of at least 2 mg/L.

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Christina Kistler
 Account Executive

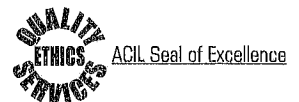
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Date of Report: 06/05/14
 Lab ID: 2294-14-0015761
 Date Collected: 05/20/14 10:00
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-7 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.03	mg/L	.01	1	SM 4500P-E	05/20	16:49	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.03	mg/L	.01	1	SM 4500P-E	05/21	17:30	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/04	17:28	JCL
Nitrogen, Nitrate	4.64	mg/L	.05	1	EPA 353.2	05/21	15:27	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	12:02	JCL
Nitrogen, Total Kjeldahl	0.37	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	05/27	11:25	ALD
RESIDUES								
Solids, Total Dissolved	197	mg/L	5	1	SM 2540C	05/21	12:30	TMH
Solids, Total Suspended	3	mg/L	3	1	SM 2540D	05/21	12:30	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	107	mg/L	1	1	SM 2320 B	05/27	10:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Suite 100
Columbia MD 21045-1934

Date of Report: 06/05/14
Lab ID: 2294-14-0015761

Date Collected: 05/20/14 10:00
Collected By: Client

Sample Desc: BM-7 Mid-Depth

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The SM 5210B sample did not have a DO depletion of at least 2 mg/L.							
03	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015762
 Date Collected: 05/20/14 10:00
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-7 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.05	mg/l	.01	1	SM 4500P-E	05/20	16:49	ALD
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.06	mg/l	.01	1	SM 4500P-E	05/21	17:30	ALD
NITROGENS								
Nitrogen, Ammonia	0.14	mg/l	.05	1	D6919-03	06/04	17:43	JCL
Nitrogen, Nitrate	4.41	mg/l	.05	1	EPA 353.2	05/21	15:28	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	05/21	12:03	JCL
Nitrogen, Total Kjeldahl	0.26	mg/l	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/l	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	1.9	mg/l	1	1	SM5310 C	05/27	12:50	ALD
RESIDUES								
Solids, Total Dissolved	222	mg/l	5	1	SM 2540C	05/21	12:55	TMH
Solids, Total Suspended	13	mg/l	3	1	SM 2540D	05/21	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	107	mg/l	1	1	SM 2320 B	05/27	10:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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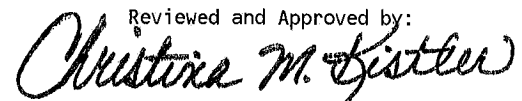
Date of Report: 06/05/14
 Lab ID: 2294-14-0015763
 Date Collected: 05/20/14 11:45
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-8 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
MICROBIOLOGY								
Escherichia coli	52	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
Fecal Coliform	52	/100mL	2	1	SM 9222D	05/20	16:00	PLW
Total Coliform	410	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.01	mg/L	.01	1	SM 4500P-E	05/20	16:55	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.01	mg/L	.01	1	SM 4500P-E	05/21	17:30	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/04	17:57	JCL
Nitrogen, Nitrate	4.32	mg/L	.05	1	EPA 353.2	05/21	15:29	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	12:06	JCL
Nitrogen, Total Kjeldahl	0.50	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	4	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.6	mg/L	1	1	SM5310 C	05/27	13:03	ALD
RESIDUES								
Solids, Total Dissolved	197	mg/L	5	1	SM 2540C	05/21	12:55	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	05/21	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	100	mg/L	1	1	SM 2320 B	05/27	10:30	HRG

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015763
 Date Collected: 05/20/14 11:45
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-8 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator at 05/20/14 at 15:15.

Distribution of Reports:
 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015764
 Date Collected: 05/20/14 11:45
 Collected By: Client

Sample Desc: BM-8 Mid-Depth

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/l	.01	1	SM 4500P-E	05/20	16:55	ALD
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	<.01	mg/l	.01	1	SM 4500P-E	05/21	17:30	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/l	.05	1	D6919-03	06/04	18:12	JCL
Nitrogen, Nitrate	4.33	mg/l	.05	1	EPA 353.2	05/21	15:32	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	05/21	12:07	JCL
Nitrogen, Total Kjeldahl	0.52	mg/l	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/l	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.6	mg/l	1	1	SM5310 C	05/27	13:28	ALD
RESIDUES								
Solids, Total Dissolved	207	mg/l	5	1	SM 2540C	05/21	12:55	TMH
Solids, Total Suspended	<3	mg/l	3	1	SM 2540D	05/21	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	99	mg/l	1	1	SM 2320 B	05/27	10:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina M. Kistler

Christina Kistler
 Account Executive

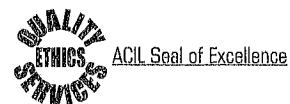
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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015764
 Date Collected: 05/20/14 11:45
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-8 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The SM 5210B sample did not have a DO depletion of at least 2 mg/L.							

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Christina Kistler
 Account Executive

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015765

Date Collected: 05/20/14 11:45
 Collected By: Client

Sample Desc: BM-8 Deep

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.03	mg/L	.01	1	SM 4500P-E	05/20	16:55	ALD
Phosphorus as P, Dissolved	0.06	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.07	mg/L	.01	1	SM 4500P-E	05/21	17:30	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/04	18:26	JCL
Nitrogen, Nitrate	3.69	mg/L	.05	1	EPA 353.2	05/21	15:33	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	12:08	JCL
Nitrogen, Total Kjeldahl	0.29	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	05/27	13:40	ALD
RESIDUES								
Solids, Total Dissolved	198	mg/L	5	1	SM 2540C	05/21	12:55	TMH
Solids, Total Suspended	3	mg/L	3	1	SM 2540D	05/21	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	91	mg/L	1	1	SM 2320 B	05/27	10:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015766
 Date Collected: 05/20/14 10:30
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-9 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	26	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
Fecal Coliform	74	/100mL	2	1	SM 9222D	05/20	16:00	PLW
Total Coliform	410	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.04	mg/L	.01	1	SM 4500P-E	05/20	16:55	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.04	mg/L	.01	1	SM 4500P-E	05/21	17:30	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/04	18:41	JCL
Nitrogen, Nitrate	4.59	mg/L	.05	1	EPA 353.2	05/21	15:34	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	12:09	JCL
Nitrogen, Total Kjeldahl	0.53	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.7	mg/L	1	1	SM5310 C	05/27	13:52	ALD
RESIDUES								
Solids, Total Dissolved	214	mg/L	5	1	SM 2540C	05/21	12:55	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	05/21	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	97	mg/L	1	1	SM 2320 B	05/27	10:45	HRG

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015766
 Date Collected: 05/20/14 10:30
 Collected By: Client

Sample Desc: BM-9 Surface

Date Received: 05/20/14 14:30

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator at 05/20/14 at 15:15.
- 03 The SM 5210B sample did not have a DO depletion of at least 2 mg/L.

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015767

Date Collected: 05/20/14 10:30
 Collected By: Client

Sample Desc: BM-9 Mid-Depth

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.02	mg/l	.01	1	SM 4500P-E	05/20	16:55	ALD
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.02	mg/l	.01	1	SM 4500P-E	05/21	17:42	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/l	.05	1	D6919-03	06/04	18:56	JCL
Nitrogen, Nitrate	4.60	mg/l	.05	1	EPA 353.2	05/21	15:35	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	05/21	12:10	JCL
Nitrogen, Total Kjeldahl	0.51	mg/l	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/l	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.5	mg/l	1	1	SM5310 C	05/27	14:04	ALD
RESIDUES								
Solids, Total Dissolved	214	mg/l	5	1	SM 2540C	05/21	12:55	TMH
Solids, Total Suspended	3	mg/l	3	1	SM 2540D	05/21	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	103	mg/l	1	1	SM 2320 B	05/27	10:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Date of Report: 06/05/14
Lab ID: 2294-14-0015767

Date Collected: 05/20/14 10:30
Collected By: Client

Sample Desc: BM-9 Mid-Depth

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The SM 5210B sample did not have a DO depletion of at least 2 mg/L.							

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Account Executive

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015768
 Date Collected: 05/20/14 10:30
 Collected By: Client

Sample Desc: BM-9 Deep

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.09	mg/L	.01	1	SM 4500P-E	05/20	16:55	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.09	mg/L	.01	1	SM 4500P-E	05/21	17:42	ALD
NITROGENS								
Nitrogen, Ammonia	0.05	mg/L	.05	1	D6919-03	06/04	19:10	JCL
Nitrogen, Nitrate	5.66	mg/L	.05	1	EPA 353.2	05/21	15:37	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	12:12	JCL
Nitrogen, Total Kjeldahl	0.30	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	2.0	mg/L	1	1	SM5310 C	05/27	14:16	ALD
RESIDUES								
Solids, Total Dissolved	233	mg/L	5	1	SM 2540C	05/21	12:55	TMH
Solids, Total Suspended	19	mg/L	3	1	SM 2540D	05/21	13:15	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	127	mg/L	1	1	SM 2320 B	05/27	11:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Date Collected: 05/20/14 10:30
 Collected By: Client

Sample Desc: BM-9 Deep

Date Received: 05/20/14 14:30

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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02 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015769
 Date Collected: 05/20/14 11:00
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-10 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
BACTERIOLOGY								
Escherichia coli	160	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
Fecal Coliform	190	/100mL	2	1	SM 9222D	05/20	16:00	PLW
Total Coliform	1700	mpn/100mL	1	1	SM 9223B	05/21	09:15	DAD
CHEMISTRY								
COLORIMETRIC								
Phosphate as P, Ortho	0.06	mg/L	.01	1	SM 4500P-E	05/20	16:55	ALD
Phosphorus as P, Dissolved	0.07	mg/L	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.08	mg/L	.01	1	SM 4500P-E	05/21	17:42	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/04	19:25	JCL
Nitrogen, Nitrate	4.83	mg/L	.05	1	EPA 353.2	05/21	15:38	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	05/21	12:13	JCL
Nitrogen, Total Kjeldahl	0.70	mg/L	.25	1	EPA 351.2	05/28	16:07	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	3.4	mg/L	1	1	SM5310 C	05/27	14:29	ALD
RESIDUES								
Solids, Total Dissolved	210	mg/L	5	1	SM 2540C	05/21	12:55	TMH
Solids, Total Suspended	3	mg/L	3	1	SM 2540D	05/21	13:15	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	109	mg/L	1	1	SM 2320 B	05/27	11:00	HRG

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Date of Report: 06/05/14
 Lab ID: 2294-14-0015769

Date Collected: 05/20/14 11:00
 Collected By: Client

Sample Desc: BM-10 Surface

Date Received: 05/20/14 14:30

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The SM 5210B sample did not have a DO depletion of at least 2 mg/L.
- 02 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 03 The total coliform sample was placed in the incubator at 05/20/14 at 15:15.
- 04 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.

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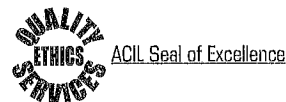
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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015770

Date Collected: 05/20/14 11:00
 Collected By: Client

Sample Desc: BM-10 Mid-Depth

Date Received: 05/20/14 14:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.09	mg/l	.01	1	SM 4500P-E	05/20	16:55	ALD
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.10	mg/l	.01	1	SM 4500P-E	05/21	17:42	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/l	.05	1	D6919-03	06/04	19:39	JCL
Nitrogen, Nitrate	6.20	mg/l	.1	2	EPA 353.2	05/21	15:56	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	05/21	12:14	JCL
Nitrogen, Total Kjeldahl	<.25	mg/l	.25	1	EPA 351.2	05/29	16:03	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/l	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	1.8	mg/l	1	1	SM5310 C	05/27	14:41	ALD
RESIDUES								
Solids, Total Dissolved	242	mg/l	5	1	SM 2540C	05/21	12:55	TMH
Solids, Total Suspended	8	mg/l	3	1	SM 2540D	05/21	13:15	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	116	mg/l	1	1	SM 2320 B	05/27	11:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

Distribution of Reports:
 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:

Christina Kistler
 Account Executive

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015770

Date Collected: 05/20/14 11:00
 Collected By: Client

Sample Desc: BM-10 Mid-Depth

Date Received: 05/20/14 14:30

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	--------------	------------------	-----------	--------------	--------------	---------

02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.						
----	--	--	--	--	--	--	--

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Reviewed and Approved by:

Christina Kistler
 Account Executive

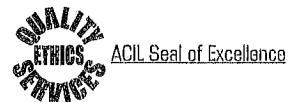
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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015771
 Date Collected: 05/20/14 11:00
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-10 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.04	mg/l	.01	1	SM 4500P-E	05/20	16:55	ALD
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	06/02	14:30	HRG
Phosphorus as P, Total	0.05	mg/l	.01	1	SM 4500P-E	05/21	17:42	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/l	.05	1	D6919-03	06/04	20:38	JCL
Nitrogen, Nitrate	6.22	mg/l	.1	2	EPA 353.2	05/21	15:57	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	05/21	12:15	JCL
Nitrogen, Total Kjeldahl	<.25	mg/l	.25	1	EPA 351.2	05/29	16:06	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/l	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	1.6	mg/l	1	1	SM5310 C	05/27	15:04	ALD
RESIDUES								
Solids, Total Dissolved	244	mg/l	5	1	SM 2540C	05/21	12:55	TMH
Solids, Total Suspended	25	mg/l	3	1	SM 2540D	05/21	13:15	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	120	mg/l	1	1	SM 2320 B	05/27	11:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina M. Kistler
 Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015772
 Date Collected: 05/20/14 12:40
 Collected By: Client
 Date Received: 05/20/14 14:30

Sample Desc: BM-11 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
MICROBIOLOGY								
Escherichia coli	410	mpn/100ml	1	1	SM 9223B	05/21	09:15	DAD
Fecal Coliform	440	/100ml	2	1	SM 9222D	05/20	16:00	PLW
Total Coliform	>2400	mpn/100ml	1	1	SM 9223B	05/21	09:15	DAD
CHEMISTRY								
COLORIMETRIC								
Phosphate as P, Ortho	0.05	mg/l	.01	1	SM 4500P-E	05/20	17:03	ALD
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	06/02	14:45	HRG
Phosphorus as P, Total	0.05	mg/l	.01	1	SM 4500P-E	05/21	17:42	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/l	.05	1	D6919-03	06/04	20:52	JCL
Nitrogen, Nitrate	3.70	mg/l	.05	1	EPA 353.2	05/21	15:43	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	05/21	12:18	JCL
Nitrogen, Total Kjeldahl	<.25	mg/l	.25	1	EPA 351.2	05/29	16:07	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/l	2	1	SM 5210B	05/21	13:15	EMW
Total Organic Carbon	1.8	mg/l	1	1	SM5310 C	05/27	16:16	ALD
RESIDUES								
Solids, Total Dissolved	86	mg/l	5	1	SM 2540C	05/21	13:25	TMH
Solids, Total Suspended	4	mg/l	3	1	SM 2540D	05/21	13:15	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	26	mg/l	1	1	SM 2320 B	05/27	11:30	HRG

Distribution of Reports:
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Reviewed and Approved by:

Christina M. Kistler

Christina Kistler
 Account Executive

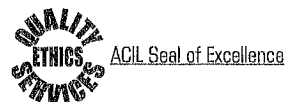
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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/05/14
 Lab ID: 2294-14-0015772

Date Collected: 05/20/14 12:40
 Collected By: Client

Sample Desc: BM-11 Surface

Date Received: 05/20/14 14:30

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator at 05/20/14 at 15:15.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Jobs
04/17/14 3:47:32 PM

M. J. REIDER ASSOCIATES, INC.

CORC.PRT
Page: 1

Chain of Custody

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

No: 236461

Account: 2294
Customer: Gregory Wack

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext:
Samplers: WACIK

Remarks:

Total Sampling Time (hours):

Bottle Prep by:

Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? Y N

Approved By: JBS

15752

Sample No: 1 Desc: BM-1 Surface

FC, EC, TC, pl AO AD
NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-p, toc,

Matrix: 0 Date: 5/20/14
Time: 1315
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X 1 Bod P w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 P w/ Cool to 6 C;
D - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
E - 1 X 2xamberova g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk P w/
Cool to 6 C/Zero Headspace;

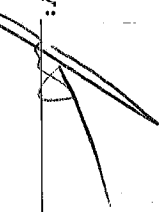
15753

Sample No: 2 Desc: BM-2 Surface

FC, EC, TC, pl KP AD
NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-p, toc,

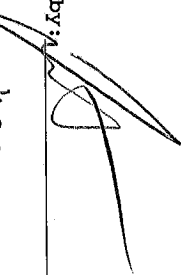
Matrix: 0 Date: 5/20/14
Time: 0920
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X 1 Bod P w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 P w/ Cool to 6 C;
D - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
E - 1 X 2xamberova g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk P w/
Cool to 6 C/Zero Headspace;

Relinquished by: 

Received by: 

Date: 5/20/14

Time: 1:45

Received for laboratory by: 

Date: 5-20-14

Time: 1430

Sample entered by: _____

Chain of Custody

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

No: 236461

Remarks:

Total Sampling Time (hours):

Bottle Prep by:

Laboratory Receipt Temp: 10 Deg C. IF Temp Unacceptable, On Ice? Y N

Approved By: JMS

WACIK

Account: 2294
Customer: Gregory Wacik
Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:
Samplers: WACIK

15754

Sample No: 3 Desc: BM-2 Mid-Depth

NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-p, toc,

Matrix: 0 Date: 5/20/14
Time: 0920
A - 1 X 1 Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

15755

Sample No: 4 Desc: BM-2 Deep

NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-p, toc,

Matrix: 0 Date: 5/20/14
Time: 0920
A - 1 X 1 Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

15756

Sample No: 5 Desc: BM-5 Surface

FC, EC, TC, PN, KD
NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-p, toc,

Matrix: 0 Date: 5/20/14
Time: 1240
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X 1 Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature]

Received by: [Signature]

Date: 5/20/14 Time: 1:45

Received for Laboratory by: [Signature]

Date: 5-20-14 Time: 1430

Sample entered by:

Chain of Custody

Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

No: 236461

Account: 2294
Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561
Ext: 215-656-6561

Samplers: WACIK

Project Leader: CMB
Remarks: _____
Total Sampling Time (hours): _____
Bottle Prep by: _____
Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: JMS

15757

Sample No: 6 Desc: BM-6 Surface
FC, EC, TC, pl AD BD
NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-p, toc,

Matrix: 0 Date: 5/20/14
Time: 0840
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X 1 L Bod P w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 P w/ Cool to 6 C;
D - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
E - 1 X 2xamberova g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk P w/
Cool to 6 C/Zero Headspace;

15758

Sample No: 7 Desc: BM-6 Mid-Depth
NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-p, toc,

Matrix: 0 Date: 5/20/14
Time: 0840
A - 1 X 1 L Bod P w/ Cool to 6 C;
B - 1 X 16oz NO2NO3 P w/ Cool to 6 C;
C - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
D - 1 X 2xamberova g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk P w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature]
Date: 5/20/14 Time: 1445

Received by: [Signature]

Received for Laboratory by: [Signature]
Date: 5-20-14 Time: 1430

Sample entered by: _____

jbs
04/17/14 3:47:32 PM

M. J. REIDER ASSOCIATES, INC.

COFC.PRT
Page: 4

Chain of Custody

Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

No: 236461

Account: 2294
Customer: Gregory Wacik
Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

Project Leader: GMB
Remarks:

Samplers: WACIK

Total Sampling Time (hours):
Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: JAS

Bottle Prep by:

15759

Sample No: 8 Desc: ~~BM-7 Deep~~
NO2-N, NO3-N, d-po4-p, o-po4, BOD
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 5/20/14
Time: 0840
A - 1 X 1 Bod p w/ Cool to 6 C;
B - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
D - 1 X 2xamberwa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk P w/
Cool to 6 C/Zero Headspace;

15760

Sample No: 9 Desc: BM-7 Surface
FC, EC, TC, pld kd kd
NO2-N, NO3-N, d-po4-p, o-po4, BOD
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 5/20/14
Time: 1400
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X 1 Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
E - 1 X 2xamberwa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk P w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature]
Date: 5/20/14 Time: 1:45

Received by: [Signature]

Received for Laboratory by: [Signature]
Date: 5-20-14 Time: 1420

Sample entered by: _____

Chain of Custody

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

No: 236461

Account: 2294
Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext:

Samplers: Wacik

Total Sampling Time (hours):

Bottle Prep by:

Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? Y N

Approved By: gms

15761

Sample No: 10 Desc: ~~BM-7~~ Mid-Depth
NO2-N, NO3-N, d-pot-p, o-pot, BOD
NH3-N, tkm, Alk, tds, tss, pot-p, toc,

Matrix: 0 Date: 5/20/14
Time: 10:02
A - 1 X 1 L Bod p w/ Cool to 6 C;
B - 1 X 1 L 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk P w/
Cool to 6 C/zero Headspace;

15762

Sample No: 11 Desc: ~~BM-7~~ Deep
NO2-N, NO3-N, d-pot-p, o-pot, BOD
NH3-N, tkm, Alk, tds, tss, pot-p, toc,

Matrix: 0 Date: 5/20/14
Time: 10:02
A - 1 X 1 L Bod p w/ Cool to 6 C;
B - 1 X 1 L 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk P w/
Cool to 6 C/zero Headspace;

15763

Sample No: 12 Desc: BM-8 Surface
FC, EC, TC, ~~pld~~ ~~pot~~ ~~pot~~
NO2-N, NO3-N, d-pot-p, o-pot, BOD ~~gms~~
NH3-N, tkm, Alk, tds, tss, pot-p, toc,

Matrix: 0 Date: 5/20/14
Time: 11:45
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X 1 L Bod p w/ Cool to 6 C;
C - 1 X 1 L 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk P w/
Cool to 6 C/zero Headspace;

Relinquished by: 

Received by: 

Date: 5/20/14 Time: 1:48

Received for Laboratory by: 

Date: 5/20/14 Time: 1430

Sample entered by: _____

Chain of Custody

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

No: 236461

Remarks:

Account: 2294
Customer: Gregory Wack
Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:
Samplers: WRCIK

Total Sampling Time (hours):
Bottle Prep by:
Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: JMS

157164

Sample No: 13 Desc: BM-8 Mid-Depth
NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-p, toc,

Matrix: 0
Date: 5/20/14
Time: 1145
A - 1 X 1 Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xamberova g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

157165

Sample No: 14 Desc: BM-8 Deep
NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-p, toc,


Matrix: 0
Date: 5/20/14
Time: 1145
A - 1 X 1 Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xamberova g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

157166

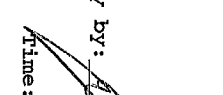
Sample No: 15 Desc: BM-9 Surface
FC, EC, TC, BOD
NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-p, toc,

Matrix: 0
Date: 5/20/14
Time: 1030
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X 1 Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xamberova g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: 

Received by: 

Date: 5/20/14 Time: 1145

Received for Laboratory by: 

Date: 5-20-14 Time: 1430

Sample entered by: _____

Chain of Custody

Project Leader: GMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

No: 236461

Remarks:

Account: 2294
Customer: Gregory Wacik
Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:
Samplers: Wacik

Total Sampling Time (hours): _____
Bottle Prep by: _____
Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: JRS

15767

Sample No: 16 Desc: ~~BM-9~~ Mid-Depth
NO2-N, NO3-N, d-p04-P, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-P, toc,

- A - 1 X 1 Bod p w/ Cool to 6 C; Date: 5/20/14
- B - 1 X 16oz NO2NO3 p w/ Cool to 6 C; Time: 10:30
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/

15768

Sample No: 17 Desc: ~~BM-9~~ Deep
NO2-N, NO3-N, d-p04-P, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-P, toc,

- A - 1 X 1 Bod p w/ Cool to 6 C; Date: 5/20/14
- B - ~~1 X 16oz NO2NO3 p w/ Cool to 6 C;~~ Time: 10:30
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/

15769

Sample No: 18 Desc: BM-10 Surface
FC, EC, TC, ~~TKM~~ TKM ~~ALK~~ ALK
NO2-N, NO3-N, d-p04-P, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, p04-P, toc,

- A - 1 X 250ml Micro P w/ Sterile/Na2S2O3; Date: 5/20/14
- B - 1 X 1 Bod p w/ Cool to 6 C; Time: 10:30
- C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
- D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- E - 1 X 2xambervoa g w/ H3PO4/zero headspace;

Relinquished by: [Signature]
Date: 5/20/14 Time: 1:45

Received by: [Signature]

Received for Laboratory by: [Signature]
Date: 5-20-14 Time: 1:30

Sample entered by: _____

Chain of Custody

Account: 2294

Work Order: 004037

Project Leader: CMB

No: 236461

Customer: Gregory Wacik

Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Remarks:

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext:

Total Sampling Time (hours):

Bottle Prep by:

Samplers:

WACIK

Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? X N

Approved By: [Signature]

15770

Sample No: 19 Desc: ~~BM-10~~ Mid-Depth

NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, po4-p, toc, g/w

Matrix: 0

Date: 5/20/14

- A - 1 X L Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk P w/ Cool to 6 C/zero Headspace;

15771

Sample No: 20 Desc: ~~BM-10~~ Deep

NO2-N, NO3-N, d-p04-p, o-p04, BOD
NH3-N, tkm, Alk, tds, tss, po4-p, toc, g/w

Matrix: 0

Date: 5/20/14

- A - 1 X L Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk P w/ Cool to 6 C/zero Headspace;

15772

Sample No: 21 Desc: BM-11 Surface

FC, EC, TC, pk
NO2-N, NO3-N, d-p04-p, o-p04, BOD g/w
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0

Date: 5/20/14

- A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
- B - 1 X L Bod p w/ Cool to 6 C;
- C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- D - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
- E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- F - 1 X 8oz Alk P w/ Cool to 6 C/zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Date: 5/20/14

Time: 1:45

Received for Laboratory by: [Signature]

Date: 5-20-14

Time: 4:30

Sample entered by: _____



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019470
 Date Collected: 06/17/14 13:15
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-1 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
MICROBIOLOGY								
Escherichia coli	75	mpn/100mL	1	1	SM 9223B	06/18	10:15	PLW
Fecal Coliform	200	/100mL	2	1	SM 9222D	06/17	15:15	PLW
Total Coliform	1200	mpn/100mL	1	1	SM 9223B	06/18	10:15	PLW
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.21	mg/L	.01	1	SM 4500P-E	06/17	16:45	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/18	10:50	ALD
Phosphorus as P, Total	0.23	mg/L	.01	1	SM 4500P-E	06/18	10:50	ALD
NITROGENS								
Nitrogen, Ammonia	0.10	mg/L	.05	1	D6919-03	06/17	16:33	JCL
Nitrogen, Nitrate	4.44	mg/L	.05	1	EPA 353.2	06/18	15:54	JCL
Nitrogen, Nitrite	0.06	mg/L	.05	1	EPA 353.2	06/18	13:48	JCL
Nitrogen, Total Kjeldahl	0.49	mg/L	.25	1	EPA 351.2	06/19	12:31	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.0	mg/L	1	1	SM5310 c	06/18	12:40	ALD
RESIDUES								
Solids, Total Dissolved	268	mg/L	5	1	SM 2540C	06/18	12:35	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	06/18	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	130	mg/L	1	1	SM 2320 B	06/18	09:30	HRG

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019470
 Date Collected: 06/17/14 13:15
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-1 Surface

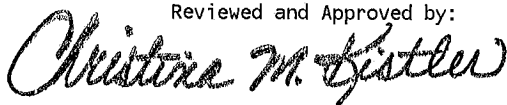
PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.
- 03 The total coliform sample was placed in the incubator on 06/17/14 at 16:10.

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 Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019471

Date Collected: 06/17/14 09:15
 Collected By: Client

Sample Desc: BM-2 Surface

Date Received: 06/17/14 13:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
Fecal Coliform	<2	/100ml	2	1	SM 9222D	06/17	15:15	PLW
Total Coliform	170	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.02	mg/L	.01	1	SM 4500P-E	06/17	16:45	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/18	10:50	ALD
Phosphorus as P, Total	0.03	mg/L	.01	1	SM 4500P-E	06/18	10:50	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	17:16	JCL
Nitrogen, Nitrate	4.07	mg/L	.05	1	EPA 353.2	06/18	15:55	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	13:51	JCL
Nitrogen, Total Kjeldahl	0.37	mg/L	.25	1	EPA 351.2	06/19	12:34	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	06/18	13:11	ALD
RESIDUES								
Solids, Total Dissolved	204	mg/L	5	1	SM 2540C	06/18	12:35	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	06/18	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	103	mg/L	1	1	SM 2320 B	06/18	09:30	HRG

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019471
 Date Collected: 06/17/14 09:15
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-2 Surface

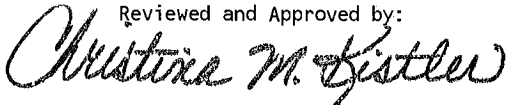
PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The SM 5210B sample did not have a DO depletion of at least 2 mg/L.
- 02 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 03 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.
- 04 The total coliform sample was placed in the incubator on 06/17/14 at 16:10.

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Christina Kistler
 Account Executive

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 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019472
 Date Collected: 06/17/14 09:15
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-2 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.02	mg/L	.01	1	SM 4500P-E	06/17	16:52	ALD
Phosphorus as P, Dissolved	0.06	mg/L	.05	1	SM 4500P-E	06/18	10:50	ALD
Phosphorus as P, Total	0.10	mg/L	.01	1	SM 4500P-E	06/18	10:50	ALD
NITROGENS								
Nitrogen, Ammonia	0.12	mg/L	.05	1	D6919-03	06/17	17:31	JCL
Nitrogen, Nitrate	4.24	mg/L	.05	1	EPA 353.2	06/18	15:56	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	13:52	JCL
Nitrogen, Total Kjeldahl	0.51	mg/L	.25	1	EPA 351.2	06/19	12:35	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	10:04	EMW
Total Organic Carbon	2.9	mg/L	1	1	SM5310 C	06/18	13:58	ALD
RESIDUES								
Solids, Total Dissolved	231	mg/L	5	1	SM 2540C	06/18	12:35	TMH
Solids, Total Suspended	8	mg/L	3	1	SM 2540D	06/18	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	115	mg/L	1	1	SM 2320 B	06/18	09:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019472
 Date Collected: 06/17/14 09:15
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-2 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019473
 Date Collected: 06/17/14 09:15
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-2 Deep

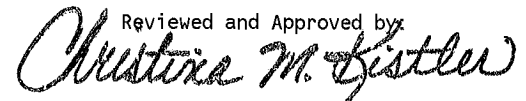
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.11	mg/L	.01	1	SM 4500P-E	06/17	16:52	ALD
Phosphorus as P, Dissolved	0.24	mg/L	.05	1	SM 4500P-E	06/18	11:01	ALD
Phosphorus as P, Total	0.28	mg/L	.01	1	SM 4500P-E	06/18	11:01	ALD
NITROGENS								
Nitrogen, Ammonia	0.52	mg/L	.05	1	D6919-03	06/17	17:46	JCL
Nitrogen, Nitrate	3.07	mg/L	.05	1	EPA 353.2	06/18	15:57	JCL
Nitrogen, Nitrite	0.09	mg/L	.05	1	EPA 353.2	06/18	13:53	JCL
Nitrogen, Total Kjeldahl	0.76	mg/L	.25	1	EPA 351.2	06/19	12:36	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	1.6	mg/L	1	1	SM5310 C	06/18	14:13	ALD
RESIDUES								
Solids, Total Dissolved	274	mg/L	5	1	SM 2540C	06/18	12:35	TMH
Solids, Total Suspended	6	mg/L	3	1	SM 2540D	06/18	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	147	mg/L	1	1	SM 2320 B	06/18	09:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by


Christina Kistler
 Account Executive

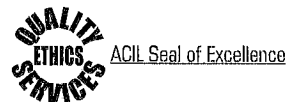
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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019473
 Date Collected: 06/17/14 09:15
 Collected By: CLient
 Date Received: 06/17/14 13:50

Sample Desc: BM-2 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019474
 Date Collected: 06/17/14 12:55
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-5 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	980	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
Fecal Coliform	980	/100ml	2	1	SM 9222D	06/17	15:15	PLW
Total Coliform	>2400	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.20	mg/L	.01	1	SM 4500P-E	06/17	16:52	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/18	11:01	ALD
Phosphorus as P, Total	0.20	mg/L	.01	1	SM 4500P-E	06/18	11:01	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	18:00	JCL
Nitrogen, Nitrate	8.13	mg/L	.1	2	EPA 353.2	06/18	16:31	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	13:54	JCL
Nitrogen, Total Kjeldahl	0.34	mg/L	.25	1	EPA 351.2	06/19	12:37	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	1.3	mg/L	1	1	SM5310 C	06/18	14:28	ALD
RESIDUES								
Solids, Total Dissolved	366	mg/L	5	1	SM 2540C	06/18	12:35	TMH
Solids, Total Suspended	14	mg/L	3	1	SM 2540D	06/18	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	200	mg/L	1	1	SM 2320 B	06/18	09:45	HRG

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Christina Kistler
 Account Executive

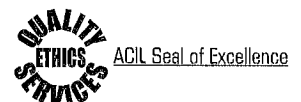
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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019474
 Date Collected: 06/17/14 12:55
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-5 Surface

PWSID: 3060912

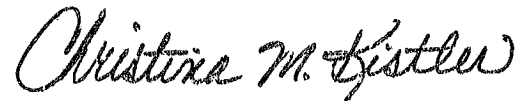
Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.
- 03 The total coliform sample was placed in the incubator on 06/17/14 at 16:10.

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 Account Executive

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 9200 Rumsey Road
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 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019475
 Date Collected: 06/17/14 08:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-6 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
Fecal Coliform	10	/100ml	2	1	SM 9222D	06/17	15:15	PLW
Total Coliform	200	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.22	mg/L	.01	1	SM 4500P-E	06/17	16:52	ALD
Phosphorus as P, Dissolved	0.22	mg/L	.05	1	SM 4500P-E	06/18	11:06	ALD
Phosphorus as P, Total	0.24	mg/L	.01	1	SM 4500P-E	06/18	11:06	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	18:15	JCL
Nitrogen, Nitrate	4.09	mg/L	.05	1	EPA 353.2	06/18	16:00	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	13:54	JCL
Nitrogen, Total Kjeldahl	0.46	mg/L	.25	1	EPA 351.2	06/19	12:38	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	06/18	14:43	ALD
RESIDUES								
Solids, Total Dissolved	216	mg/L	5	1	SM 2540C	06/18	12:35	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	06/18	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	109	mg/L	1	1	SM 2320 B	06/18	09:45	HRG

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Date of Report: 06/27/14
 Lab ID: 2294-14-0019475
 Date Collected: 06/17/14 08:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-6 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 06/17/14 at 16:10.

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Date of Report: 06/27/14
 Lab ID: 2294-14-0019476
 Date Collected: 06/17/14 08:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-6 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.10	mg/L	.01	1	SM 4500P-E	06/17	16:52	ALD
Phosphorus as P, Dissolved	0.09	mg/L	.05	1	SM 4500P-E	06/18	11:06	ALD
Phosphorus as P, Total	0.11	mg/L	.01	1	SM 4500P-E	06/18	11:06	ALD
NITROGENS								
Nitrogen, Ammonia	0.14	mg/L	.05	1	D6919-03	06/17	18:29	JCL
Nitrogen, Nitrate	4.76	mg/L	.05	1	EPA 353.2	06/18	16:01	JCL
Nitrogen, Nitrite	0.05	mg/L	.05	1	EPA 353.2	06/18	13:55	JCL
Nitrogen, Total Kjeldahl	0.30	mg/L	.25	1	EPA 351.2	06/19	12:39	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.0	mg/L	1	1	SM5310 C	06/18	14:58	ALD
RESIDUES								
Solids, Total Dissolved	256	mg/L	5	1	SM 2540C	06/18	12:35	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	06/18	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	148	mg/L	1	1	SM 2320 B	06/18	10:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 Christina Kistler
 Account Executive

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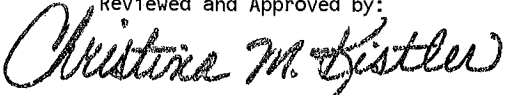
Date of Report: 06/27/14
 Lab ID: 2294-14-0019476
 Date Collected: 06/17/14 08:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-6 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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Reviewed and Approved by:


Christina Kistler
 Account Executive

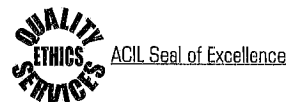
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Date of Report: 06/27/14
 Lab ID: 2294-14-0019477
 Date Collected: 06/17/14 08:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-6 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.04	mg/L	.01	1	SM 4500P-E	06/17	16:52	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/18	11:06	ALD
Phosphorus as P, Total	0.05	mg/L	.01	1	SM 4500P-E	06/18	11:15	ALD
NITROGENS								
Nitrogen, Ammonia	0.37	mg/L	.05	1	D6919-03	06/17	18:44	JCL
Nitrogen, Nitrate	3.47	mg/L	.05	1	EPA 353.2	06/18	16:02	JCL
Nitrogen, Nitrite	0.10	mg/L	.05	1	EPA 353.2	06/18	13:56	JCL
Nitrogen, Total Kjeldahl	0.53	mg/L	.25	1	EPA 351.2	06/19	12:40	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	1.6	mg/L	1	1	SM5310 C	06/18	15:12	ALD
RESIDUES								
Solids, Total Dissolved	218	mg/L	5	1	SM 2540C	06/18	12:35	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	06/18	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	148	mg/L	1	1	SM 2320 B	06/18	10:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorus was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Date of Report: 06/27/14
Lab ID: 2294-14-0019477

Date Collected: 06/17/14 08:30
Collected By: Client

Sample Desc: BM-6 Deep

Date Received: 06/17/14 13:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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Christina M. Kistler
Christina Kistler
Account Executive

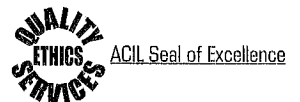
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 Suite 100
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Date of Report: 06/27/14
 Lab ID: 2294-14-0019478

Date Collected: 06/17/14 09:45
 Collected By: Client

Sample Desc: BM-7 Surface

Date Received: 06/17/14 13:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
Fecal Coliform	<2	/100ml	2	1	SM 9222D	06/17	15:15	PLW
Total Coliform	58	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.04	mg/L	.01	1	SM 4500P-E	06/17	17:02	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/18	11:15	ALD
Phosphorus as P, Total	0.04	mg/L	.01	1	SM 4500P-E	06/18	11:15	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	18:59	JCL
Nitrogen, Nitrate	4.05	mg/L	.05	1	EPA 353.2	06/18	16:05	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	13:59	JCL
Nitrogen, Total Kjeldahl	0.86	mg/L	.25	1	EPA 351.2	06/19	12:43	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	06/18	15:28	ALD
RESIDUES								
Solids, Total Dissolved	229	mg/L	5	1	SM 2540C	06/18	12:35	TMH
Solids, Total Suspended	7	mg/L	3	1	SM 2540D	06/18	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	108	mg/L	1	1	SM 2320 B	06/18	10:00	HRG

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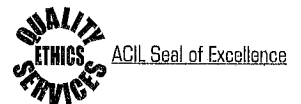
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Date of Report: 06/27/14
 Lab ID: 2294-14-0019478
 Date Collected: 06/17/14 09:45
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-7 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.
- 03 The SM 5210B sample did not have a DO depletion of at least 2 mg/L.
- 04 The total coliform sample was placed in the incubator on 06/17/14 at 16:10.

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 Account Executive

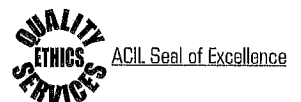
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Date of Report: 06/27/14
 Lab ID: 2294-14-0019479
 Date Collected: 06/17/14 09:45
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-7 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.09	mg/L	.01	1	SM 4500P-E	06/17	17:02	ALD
Phosphorus as P, Dissolved	0.09	mg/L	.05	1	SM 4500P-E	06/18	11:15	ALD
Phosphorus as P, Total	0.09	mg/L	.01	1	SM 4500P-E	06/18	11:15	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	19:13	JCL
Nitrogen, Nitrate	4.12	mg/L	.05	1	EPA 353.2	06/18	16:06	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:00	JCL
Nitrogen, Total Kjeldahl	0.47	mg/L	.25	1	EPA 351.2	06/19	12:44	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.6	mg/L	1	1	SM5310 C	06/18	15:58	ALD
RESIDUES								
Solids, Total Dissolved	229	mg/L	5	1	SM 2540C	06/18	12:35	TMH
Solids, Total Suspended	7	mg/L	3	1	SM 2540D	06/18	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	106	mg/L	1	1	SM 2320 B	06/18	10:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Christina M. Kistler
 Christina Kistler
 Account Executive

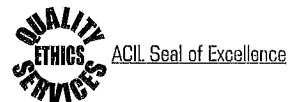
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 Lab ID: 2294-14-0019479
 Date Collected: 06/17/14 09:45
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-7 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019480
 Date Collected: 06/17/14 09:45
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-8 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.09	mg/L	.01	1	SM 4500P-E	06/17	17:02	ALD
Phosphorus as P, Dissolved	0.09	mg/L	.05	1	SM 4500P-E	06/18	11:25	ALD
Phosphorus as P, Total	0.11	mg/L	.01	1	SM 4500P-E	06/18	11:25	ALD
NITROGENS								
Nitrogen, Ammonia	0.14	mg/L	.05	1	D6919-03	06/17	19:28	JCL
Nitrogen, Nitrate	3.32	mg/L	.05	1	EPA 353.2	06/18	16:07	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:01	JCL
Nitrogen, Total Kjeldahl	0.61	mg/L	.25	1	EPA 351.2	06/19	12:45	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.1	mg/L	1	1	SM5310 c	06/18	17:22	ALD
RESIDUES								
Solids, Total Dissolved	232	mg/L	5	1	SM 2540C	06/18	13:05	TMH
Solids, Total Suspended	32	mg/L	3	1	SM 2540D	06/18	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	101	mg/L	1	1	SM 2320 B	06/18	10:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019480
 Date Collected: 06/17/14 09:45
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-8 Deep

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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02 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019481
 Date Collected: 06/17/14 11:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-8 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
Fecal Coliform	<2	/100ml	2	1	SM 9222D	06/17	15:15	PLW
Total Coliform	240	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.04	mg/L	.01	1	SM 4500P-E	06/17	17:02	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/18	11:30	ALD
Phosphorus as P, Total	0.04	mg/L	.01	1	SM 4500P-E	06/18	11:30	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	19:42	JCL
Nitrogen, Nitrate	3.88	mg/L	.05	1	EPA 353.2	06/18	16:08	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:04	JCL
Nitrogen, Total Kjeldahl	0.59	mg/L	.25	1	EPA 351.2	06/19	12:46	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	06/18	17:38	ALD
RESIDUES								
Solids, Total Dissolved	191	mg/L	5	1	SM 2540C	06/18	13:05	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	06/18	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	104	mg/L	1	1	SM 2320 B	06/18	10:15	HRG

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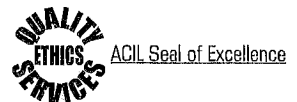
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Date of Report: 06/27/14
 Lab ID: 2294-14-0019481
 Date Collected: 06/17/14 11:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-8 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.
- 03 The SM 5210B sample did not have a DO depletion of at least 2 mg/L.
- 04 The total coliform sample was placed in the incubator on 06/17/14 at 16:10.

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Date of Report: 06/27/14
 Lab ID: 2294-14-0019482
 Date Collected: 06/17/14 11:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-8 Mid-Depth

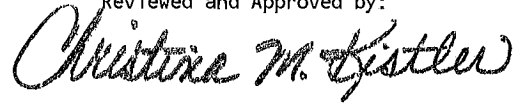
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.06	mg/L	.01	1	SM 4500P-E	06/17	17:02	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/18	11:30	ALD
Phosphorus as P, Total	0.06	mg/L	.01	1	SM 4500P-E	06/18	11:30	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	19:57	JCL
Nitrogen, Nitrate	3.76	mg/L	.05	1	EPA 353.2	06/18	16:11	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:05	JCL
Nitrogen, Total Kjeldahl	0.61	mg/L	.25	1	EPA 351.2	06/19	12:47	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	06/18	17:53	ALD
RESIDUES								
Solids, Total Dissolved	206	mg/L	5	1	SM 2540C	06/18	13:05	TMH
Solids, Total Suspended	8	mg/L	3	1	SM 2540D	06/18	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	91	mg/L	1	1	SM 2320 B	06/18	10:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 Account Executive

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Date of Report: 06/27/14
 Lab ID: 2294-14-0019482
 Date Collected: 06/17/14 11:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-8 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							
03	The SM 5210B sample did not have a DO depletion of at least 2 mg/L.							

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Reviewed and Approved by:

Christina M. Kistler
 Christina Kistler
 Account Executive

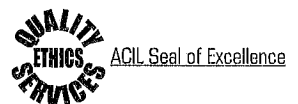
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Date of Report: 06/27/14
 Lab ID: 2294-14-0019483
 Date Collected: 06/17/14 11:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-7 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	06/17	17:02	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/18	11:30	ALD
Phosphorus as P, Total	0.10	mg/L	.01	1	SM 4500P-E	06/18	11:30	ALD
NITROGENS								
Nitrogen, Ammonia	0.11	mg/L	.05	1	D6919-03	06/17	20:12	JCL
Nitrogen, Nitrate	5.04	mg/L	.05	1	EPA 353.2	06/18	16:12	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:06	JCL
Nitrogen, Total Kjeldahl	0.45	mg/L	.25	1	EPA 351.2	06/19	12:48	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.1	mg/L	1	1	SM5310 C	06/18	18:08	ALD
RESIDUES								
Solids, Total Dissolved	222	mg/L	5	1	SM 2540C	06/18	13:05	TMH
Solids, Total Suspended	13	mg/L	3	1	SM 2540D	06/18	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	107	mg/L	1	1	SM 2320 B	06/18	10:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Columbia MD 21045-1934

Date of Report: 06/27/14
Lab ID: 2294-14-0019483
Date Collected: 06/17/14 11:30
Collected By: Client
Date Received: 06/17/14 13:50

Sample Desc: BM-7 Deep

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.						
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Date of Report: 06/27/14
 Lab ID: 2294-14-0019484
 Date Collected: 06/17/14 10:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-9 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
MICROBIOLOGY								
Escherichia coli	2	mpn/100mL	1	1	SM 9223B	06/18	10:15	PLW
Fecal Coliform	<2	/100mL	2	1	SM 9222D	06/17	15:15	PLW
Total Coliform	120	mpn/100mL	1	1	SM 9223B	06/18	10:15	PLW
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.06	mg/L	.01	1	SM 4500P-E	06/17	17:02	ALD
Phosphorus as P, Dissolved	0.07	mg/L	.05	1	SM 4500P-E	06/18	11:30	ALD
Phosphorus as P, Total	0.07	mg/L	.01	1	SM 4500P-E	06/18	11:30	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	20:26	JCL
Nitrogen, Nitrate	4.07	mg/L	.05	1	EPA 353.2	06/18	16:13	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:07	JCL
Nitrogen, Total Kjeldahl	0.96	mg/L	.25	1	EPA 351.2	06/19	12:48	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	4.0	mg/L	1	1	SM5310 C	06/18	18:25	ALD
RESIDUES								
Solids, Total Dissolved	218	mg/L	5	1	SM 2540C	06/18	13:05	TMH
Solids, Total Suspended	6	mg/L	3	1	SM 2540D	06/18	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	102	mg/L	1	1	SM 2320 B	06/18	10:30	HRG

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Date of Report: 06/27/14
 Lab ID: 2294-14-0019484
 Date Collected: 06/17/14 10:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-9 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.
- 03 The total coliform sample was placed in the incubator on 06/17/14 at 16:10.

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 Christina Kistler
 Account Executive

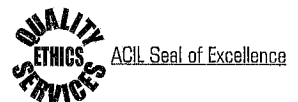
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 Suite 100
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Date of Report: 06/27/14
 Lab ID: 2294-14-0019485
 Date Collected: 06/17/14 10:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-9 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.16	mg/L	.01	1	SM 4500P-E	06/17	17:02	ALD
Phosphorus as P, Dissolved	0.10	mg/L	.05	1	SM 4500P-E	06/18	11:36	ALD
Phosphorus as P, Total	0.16	mg/L	.01	1	SM 4500P-E	06/18	11:36	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	20:41	JCL
Nitrogen, Nitrate	4.47	mg/L	.05	1	EPA 353.2	06/18	16:14	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:08	JCL
Nitrogen, Total Kjeldahl	0.49	mg/L	.25	1	EPA 351.2	06/19	12:49	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.8	mg/L	1	1	SM5310 C	06/18	18:57	ALD
RESIDUES								
Solids, Total Dissolved	213	mg/L	5	1	SM 2540C	06/18	13:05	TMH
Solids, Total Suspended	6	mg/L	3	1	SM 2540D	06/18	12:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	108	mg/L	1	1	SM 2320 B	06/18	10:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Christina Kistler
 Account Executive

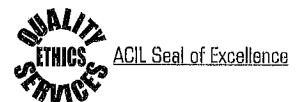
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CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
Reported To: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 06/27/14
Lab ID: 2294-14-0019485

Date Collected: 06/17/14 10:30
Collected By: Client

Sample Desc: BM-9 Mid-Depth

Date Received: 06/17/14 13:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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Reviewed and Approved by:

Christina Kistler
Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019486
 Date Collected: 06/17/14 10:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-9 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.25	mg/L	.01	1	SM 4500P-E	06/17	17:02	ALD
Phosphorus as P, Dissolved	0.09	mg/L	.05	1	SM 4500P-E	06/18	11:36	ALD
Phosphorus as P, Total	0.26	mg/L	.01	1	SM 4500P-E	06/18	11:36	ALD
NITROGENS								
Nitrogen, Ammonia	0.17	mg/L	.05	1	D6919-03	06/17	20:55	JCL
Nitrogen, Nitrate	4.17	mg/L	.05	1	EPA 353.2	06/18	16:17	JCL
Nitrogen, Nitrite	0.06	mg/L	.05	1	EPA 353.2	06/18	14:11	JCL
Nitrogen, Total Kjeldahl	0.34	mg/L	.25	1	EPA 351.2	06/19	14:09	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	1.8	mg/L	1	1	SM5310 C	06/18	19:41	ALD
RESIDUES								
Solids, Total Dissolved	222	mg/L	5	1	SM 2540C	06/18	13:05	TMH
Solids, Total Suspended	20	mg/L	3	1	SM 2540D	06/18	13:20	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	131	mg/L	1	1	SM 2320 B	06/18	10:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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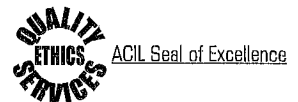
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 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019486
 Date Collected: 06/17/14 10:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-9 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019487
 Date Collected: 06/17/14 10:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-10 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	16	mpn/100mL	1	1	SM 9223B	06/18	10:15	PLW
Fecal Coliform	16	/100mL	2	1	SM 9222D	06/17	15:15	PLW
Total Coliform	280	mpn/100mL	1	1	SM 9223B	06/18	10:15	PLW
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.04	mg/L	.01	1	SM 4500P-E	06/17	17:12	ALD
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	06/18	11:36	ALD
Phosphorus as P, Total	0.10	mg/L	.01	1	SM 4500P-E	06/18	11:36	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	21:10	JCL
Nitrogen, Nitrate	3.72	mg/L	.05	1	EPA 353.2	06/18	16:18	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:12	JCL
Nitrogen, Total Kjeldahl	1.85	mg/L	.25	1	EPA 351.2	06/19	14:10	JCL
OTHER								
Biochemical Oxygen Demand	9	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	3.7	mg/L	1	1	SM5310 C	06/18	19:59	ALD
RESIDUES								
Solids, Total Dissolved	174	mg/L	5	1	SM 2540C	06/18	13:05	TMH
Solids, Total Suspended	20	mg/L	3	1	SM 2540D	06/18	13:20	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	85	mg/L	1	1	SM 2320 B	06/18	11:00	HRG

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019487
 Date Collected: 06/17/14 10:30
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-10 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.
- 02 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 03 The total coliform sample was placed in the incubator on 06/17/14 at 16:10.

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Christina Kistler
 Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019488
 Date Collected: 06/17/14 11:00
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-10 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.12	mg/L	.01	1	SM 4500P-E	06/17	17:12	ALD
Phosphorus as P, Dissolved	0.12	mg/L	.05	1	SM 4500P-E	06/18	11:36	ALD
Phosphorus as P, Total	0.11	mg/L	.01	1	SM 4500P-E	06/18	11:50	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	21:25	JCL
Nitrogen, Nitrate	4.77	mg/L	.05	1	EPA 353.2	06/18	16:19	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:13	JCL
Nitrogen, Total Kjeldahl	0.37	mg/L	.25	1	EPA 351.2	06/19	14:11	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	2.6	mg/L	1	1	SM5310 C	06/18	20:15	ALD
RESIDUES								
Solids, Total Dissolved	185	mg/L	5	1	SM 2540C	06/18	13:05	TMH
Solids, Total Suspended	10	mg/L	3	1	SM 2540D	06/18	13:20	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	107	mg/L	1	1	SM 2320 B	06/18	11:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Christina M. Kistler
 Christina Kistler
 Account Executive

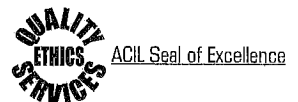
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 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019488
 Date Collected: 06/17/14 11:00
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-10 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							
03	The SM 5210B sample did not have a DO depletion of at least 2 mg/L.							

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Reviewed and Approved by:

Christina Kistler
 Account Executive

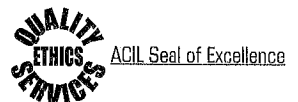
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 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019489
 Date Collected: 06/17/14 11:00
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-10 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.07	mg/L	.01	1	SM 4500P-E	06/17	17:12	ALD
Phosphorus as P, Dissolved	0.07	mg/L	.05	1	SM 4500P-E	06/18	11:50	ALD
Phosphorus as P, Total	0.15	mg/L	.01	1	SM 4500P-E	06/18	11:50	ALD
NITROGENS								
Nitrogen, Ammonia	0.13	mg/L	.05	1	D6919-03	06/17	22:23	JCL
Nitrogen, Nitrate	6.22	mg/L	.1	2	EPA 353.2	06/18	16:32	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:14	JCL
Nitrogen, Total Kjeldahl	0.44	mg/L	.25	1	EPA 351.2	06/19	14:12	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	1.7	mg/L	1	1	SM5310 C	06/18	20:30	ALD
RESIDUES								
Solids, Total Dissolved	236	mg/L	5	1	SM 2540C	06/18	13:05	TMH
Solids, Total Suspended	73	mg/L	3	1	SM 2540D	06/18	13:20	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	131	mg/L	1	1	SM 2320 B	06/18	11:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

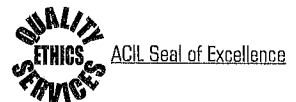
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Date of Report: 06/27/14
 Lab ID: 2294-14-0019489
 Date Collected: 06/17/14 11:00
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-10 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Diluth Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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Reviewed and Approved by:

Christina M. Kistler
 Christina Kistler
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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 06/27/14
 Lab ID: 2294-14-0019490
 Date Collected: 06/17/14 12:55
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-11 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
MICROBIOLOGY								
Escherichia coli	490	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
Fecal Coliform	520	/100ml	2	1	SM 9222D	06/17	15:15	PLW
Total Coliform	>2400	mpn/100ml	1	1	SM 9223B	06/18	10:15	PLW
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.21	mg/L	.01	1	SM 4500P-E	06/17	17:12	ALD
Phosphorus as P, Dissolved	0.20	mg/L	.05	1	SM 4500P-E	06/18	11:50	ALD
Phosphorus as P, Total	0.31	mg/L	.01	1	SM 4500P-E	06/18	11:58	ALD
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	06/17	22:38	JCL
Nitrogen, Nitrate	4.36	mg/L	.05	1	EPA 353.2	06/18	16:22	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	06/18	14:17	JCL
Nitrogen, Total Kjeldahl	<.25	mg/L	.25	1	EPA 351.2	06/19	14:13	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	06/17	15:55	EMW
Total Organic Carbon	1.8	mg/L	1	1	SM5310 C	06/18	21:41	ALD
RESIDUES								
Solids, Total Dissolved	108	mg/L	5	1	SM 2540C	06/18	13:35	TMH
Solids, Total Suspended	11	mg/L	3	1	SM 2540D	06/18	13:20	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	31	mg/L	1	1	SM 2320 B	06/18	11:00	HRG

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Reviewed and Approved by:

Christina Kistler
 Account Executive

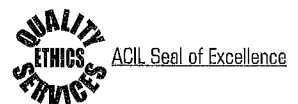
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Date of Report: 06/27/14
 Lab ID: 2294-14-0019490
 Date Collected: 06/17/14 12:55
 Collected By: Client
 Date Received: 06/17/14 13:50

Sample Desc: BM-11 Surface

PWSID: 3060912

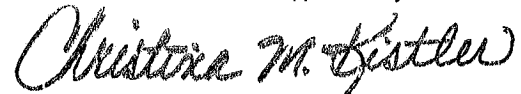
Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.
- 03 The total coliform sample was placed in the incubator on 06/17/14 at 16:10.

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Reviewed and Approved by:



Christina Kistler
 Account Executive

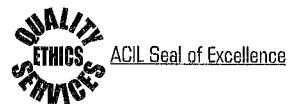
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M. J. REIDER ASSOCIATES, INC.

jbs
05/12/14 1:05:50 PM

Chain of Custody

No: 237777

Project Leader: CMB

Work Order: 004037

Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

Remarks:

Address: Versar, Inc./Blue Marsh Reservoir
9200 Runsey Road
Suite 100

Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

Wacik

Total Sampling Time (hours): 6 Bottle Prep by:

Laboratory Receipt Temp: 6 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: [Signature]

19970

Sample No: 1 Desc: EM-1 Surface
FC, EC, TC, 0/0 AD AD
NO2-N, NO3-N, d-po4-p, o-po4, BOD_N
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
Time: 1:15
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

19971

Sample No: 2 Desc: EM-2 Surface
FC, EC, TC, 0/0 AD AD
NO2-N, NO3-N, d-po4-p, o-po4, BOD_N
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
Time: 9:15
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Received for laboratory by: [Signature]

Date: 6/17/14 Time: 1:30

Date: 6-17-14 Time: 1:30

Sample entered by: DEM

Account: 2294

Work Order: 004037
Project Leader: CMB

Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

Chain of Custody

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100

Phone: 215-656-6561 Ext:

Samplers: WACIK

Total Sampling Time (hours): 6 Bottle Prep by:

Laboratory Receipt Temp: 6 Deg C. IF Temp Unacceptable, On Ice? Y N
Approved By: [Signature]

19472 Sample No: 3 Desc: EM-2 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

19473 Sample No: 4 Desc: EM-2 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

19474 Sample No: 5 Desc: EM-5 Surface
FC, EC, TC, RD
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
Time: 915
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Matrix: 0 Date: 6/17/14
Time: 915
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Matrix: 0 Date: 6/17/14
Time: 1255
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Received for laboratory by: [Signature]

Date: 6/17/14 Time: 1350

Date: 6-17-14 Time: 1350

Sample entered by: MSM

Chain of Custody

Customer: Gregory Wacik Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Address: Versar, Inc./Blue Marsh Reservoir 9200 Rumsey Road Suite 100 Columbia MD 21045-1934

Phone: 215-656-6561 Ext: WACIK

Samplers: _____

Remarks: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 6 Deg C, If Temp Unacceptable, On Ice? Y N

Approved By: WACIK

Sample No: 6 Desc: BM-6 Surface

FC, EC, TC, PH KD
NO2-N, NO3-N, d-po4-p, o-po4, BOD
W
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0

Date: 6/6/14
Time: 08:30

- A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
- B - 1 X L Bod p w/ Cool to 6 C;
- C - 1 X 16oz NO2NO3 P w/ Cool to 6 C;
- D - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
- E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- F - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

Sample No: 7 Desc: BM-6 Mid-Depth

NO2-N, NO3-N, d-po4-p, o-po4, BOD
W
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0

Date: 6/6/14
Time: 08:30

- A - 1 X L Bod p w/ Cool to 6 C;
- B - 1 X 16oz NO2NO3 P w/ Cool to 6 C;
- C - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Date: 6/17/14 Time: 1:30

Received for laboratory by: [Signature]

Date: 6-17-14 Time: 1:30

Sample entered by: WACIK

Chain of Custody

Account: 2294

Work Order: 004037

Project Leader: CMB

No: 237777

Customer: Gregory Wacik

Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Remarks:

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100

Phone: 215-656-6561 Ext: WACIK

Total Sampling Time (hours):

Bottle Prep by:

Laboratory Receipt Temp: 6 Deg C If Temp Unacceptable, On Ice? Y N

Approved By: MA

19477

Sample No: 8 Desc: BM-6 Deep
NO NO
NO2-N, NO3-N, d-po4-p, o-po4, BOD
W
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 06/7/14
Time: 0830
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

19478

Sample No: 9 Desc: BM-7 Surface
FC EC TC PH NO NO
NO2-N, NO3-N, d-po4-p, o-po4, BOD
m
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 06/7/14
Time: 0945
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Received for laboratory by: [Signature]

Date: 6/17/14 Time: 1:30

Date: 6-17-14 Time: 1340

Sample entered by: MSM

Chain of Custody

Account: 2294

Work Order: 004037
Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

No: 237777

Address: Versar, Inc./Blue Marsh Reservoir

Remarks: BM-7 deep ok BM-8 deep Bottle reversed

9200 Rumsey Road
Suite 100

Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

Total Sampling Time (hours): _____ Bottle Prep by: _____

Samplers: WACIK

Laboratory Receipt Temp: 6 Deg.C. If Temp Unacceptable, On Ice? Y N
Approved By: [Signature]

19479

Sample No: 10 Desc: BM-7 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
Time: 9:45

- A - 1 X L Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

19480

Sample No: 11 Desc: BM-8 Deep
used BM-8 deep bottles
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
Time: 9:45

- A - 1 X L Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

19481

Sample No: 12 Desc: BM-8 Surface
FC, EC, TC, ph
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
Time: 11:30

- A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
- B - 1 X L Bod p w/ Cool to 6 C;
- C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- F - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]
Date: 6/17/14 Time: 1:30

Received for laboratory by: [Signature]
Date: 6-17-14 Time: 1:30

Sample entered by: DSB

Account: 2294

Work Order: 004037
Project Leader: CMB

Work Order Description: Seasonal Monthly Blue Marsh Reservoir

No: 237777

Customer: Gregory Wacik

Remarks:

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100

Phone: 215-656-6561 Ext: WACIK

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 6 Deg. C. If Temp Unacceptable, On Ice? Y N
Approved By: [Signature]

Sample No: 13 Desc: EM-8 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
Time: 1:30
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

19483

Sample No: 14 Desc: EM-8 Deep (used EM-7 deep bottles)
NO2-N, NO3-N, d-po4-p, o-po4, BOD
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
Time: 1:30
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 15 Desc: EM-9 Surface
FC, EC, TC, NO2-N, NO3-N, d-po4-p, o-po4, BOD
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
Time: 1:30
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]
Date: 6/17/14 Time: 1:30

Received for laboratory by: [Signature]
Date: 6-17-14 Time: 1:30
Sample entered by: OSM

Chain of Custody

Account: 2294 Work Order: 004037 Project Leader: CMB No: 237777
 Customer: Gregory Wacik Work Order Description: Seasonal Monthly Blue Marsh Reservoir
 Address: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934
 Phone: 215-656-6561 Ext:
 Samplers: WACIK

Remarks:
 Total Sampling Time (hours): _____ Bottle Prep by: _____
 Laboratory Receipt Temp: 6 deg C Temp Unacceptable, On Ice? Y N
 Approved By: [Signature]

19485

Sample No: 16 Desc: BM-9 Mid-Depth
 NO2-N, NO3-N, d-po4-p, o-po4, BOD
 NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
 Time: 1030
 A - 1 X L Bod p w/ Cool to 6 C;
 B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
 C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
 D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
 E - 1 X 8oz Alk p w/
 Cool to 6 C/Zero Headspace;

19486

Sample No: 17 Desc: BM-9 Deep
 NO2-N, NO3-N, d-po4-p, o-po4, BOD
 NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
 Time: 1030
 A - 1 X L Bod p w/ Cool to 6 C;
 B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
 C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
 D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
 E - 1 X 8oz Alk p w/
 Cool to 6 C/Zero Headspace;

19487

Sample No: 18 Desc: BM-10 Surface
 FC, EC, TC, pH
 NO2-N, NO3-N, d-po4-p, o-po4, BOD
 NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 6/17/14
 Time: 1150
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
 B - 1 X L Bod p w/ Cool to 6 C;
 C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
 D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
 E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
 F - 1 X 8oz Alk p w/
 Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]
 Date: 6/17/14 Time: 1:30

Received for laboratory by: [Signature]
 Date: 6-17-14 Time: 1300

Sample entered by: OSM

Chain of Custody

No: 237777

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Work Order: 004037

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100

Phone: 215-656-6561 Ext: WACTR

Total Sampling Time (hours): _____

Bottle Prep by: _____

Laboratory Receipt Temp: 6 Deg C If Temp Unacceptable, On Ice? Y N
Approved By: WACTR

Remarks:

19488

Sample No: 19 Desc: BM-10 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 05/17/14
Time: 1100
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/zero Headspace;

19489

Sample No: 20 Desc: BM-10 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 05/17/14
Time: 1100
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/zero Headspace;

19490

Sample No: 21 Desc: BM-11 Surface
FC, EC, TC, DA
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 06/07/14
Time: 1255
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Received for laboratory by: [Signature]

Date: 05/17/14 Time: 1130

Date: 05/17/14 Time: 1300

Sample entered by: DSM



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023385
 Date Collected: 07/22/14 13:00
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-1 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	6	mpn/100ml	1	1	SM 9223B	07/23	11:30	DAD
Fecal Coliform	16	/100ml	2	1	SM 9222D	07/22	14:45	PLW
Total Coliform	>2400	mpn/100ml	1	1	SM 9223B	07/23	11:30	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:15	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:35	HRG
Phosphorus as P, Total	0.06	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	0.26	mg/L	.05	1	D6919-03	07/23	00:12	JCL
Nitrogen, Nitrate	3.42	mg/L	.05	1	EPA 353.2	07/23	16:51	JCL
Nitrogen, Nitrite	0.10	mg/L	.05	1	EPA 353.2	07/23	14:33	JCL
Nitrogen, Total Kjeldahl	0.54	mg/L	.25	1	EPA 351.2	07/25	16:29	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.2	mg/L	1	1	SM5310 C	07/23	03:25	ALD
RESIDUES								
Solids, Total Dissolved	234	mg/L	5	1	SM 2540C	07/23	12:30	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	07/23	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	134	mg/L	1	1	SM 2320 B	07/23	09:30	HRG

Distribution of Reports:
 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:

Christina Kistler
 Account Executive

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ENVIRONMENTAL TESTING LABORATORY 107 ANGELICA STREET, READING, PA 19611
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 NELAP accreditations for various drinking water, wastewater and solid & chemical materials analytes.





CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023385
 Date Collected: 07/22/14 13:00
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-1 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 07/22/14 at 15:30.

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 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:

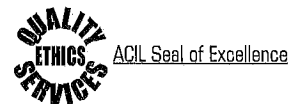
Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023386

Date Collected: 07/22/14 09:15
 Collected By: Client

Sample Desc: BM-2 Surface

Date Received: 07/22/14 13:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
Fecal Coliform	2	/100mL	2	1	SM 9222D	07/22	14:45	PLW
Total Coliform	550	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:15	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:35	HRG
Phosphorus as P, Total	0.01	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	07/23	00:27	JCL
Nitrogen, Nitrate	3.09	mg/L	.05	1	EPA 353.2	07/23	16:52	JCL
Nitrogen, Nitrite	0.05	mg/L	.05	1	EPA 353.2	07/23	14:36	JCL
Nitrogen, Total Kjeldahl	0.60	mg/L	.25	1	EPA 351.2	07/25	16:30	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.9	mg/L	1	1	SM5310 C	07/23	03:42	ALD
RESIDUES								
Solids, Total Dissolved	145	mg/L	5	1	SM 2540C	07/23	12:30	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	07/23	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	64	mg/L	1	1	SM 2320 B	07/23	09:30	HRG

Distribution of Reports:
 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:

Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023386

Date Collected: 07/22/14 09:15
 Collected By: Client

Sample Desc: BM-2 Surface

Date Received: 07/22/14 13:50

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 02 The total coliform sample was placed in the incubator on 07/22/14 at 15:30.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023387
 Date Collected: 07/22/14 09:15
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-2 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:15	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:35	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	0.12	mg/L	.05	1	D6919-03	07/23	01:12	JCL
Nitrogen, Nitrate	3.90	mg/L	.05	1	EPA 353.2	07/23	16:53	JCL
Nitrogen, Nitrite	0.18	mg/L	.05	1	EPA 353.2	07/23	14:37	JCL
Nitrogen, Total Kjeldahl	0.57	mg/L	.25	1	EPA 351.2	07/25	16:31	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.2	mg/L	1	1	SM5310 C	07/23	04:00	ALD
RESIDUES								
Solids, Total Dissolved	197	mg/L	5	1	SM 2540C	07/23	12:30	TMH
Solids, Total Suspended	6	mg/L	3	1	SM 2540D	07/23	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	126	mg/L	1	1	SM 2320 B	07/23	09:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023388
 Date Collected: 07/22/14 09:15
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-2 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.05	mg/l	.01	1	SM 4500P-E	07/22	16:15	HRG
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	07/23	14:35	HRG
Phosphorus as P, Total	0.25	mg/l	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	0.52	mg/l	.05	1	D6919-03	07/23	01:27	JCL
Nitrogen, Nitrate	3.03	mg/l	.05	1	EPA 353.2	07/23	16:54	JCL
Nitrogen, Nitrite	0.21	mg/l	.05	1	EPA 353.2	07/23	14:38	JCL
Nitrogen, Total Kjeldahl	2.12	mg/l	.25	1	EPA 351.2	07/25	16:32	JCL
OTHER								
Biochemical Oxygen Demand	4	mg/l	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.0	mg/l	1	1	SM5310 C	07/23	04:17	ALD
RESIDUES								
Solids, Total Dissolved	244	mg/l	5	1	SM 2540C	07/23	12:30	TMH
Solids, Total Suspended	64	mg/l	3	1	SM 2540D	07/23	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	147	mg/l	1	1	SM 2320 B	07/23	09:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 9200 Rumsey Road
 Suite 100
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Date of Report: 07/31/14
 Lab ID: 2294-14-0023389
 Date Collected: 07/22/14 12:20
 Collected By: Client

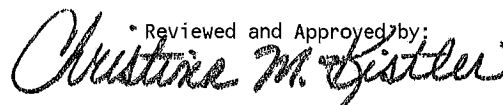
Sample Desc: BM-5 Surface

Date Received: 07/22/14 13:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	260	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
Fecal Coliform	390	/100mL	2	1	SM 9222D	07/22	14:45	PLW
Total Coliform	>2400	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:20	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:35	HRG
Phosphorus as P, Total	0.05	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	07/23	01:42	JCL
Nitrogen, Nitrate	7.82	mg/L	.1	2	EPA 353.2	07/23	17:39	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	07/23	14:39	JCL
Nitrogen, Total Kjeldahl	<.25	mg/L	.25	1	EPA 351.2	07/26	14:36	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	1.2	mg/L	1	1	SM5310 C	07/23	04:32	ALD
RESIDUES								
Solids, Total Dissolved	348	mg/L	5	1	SM 2540C	07/23	12:30	TMH
Solids, Total Suspended	11	mg/L	3	1	SM 2540D	07/23	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	225	mg/L	1	1	SM 2320 B	07/23	09:30	HRG

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023389

Date Collected: 07/22/14 12:20
 Collected By: Client

Sample Desc: BM-5 Surface

Date Received: 07/22/14 13:50

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 07/22/14 at 15:30.

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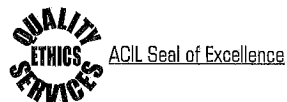
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 Account Executive

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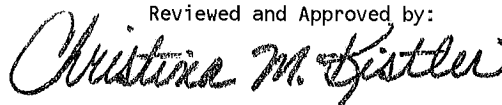
Date of Report: 07/31/14
 Lab ID: 2294-14-0023390
 Date Collected: 07/22/14 08:40
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-6 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
Fecal Coliform	6	/100mL	2	1	SM 9222D	07/22	14:45	PLW
Total Coliform	2400	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:20	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:35	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	07/23	01:57	JCL
Nitrogen, Nitrate	3.20	mg/L	.05	1	EPA 353.2	07/23	16:58	JCL
Nitrogen, Nitrite	0.06	mg/L	.05	1	EPA 353.2	07/23	14:40	JCL
Nitrogen, Total Kjeldahl	0.43	mg/L	.25	1	EPA 351.2	07/26	14:39	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.7	mg/L	1	1	SM5310 C	07/23	04:55	ALD
RESIDUES								
Solids, Total Dissolved	154	mg/L	5	1	SM 2540C	07/23	12:30	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	07/23	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	74	mg/L	1	1	SM 2320 B	07/23	09:45	HRG

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Reviewed and Approved by:

 Christina Kistler
 Account Executive

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 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023390
 Date Collected: 07/22/14 08:40
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-6 Surface

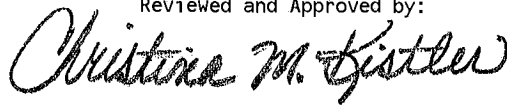
PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 07/22/14 at 15:30.

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023391
 Date Collected: 07/22/14 08:40
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-6 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.01	mg/L	.01	1	SM 4500P-E	07/22	16:20	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:35	HRG
Phosphorus as P, Total	0.02	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	0.21	mg/L	.05	1	D6919-03	07/23	02:12	JCL
Nitrogen, Nitrate	3.64	mg/L	.05	1	EPA 353.2	07/23	16:59	JCL
Nitrogen, Nitrite	0.28	mg/L	.05	1	EPA 353.2	07/23	14:40	JCL
Nitrogen, Total Kjeldahl	0.40	mg/L	.25	1	EPA 351.2	07/26	14:40	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.1	mg/L	1	1	SM5310 C	07/23	05:07	ALD
RESIDUES								
Solids, Total Dissolved	209	mg/L	5	1	SM 2540C	07/23	12:30	TMH
Solids, Total Suspended	3	mg/L	3	1	SM 2540D	07/23	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	147	mg/L	1	1	SM 2320 B	07/23	09:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Date of Report: 07/31/14
 Lab ID: 2294-14-0023392
 Date Collected: 07/22/14 08:40
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-6 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:20	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:35	HRG
Phosphorus as P, Total	0.04	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	0.36	mg/L	.05	1	D6919-03	07/23	02:27	JCL
Nitrogen, Nitrate	3.21	mg/L	.05	1	EPA 353.2	07/23	17:00	JCL
Nitrogen, Nitrite	0.18	mg/L	.05	1	EPA 353.2	07/23	14:42	JCL
Nitrogen, Total Kjeldahl	0.63	mg/L	.25	1	EPA 351.2	07/26	14:40	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.1	mg/L	1	1	SM5310 C	07/23	05:23	ALD
RESIDUES								
Solids, Total Dissolved	204	mg/L	5	1	SM 2540C	07/23	12:30	TMH
Solids, Total Suspended	6	mg/L	3	1	SM 2540D	07/23	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	145	mg/L	1	1	SM 2320 B	07/23	09:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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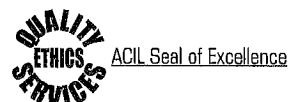
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Date of Report: 07/31/14
 Lab ID: 2294-14-0023393

Date Collected: 07/22/14 09:45
 Collected By: Client

Sample Desc: BM-7 Surface

Date Received: 07/22/14 13:50

PWSID: 3060912

	Result	Unit	Rep Limit	Diluth Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
Fecal Coliform	<2	/100mL	2	1	SM 9222D	07/22	15:15	PLW
Total Coliform	520	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:20	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:35	HRG
Phosphorus as P, Total	0.02	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	07/23	02:42	JCL
Nitrogen, Nitrate	3.21	mg/L	.05	1	EPA 353.2	07/23	17:03	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	07/23	14:45	JCL
Nitrogen, Total Kjeldahl	0.50	mg/L	.25	1	EPA 351.2	07/26	14:41	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.6	mg/L	1	1	SM5310 C	07/23	05:41	ALD
RESIDUES								
Solids, Total Dissolved	160	mg/L	5	1	SM 2540C	07/23	12:30	TMH
Solids, Total Suspended	11	mg/L	3	1	SM 2540D	07/23	12:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	74	mg/L	1	1	SM 2320 B	07/23	09:45	HRG

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023393
 Date Collected: 07/22/14 09:45
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-7 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 07/22/14 at 15:30.

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Reviewed and Approved by:

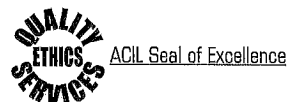
Christina Kistler
 Account Executive

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 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023394
 Date Collected: 07/22/14 09:45
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-7 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:20	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:40	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	0.07	mg/L	.05	1	D6919-03	07/23	02:57	JCL
Nitrogen, Nitrate	3.80	mg/L	.05	1	EPA 353.2	07/23	17:04	JCL
Nitrogen, Nitrite	0.07	mg/L	.05	1	EPA 353.2	07/23	14:46	JCL
Nitrogen, Total Kjeldahl	0.50	mg/L	.25	1	EPA 351.2	07/26	14:42	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.2	mg/L	1	1	SM5310 C	07/23	11:37	ALD
RESIDUES								
Solids, Total Dissolved	221	mg/L	5	1	SM 2540C	07/23	12:30	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	07/23	13:00	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	120	mg/L	1	1	SM 2320 B	07/23	10:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023395
 Date Collected: 07/22/14 09:45
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-7 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/l	.01	1	SM 4500P-E	07/22	16:25	HRG
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	07/23	14:40	HRG
Phosphorus as P, Total	0.04	mg/l	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	0.12	mg/l	.05	1	D6919-03	07/23	03:12	JCL
Nitrogen, Nitrate	4.21	mg/l	.05	1	EPA 353.2	07/23	17:05	JCL
Nitrogen, Nitrite	0.08	mg/l	.05	1	EPA 353.2	07/23	14:47	JCL
Nitrogen, Total Kjeldahl	0.60	mg/l	.25	1	EPA 351.2	07/26	14:43	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/l	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.2	mg/l	1	1	SM5310 C	07/23	12:09	ALD
RESIDUES								
Solids, Total Dissolved	252	mg/l	5	1	SM 2540C	07/23	13:00	TMH
Solids, Total Suspended	9	mg/l	3	1	SM 2540D	07/23	13:00	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	137	mg/l	1	1	SM 2320 B	07/23	10:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 Suite 100
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Date of Report: 07/31/14
 Lab ID: 2294-14-0023396
 Date Collected: 07/22/14 11:00
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-8 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
Fecal Coliform	<2	/100mL	2	1	SM 9222D	07/22	15:15	PLW
Total Coliform	310	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:25	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:40	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	07/23	03:27	JCL
Nitrogen, Nitrate	3.04	mg/L	.05	1	EPA 353.2	07/23	17:06	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	07/23	14:50	JCL
Nitrogen, Total Kjeldahl	0.86	mg/L	.25	1	EPA 351.2	07/26	14:44	JCL
OTHER								
Biochemical Oxygen Demand	5	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	3.1	mg/L	1	1	SM5310 C	07/23	12:40	ALD
RESIDUES								
Solids, Total Dissolved	127	mg/L	5	1	SM 2540C	07/23	13:00	TMH
Solids, Total Suspended	11	mg/L	3	1	SM 2540D	07/23	13:00	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	58	mg/L	1	1	SM 2320 B	07/23	10:00	HRG

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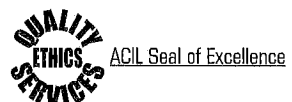
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 Account Executive

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Reported To: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 07/31/14
Lab ID: 2294-14-0023396

Date Collected: 07/22/14 11:00
Collected By: Client

Sample Desc: BM-8 Surface

Date Received: 07/22/14 13:50

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 07/22/14 at 15:30.

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Account Executive

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 Suite 100
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Date of Report: 07/31/14
 Lab ID: 2294-14-0023397
 Date Collected: 07/22/14 11:00
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-8 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/l	.01	1	SM 4500P-E	07/22	16:25	HRG
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	07/23	14:45	HRG
Phosphorus as P, Total	<.01	mg/l	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/l	.05	1	D6919-03	07/23	03:42	JCL
Nitrogen, Nitrate	3.20	mg/l	.05	1	EPA 353.2	07/23	17:08	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	07/23	14:50	JCL
Nitrogen, Total Kjeldahl	0.93	mg/l	.25	1	EPA 351.2	07/26	14:47	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/l	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.4	mg/l	1	1	SM5310 C	07/23	12:57	ALD
RESIDUES								
Solids, Total Dissolved	162	mg/l	5	1	SM 2540C	07/23	13:00	TMH
Solids, Total Suspended	8	mg/l	3	1	SM 2540D	07/23	13:00	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	69	mg/l	1	1	SM 2320 B	07/23	10:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023398

Date Collected: 07/22/14 11:00
 Collected By: Client

Sample Desc: BM-8 Deep

Date Received: 07/22/14 13:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/l	.01	1	SM 4500P-E	07/22	16:25	HRG
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	07/23	14:45	HRG
Phosphorus as P, Total	0.10	mg/l	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	0.09	mg/l	.05	1	D6919-03	07/23	03:57	JCL
Nitrogen, Nitrate	3.38	mg/l	.05	1	EPA 353.2	07/23	17:09	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	07/23	14:52	JCL
Nitrogen, Total Kjeldahl	0.63	mg/l	.25	1	EPA 351.2	07/26	14:48	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/l	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.0	mg/l	1	1	SM5310 C	07/23	13:14	ALD
RESIDUES								
Solids, Total Dissolved	214	mg/l	5	1	SM 2540C	07/23	13:00	TMH
Solids, Total Suspended	35	mg/l	3	1	SM 2540D	07/23	13:00	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	99	mg/l	1	1	SM 2320 B	07/23	10:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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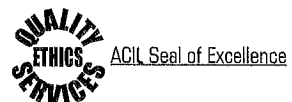
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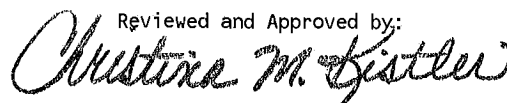
Date of Report: 07/31/14
 Lab ID: 2294-14-0023399
 Date Collected: 07/22/14 10:05
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-9 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	4	mpn/100ml	1	1	SM 9223B	07/23	11:30	DAD
Fecal Coliform	5	/100mL	2	1	SM 9222D	07/22	15:15	PLW
Total Coliform	1100	mpn/100ml	1	1	SM 9223B	07/23	11:30	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.01	mg/L	.01	1	SM 4500P-E	07/22	16:25	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:45	HRG
Phosphorus as P, Total	0.06	mg/L	.01	1	SM 4500P-E	07/23	15:00	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	07/23	04:12	JCL
Nitrogen, Nitrate	3.15	mg/L	.05	1	EPA 353.2	07/23	17:10	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	07/23	14:52	JCL
Nitrogen, Total Kjeldahl	1.22	mg/L	.25	1	EPA 351.2	07/26	14:49	JCL
OTHER								
Biochemical Oxygen Demand	6	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.8	mg/L	1	1	SM5310 C	07/23	13:30	ALD
RESIDUES								
Solids, Total Dissolved	164	mg/L	5	1	SM 2540C	07/23	13:00	TMH
Solids, Total Suspended	14	mg/L	3	1	SM 2540D	07/23	13:00	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	67	mg/L	1	1	SM 2320 B	07/23	10:30	HRG

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Reviewed and Approved by:


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9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 07/31/14
Lab ID: 2294-14-0023399

Date Collected: 07/22/14 10:05
Collected By: Client

Sample Desc: BM-9 Surface

Date Received: 07/22/14 13:50

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 02 The total coliform sample was placed in the incubator on 07/22/14 at 15:30.

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Account Executive

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 Suite 100
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Date of Report: 07/31/14
 Lab ID: 2294-14-0023400

Date Collected: 07/22/14 10:05
 Collected By: Client

Sample Desc: BM-9 Mid-Depth

Date Received: 07/22/14 13:50

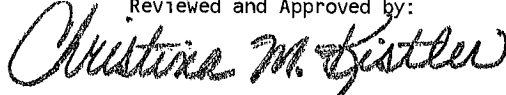
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:25	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:45	HRG
Phosphorus as P, Total	0.02	mg/L	.01	1	SM 4500P-E	07/23	15:10	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	07/23	04:27	JCL
Nitrogen, Nitrate	4.15	mg/L	.05	1	EPA 353.2	07/23	17:11	JCL
Nitrogen, Nitrite	0.06	mg/L	.05	1	EPA 353.2	07/23	14:53	JCL
Nitrogen, Total Kjeldahl	0.25	mg/L	.25	1	EPA 351.2	07/26	14:52	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	07/23	13:47	ALD
RESIDUES								
Solids, Total Dissolved	228	mg/L	5	1	SM 2540C	07/23	13:00	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	07/23	13:00	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	121	mg/L	1	1	SM 2320 B	07/23	10:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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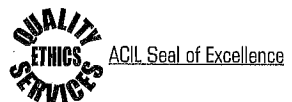
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 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023401
 Date Collected: 07/22/14 10:05
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-9 Deep

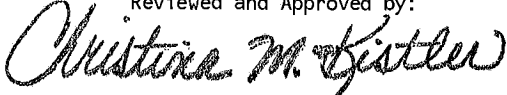
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:25	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:45	HRG
Phosphorus as P, Total	0.35	mg/L	.01	1	SM 4500P-E	07/23	15:10	HRG
NITROGENS								
Nitrogen, Ammonia	0.32	mg/L	.05	1	D6919-03	07/23	16:42	JCL
Nitrogen, Nitrate	4.25	mg/L	.05	1	EPA 353.2	07/23	17:14	JCL
Nitrogen, Nitrite	0.08	mg/L	.05	1	EPA 353.2	07/23	14:56	JCL
Nitrogen, Total Kjeldahl	1.33	mg/L	.25	1	EPA 351.2	07/26	14:53	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.5	mg/L	1	1	SM5310 C	07/23	14:03	ALD
RESIDUES								
Solids, Total Dissolved	237	mg/L	5	1	SM 2540C	07/23	13:00	TMH
Solids, Total Suspended	147	mg/L	3	1	SM 2540D	07/23	13:00	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	163	mg/L	1	1	SM 2320 B	07/23	11:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

Distribution of Reports:
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Reviewed and Approved by:


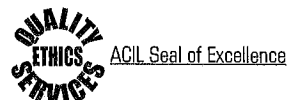
Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023402

Date Collected: 07/22/14 10:35
 Collected By: Client

Sample Desc: BM-10 Surface

Date Received: 07/22/14 13:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
Fecal Coliform	5	/100mL	2	1	SM 9222D	07/22	15:15	PLW
Total Coliform	870	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:25	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:45	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	07/23	15:10	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	07/23	05:42	JCL
Nitrogen, Nitrate	3.13	mg/L	.05	1	EPA 353.2	07/23	17:15	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	07/23	14:57	JCL
Nitrogen, Total Kjeldahl	0.92	mg/L	.25	1	EPA 351.2	07/26	14:54	JCL
OTHER								
Biochemical Oxygen Demand	6	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.9	mg/L	1	1	SM5310 C	07/23	14:20	ALD
RESIDUES								
Solids, Total Dissolved	137	mg/L	5	1	SM 2540C	07/23	13:00	TMH
Solids, Total Suspended	11	mg/L	3	1	SM 2540D	07/23	13:00	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	62	mg/L	1	1	SM 2320 B	07/23	11:15	HRG

Distribution of Reports:
 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:

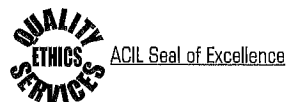
Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023402
 Date Collected: 07/22/14 10:35
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-10 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 07/22/14 at 15:30.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023403
 Date Collected: 07/22/14 10:35
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-10 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:25	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	14:45	HRG
Phosphorus as P, Total	0.04	mg/L	.01	1	SM 4500P-E	07/23	15:10	HRG
NITROGENS								
Nitrogen, Ammonia	0.08	mg/L	.05	1	D6919-03	07/23	06:27	JCL
Nitrogen, Nitrate	3.94	mg/L	.05	1	EPA 353.2	07/23	17:16	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	07/23	14:58	JCL
Nitrogen, Total Kjeldahl	0.53	mg/L	.25	1	EPA 351.2	07/26	14:55	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	07/23	15:09	ALD
RESIDUES								
Solids, Total Dissolved	167	mg/L	5	1	SM 2540C	07/23	13:00	TMH
Solids, Total Suspended	10	mg/L	3	1	SM 2540D	07/23	13:00	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	92	mg/L	1	1	SM 2320 B	07/23	11:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Date of Report: 07/31/14
 Lab ID: 2294-14-0023404
 Date Collected: 07/22/14 10:35
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-10 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	07/22	16:30	HRG
Phosphorus as P, Dissolved	0.07	mg/L	.05	1	SM 4500P-E	07/23	14:45	HRG
Phosphorus as P, Total	0.25	mg/L	.01	1	SM 4500P-E	07/23	15:15	HRG
NITROGENS								
Nitrogen, Ammonia	0.13	mg/L	.05	1	D6919-03	07/23	06:43	JCL
Nitrogen, Nitrate	5.58	mg/L	.05	1	EPA 353.2	07/23	17:18	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	07/23	14:59	JCL
Nitrogen, Total Kjeldahl	0.78	mg/L	.25	1	EPA 351.2	07/26	14:56	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	1.8	mg/L	1	1	SM5310 C	07/23	16:26	ALD
RESIDUES								
Solids, Total Dissolved	246	mg/L	5	1	SM 2540C	07/23	13:00	TMH
Solids, Total Suspended	75	mg/L	3	1	SM 2540D	07/23	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	150	mg/L	1	1	SM 2320 B	07/23	11:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 07/31/14
 Lab ID: 2294-14-0023405
 Date Collected: 07/22/14 12:20
 Collected By: Client
 Date Received: 07/22/14 13:50

Sample Desc: BM-11 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
MICROBIOLOGY								
Escherichia coli	330	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
Fecal Coliform	500	/100mL	2	1	SM 9222D	07/22	15:15	PLW
Total Coliform	>2400	mpn/100mL	1	1	SM 9223B	07/23	11:30	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.05	mg/L	.01	1	SM 4500P-E	07/22	16:30	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	07/23	15:00	HRG
Phosphorus as P, Total	0.08	mg/L	.01	1	SM 4500P-E	07/23	15:15	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	07/23	06:58	JCL
Nitrogen, Nitrate	5.78	mg/L	.05	1	EPA 353.2	07/23	17:20	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	07/23	15:02	JCL
Nitrogen, Total Kjeldahl	0.45	mg/L	.25	1	EPA 351.2	07/26	14:59	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	07/22	14:50	EMW
Total Organic Carbon	1.9	mg/L	1	1	SM5310 C	07/23	16:42	ALD
RESIDUES								
Solids, Total Dissolved	243	mg/L	5	1	SM 2540C	07/23	13:45	TMH
Solids, Total Suspended	10	mg/L	3	1	SM 2540D	07/23	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	145	mg/L	1	1	SM 2320 B	07/23	11:30	HRG

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Reviewed and Approved by:

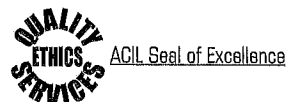
 Christina Kistler
 Account Executive

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Attention: Gregory Wacik
Reported To: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 07/31/14
Lab ID: 2294-14-0023405
Date Collected: 07/22/14 12:20
Collected By: Client
Date Received: 07/22/14 13:50

Sample Desc: BM-11 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 07/22/14 at 15:30.
- 03 One of the matrix spike/matrix spike duplicate results was outside of the recommended range but the other passed the criteria for Nitrate.

Distribution of Reports:
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Reviewed and Approved by:
Christina M. Kistler

Christina Kistler
Account Executive

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M. J. REIDER ASSOCIATES, INC.

jbs
06/05/14 1:30:14 PM

No: 239130

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Chain of Custody

Account: 2294

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Runsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext:

Samplers: WACIK

Remarks:

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: BSW

23385
Sample No: 014 1 Desc: EM-1 Surface
FC, EC, TC, BP
NO2-N, NO3-N, d-po4-p, o-po4, BOD g
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

23386
Sample No: 015 2 Desc: EM-2 Surface
FC, EC, TC, BP
NO2-N, NO3-N, d-po4-p, o-po4, BOD g
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 7/22/14
Time: 1:00
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/zero Headspace;

Matrix: 0 Date: 7/22/14
Time: 9:15
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Date: 7/22/14 Time: 1:00

Received for Laboratory by: [Signature]

Date: 7-22-14 Time: 1350

Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

jbs
06/05/14 1:30:15 PM

Chain of Custody

No: 239130

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Work Order: 004037

Account: 2294

Customer: Gregory Wacik

Remarks:

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100

Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: BSW

Samplers: _____

=====
Matrix: 0 Date: 7/22/14
Time: 915

23387 Sample No: 3 Desc: BM-2 Mid-Depth
NO2-N, NO3-N, d-po4-P, o-po4, BODND
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

23388 Sample No: 4 Desc: BM-2 Deep
NO2-N, NO3-N, d-po4-P, o-po4, BODND
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

23389 Sample No: 5 Desc: BM-5 Surface
FC, EC, TC, ND
NO2-N, NO3-N, d-po4-P, o-po4, BODND
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 7/22/14
Time: 1220
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]
Date: 7/22/14 Time: 1:00

Received for laboratory by: [Signature]
Date: 7-22-14 Time: 1350
Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

jbs
06/05/14 1:30:16 PM

Chain of Custody

No: 239130

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Account: 2294

Customer: Gregory Wacik

Remarks:

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100

Columbia MD 21045-1934
Phone: 215-656-6561 Ext: Wack

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: S Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: BSW

Samplers: _____

Sample No: 6 Desc: BM-6 Surface
FC, ED, TC, AD
NO2-N, NO3-N, d-po4-p, o-po4, BOD, g
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: O

- A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
- B - 1 X 1 Bod p w/ Cool to 6 C;
- C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
- D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- F - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

Date: 7/22/14
Time: 0840

Sample No: 7 Desc: BM-6 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD, BSW
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: O

- A - 1 X 1 Bod p w/ Cool to 6 C;
- B - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

Date: 7/22/14
Time: 0840

Relinquished by: [Signature]

Received by: [Signature]

Received for laboratory by: [Signature]

Date: 7/22/14 Time: 1:00

Date: 7-22-14 Time: 1350

Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

jbs
06/05/14 1:30:17 PM

Chain of Custody

No: 239130

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100

Columbia MD 21045-1934
Phone: 215-656-6561 Ext: _____

Samplers: Wacik

Remarks: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: ASW

23392
Sample No: 8 Desc: BM-6 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD, FC, TC, NH3-N, tkm, Alk, tds, tss, po4-p, toc, _____

Matrix: O
Date: 7/22/14
Time: 0840

- A - 1 X L Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

23393
Sample No: 9 Desc: BM-7 Surface
FC, TC, NO2-N, NO3-N, d-po4-p, o-po4, BOD, NH3-N, tkm, Alk, tds, tss, po4-p, toc, _____

Matrix: O
Date: 7/22/14
Time: 0945

- A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
- B - 1 X L Bod p w/ Cool to 6 C;
- C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- F - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Received for laboratory by: [Signature]

Date: 7/22/14 Time: 1:00

Date: 7-22-14 Time: 1350

Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

jbs
06/05/14 1:30:17 PM

Chain of Custody

No: 239130

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext:
WACIK

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: BSW

Remarks: _____
=====

Sample No: 10 Desc: BM-7 Mid-Depth
NO2-N, NO3-N, d-po4-P, o-po4, BOD
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 7/22/14
Time: 0945
A - 1 X 1 L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 11 Desc: BM-7 Deep
NO2-N, NO3-N, d-po4-P, o-po4, BOD
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 7/22/14
Time: 0945
A - 1 X 1 L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 12 Desc: BM-8 Surface
FC, EC, TC, NO2-N, NO3-N, d-po4-P, o-po4, BOD
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 7/22/14
Time: 1600
A - 1 X 250mlMicro P w/ Sterile/Na2S2O5;
B - 1 X 1 L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Received for laboratory by: [Signature]

Date: 7/22/14 Time: 1:00

Date: 7-22-14 Time: 1350

Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

jbs
06/05/14 1:30:18 PM

Chain of Custody

No: 239130

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext: Wacik

Remarks: _____
Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: BSSW

23397

Sample No: 13 Desc: BM-8 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD, NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: O Date: 7/22/14
Time: 11:50
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

23398

Sample No: 14 Desc: BM-8 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD, NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: O Date: 7/22/14
Time: 11:00
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

23399

Sample No: 15 Desc: BM-9 Surface
FC, TC, NO2-N, NO3-N, d-po4-p, o-po4, BOD, NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: O Date: 7/22/14
Time: 10:05
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]
Date: 7/22/14 Time: 1:00
Date: 7-22-14 Time: 1350

Received for laboratory by: [Signature]

Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

jbs
06/05/14 1:30:18 PM

Chain of Custody

No: 239130

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext:
Samplers: Wacik

Remarks:
Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: BSW

23400

Sample No: 16 Desc: BM-9 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

7/22/14
Matrix: O
Date: _____
Time: 10:05

- A - 1 X L Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

23401

Sample No: 17 Desc: BM-9 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

7/22/14
Matrix: O
Date: _____
Time: 10:05

- A - 1 X L Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

23402

Sample No: 18 Desc: BM-10 Surface
FC, TC, NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

7/22/14
Matrix: O
Date: _____
Time: 10:35

- A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
- B - 1 X L Bod p w/ Cool to 6 C;
- C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- F - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]
Date: 7/22/14 Time: 100

Received for laboratory by: [Signature]
Date: 7-22-14 Time: 1350
Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

jbs
06/05/14 1:30:19 PM

Chain of Custody

No: 239130

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Work Order: 004037

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext: Wacik

Samplers: Wacik

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: S Deg C. If Temp Unacceptable, On Ice? Y N
Approved BY: BSW

7/22/14
1035

Matrix: O

Date: _____
Time: _____

- A - 1 X 1 Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

7/22/14
1035

Matrix: O

Date: _____
Time: _____

- A - 1 X 1 Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

7/22/14
1220

Matrix: O

Date: _____
Time: _____

- A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
- B - 1 X 1 Bod p w/ Cool to 6 C;
- C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- F - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

23403

Sample No: 19 Desc: BM-10 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD, ^{AD}
NH3-N, tkn, Alk, tds, tss, po4-p, toc, ^{SW}

23404

Sample No: 20 Desc: BM-10 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD, ^{AD}
NH3-N, tkn, Alk, tds, tss, po4-p, toc, ^{SW}

23405

Sample No: 21 Desc: BM-11 Surface
FC, EC, TC, ^{AD}
NO2-N, NO3-N, d-po4-p, o-po4, BOD, ^{SW}
NH3-N, tkn, Alk, tds, tss, po4-p, toc, ^{SW}

Relinquished by: [Signature] Received by: [Signature]
Date: 7/22/14 Time: 1100
Received for laboratory by: [Signature]
Date: 7-22-14 Time: 1350

Sample entered by: [Signature]



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030950

Date Collected: 08/11/14 13:05
 Collected By: Client

Sample Desc: BM-1 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	4	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
Fecal Coliform	3	/100ml	2	1	SM 9222D	08/11	15:00	PLW
Total Coliform	>2400	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.05	mg/L	.01	1	SM 4500P-E	08/11	15:40	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:14	HRG
Phosphorus as P, Total	0.05	mg/L	.01	1	SM 4500P-E	08/12	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	0.74	mg/L	.05	1	D6919-03	08/11	22:02	JCL
Nitrogen, Nitrate	2.56	mg/L	.05	1	EPA 353.2	08/12	14:58	JCL
Nitrogen, Nitrite	0.05	mg/L	.05	1	EPA 353.2	08/12	13:17	JCL
Nitrogen, Total Kjeldahl	0.48	mg/L	.25	1	EPA 351.2	08/14	17:30	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	08/13	23:29	ALD
RESIDUES								
Solids, Total Dissolved	178	mg/L	5	1	SM 2540C	08/15	13:25	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	08/15	13:25	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	147	mg/L	1	1	SM 2320 B	08/18	12:00	HRG

Distribution of Reports:
 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:

Christina Kistler
 Account Executive

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ENVIRONMENTAL TESTING LABORATORY 107 ANGELICA STREET, READING, PA 19611
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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030950
 Date Collected: 08/11/14 13:05
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-1 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 08/11/14 at 15:35.
- 03 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.

Distribution of Reports:
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Reviewed and Approved by:

Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030951

Date Collected: 08/11/14 09:15
 Collected By: Client

Sample Desc: BM-2 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
Fecal Coliform	<2	/100ml	2	1	SM 9222D	08/11	15:00	PLW
Total Coliform	580	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.04	mg/L	.01	1	SM 4500P-E	08/11	15:40	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:14	HRG
Phosphorus as P, Total	0.04	mg/L	.01	1	SM 4500P-E	08/12	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	08/11	22:16	JCL
Nitrogen, Nitrate	2.68	mg/L	.05	1	EPA 353.2	08/12	14:59	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:20	JCL
Nitrogen, Total Kjeldahl	0.37	mg/L	.25	1	EPA 351.2	08/14	17:32	JCL
OTHER								
Biochemical Oxygen Demand	4	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	08/13	23:45	ALD
RESIDUES								
Solids, Total Dissolved	124	mg/L	5	1	SM 2540C	08/15	13:25	TMH
Solids, Total Suspended	6	mg/L	3	1	SM 2540D	08/15	13:25	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	64	mg/L	1	1	SM 2320 B	08/18	12:00	HRG

Distribution of Reports:
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Reviewed and Approved by:

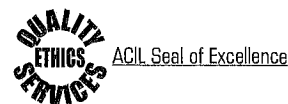
Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030951

Date Collected: 08/11/14 09:15
 Collected By: Client

Sample Desc: BM-2 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 08/11/14 at 15:35.
- 03 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030952
 Date Collected: 08/11/14 09:15
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-2 Mid-Depth

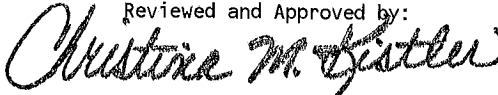
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.12	mg/L	.01	1	SM 4500P-E	08/11	15:43	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:14	HRG
Phosphorus as P, Total	0.12	mg/L	.01	1	SM 4500P-E	08/12	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	08/11	22:31	JCL
Nitrogen, Nitrate	3.05	mg/L	.05	1	EPA 353.2	08/12	15:00	JCL
Nitrogen, Nitrite	0.10	mg/L	.05	1	EPA 353.2	08/12	13:21	JCL
Nitrogen, Total Kjeldahl	0.48	mg/L	.25	1	EPA 351.2	08/14	17:33	JCL
OTHER								
Biochemical Oxygen Demand	4	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.1	mg/L	1	1	SM5310 C	08/14	00:01	ALD
RESIDUES								
Solids, Total Dissolved	172	mg/L	5	1	SM 2540C	08/15	13:25	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	08/15	13:25	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	102	mg/L	1	1	SM 2320 B	08/18	12:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:


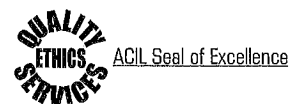
Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030953

Date Collected: 08/11/14 09:15
 Collected By: Client

Sample Desc: BM-2 Deep

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.21	mg/L	.01	1	SM 4500P-E	08/11	15:43	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:20	HRG
Phosphorus as P, Total	0.21	mg/L	.01	1	SM 4500P-E	08/12	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	0.50	mg/L	.05	1	D6919-03	08/11	22:45	JCL
Nitrogen, Nitrate	2.94	mg/L	.05	1	EPA 353.2	08/12	15:01	JCL
Nitrogen, Nitrite	0.15	mg/L	.05	1	EPA 353.2	08/12	13:22	JCL
Nitrogen, Total Kjeldahl	0.89	mg/L	.25	1	EPA 351.2	08/14	17:34	JCL
OTHER								
Biochemical Oxygen Demand	6	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.1	mg/L	1	1	SM5310 C	08/14	00:16	ALD
RESIDUES								
Solids, Total Dissolved	201	mg/L	5	1	SM 2540C	08/15	13:25	TMH
Solids, Total Suspended	7	mg/L	3	1	SM 2540D	08/15	13:25	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	128	mg/L	1	1	SM 2320 B	08/18	12:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

Distribution of Reports:
 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Reported To: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 08/21/14
Lab ID: 2294-14-0030954

Date Collected: 08/11/14 12:30
Collected By: Client

Sample Desc: BM-5 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	260	mpn/100mL	1	1	SM 9223B	08/12	11:20	TBP
Fecal Coliform	240	/100mL	2	1	SM 9222D	08/11	15:00	PLW
Total Coliform	>2400	mpn/100mL	1	1	SM 9223B	08/12	11:20	TBP
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	08/11	15:43	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:20	HRG
Phosphorus as P, Total	0.02	mg/L	.01	1	SM 4500P-E	08/12	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	08/11	23:00	JCL
Nitrogen, Nitrate	7.50	mg/L	.05	1	EPA 353.2	08/12	15:29	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:23	JCL
Nitrogen, Total Kjeldahl	<.25	mg/L	.25	1	EPA 351.2	08/14	17:35	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	1.4	mg/L	1	1	SM5310 c	08/15	00:57	ALD
RESIDUES								
Solids, Total Dissolved	300	mg/L	5	1	SM 2540C	08/15	13:25	TMH
Solids, Total Suspended	9	mg/L	3	1	SM 2540D	08/15	13:25	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	184	mg/L	1	1	SM 2320 B	08/18	12:00	HRG

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Reviewed and Approved by:

Christina Kistler
Account Executive

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Reported To: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 08/21/14
Lab ID: 2294-14-0030954

Date Collected: 08/11/14 12:30
Collected By: Client

Sample Desc: BM-5 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 02 The total coliform sample was placed in the incubator on 08/11/14 at 15:35.

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Reviewed and Approved by
Christina M. Kistler

Christina Kistler
Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030955

Date Collected: 08/11/14 08:25
 Collected By: Client

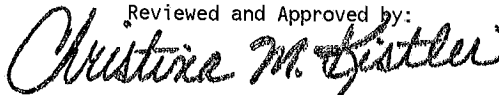
Sample Desc: BM-6 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
Fecal Coliform	2	/100ml	2	1	SM 9222D	08/11	15:00	PLW
Total Coliform	<1	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	08/11	15:43	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:20	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	08/12	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	08/11	23:15	JCL
Nitrogen, Nitrate	2.75	mg/L	.05	1	EPA 353.2	08/12	15:04	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:24	JCL
Nitrogen, Total Kjeldahl	0.51	mg/L	.25	1	EPA 351.2	08/14	17:36	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.6	mg/L	1	1	SM5310 C	08/15	01:22	ALD
RESIDUES								
Solids, Total Dissolved	119	mg/L	5	1	SM 2540C	08/15	13:25	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	08/15	13:25	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	68	mg/L	1	1	SM 2320 B	08/18	12:30	HRG

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Reviewed and Approved by:


Christina Kistler
 Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030955
 Date Collected: 08/11/14 08:25
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-6 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 08/11/14 at 15:35.
- 03 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.

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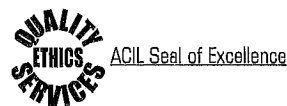
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Date of Report: 08/21/14
 Lab ID: 2294-14-0030956

Date Collected: 08/11/14 08:25
 Collected By: Client

Sample Desc: BM-6 Mid-Depth

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.11	mg/L	.01	1	SM 4500P-E	08/11	15:43	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:20	HRG
Phosphorus as P, Total	0.11	mg/L	.01	1	SM 4500P-E	08/12	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	0.26	mg/L	.05	1	D6919-03	08/11	23:29	JCL
Nitrogen, Nitrate	2.94	mg/L	.05	1	EPA 353.2	08/12	15:05	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:25	JCL
Nitrogen, Total Kjeldahl	0.40	mg/L	.25	1	EPA 351.2	08/15	17:08	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.1	mg/L	1	1	SM5310 C	08/15	01:59	ALD
RESIDUES								
Solids, Total Dissolved	184	mg/L	5	1	SM 2540C	08/15	13:25	TMH
Solids, Total Suspended	3	mg/L	3	1	SM 2540D	08/15	13:25	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	112	mg/L	1	1	SM 2320 B	08/18	12:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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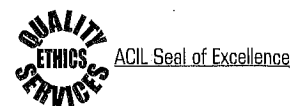
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 Account Executive

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030956
 Date Collected: 08/11/14 08:25
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-6 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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 Account Executive

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030957
 Date Collected: 08/11/14 08:25
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-6 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	08/11	15:43	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:20	HRG
Phosphorus as P, Total	0.03	mg/L	.01	1	SM 4500P-E	08/12	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	1.09	mg/L	.05	1	D6919-03	08/11	23:44	JCL
Nitrogen, Nitrate	2.13	mg/L	.05	1	EPA 353.2	08/12	15:06	JCL
Nitrogen, Nitrite	0.07	mg/L	.05	1	EPA 353.2	08/12	13:26	JCL
Nitrogen, Total Kjeldahl	1.34	mg/L	.25	1	EPA 351.2	08/15	17:09	JCL
OTHER								
Biochemical Oxygen Demand	8	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	08/15	02:11	ALD
RESIDUES								
Solids, Total Dissolved	218	mg/L	5	1	SM 2540C	08/15	13:25	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	08/15	13:25	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	146	mg/L	1	1	SM 2320 B	08/18	12:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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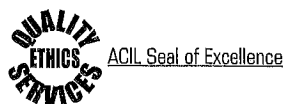
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 Christina Kistler
 Account Executive

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030957
 Date Collected: 08/11/14 08:25
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-6 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The duplicate analysis of this sample for total suspended solids was outside the recommended limit of 5% of their average weight.							
03	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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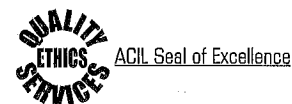
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 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030958

Date Collected: 08/11/14 09:50
 Collected By: Client

Sample Desc: BM-7 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
Fecal Coliform	<2	/100ml	2	1	SM 9222D	08/11	15:30	PLW
Total Coliform	1700	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	08/11	15:45	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:20	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	08/12	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	08/11	23:58	JCL
Nitrogen, Nitrate	2.76	mg/L	.05	1	EPA 353.2	08/12	15:09	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:29	JCL
Nitrogen, Total Kjeldahl	0.46	mg/L	.25	1	EPA 351.2	08/15	17:10	JCL
OTHER								
Biochemical Oxygen Demand	4	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	3.7	mg/L	1	1	SM5310 c	08/15	02:24	ALD
RESIDUES								
Solids, Total Dissolved	134	mg/L	5	1	SM 2540C	08/15	13:25	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	08/15	13:25	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	65	mg/L	1	1	SM 2320 B	08/18	12:45	HRG

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Reviewed and Approved by:

Christina M. Kistler
 Christina Kistler
 Account Executive

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 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030958

Date Collected: 08/11/14 09:50
 Collected By: Client

Sample Desc: BM-7 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 08/11/14 at 15:35.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030959
 Date Collected: 08/11/14 09:50
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-7 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	08/11	15:45	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:20	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	08/12	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	0.11	mg/L	.05	1	D6919-03	08/12	00:13	JCL
Nitrogen, Nitrate	3.09	mg/L	.05	1	EPA 353.2	08/12	15:10	JCL
Nitrogen, Nitrite	0.08	mg/L	.05	1	EPA 353.2	08/12	13:30	JCL
Nitrogen, Total Kjeldahl	0.48	mg/L	.25	1	EPA 351.2	08/15	17:13	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.2	mg/L	1	1	SM5310 C	08/15	02:36	ALD
RESIDUES								
Solids, Total Dissolved	148	mg/L	5	1	SM 2540C	08/15	13:25	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	08/15	13:25	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	83	mg/L	1	1	SM 2320 B	08/18	12:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

Distribution of Reports:
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Reviewed and Approved by:

Christina Kistler
 Account Executive

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030960
 Date Collected: 08/11/14 09:50
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-7 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.12	mg/L	.01	1	SM 4500P-E	08/11	15:45	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/12	14:20	HRG
Phosphorus as P, Total	0.12	mg/L	.01	1	SM 4500P-E	08/12	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	0.10	mg/L	.05	1	D6919-03	08/12	00:28	JCL
Nitrogen, Nitrate	3.42	mg/L	.05	1	EPA 353.2	08/12	15:11	JCL
Nitrogen, Nitrite	0.20	mg/L	.05	1	EPA 353.2	08/12	13:31	JCL
Nitrogen, Total Kjeldahl	0.26	mg/L	.25	1	EPA 351.2	08/15	17:14	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	1.9	mg/L	1	1	SM5310 C	08/15	02:49	ALD
RESIDUES								
Solids, Total Dissolved	197	mg/L	5	1	SM 2540C	08/15	13:55	TMH
Solids, Total Suspended	3	mg/L	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	118	mg/L	1	1	SM 2320 B	08/18	12:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 Suite 100
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Date of Report: 08/21/14
 Lab ID: 2294-14-0030961

Date Collected: 08/11/14 11:15
 Collected By: Client

Sample Desc: BM-8 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
Fecal Coliform	<2	/100ml	2	1	SM 9222D	08/11	15:30	PLW
Total Coliform	610	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/l	.01	1	SM 4500P-E	08/11	15:45	HRG
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	08/14	15:06	HRG
Phosphorus as P, Total	0.02	mg/l	.01	1	SM 4500P-E	08/12	13:38	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/l	.05	1	D6919-03	08/12	00:42	JCL
Nitrogen, Nitrate	2.72	mg/l	.05	1	EPA 353.2	08/12	15:12	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	08/12	13:34	JCL
Nitrogen, Total Kjeldahl	0.80	mg/l	.25	1	EPA 351.2	08/15	17:15	JCL
OTHER								
Biochemical Oxygen Demand	5	mg/l	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	3.2	mg/l	1	1	SM5310 C	08/15	03:01	ALD
RESIDUES								
Solids, Total Dissolved	152	mg/l	5	1	SM 2540C	08/15	13:55	TMH
Solids, Total Suspended	8	mg/l	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	71	mg/l	1	1	SM 2320 B	08/18	13:00	HRG

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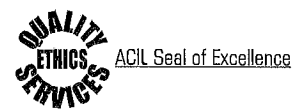
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 Account Executive

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9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 08/21/14
Lab ID: 2294-14-0030961

Date Collected: 08/11/14 11:15
Collected By: Client

Sample Desc: BM-8 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 08/11/14 at 15:35.

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Account Executive

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Date of Report: 08/21/14
 Lab ID: 2294-14-0030962
 Date Collected: 08/11/14 11:15
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-8 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	08/11	15:45	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/14	15:06	HRG
Phosphorus as P, Total	0.02	mg/L	.01	1	SM 4500P-E	08/12	13:38	HRG
NITROGENS								
Nitrogen, Ammonia	0.09	mg/L	.05	1	D6919-03	08/12	00:57	JCL
Nitrogen, Nitrate	2.82	mg/L	.05	1	EPA 353.2	08/12	15:15	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:35	JCL
Nitrogen, Total Kjeldahl	0.70	mg/L	.25	1	EPA 351.2	08/15	17:15	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	08/15	03:14	ALD
RESIDUES								
Solids, Total Dissolved	160	mg/L	5	1	SM 2540C	08/15	13:55	TMH
Solids, Total Suspended	6	mg/L	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	70	mg/L	1	1	SM 2320 B	08/18	13:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Date of Report: 08/21/14
 Lab ID: 2294-14-0030963

Date Collected: 08/11/14 11:15
 Collected By: Client

Sample Desc: BM-8 Deep

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.17	mg/L	.01	1	SM 4500P-E	08/11	15:45	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/14	15:06	HRG
Phosphorus as P, Total	0.43	mg/L	.01	1	SM 4500P-E	08/12	13:38	HRG
NITROGENS								
Nitrogen, Ammonia	0.27	mg/L	.05	1	D6919-03	08/12	01:11	JCL
Nitrogen, Nitrate	2.88	mg/L	.05	1	EPA 353.2	08/12	15:16	JCL
Nitrogen, Nitrite	0.06	mg/L	.05	1	EPA 353.2	08/12	13:36	JCL
Nitrogen, Total Kjeldahl	1.72	mg/L	.25	1	EPA 351.2	08/15	17:18	JCL
OTHER								
Biochemical Oxygen Demand	4	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	3.4	mg/L	1	1	SM5310 C	08/15	03:27	ALD
RESIDUES								
Solids, Total Dissolved	183	mg/L	5	1	SM 2540C	08/15	13:55	TMH
Solids, Total Suspended	74	mg/L	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	89	mg/L	1	1	SM 2320 B	08/18	13:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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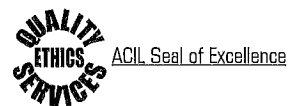
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Columbia MD 21045-1934

Date of Report: 08/21/14
Lab ID: 2294-14-0030963
Date Collected: 08/11/14 11:15
Collected By: Client
Date Received: 08/11/14 14:05

Sample Desc: BM-8 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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Reviewed and Approved by:
Christina M. Kistler

Christina Kistler
Account Executive

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Date of Report: 08/21/14
 Lab ID: 2294-14-0030964

Date Collected: 08/11/14 10:15
 Collected By: Client

Sample Desc: BM-9 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
Fecal Coliform	2	/100ml	2	1	SM 9222D	08/11	15:30	PLW
Total Coliform	980	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	08/11	15:45	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/14	15:06	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	08/12	13:38	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	08/12	01:26	JCL
Nitrogen, Nitrate	2.75	mg/L	.05	1	EPA 353.2	08/12	15:17	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:36	JCL
Nitrogen, Total Kjeldahl	0.70	mg/L	.25	1	EPA 351.2	08/15	17:21	JCL
OTHER								
Biochemical Oxygen Demand	4	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	08/15	04:15	ALD
RESIDUES								
Solids, Total Dissolved	149	mg/L	5	1	SM 2540C	08/15	13:55	TMH
Solids, Total Suspended	6	mg/L	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	70	mg/L	1	1	SM 2320 B	08/18	13:00	HRG

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Date of Report: 08/21/14
 Lab ID: 2294-14-0030964
 Date Collected: 08/11/14 10:15
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-9 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 08/11/14 at 15:35.

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Date of Report: 08/21/14
 Lab ID: 2294-14-0030965
 Date Collected: 08/11/14 10:15
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-9 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.18	mg/L	.01	1	SM 4500P-E	08/11	15:45	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/14	15:06	HRG
Phosphorus as P, Total	0.19	mg/L	.01	1	SM 4500P-E	08/12	13:38	HRG
NITROGENS								
Nitrogen, Ammonia	0.12	mg/L	.05	1	D6919-03	08/12	01:41	JCL
Nitrogen, Nitrate	3.23	mg/L	.05	1	EPA 353.2	08/12	15:18	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:37	JCL
Nitrogen, Total Kjeldahl	0.81	mg/L	.25	1	EPA 351.2	08/15	17:24	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	08/15	04:27	ALD
RESIDUES								
Solids, Total Dissolved	183	mg/L	5	1	SM 2540C	08/15	13:55	TMH
Solids, Total Suspended	8	mg/L	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	92	mg/L	1	1	SM 2320 B	08/18	13:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Columbia MD 21045-1934

Date of Report: 08/21/14
Lab ID: 2294-14-0030965
Date Collected: 08/11/14 10:15
Collected By: Client
Date Received: 08/11/14 14:05

Sample Desc: BM-9 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030966
 Date Collected: 08/11/14 10:15
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-9 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.18	mg/L	.01	1	SM 4500P-E	08/11	15:47	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/14	15:06	HRG
Phosphorus as P, Total	0.18	mg/L	.01	1	SM 4500P-E	08/12	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	0.28	mg/L	.05	1	D6919-03	08/12	01:55	JCL
Nitrogen, Nitrate	4.20	mg/L	.05	1	EPA 353.2	08/12	15:21	JCL
Nitrogen, Nitrite	0.06	mg/L	.05	1	EPA 353.2	08/12	13:40	JCL
Nitrogen, Total Kjeldahl	0.94	mg/L	.25	1	EPA 351.2	08/15	17:25	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.1	mg/L	1	1	SM5310 C	08/15	05:45	ALD
RESIDUES								
Solids, Total Dissolved	256	mg/L	5	1	SM 2540C	08/15	13:55	TMH
Solids, Total Suspended	25	mg/L	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	134	mg/L	1	1	SM 2320 B	08/18	13:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

Distribution of Reports:
 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:

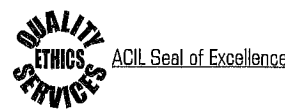
Christina Kistler
 Account Executive

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Date of Report: 08/21/14
 Lab ID: 2294-14-0030966

Date Collected: 08/11/14 10:15
 Collected By: Client

Sample Desc: BM-9 Deep

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.							

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Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030967

Date Collected: 08/11/14 10:40
 Collected By: Client

Sample Desc: BM-10 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
Fecal Coliform	60	/100ml	2	1	SM 9222D	08/11	15:30	PLW
Total Coliform	730	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	08/11	15:47	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/20	14:45	HRG
Phosphorus as P, Total	0.13	mg/L	.01	1	SM 4500P-E	08/12	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	08/12	02:10	JCL
Nitrogen, Nitrate	2.65	mg/L	.05	1	EPA 353.2	08/12	15:22	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:41	JCL
Nitrogen, Total Kjeldahl	1.90	mg/L	.25	1	EPA 351.2	08/15	17:26	JCL
OTHER								
Biochemical Oxygen Demand	7	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.9	mg/L	1	1	SM5310 C	08/15	04:40	ALD
RESIDUES								
Solids, Total Dissolved	156	mg/L	5	1	SM 2540C	08/15	13:55	TMH
Solids, Total Suspended	14	mg/L	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	74	mg/L	1	1	SM 2320 B	08/18	13:15	HRG

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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 Suite 100
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Date of Report: 08/21/14
 Lab ID: 2294-14-0030967
 Date Collected: 08/11/14 10:40
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-10 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 08/11/14 at 15:35.

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Reviewed and Approved by:

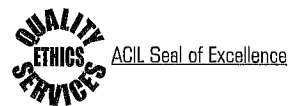
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 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030968
 Date Collected: 08/11/14 10:40
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-10 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	08/11	15:47	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/20	14:45	HRG
Phosphorus as P, Total	0.05	mg/L	.01	1	SM 4500P-E	08/12	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	08/12	03:09	JCL
Nitrogen, Nitrate	2.90	mg/L	.05	1	EPA 353.2	08/12	15:23	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:42	JCL
Nitrogen, Total Kjeldahl	1.03	mg/L	.25	1	EPA 351.2	08/15	17:27	JCL
OTHER								
Biochemical Oxygen Demand	5	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.6	mg/L	1	1	SM5310 C	08/15	04:52	ALD
RESIDUES								
Solids, Total Dissolved	166	mg/L	5	1	SM 2540C	08/15	13:55	TMH
Solids, Total Suspended	10	mg/L	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	73	mg/L	1	1	SM 2320 B	08/18	13:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Christina Kistler
 Account Executive

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Date of Report: 08/21/14
 Lab ID: 2294-14-0030969
 Date Collected: 08/11/14 10:40
 Collected By: Client
 Date Received: 08/11/14 14:05

Sample Desc: BM-10 Deep

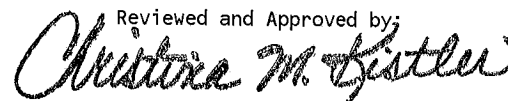
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	08/11	15:47	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/20	14:45	HRG
Phosphorus as P, Total	0.27	mg/L	.01	1	SM 4500P-E	08/12	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	0.19	mg/L	.05	1	D6919-03	08/12	03:24	JCL
Nitrogen, Nitrate	4.78	mg/L	.05	1	EPA 353.2	08/12	15:24	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:43	JCL
Nitrogen, Total Kjeldahl	1.06	mg/L	.25	1	EPA 351.2	08/15	17:28	JCL
OTHER								
Biochemical Oxygen Demand	4	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.2	mg/L	1	1	SM5310 C	08/15	05:05	ALD
RESIDUES								
Solids, Total Dissolved	258	mg/L	5	1	SM 2540C	08/15	13:55	TMH
Solids, Total Suspended	154	mg/L	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	141	mg/L	1	1	SM 2320 B	08/18	13:30	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:


Christina Kistler
 Account Executive

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 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030970

Date Collected: 08/11/14 12:30
 Collected By: Client

Sample Desc: BM-11 Surface

Date Received: 08/11/14 14:05

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	160	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
Fecal Coliform	210	/100ml	2	1	SM 9222D	08/11	15:30	PLW
Total Coliform	>2400	mpn/100ml	1	1	SM 9223B	08/12	11:20	TBP
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.02	mg/L	.01	1	SM 4500P-E	08/11	15:50	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	08/20	14:45	HRG
Phosphorus as P, Total	0.09	mg/L	.01	1	SM 4500P-E	08/19	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	08/12	04:09	JCL
Nitrogen, Nitrate	3.92	mg/L	.05	1	EPA 353.2	08/12	15:26	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	08/12	13:46	JCL
Nitrogen, Total Kjeldahl	0.71	mg/L	.25	1	EPA 351.2	08/15	17:28	JCL
OTHER								
Biochemical Oxygen Demand	4	mg/L	2	1	SM 5210B	08/11	16:30	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 c	08/15	05:18	ALD
RESIDUES								
Solids, Total Dissolved	228	mg/L	5	1	SM 2540C	08/15	14:25	TMH
Solids, Total Suspended	28	mg/L	3	1	SM 2540D	08/15	13:55	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	120	mg/L	1	1	SM 2320 B	08/18	13:45	HRG

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 08/21/14
 Lab ID: 2294-14-0030970

Date Collected: 08/11/14 12:30
 Collected By: Client

Date Received: 08/11/14 14:05

Sample Desc: BM-11 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 08/11/14 at 15:35.
- 03 The sample container for alkalinity contained headspace. Proper sample collection technique would not contain headspace.

Distribution of Reports:
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Reviewed and Approved by:

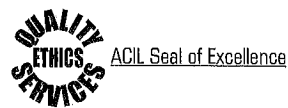
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raq
07/16/14 4:26:54 PM

Chain of Custody

No: 241687

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

Remarks:
Total Sampling Time (hours):
Bottle Prep by:
Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? N
Approved By: JBS

Sample No: 1 Desc: BM-1 Surface
FC, EC, TC, ^{H6}
NO2-N, NO3-N, d-po4-P, o-po4, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-P, toc,
Matrix: 0 Date: 8/11/14
Time: 1:05
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X 1 Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 2 Desc: BM-2 Surface
FC, EC, TC, ^{H6}
NO2-N, NO3-N, d-po4-P, o-po4, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-P, toc,
Matrix: 0 Date: 8/11/14
Time: 09:15
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X 1 Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 P w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]
Date: 8/11/14 Time: 1:30
Date: 8-11-14 Time: 1:45
Received for laboratory by: [Signature]
Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

raq
07/16/14 4:26:54 PM

Chain of Custody

No: 241687

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road

Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

Samplers: WACIK

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? Y N

Approved By: JRS

Date: 8/11/14
Time: 0915

30952 Sample No: 3 Desc: BM-2 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD^{H6}_{5m}
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0

Date: _____
Time: _____

- A - 1 X L Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

30953 Sample No: 4 Desc: BM-2 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD^{H6}_{5m}
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0

Date: 8/11/14
Time: 0915

- A - 1 X L Bod p w/ Cool to 6 C;
- B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- E - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

30954 Sample No: 5 Desc: BM-5 Surface
FC, EC, TC, ^{H6}
NO2-N, NO3-N, d-po4-p, o-po4, BOD_{5m}
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0

Date: 8/11/14
Time: 1230

- A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
- B - 1 X L Bod p w/ Cool to 6 C;
- C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
- D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
- E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
- F - 1 X 8oz Alk p w/ Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Date: 8/11/14 Time: 1:30

Date: 8-11-14 Time: 1905

Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

raq
07/16/14 4:26:54 PM

Chain of Custody

No: 241687

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100

Columbia MD 21045-1934
Phone: 215-656-6561 Ext: _____

Samplers: WACIK

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: [Signature]

=====

30955 Sample No: 6 Desc: BM-6 Surface
FC, EC, TC, #6
NO2-N, NO3-N, d-po4-p, o-po4, BOD g
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: O Date: 8/11/14
Time: 0825
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

30956 Sample No: 7 Desc: BM-6 Mid-Depth
#6
NO2-N, NO3-N, d-po4-p, o-po4, BOD g
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: O Date: 8/11/14
Time: 0825
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received for laboratory by: [Signature]
Date: 8/11/14 Time: 1:30 Date: 8-11-14 Time: 1905
Sample entered by: [Signature]

Chain of Custody

Account: 2294 Work Order: 004037 Project Leader: CMB No: 241687
 Customer: Gregory Wacik Work Order Description: Seasonal Monthly Blue Marsh Reservoir
 Address: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934
 Phone: 215-656-6561 Ext: _____
 Samplers: WACIK

Total Sampling Time (hours): _____ Bottle Prep by: _____
 Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? N
 Approved By: JRS

30957 Sample No: 8 Desc: BM-6 Deep
 NO2-N, NO3-N, d-po4-p, o-po4, BOD^{He}₅
 NH3-N, tkm, Alk, tds, tss, po4-p, toc,
 Matrix: 0 Date: 8/11/14
 Time: 0825

30958 Sample No: 9 Desc: BM-7 Surface
 FC, EC, TC, ^{He}
 NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
 NH3-N, tkm, Alk, tds, tss, po4-p, toc,
 Matrix: 0 Date: 8/11/14
 Time: 0950

Relinquished by: [Signature] Received by: [Signature]
 Date: 8/11/14 Time: 1:30
 Received for laboratory by: [Signature]
 Date: 8-11-14 Time: 1405
 Sample entered by: [Signature]

Chain of Custody

No: 241687

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Work Order: 004037

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100

Phone: 215-656-6561 Ext:

Samplers: WACIK

Total Sampling Time (hours): Bottle Prep by:

Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? 0 N

Approved By: JAS

=====

30959 Sample No: 10 Desc: BM-7 Mid-Depth
NO2-N, NO3-N, d-po4-p, ^{#16}o-po4, BOD ^{gnd}
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 8/11/14
Time: 0950
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

30960 Sample No: 11 Desc: BM-7 Deep
NO2-N, NO3-N, d-po4-p, ^{#16}o-po4, BOD ^{gnd}
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 8/11/14
Time: 0950
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

30961 Sample No: 12 Desc: BM-8 Surface
FC, EC, TC, ^{#16}
NO2-N, NO3-N, d-po4-p, o-po4, BOD ^{gnd}
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 8/11/14
Time: 1115
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]
Date: 8/11/14 Time: 12:30
Received for laboratory by: [Signature]
Date: 8-11-14 Time: 1405

Sample entered by: 0

M. J. REIDER ASSOCIATES, INC.

raq
07/16/14 4:26:54 PM

Chain of Custody

No: 241687

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100

Phone: Columbia MD 21045-1934
215-656-6561 Ext:

Samplers: WACIK

Remarks: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? (X) N
Approved By: JWS

=====

30962 Sample No: 13 Desc: BM-8 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD gwn
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

30963 Sample No: 14 Desc: BM-8 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD gwn
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

30964 Sample No: 15 Desc: BM-9 Surface
FC, EC, TC, gwn
NO2-N, NO3-N, d-po4-p, o-po4, BOD gwn
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 8/11/14
Time: 115
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Matrix: 0 Date: 8/11/14
Time: 115
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Matrix: 0 Date: 8/11/14
Time: 1015
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Date: 8/16/14 Time: 1:30

Received for Laboratory by: [Signature]

Date: 8-11-14 Time: 1405

Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

07/16/14 4:26:54 PM

Chain of Custody

No: 241687

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Work Order: 004037

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext:
WACIK

Remarks: _____
Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? D N
Approved By: [Signature]

30965

Sample No: 16 Desc: BM-9 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD ¹¹⁶ ₁₁₆
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 8/11/14
Time: 1015
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

30966

Sample No: 17 Desc: BM-9 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD ¹¹⁶ ₁₁₆
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 8/11/14
Time: 1015
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

30967

Sample No: 18 Desc: BM-10 Surface
FC, EC, TC, ¹¹⁶ ₁₁₆
NO2-N, NO3-N, d-po4-p, o-po4, BOD ₁₁₆
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 8/11/14
Time: 1040
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature]

Date: 8/11/14 Time: 1:30

Received by: [Signature]

Received for Laboratory by: [Signature]

Date: 8-11-14 Time: 1405

Sample entered by: [Signature]

M. J. REIDER ASSOCIATES, INC.

raq
07/16/14 4:26:54 PM

Chain of Custody

No: 241687

Project Leader: CMB
Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Account: 2294
Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

Bottle Prep by: _____

Total Sampling Time (hours): _____
Laboratory Receipt Temp: 10 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: JWS

Samplers: COACIK

Sample No: 19 Desc: EM-10 Mid-Depth
N₂ NO₃-N, d-po4-p, c-po4, BOD
NH₃-N, tkn, Alk, tds, tss, po4-p, toc,

Sample No: 20 Desc: EM-10 Deep
N₂ NO₃-N, d-po4-p, c-po4, BOD
NH₃-N, tkn, Alk, tds, tss, po4-p, toc,

Sample No: 21 Desc: EM-11 Surface
FC, EC, TC, N₂
NO₂-N, NO₃-N, d-po4-p, c-po4, BOD
NH₃-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 8/11/14
Time: 1040
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO₂NO₃ p w/ Cool to 6 C;
C - 1 X 500ml NH₃ p w/ H₂SO₄ (pH<2);
D - 1 X 2xambervoa g w/ H₃PO₄/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Matrix: 0 Date: 8/11/14
Time: 1040
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO₂NO₃ p w/ Cool to 6 C;
C - 1 X 500ml NH₃ p w/ H₂SO₄ (pH<2);
D - 1 X 2xambervoa g w/ H₃PO₄/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Matrix: 0 Date: 8/11/14
Time: 1230
A - 1 X 250mlMicro P w/ Sterile/Na₂S₂O₃;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO₂NO₃ p w/ Cool to 6 C;
D - 1 X 500ml NH₃ p w/ H₂SO₄ (pH<2);
E - 1 X 2xambervoa g w/ H₃PO₄/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Date: 8/11/14 Time: 1:30

Received for laboratory by: [Signature]

Date: 8-11-14 Time: 1405

Sample entered by: [Signature]



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034304
 Date Collected: 09/09/14 12:10
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-1 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
Escherichia coli	4	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
Fecal Coliform	5	/100mL	2	1	SM 9222D	09/09	15:40	PLW
Total Coliform	1600	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:05	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:00	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	09/10	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	0.79	mg/L	.05	1	D6919-03	09/09	15:47	JCL
Nitrogen, Nitrate	1.98	mg/L	.05	1	EPA 353.2	09/10	14:35	JCL
Nitrogen, Nitrite	0.11	mg/L	.05	1	EPA 353.2	09/10	12:55	JCL
Nitrogen, Total Kjeldahl	1.16	mg/L	.25	1	EPA 351.2	09/11	17:46	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.2	mg/L	1	1	SM5310 C	09/10	22:51	ALD
RESIDUES								
Solids, Total Dissolved	218	mg/L	5	1	SM 2540C	09/11	13:05	TMH
Solids, Total Suspended	<3	mg/L	3	1	SM 2540D	09/11	13:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	136	mg/L	1	1	SM 2320 B	09/10	11:15	HRG

Distribution of Reports:
 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:

 Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034304
 Date Collected: 09/09/14 12:10
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-1 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The dissolved oxygen depletion of the SM5210B dilution water blank was greater than 0.2 mg/L.

- 02 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 03 The total coliform sample was placed in the incubator on 09/09/14 at 15:00.

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Reviewed and Approved by:

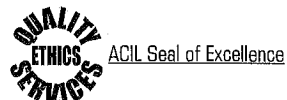
Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034305
 Date Collected: 09/09/14 09:30
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-2 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
Fecal Coliform	5	/100mL	2	1	SM 9222D	09/09	15:00	PLW
Total Coliform	190	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:05	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:00	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	09/10	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	0.71	mg/L	.05	1	D6919-03	09/09	16:02	JCL
Nitrogen, Nitrate	2.26	mg/L	.05	1	EPA 353.2	09/10	14:36	JCL
Nitrogen, Nitrite	0.16	mg/L	.05	1	EPA 353.2	09/10	12:58	JCL
Nitrogen, Total Kjeldahl	0.92	mg/L	.25	1	EPA 351.2	09/11	17:49	JCL
OTHER								
Biochemical Oxygen Demand	5	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.1	mg/L	1	1	SM5310 C	09/10	23:07	ALD
RESIDUES								
Solids, Total Dissolved	224	mg/L	5	1	SM 2540C	09/11	13:05	TMH
Solids, Total Suspended	<3	mg/L	3	1	SM 2540D	09/11	13:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	127	mg/L	1	1	SM 2320 B	09/10	11:45	HRG

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Reviewed and Approved by:

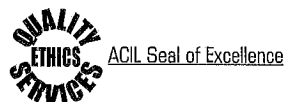
Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034305
 Date Collected: 09/09/14 09:30
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-2 Surface

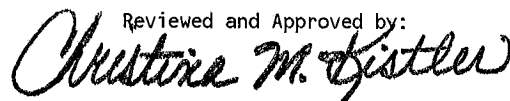
PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
--------	------	-----------	---------------	-----------	-----------	-----------	---------

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 09/09/14 at 15:00.

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Reviewed and Approved by:


Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034306
 Date Collected: 09/09/14 09:30
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-2 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:10	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:00	HRG
Phosphorus as P, Total	0.02	mg/L	.01	1	SM 4500P-E	09/10	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	0.12	mg/L	.05	1	D6919-03	09/09	16:17	JCL
Nitrogen, Nitrate	2.39	mg/L	.05	1	EPA 353.2	09/10	14:36	JCL
Nitrogen, Nitrite	0.11	mg/L	.05	1	EPA 353.2	09/10	12:59	JCL
Nitrogen, Total Kjeldahl	0.56	mg/L	.25	1	EPA 351.2	09/11	17:50	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.2	mg/L	1	1	SM5310 C	09/10	23:23	ALD
RESIDUES								
Solids, Total Dissolved	166	mg/L	5	1	SM 2540C	09/11	13:05	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	09/11	13:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	96	mg/L	1	1	SM 2320 B	09/10	11:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034307

Date Collected: 09/09/14 09:30
 Collected By: Client

Sample Desc: BM-2 Deep

Date Received: 09/09/14 13:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.03	mg/L	.01	1	SM 4500P-E	09/09	15:10	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:05	HRG
Phosphorus as P, Total	0.03	mg/L	.01	1	SM 4500P-E	09/10	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	09/09	16:31	JCL
Nitrogen, Nitrate	2.06	mg/L	.05	1	EPA 353.2	09/10	14:37	JCL
Nitrogen, Nitrite	0.09	mg/L	.05	1	EPA 353.2	09/10	13:00	JCL
Nitrogen, Total Kjeldahl	0.68	mg/L	.25	1	EPA 351.2	09/11	17:51	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.5	mg/L	1	1	SM5310 C	09/10	23:40	ALD
RESIDUES								
Solids, Total Dissolved	169	mg/L	5	1	SM 2540C	09/11	13:05	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	09/11	13:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	75	mg/L	1	1	SM 2320 B	09/10	11:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

Distribution of Reports:
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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034308
 Date Collected: 09/09/14 11:45
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-5 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	980	mpn/100ml	1	1	SM 9223B	09/10	09:00	DAD
Fecal Coliform	990	/100ml	2	1	SM 9222D	09/09	15:30	PLW
Total Coliform	>2400	mpn/100ml	1	1	SM 9223B	09/10	09:00	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.03	mg/l	.01	1	SM 4500P-E	09/09	15:10	HRG
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	09/09	16:05	HRG
Phosphorus as P, Total	0.06	mg/l	.01	1	SM 4500P-E	09/10	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/l	.05	1	D6919-03	09/09	16:46	JCL
Nitrogen, Nitrate	4.87	mg/l	.05	1	EPA 353.2	09/10	14:40	JCL
Nitrogen, Nitrite	<.05	mg/l	.05	1	EPA 353.2	09/10	13:01	JCL
Nitrogen, Total Kjeldahl	0.43	mg/l	.25	1	EPA 351.2	09/11	17:51	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/l	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.3	mg/l	1	1	SM5310 C	09/10	23:56	ALD
RESIDUES								
Solids, Total Dissolved	273	mg/l	5	1	SM 2540C	09/11	13:05	TMH
Solids, Total Suspended	10	mg/l	3	1	SM 2540D	09/11	13:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	141	mg/l	1	1	SM 2320 B	09/10	11:45	HRG

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Reviewed and Approved by:

Christina M. Kistler

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034308

Date Collected: 09/09/14 11:45
 Collected By: Client

Sample Desc: BM-5 Surface

Date Received: 09/09/14 13:45

PWSID: 3060912

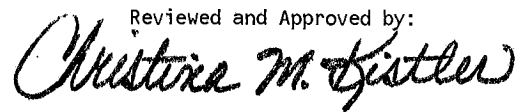
Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 02 The total coliform sample was placed in the incubator on 09/09/14 at 15:00.

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Christina Kistler
 Account Executive

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034309

Date Collected: 09/09/14 08:45
 Collected By: Client

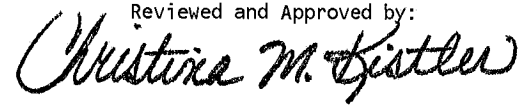
Sample Desc: BM-6 Surface

Date Received: 09/09/14 13:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
MICROBIOLOGY								
Escherichia coli	4	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
Fecal Coliform	5	/100mL	2	1	SM 9222D	09/09	15:30	PLW
Total Coliform	>2400	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:10	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:05	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	09/10	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	09/09	17:01	JCL
Nitrogen, Nitrate	2.14	mg/L	.05	1	EPA 353.2	09/10	14:41	JCL
Nitrogen, Nitrite	0.10	mg/L	.05	1	EPA 353.2	09/10	13:02	JCL
Nitrogen, Total Kjeldahl	0.51	mg/L	.25	1	EPA 351.2	09/11	17:52	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	3.0	mg/L	1	1	SM5310 C	09/11	01:00	ALD
RESIDUES								
Solids, Total Dissolved	177	mg/L	5	1	SM 2540C	09/11	13:05	TMH
Solids, Total Suspended	4	mg/L	3	1	SM 2540D	09/11	13:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	80	mg/L	1	1	SM 2320 B	09/10	12:00	HRG

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Christina Kistler
 Account Executive

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Attention: Gregory Wacik
Reported To: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 09/23/14
Lab ID: 2294-14-0034309

Date Collected: 09/09/14 08:45
Collected By: Client

Sample Desc: BM-6 Surface

Date Received: 09/09/14 13:45

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 02 The total coliform sample was placed in the incubator on 09/09/14 at 15:00.

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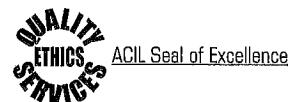
Christina M. Kistler
Christina Kistler
Account Executive

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034310
 Date Collected: 09/09/14 08:45
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-6 Mid-Depth

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:10	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:05	HRG
Phosphorus as P, Total	0.02	mg/L	.01	1	SM 4500P-E	09/10	13:30	HRG
NITROGENS								
Nitrogen, Ammonia	0.18	mg/L	.05	1	D6919-03	09/09	17:15	JCL
Nitrogen, Nitrate	2.19	mg/L	.05	1	EPA 353.2	09/10	14:42	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	09/10	13:03	JCL
Nitrogen, Total Kjeldahl	0.66	mg/L	.25	1	EPA 351.2	09/11	17:55	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.0	mg/L	1	1	SM5310 C	09/11	01:16	ALD
RESIDUES								
Solids, Total Dissolved	205	mg/L	5	1	SM 2540C	09/11	13:05	TMH
Solids, Total Suspended	3	mg/L	3	1	SM 2540D	09/11	13:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	116	mg/L	1	1	SM 2320 B	09/10	12:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

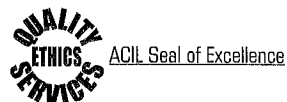
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Attention: Gregory Wacik
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 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034311
 Date Collected: 09/09/14 08:45
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-6 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.18	mg/L	.01	1	SM 4500P-E	09/09	15:15	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:05	HRG
Phosphorus as P, Total	0.80	mg/L	.01	1	SM 4500P-E	09/10	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	1.79	mg/L	.05	1	D6919-03	09/09	17:30	JCL
Nitrogen, Nitrate	1.42	mg/L	.05	1	EPA 353.2	09/10	14:43	JCL
Nitrogen, Nitrite	0.09	mg/L	.05	1	EPA 353.2	09/10	13:04	JCL
Nitrogen, Total Kjeldahl	3.88	mg/L	.25	1	EPA 351.2	09/11	17:56	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	09/15	13:50	EMW
Total Organic Carbon	4.5	mg/L	1	1	SM5310 C	09/11	01:34	ALD
RESIDUES								
Solids, Total Dissolved	222	mg/L	5	1	SM 2540C	09/11	13:05	TMH
Solids, Total Suspended	26	mg/L	3	1	SM 2540D	09/11	13:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	162	mg/L	1	1	SM 2320 B	09/10	12:00	HRG

COMMENTS

01 The TOC duplicates were greater than 20%RPD due to settling of sample.

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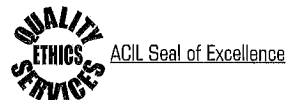
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 Account Executive

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Attention: Gregory Wacik
Reported To: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 09/23/14
Lab ID: 2294-14-0034311

Date Collected: 09/09/14 08:45
Collected By: Client

Sample Desc: BM-6 Deep

Date Received: 09/09/14 13:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
02	The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.							
03	The SM 5210B sample did not have a DO depletion of at least 2 mg/L.							
04	BOD was reanalyzed after the recommended holding time had elapsed. Original dilutions were not appropriate for this sample. Values should be considered an estimate.							

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Christina Kistler
Account Executive

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9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 09/23/14
Lab ID: 2294-14-0034312

Date Collected: 09/09/14 10:00
Collected By: Client

Sample Desc: BM-7 Surface

Date Received: 09/09/14 13:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
Fecal Coliform	3	/100mL	2	1	SM 9222D	09/09	15:30	PLW
Total Coliform	980	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:15	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:05	HRG
Phosphorus as P, Total	0.03	mg/L	.01	1	SM 4500P-E	09/10	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	09/09	17:44	JCL
Nitrogen, Nitrate	2.14	mg/L	.05	1	EPA 353.2	09/10	14:46	JCL
Nitrogen, Nitrite	0.08	mg/L	.05	1	EPA 353.2	09/10	13:07	JCL
Nitrogen, Total Kjeldahl	0.83	mg/L	.25	1	EPA 351.2	09/11	17:57	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	09/11	02:10	ALD
RESIDUES								
Solids, Total Dissolved	166	mg/L	5	1	SM 2540C	09/11	13:05	TMH
Solids, Total Suspended	6	mg/L	3	1	SM 2540D	09/11	13:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	84	mg/L	1	1	SM 2320 B	09/10	12:15	HRG

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Reviewed and Approved by:
Christina M. Kistler

Christina Kistler
Account Executive

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9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 09/23/14
Lab ID: 2294-14-0034312

Date Collected: 09/09/14 10:00
Collected By: Client

Sample Desc: BM-7 Surface

Date Received: 09/09/14 13:45

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 02 The total coliform sample was placed in the incubator on 09/09/14 at 15:00.

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Christina Kistler
Account Executive

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 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034313

Date Collected: 09/09/14 10:00
 Collected By: Client

Sample Desc: BM-7 Mid-Depth

Date Received: 09/09/14 13:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:15	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:10	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	09/10	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	0.09	mg/L	.05	1	D6919-03	09/09	17:59	JCL
Nitrogen, Nitrate	2.34	mg/L	.05	1	EPA 353.2	09/10	14:47	JCL
Nitrogen, Nitrite	0.08	mg/L	.05	1	EPA 353.2	09/10	13:08	JCL
Nitrogen, Total Kjeldahl	0.66	mg/L	.25	1	EPA 351.2	09/11	17:58	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.3	mg/L	1	1	SM5310 C	09/11	02:27	ALD
RESIDUES								
Solids, Total Dissolved	166	mg/L	5	1	SM 2540C	09/11	13:05	TMH
Solids, Total Suspended	3	mg/L	3	1	SM 2540D	09/11	13:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	78	mg/L	1	1	SM 2320 B	09/10	12:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034314
 Date Collected: 09/09/14 10:00
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-7 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:15	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:10	HRG
Phosphorus as P, Total	0.09	mg/L	.01	1	SM 4500P-E	09/10	13:35	HRG
NITROGENS								
Nitrogen, Ammonia	0.42	mg/L	.05	1	D6919-03	09/09	18:14	JCL
Nitrogen, Nitrate	2.68	mg/L	.05	1	EPA 353.2	09/10	14:48	JCL
Nitrogen, Nitrite	0.13	mg/L	.05	1	EPA 353.2	09/10	13:09	JCL
Nitrogen, Total Kjeldahl	0.92	mg/L	.25	1	EPA 351.2	09/11	17:59	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.0	mg/L	1	1	SM5310 C	09/11	02:43	ALD
RESIDUES								
Solids, Total Dissolved	209	mg/L	5	1	SM 2540C	09/11	13:35	TMH
Solids, Total Suspended	24	mg/L	3	1	SM 2540D	09/11	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	130	mg/L	1	1	SM 2320 B	09/10	12:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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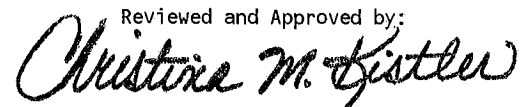
Date of Report: 09/23/14
 Lab ID: 2294-14-0034315
 Date Collected: 09/09/14 10:00
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-8 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
Escherichia coli	2	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
Fecal Coliform	3	/100mL	2	1	SM 9222D	09/09	15:30	PLW
Total Coliform	1300	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.05	mg/L	.01	1	SM 4500P-E	09/09	15:15	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:10	HRG
Phosphorus as P, Total	0.05	mg/L	.01	1	SM 4500P-E	09/10	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	09/09	18:28	JCL
Nitrogen, Nitrate	2.11	mg/L	.05	1	EPA 353.2	09/10	14:49	JCL
Nitrogen, Nitrite	0.06	mg/L	.05	1	EPA 353.2	09/10	13:12	JCL
Nitrogen, Total Kjeldahl	0.87	mg/L	.25	1	EPA 351.2	09/11	18:00	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.5	mg/L	1	1	SM5310 C	09/11	03:31	ALD
RESIDUES								
Solids, Total Dissolved	154	mg/L	5	1	SM 2540C	09/11	13:35	TMH
Solids, Total Suspended	6	mg/L	3	1	SM 2540D	09/11	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	76	mg/L	1	1	SM 2320 B	09/10	12:30	HRG

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 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034315

Date Collected: 09/09/14 10:00
 Collected By: Client

Sample Desc: BM-8 Surface

Date Received: 09/09/14 13:45

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 02 The total coliform sample was placed in the incubator on 09/09/14 at 15:00.

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Date of Report: 09/23/14
 Lab ID: 2294-14-0034316

Date Collected: 09/09/14 10:50
 Collected By: Client

Sample Desc: BM-8 Mid-Depth

Date Received: 09/09/14 13:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:20	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:10	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	09/10	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	09/09	19:27	JCL
Nitrogen, Nitrate	2.12	mg/L	.05	1	EPA 353.2	09/10	14:51	JCL
Nitrogen, Nitrite	0.06	mg/L	.05	1	EPA 353.2	09/10	13:13	JCL
Nitrogen, Total Kjeldahl	0.52	mg/L	.25	1	EPA 351.2	09/10	16:40	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	09/11	03:47	ALD
RESIDUES								
Solids, Total Dissolved	159	mg/L	5	1	SM 2540C	09/11	13:35	TMH
Solids, Total Suspended	7	mg/L	3	1	SM 2540D	09/11	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	75	mg/L	1	1	SM 2320 B	09/10	12:30	HRG

COMMENTS

01 One of the matrix spike/matrix spike duplicate results was outside of the recommended range but the other passed the criteria for TKN.

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Columbia MD 21045-1934

Date of Report: 09/23/14
Lab ID: 2294-14-0034316

Date Collected: 09/09/14 10:50
Collected By: Client

Sample Desc: BM-8 Mid-Depth

Date Received: 09/09/14 13:45

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
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02 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Date of Report: 09/23/14
 Lab ID: 2294-14-0034317
 Date Collected: 09/09/14 10:50
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-8 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:25	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:10	HRG
Phosphorus as P, Total	0.09	mg/L	.01	1	SM 4500P-E	09/10	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	0.21	mg/L	.05	1	D6919-03	09/09	19:41	JCL
Nitrogen, Nitrate	2.34	mg/L	.05	1	EPA 353.2	09/10	14:53	JCL
Nitrogen, Nitrite	0.06	mg/L	.05	1	EPA 353.2	09/10	13:13	JCL
Nitrogen, Total Kjeldahl	0.48	mg/L	.25	1	EPA 351.2	09/10	16:43	JCL
OTHER								
Biochemical Oxygen Demand	2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	09/11	04:04	ALD
RESIDUES								
Solids, Total Dissolved	190	mg/L	5	1	SM 2540C	09/11	13:35	TMH
Solids, Total Suspended	17	mg/L	3	1	SM 2540D	09/11	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	85	mg/L	1	1	SM 2320 B	09/10	12:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 Suite 100
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Date of Report: 09/23/14
 Lab ID: 2294-14-0034318

Date Collected: 09/09/14 10:10
 Collected By: Client

Sample Desc: BM-9 Surface

Date Received: 09/09/14 13:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
MICROBIOLOGY								
Escherichia coli	1	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
Fecal Coliform	2	/100mL	2	1	SM 9222D	09/09	15:30	PLW
Total Coliform	690	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:25	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:10	HRG
Phosphorus as P, Total	<.01	mg/L	.01	1	SM 4500P-E	09/10	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	09/09	19:56	JCL
Nitrogen, Nitrate	2.23	mg/L	.05	1	EPA 353.2	09/10	14:54	JCL
Nitrogen, Nitrite	0.07	mg/L	.05	1	EPA 353.2	09/10	13:14	JCL
Nitrogen, Total Kjeldahl	0.35	mg/L	.25	1	EPA 351.2	09/10	16:44	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.6	mg/L	1	1	SM5310 C	09/11	04:20	ALD
RESIDUES								
Solids, Total Dissolved	168	mg/L	5	1	SM 2540C	09/11	13:35	TMH
Solids, Total Suspended	5	mg/L	3	1	SM 2540D	09/11	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	77	mg/L	1	1	SM 2320 B	09/10	12:45	HRG

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Reviewed and Approved by:

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9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 09/23/14
Lab ID: 2294-14-0034318

Date Collected: 09/09/14 10:10
Collected By: Client

Date Received: 09/09/14 13:45

Sample Desc: BM-9 Surface

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 02 The total coliform sample was placed in the incubator on 09/09/14 at 15:00.

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Date of Report: 09/23/14
 Lab ID: 2294-14-0034319

Date Collected: 09/09/14 10:10
 Collected By: Client

Sample Desc: BM-9 Mid-Depth

Date Received: 09/09/14 13:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:25	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:10	HRG
Phosphorus as P, Total	0.04	mg/L	.01	1	SM 4500P-E	09/10	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	0.06	mg/L	.05	1	D6919-03	09/09	20:10	JCL
Nitrogen, Nitrate	2.29	mg/L	.05	1	EPA 353.2	09/10	14:55	JCL
Nitrogen, Nitrite	0.07	mg/L	.05	1	EPA 353.2	09/10	13:15	JCL
Nitrogen, Total Kjeldahl	<.25	mg/L	.25	1	EPA 351.2	09/10	16:45	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.2	mg/L	1	1	SM5310 C	09/11	05:24	ALD
RESIDUES								
Solids, Total Dissolved	159	mg/L	5	1	SM 2540C	09/11	13:35	TMH
Solids, Total Suspended	7	mg/L	3	1	SM 2540D	09/11	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	81	mg/L	1	1	SM 2320 B	09/10	12:45	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Date of Report: 09/23/14
 Lab ID: 2294-14-0034320
 Date Collected: 09/09/14 10:10
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-9 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:25	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:10	HRG
Phosphorus as P, Total	0.07	mg/L	.01	1	SM 4500P-E	09/10	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	0.66	mg/L	.05	1	D6919-03	09/09	20:25	JCL
Nitrogen, Nitrate	2.39	mg/L	.05	1	EPA 353.2	09/10	14:57	JCL
Nitrogen, Nitrite	0.10	mg/L	.05	1	EPA 353.2	09/10	13:18	JCL
Nitrogen, Total Kjeldahl	<.25	mg/L	.25	1	EPA 351.2	09/10	16:46	JCL
OTHER								
Biochemical Oxygen Demand	4	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.0	mg/L	1	1	SM5310 C	09/11	05:40	ALD
RESIDUES								
Solids, Total Dissolved	238	mg/L	5	1	SM 2540C	09/11	13:35	TMH
Solids, Total Suspended	12	mg/L	3	1	SM 2540D	09/11	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	127	mg/L	1	1	SM 2320 B	09/10	13:00	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

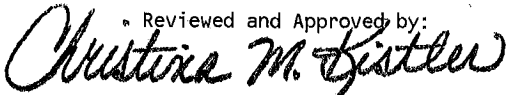
Date of Report: 09/23/14
 Lab ID: 2294-14-0034321
 Date Collected: 09/09/14 10:30
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-10 Surface

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	46	mpn/100ml	1	1	SM 9223B	09/10	09:00	DAD
Fecal Coliform	50	/100ml	2	1	SM 9222D	09/09	15:30	PLW
Total Coliform	1100	mpn/100ml	1	1	SM 9223B	09/10	09:00	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/l	.01	1	SM 4500P-E	09/09	15:25	HRG
Phosphorus as P, Dissolved	<.05	mg/l	.05	1	SM 4500P-E	09/09	16:15	HRG
Phosphorus as P, Total	0.06	mg/l	.01	1	SM 4500P-E	09/10	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/l	.05	1	D6919-03	09/09	20:40	JCL
Nitrogen, Nitrate	2.24	mg/l	.05	1	EPA 353.2	09/10	14:58	JCL
Nitrogen, Nitrite	0.06	mg/l	.05	1	EPA 353.2	09/10	13:19	JCL
Nitrogen, Total Kjeldahl	0.51	mg/l	.25	1	EPA 351.2	09/10	16:46	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/l	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.6	mg/l	1	1	SM5310 C	09/11	05:56	ALD
RESIDUES								
Solids, Total Dissolved	167	mg/l	5	1	SM 2540C	09/11	13:35	TMH
Solids, Total Suspended	9	mg/l	3	1	SM 2540D	09/11	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	80	mg/l	1	1	SM 2320 B	09/10	13:00	HRG

Distribution of Reports:
 email only - Versar, Inc./Blue Marsh Reservoir

Reviewed and Approved by:


Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
Reported To: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Date of Report: 09/23/14
Lab ID: 2294-14-0034321

Date Collected: 09/09/14 10:30
Collected By: Client

Sample Desc: BM-10 Surface

Date Received: 09/09/14 13:45

PWSID: 3060912

Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

- 02 The total coliform sample was placed in the incubator on 09/09/14 at 15:00.

Distribution of Reports:
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Reviewed and Approved by:

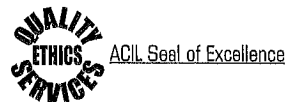
Christina Kistler
Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034322

Date Collected: 09/09/14 10:30
 Collected By: Client

Sample Desc: BM-10 Mid-Depth

Date Received: 09/09/14 13:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:30	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:15	HRG
Phosphorus as P, Total	0.06	mg/L	.01	1	SM 4500P-E	09/10	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	09/09	21:23	JCL
Nitrogen, Nitrate	2.27	mg/L	.05	1	EPA 353.2	09/10	14:59	JCL
Nitrogen, Nitrite	0.06	mg/L	.05	1	EPA 353.2	09/10	13:20	JCL
Nitrogen, Total Kjeldahl	<.25	mg/L	.25	1	EPA 351.2	09/10	16:47	JCL
OTHER								
Biochemical Oxygen Demand	3	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	09/11	06:12	ALD
RESIDUES								
Solids, Total Dissolved	165	mg/L	5	1	SM 2540C	09/11	13:35	TMH
Solids, Total Suspended	9	mg/L	3	1	SM 2540D	09/11	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	73	mg/L	1	1	SM 2320 B	09/10	13:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

Distribution of Reports:
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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034323
 Date Collected: 09/09/14 10:30
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-10 Deep

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	<.01	mg/L	.01	1	SM 4500P-E	09/09	15:30	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/09	16:15	HRG
Phosphorus as P, Total	0.18	mg/L	.01	1	SM 4500P-E	09/10	13:40	HRG
NITROGENS								
Nitrogen, Ammonia	0.06	mg/L	.05	1	D6919-03	09/09	21:38	JCL
Nitrogen, Nitrate	3.53	mg/L	.05	1	EPA 353.2	09/10	15:00	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	09/10	13:21	JCL
Nitrogen, Total Kjeldahl	<.25	mg/L	.25	1	EPA 351.2	09/10	16:48	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.5	mg/L	1	1	SM5310 C	09/11	06:29	ALD
RESIDUES								
Solids, Total Dissolved	225	mg/L	5	1	SM 2540C	09/11	13:35	TMH
Solids, Total Suspended	45	mg/L	3	1	SM 2540D	09/11	13:35	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	115	mg/L	1	1	SM 2320 B	09/10	13:15	HRG

COMMENTS

01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034324

Date Collected: 09/09/14 11:50
 Collected By: Client

Sample Desc: BM-11 Surface

Date Received: 09/09/14 13:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	920	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
Fecal Coliform	930	/100mL	2	1	SM 9222D	09/09	15:30	PLW
Total Coliform	>2400	mpn/100mL	1	1	SM 9223B	09/10	09:00	DAD
CHEMISTRY								
COLORMETRIC								
Phosphate as P, Ortho	0.14	mg/L	.01	1	SM 4500P-E	09/09	15:30	HRG
Phosphorus as P, Dissolved	<.05	mg/L	.05	1	SM 4500P-E	09/12	13:00	HRG
Phosphorus as P, Total	0.14	mg/L	.01	1	SM 4500P-E	09/12	12:45	HRG
NITROGENS								
Nitrogen, Ammonia	<.05	mg/L	.05	1	D6919-03	09/09	21:53	JCL
Nitrogen, Nitrate	4.61	mg/L	.05	1	EPA 353.2	09/10	15:03	JCL
Nitrogen, Nitrite	<.05	mg/L	.05	1	EPA 353.2	09/10	13:24	JCL
Nitrogen, Total Kjeldahl	0.45	mg/L	.25	1	EPA 351.2	09/10	16:51	JCL
OTHER								
Biochemical Oxygen Demand	<2	mg/L	2	1	SM 5210B	09/09	15:20	EMW
Total Organic Carbon	2.4	mg/L	1	1	SM5310 C	09/11	07:02	ALD
RESIDUES								
Solids, Total Dissolved	260	mg/L	5	1	SM 2540C	09/11	14:05	TMH
Solids, Total Suspended	14	mg/L	3	1	SM 2540D	09/11	14:05	TMH
TITRATIONS								
Alkalinity, Total to pH 4.5	140	mg/L	1	1	SM 2320 B	09/10	13:30	HRG

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: Versar, Inc./Blue Marsh Reservoir
 9200 Rumsey Road
 Suite 100
 Columbia MD 21045-1934

Date of Report: 09/23/14
 Lab ID: 2294-14-0034324
 Date Collected: 09/09/14 11:50
 Collected By: Client
 Date Received: 09/09/14 13:45

Sample Desc: BM-11 Surface

PWSID: 3060912

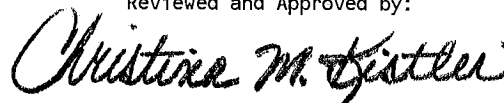
Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
-----	-----	-----	-----	-----	-----	-----	-----

COMMENTS

- 01 The Ortho-phosphate was filtered and the dissolved phosphorous was filtered and preserved w/ H2SO4 to pH <2 after the sample was received at the laboratory.
- 02 The total coliform sample was placed in the incubator on 09/09/14 at 15:00.

Distribution of Reports:
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Reviewed and Approved by:



Christina Kistler
 Account Executive

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Account: 2294 Work Order: 004037 Project Leader: CMB No: 242817
Customer: Gregory Wacik Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext: _____
Samplers: WACIK

Remarks: _____
Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: 23 Deg C If Temp Unacceptable, On Ice? N
Approved By: RAC

Sample No: 1 Desc: BM-1 Surface
FC, EC, TC, ^{pk} _{pk} ^{Hg} _{Hg}
NO2-N, NO3-N, d-po4-p, o-po4, BOD _g
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Sample No: 2 Desc: BM-2 Surface
FC, EC, TC, ^{pk} _{pk} ^{Hg} _{Hg}
NO2-N, NO3-N, d-po4-p, ^g _g po4, BOD _g
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 1210
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Matrix: 0 Date: 9/9/14
Time: 0930
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: _____ Received by: _____
Date: 9/9/14 Time: 1100
Date: 9/9/14 Time: 1345

Sample entered by: RAC

[Handwritten signatures and notes]
Received for laboratory by: Rafael Quijada
Date: 9/9/14 Time: 1345
Sample entered by: RAC

No: 242817

Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Account: 2294

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext:

Samplers: WACIK

Chain of Custody

Remarks:

Unice

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 23 Deg C. If Temp Unacceptable, On Ice? Y
Approved By: RAC

Sample No: 3 Desc: BM-2 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Sample No: 4 Desc: BM-2 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Sample No: 5 Desc: BM-5 Surface
FC, EC, TC, Alk
NO2-N, NO3-N, d-po4-p, o-po4, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 0930
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Matrix: 0 Date: 9/9/14
Time: 0930
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Matrix: 0 Date: 9/9/14
Time: 1445
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: Rafael Quijada

Received for laboratory by: Rafael Quijada

Date: 9/9/14 Time: 1:00
1320

Date: 9/9/14 Time: 1345

Sample entered by: RSC

Rafael Quijada
Rafael Quijada

Rafael Quijada
Rafael Quijada

M. J. REIDER ASSOCIATES, INC.

jbs
08/06/14 12:22:12 PM

Chain of Custody

No: 242817

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Work Order: 004037

Customer: Gregory Wacik

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934

Phone: 215-656-6561 Ext:

Samplers: WACIK

Remarks:

on ice

Total Sampling Time (hours): Bottle Prep by:

Laboratory Receipt Temp: 23 Deg C. If Temp Unacceptable, On Ice? C N
Approved By: RAC

34309

Sample No: 6 Desc: BM-6 Surface
FC, EC, TC, PH
NO2-N, NO3-N, d-p_{o4}-p, o-p_{o4}, BOD₅
NH3-N, t_{kn}, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 0845
A - 1 X 250ml Micro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

34310

Sample No: 7 Desc: BM-6 Mid-Depth
PH
NO2-N, NO3-N, d-p_{o4}-p, o-p_{o4}, BOD₅
NH3-N, t_{kn}, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 0845
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16oz NO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Rafael Quijada
Received by: Rafael Quijada

Rafael Quijada
Relinquished by: Rafael Quijada

Rafael Quijada
Received for laboratory by: Rafael Quijada

Date: 9/9/14 Time: 1345

Date: 9/9/14 Time: 1:00
1320

Sample entered by: RQC

M. J. REIDER ASSOCIATES, INC.

jbs
08/06/14 12:22:12 PM

No: 242817

Chain of Custody

Account: 2294 Work Order: 004037
Customer: Gregory Wacik Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

Remarks: ON ICE

Total Sampling Time (hours): Bottle Prep by:

Laboratory Receipt Temp: 23 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: WACIK

Samplers: WACIK

Sample No: 8 Desc: BM-6 Deep
NO2-N, NO3-N, d-p₀₄-p, He o-p₀₄, BOD_M
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 0845
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 9 Desc: BM-7 Surface
FC, EC, TC, He d-p₀₄-p, o-p₀₄, BOD_M
NO2-N, NO3-N, d-p₀₄-p, He o-p₀₄, BOD_M
NH3-N, tkn, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 1000
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: Rafael Quijada

Received for laboratory by: [Signature]

Date: 9/9/14 Time: 1:00
1320

Date: 9/9/14 Time: 1345

Sample entered by: RSC

M. J. REIDER ASSOCIATES, INC.

jbs
08/06/14 12:22:12 PM

Chain of Custody

No: 242817

Project Leader: CMB
Seasonal Monthly Blue Marsh Reservoir

Work Order: 004037
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Account: 2294

Customer: Gregory Wacik

Remarks:

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

On ice

Total Sampling Time (hours):

Laboratory Receipt Temp: 23 Deg C. If Temp Unacceptable, On Ice? N

Approved By: RAC

Samplers: WACIK

Sample No: 10 Desc: BM-7 Mid-Depth
NO2-N, NO3-N, d-p₀₄-p, ^{He}o-p₀₄, BOD_W
NH3-N, t_{kn}, Alk, tds, tss, po₄-p, toc,

Matrix: 0 Date: 9/9/14
Time: 1500
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 11 Desc: BM-7 Deep
NO2-N, NO3-N, d-p₀₄-p, ^{He}o-p₀₄, BOD_W
NH3-N, t_{kn}, Alk, tds, tss, po₄-p, toc,

Matrix: 0 Date: 9/9/14
Time: 1500
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 12 Desc: BM-8 Surface
FC, EC, TC, ^{He}NO2-N, NO3-N, d-p₀₄-p, ^{He}o-p₀₄, BOD_W
NH3-N, t_{kn}, Alk, tds, tss, po₄-p, toc,

Matrix: 0 Date: 9/9/14
Time: 1550
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: Rafael Quijada Received by: Rafael Quijada

Received for laboratory by: Rafael Quijada

Date: 9/9/14 Time: 1:00

Date: 9/9/14 Time: 1345

Sample entered by: RJC

34313

34314

34315

Rafael Quijada
Rafael Quijada

Rafael Quijada
Rafael Quijada

Account: 2294

Work Order: 004037

Project Leader: CMB

No: 242817

Customer: Gregory Wacik

Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Chain of Custody

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext: WACIK

Remarks:

ON ice

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 23 Deg C If Temp Unacceptable, On Ice? N
Approved By: RQA

34316

Sample No: 13 Desc: BM-8 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD ^{H6}
NH3-N, tkm, Alk, tds, tss, po4-p, toc, ^{gn}

Matrix: 0 Date: 9/9/14
Time: 1050
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

34317

Sample No: 14 Desc: BM-8 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD ^{H6}
NH3-N, tkm, Alk, tds, tss, po4-p, toc, ^{gn}

Matrix: 0 Date: 9/9/14
Time: 1050
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

34318

Sample No: 15 Desc: BM-9 Surface
FC, EC, TC, ^{H6}
NO2-N, NO3-N, d-po4-p, o-po4, BOD ^{gn}
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 1050
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: _____

Received for laboratory by: _____

Date: 9/9/14 Time: 1050
1320

Date: 9/9/14 Time: _____

[Signature]
Rafael Quijada

[Signature]
Rafael Quijada

Sample entered by: RJV

Account: 2294 Work Order: 004037

No: 242817

Customer: Gregory Wacik

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Chain of Custody

Address: Versar, Inc./Blue Marsh Reservoir
9200 Rumsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

Remarks:

Remarks: on ice

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 23 Deg C. If Temp Unacceptable, On Ice? N
Approved By: RAC

Samplers: WACIK

Sample No: 16 Desc: BM-9 Mid-Depth
NO2-N, NO3-N, d-p₀₄-p, o-p₀₄, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 10:10
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 17 Desc: BM-9 Deep
NO2-N, NO3-N, d-p₀₄-p, o-p₀₄, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 10:10
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 18 Desc: BM-10 Surface
FC, EC, TC, TSS, NO2-N, NO3-N, d-p₀₄-p, o-p₀₄, BOD₅
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 10:30
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: [Signature] Received by: [Signature]

Received for laboratory by: [Signature]

Date: 9/9/14 Time: 1:00
1320

Date: 9/9/14 Time: 1345

Sample entered by: RSC

Chain of Custody

No: 242817

Project Leader: CMB
Work Order Description: Seasonal Monthly Blue Marsh Reservoir

Work Order: 004037

Account: 2294

Customer: Gregory Wacik

Remarks:

Address: Versar, Inc./Blue Marsh Reservoir
9200 Runsey Road
Suite 100
Columbia MD 21045-1934
Phone: 215-656-6561 Ext:

On ice

Total Sampling Time (hours):

Bottle Prep by:

Laboratory Receipt Temp: 23 Deg C If Temp Unacceptable, On Ice? N
Approved By: RAC

WACIK

Samplers:

Sample No: 19 Desc: EM-10 Mid-Depth
NO2-N, NO3-N, d-po4-p, o-po4, BOD ^{H6}
NH3-N, tkm, Alk, tds, tss, po4-p, toc, ^{gn}

Matrix: 0 Date: 9/9/14
Time: 1030
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 20 Desc: EM-10 Deep
NO2-N, NO3-N, d-po4-p, o-po4, BOD ^{H6}
NH3-N, tkm, Alk, tds, tss, po4-p, toc, ^{gn}

Matrix: 0 Date: 9/9/14
Time: 1030
A - 1 X L Bod p w/ Cool to 6 C;
B - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
C - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
D - 1 X 2xambervoa g w/ H3PO4/zero headspace;
E - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Sample No: 21 Desc: EM-11 Surface
FC, EC, TC, ^{H6}
NO2-N, NO3-N, d-po4-p, o-po4, BOD ^{gn}
NH3-N, tkm, Alk, tds, tss, po4-p, toc,

Matrix: 0 Date: 9/9/14
Time: 1150
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
B - 1 X L Bod p w/ Cool to 6 C;
C - 1 X 16ozNO2NO3 p w/ Cool to 6 C;
D - 1 X 500ml NH3 p w/ H2SO4 (pH<2);
E - 1 X 2xambervoa g w/ H3PO4/zero headspace;
F - 1 X 8oz Alk p w/
Cool to 6 C/Zero Headspace;

Relinquished by: Rafael Quijada Received by: Rafael Quijada

Received for laboratory by: Rafael Quijada

Date: 9/9/14 Time: 1:00
1320

Date: 9/9/14 Time: 1345

Date: 1345 Time: RAC

Sample entered by: RAC



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/21/14
 Lab ID: 2294-14-0020620

Date Collected: 05/19/14 08:15
 Collected By: JBS

Sample Desc: SB-1

Date Received: 05/19/14 09:00

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	05/20	10:00	DAD
Fecal Coliform	2	/100ml	2	1	SM 9222D	05/19	10:00	DAD
Total Coliform Bacteria	88	mpn/100ml	1	1	SM 9223B	05/20	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator at 05/19/14 at 10:00.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/21/14
 Lab ID: 2294-14-0020621

Date Collected: 05/19/14 08:20
 Collected By: JBS

Sample Desc: SB-2

Date Received: 05/19/14 09:00

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	05/20	10:00	DAD
Fecal Coliform	<2	/100mL	2	1	SM 9222D	05/19	10:00	DAD
Total Coliform Bacteria	70	mpn/100mL	1	1	SM 9223B	05/20	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator at 05/19/14 at 10:00.

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/21/14
 Lab ID: 2294-14-0020622

Date Collected: 05/19/14 08:25
 Collected By: JBS

Sample Desc: SB-3

Date Received: 05/19/14 09:00

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	05/20	10:00	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	05/19	10:00	DAD
Total Coliform Bacteria	56	mpn/100ml	1	1	SM 9223B	05/20	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator at 05/19/14 at 10:00.

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 Account Executive

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Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 238069
Customer: Gregory Wacik Work Order Description: Beach 1,2,3
Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext: _____
Samplers: JBS

Remarks: _____
Total Sampling Time (hours): 6 Bottle Prep by: _____
Laboratory Receipt Temp: 6 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: JRS

Sample No:	Desc:	SB-1	SB-2	SB-3	Date:	Time:
20620	fc, ec, tcb, <u>plw</u>	left			5-19-14	0815
20621	fc, ec, tcb, <u>plw</u>	mid			5-19-14	0820
20622	fc, ec, tcb, <u>plw</u>	right			5-19-14	0825

Matrix: o A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: o A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: o A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: AP Received for laboratory by: [Signature]
Date: 5-19-14 Time: 0830
Date: 5-19-14 Time: 0920

Sample entered by: ECC



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/21/14
 Lab ID: 2294-14-0020106

Date Collected: 05/15/14 07:15
 Collected By: mxb

Sample Desc: SB-1

Date Received: 05/15/14 07:45

PWSID: 3060912

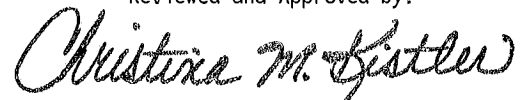
	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	05/16	09:30	DAD
Fecal Coliform	<2	mpn/100mL	2	1	SM 9222D	05/15	09:40	DAD
Total Coliform Bacteria	71	mpn/100mL	1	1	SM 9223B	05/16	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator at 05/15/14 at 09:30.

Distribution of Reports:

Reviewed and Approved by:



Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/21/14
 Lab ID: 2294-14-0020107

Date Collected: 05/15/14 07:16
 Collected By: mxb

Sample Desc: SB-2

Date Received: 05/15/14 07:45

PWSID: 3060912

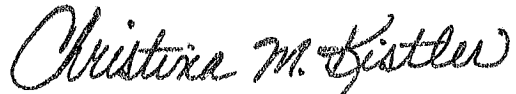
	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	05/16	09:30	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	05/15	09:40	DAD
Total Coliform Bacteria	62	mpn/100ml	1	1	SM 9223B	05/16	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator at 05/15/14 at 09:30.

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 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/21/14
 Lab ID: 2294-14-0020108

Date Collected: 05/15/14 07:17
 Collected By: mxb

Sample Desc: SB-3

Date Received: 05/15/14 07:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	05/16	09:30	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	05/15	09:40	DAD
Total Coliform Bacteria	54	mpn/100ml	1	1	SM 9223B	05/16	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator at 05/15/14 at 09:30.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 237974
Customer: Gregory Wacik Work Order Description: Beach 1,2,3

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext: _____
Samplers: MXB
Remarks: _____
Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXB

Sample No: 1	Desc: SB-1
fc, ec, tcb,	
Sample No: 2	Desc: SB-2
fc, ec, tcb,	
Sample No: 3	Desc: SB-3
fc, ec, tcb,	

Matrix: o	Date: <u>5/15/14</u>
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: <u>0715</u>
Matrix: o	Date: <u>5/15/14</u>
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: <u>0716</u>
Matrix: o	Date: <u>5/15/14</u>
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: <u>0717</u>

Relinquished by: NP

Received by: [Signature] Received for Laboratory by: [Signature]

Date: 5/15/14 Time: 0720

Date: 5/15/14 Time: 0745

Sample entered by: OSM



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/19/14
 Lab ID: 2294-14-0019382

Date Collected: 05/12/14 07:15
 Collected By: mxh

Sample Desc: SB-1

Date Received: 05/12/14 07:39

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	05/13	09:25	DAD
Fecal Coliform	2	/100mL	1	1	SM 9222D	05/12	09:48	DAD
Total Coliform Bacteria	44	mpn/100mL	1	1	SM 9223B	05/13	09:25	DAD

COMMENTS

01 The total coliform sample was placed in the incubator at 05/12/14 at 09:25.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/21/14
 Lab ID: 2294-14-0019383

Date Collected: 05/12/14 07:17
 Collected By: mxh

Sample Desc: SB-2

Date Received: 05/12/14 07:39

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	05/13	09:25	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	05/12	09:48	DAD
Total Coliform Bacteria	66	mpn/100ml	1	1	SM 9223B	05/13	09:25	DAD

COMMENTS

01 The total coliform sample was placed in the incubator at 05/12/14 at 09:25.

Distribution of Reports:

Reviewed and Approved by:



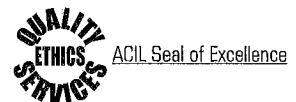
Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/21/14
 Lab ID: 2294-14-0019384

Date Collected: 05/12/14 07:19
 Collected By: mxb

Sample Desc: SB-3

Date Received: 05/12/14 07:39

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	05/13	09:25	DAD
Fecal Coliform	3	/100ml	1	1	SM 9222D	05/12	09:48	DAD
Total Coliform Bacteria	69	mpn/100ml	1	1	SM 9223B	05/13	09:25	DAD

COMMENTS

01 The total coliform sample was placed in the incubator at 05/12/14 at 09:25.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mxcb
05/12/14 7:46:32 AM

Chain of Custody

No: 237743

Project Leader: CMB

Work Order: 002788

Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Remarks: _____

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561 Ext: _____

Samplers: MXB

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 7 Deg C. If Temp Unacceptable, On Ice? (Y) N
Approved By: MXB

Sample No: 1 Desc: SB-1

fc, ec, tcb,

Matrix: 0

Date: 5/12/14
Time: 0715

A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Sample No: 2 Desc: SB-2

fc, ec, tcb,

Matrix: 0

Date: 5/12/14
Time: 0717

A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Sample No: 3 Desc: SB-3

fc, ec, tcb,

Matrix: 0

Date: 5/12/14
Time: 0719

A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

19382

19383

19384

Relinquished by: NP

Received by: Mill Bat

Received for Laboratory by: Mill Bat

Date: 5/12/14

Time: 0725

Date: 5/12/14

Time: 0739

Sample entered by: (Signature)



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/27/14
 Lab ID: 2294-14-0021130

Date Collected: 05/22/14 07:10
 Collected By: MXB

Sample Desc: SB-1

Date Received: 05/22/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	05/23	09:00	TBP
Fecal Coliform	2	/100ml	1	1	SM 9222D	05/22	09:06	DAD
Total Coliform Bacteria	460	mpn/100ml	1	1	SM 9223B	05/23	09:00	TBP

COMMENTS

01 The total coliform sample was placed in the incubator at 05/22/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:

Christina M. Kistler
 Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/27/14
 Lab ID: 2294-14-0021131

Date Collected: 05/22/14 07:12
 Collected By: MXB

Sample Desc: SB-2

Date Received: 05/22/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	05/23	09:00	TBP
Fecal Coliform	2	/100ml	1	1	SM 9222D	05/22	09:06	DAD
Total Coliform Bacteria	220	mpn/100ml	1	1	SM 9223B	05/23	09:00	TBP

COMMENTS

01 The total coliform sample was placed in the incubator at 05/22/14 at 09:20.

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Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 05/27/14
 Lab ID: 2294-14-0021132

Date Collected: 05/22/14 07:14
 Collected By: MXB

Sample Desc: SB-3

Date Received: 05/22/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	05/23	09:00	TBP
Fecal Coliform	3	/100ml	1	1	SM 9222D	05/22	09:06	DAD
Total Coliform Bacteria	190	mpn/100ml	1	1	SM 9223B	05/23	09:00	TBP

COMMENTS

01 The total coliform sample was placed in the incubator at 05/22/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:

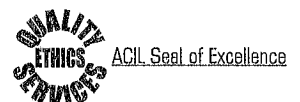
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 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mx3b
05/22/14 7:45:47 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 238262
Customer: Gregory Wacik Work Order Description: Beach 1,2,3
Address: USACE, Philadelphia District Environmental Resources Branch
100 Penn Square East Philadelphia PA 19107
Phone: 215-656-6561 Ext:
Samplers: MX3

Remarks: _____
Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MX3

- Sample No: 1 Desc: SB-1 DAD
fc, ec, tcb,
- Sample No: 2 Desc: SB-2 DAD
fc, ec, tcb,
- Sample No: 3 Desc: SB-3 DAD
fc, ec, tcb,

- Matrix: 0 Date: 5-22-14
Time: 0710
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
- Matrix: 0 Date: 5-22-14
Time: 0712
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
- Matrix: 0 Date: 5-22-14
Time: 0714
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NP

Received by: [Signature] Received for laboratory by: [Signature]

Date: 5-20-14 Time: 0720

Date: 5-21-14 Time: 0735

Sample entered by: ECC



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/05/14
 Lab ID: 2294-14-0022099

Date Collected: 05/29/14 07:18
 Collected By: mxb

Sample Desc: SB-1

Date Received: 05/29/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	05/30	08:45	DAD
Fecal Coliform	2	/100ml	1	1	SM 9222D	05/29	08:45	DAD
Total Coliform Bacteria	610	mpn/100ml	1	1	SM 9223B	05/30	08:45	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 05/29/14 at 08:40.

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Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/05/14
 Lab ID: 2294-14-0022100

Date Collected: 05/29/14 07:19
 Collected By: mxb

Sample Desc: SB-2

Date Received: 05/29/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100ml	1	1	SM 9223B	05/30	08:45	DAD
Fecal Coliform	3	/100ml	1	1	SM 9222D	05/29	08:45	DAD
Total Coliform Bacteria	770	mpn/100ml	1	1	SM 9223B	05/30	08:45	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 05/29/14 at 08:40.

Distribution of Reports:

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Christina M. Kistler
 Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/05/14
 Lab ID: 2294-14-0022101

Date Collected: 05/29/14 07:20
 Collected By: mxb

Sample Desc: SB-3

Date Received: 05/29/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	05/30	08:45	DAD
Fecal Coliform	2	/100ml	1	1	SM 9222D	05/29	08:45	DAD
Total Coliform Bacteria	520	mpn/100ml	1	1	SM 9223B	05/30	08:45	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 05/29/14 at 08:40.

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Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mxdb
05/29/14 7:39:37 AM

Chain of Custody

No: 238568

Project Leader: CMB

Work Order: 002788

Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Remarks:

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561

Ext:

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N

Approved By: MKS

Samplers: MKS

Sample No: 1 Desc: SB-1

22099
DAD
fc, ec, tcb,

Date: 5/29/14
Time: 0718

Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Sample No: 2 Desc: SB-2

22100
DAD
fc, ec, tcb,

Date: 5/29/14
Time: 0719

Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Sample No: 3 Desc: SB-3

22101
DAD
fc, ec, tcb,

Date: 5/29/14
Time: 0720

Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NP Received by: [Signature] Received for Laboratory by: [Signature]

Date: 5/29/14 Time: 0725

Date: 5/29/14 Time: 0740

Sample entered by: [Signature]



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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/05/14
 Lab ID: 2294-14-0021654

Date Collected: 05/27/14 07:08
 Collected By: MXB

Sample Desc: SB-1

Date Received: 05/27/14 07:38

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	05/28	09:10	DAD
Fecal Coliform	2	/100ml	1	1	SM 9222D	05/27	09:19	DAD
Total Coliform Bacteria	550	mpn/100ml	1	1	SM 9223B	05/28	09:10	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 05/27/14 at 09:05.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

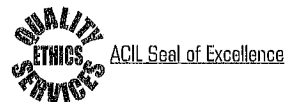
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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/05/14
 Lab ID: 2294-14-0021655

Date Collected: 05/27/14 07:10
 Collected By: MXB

Sample Desc: SB-2

Date Received: 05/27/14 07:38

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	05/28	09:10	DAD
Fecal Coliform	2	/100ml	1	1	SM 9222D	05/27	09:19	DAD
Total Coliform Bacteria	340	mpn/100ml	1	1	SM 9223B	05/28	09:10	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 05/27/14 at 09:05.

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Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/05/14
 Lab ID: 2294-14-0021656

Date Collected: 05/27/14 07:11
 Collected By: MXB

Sample Desc: SB-3

Date Received: 05/27/14 07:38

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	05/28	09:10	DAD
Fecal Coliform	2	/100ml	1	1	SM 9222D	05/27	09:19	DAD
Total Coliform Bacteria	240	mpn/100ml	1	1	SM 9223B	05/28	09:10	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 05/27/14 at 09:05.

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Reviewed and Approved by:

Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mxdb
05/27/14 7:45:05 AM

Chain of Custody

No: 238467

Project Leader: CMB

Work Order: 002788
Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561 Ext:

Samplers: MXB

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXB

Sample No: 1 Desc: SB-1

21654
DAD P+D
fc, ec, tcb,

Date: 5/27/14
Time: 0708
Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Sample No: 2 Desc: SB-2

21655
DAD P+D
fc, ec, tcb,

Date: 5/27/14
Time: 0710
Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Sample No: 3 Desc: SB-3

21656
DAD P+D
fc, ec, tcb,

Date: 5/27/14
Time: 0711
Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NP

Received by: Malcolm Reed

Received for laboratory by: Malcolm Reed

Date: 5/27/14

Time: 0715
0738
MXB 5/27/14

Date: 5/27/14

Time: 0738

Sample entered by: ECC



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/09/14
 Lab ID: 2294-14-0022585

Date Collected: 06/02/14 07:10
 Collected By: mxb

Sample Desc: SB-1

Date Received: 06/02/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	06/03	10:00	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	06/02	09:50	DAD
Total Coliform Bacteria	280	mpn/100ml	1	1	SM 9223B	06/03	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/02/14 at 09:45.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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ACIL Seal of Excellence



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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/09/14
 Lab ID: 2294-14-0022586

Date Collected: 06/02/14 07:11
 Collected By: mxh

Sample Desc: SB-2

Date Received: 06/02/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100mL	1	1	SM 9223B	06/03	10:00	DAD
Fecal Coliform	3	/100mL	2	1	SM 9222D	06/02	09:50	DAD
Total Coliform Bacteria	440	mpn/100mL	1	1	SM 9223B	06/03	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/02/14 at 09:45.

Distribution of Reports:

Reviewed and Approved by:



Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/09/14
 Lab ID: 2294-14-0022587

Date Collected: 06/02/14 07:12
 Collected By: mxb

Sample Desc: SB-3

Date Received: 06/02/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	06/03	10:00	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	06/02	09:50	DAD
Total Coliform Bacteria	290	mpn/100ml	1	1	SM 9223B	06/03	12:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/02/14 at 09:45.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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ACI Seal of Excellence

M. J. REIDER ASSOCIATES, INC.

mxh
06/02/14 7:56:56 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 238708
 Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Address: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107
 Phone: 215-656-6561 Ext:

Samplers: MXB

Remarks: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
 Approved By: MXS

Sample No:	Desc:	Matrix:	Date:	Time:
22585 949 fc, ec, tcb, DAP	1 SB-1	o	6-2-14	0710
22586 949 fc, ec, tcb, DAP	2 SB-2	o	6-2-14	0711
22587 949 fc, ec, tcb, DAP	3 SB-3	o	6-2-14	0712

Relinquished by: NP Received for laboratory by: [Signature]
 Date: 6-2-14 Time: 0715
 Date: 6-2-14 Time: 0735
 Sample entered by: [Signature]



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/16/14
 Lab ID: 2294-14-0023247
 Date Collected: 06/05/14 07:05
 Collected By: mxb
 Date Received: 06/05/14 07:30

Sample Desc: SB-1

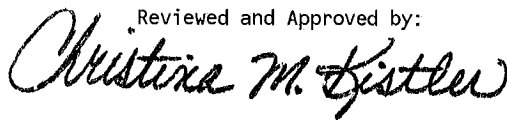
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100mL	1	1	SM 9223B	06/06	09:40	PLW
Fecal Coliform	2	/100mL	1	1	SM 9222D	06/05	08:45	PLW
Total Coliform Bacteria	440	mpn/100mL	1	1	SM 9223B	06/06	09:40	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 06/05/14 at 08:45.

Distribution of Reports:

Reviewed and Approved by:

 Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
Reported To: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Date of Report: 06/16/14
Lab ID: 2294-14-0023248

Date Collected: 06/05/14 07:06
Collected By: mxb

Sample Desc: SB-2

Date Received: 06/05/14 07:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	06/06	09:40	PLW
Fecal Coliform	2	/100ml	1	1	SM 9222D	06/05	08:45	PLW
Total Coliform Bacteria	490	mpn/100ml	1	1	SM 9223B	06/06	09:40	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 06/05/14 at 08:45.

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Reviewed and Approved by:

Christina Kistler
Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/16/14
 Lab ID: 2294-14-0023249
 Date Collected: 06/05/14 07:07
 Collected By: mxb
 Date Received: 06/05/14 07:30

Sample Desc: SB-3

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100mL	1	1	SM 9223B	06/06	09:40	PLW
Fecal Coliform	<2	/100mL	2	1	SM 9222D	06/05	08:45	PLW
Total Coliform Bacteria	250	mpn/100mL	1	1	SM 9223B	06/06	09:40	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 06/05/14 at 08:45.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mxdb
06/05/14 7:39:48 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 239118

Customer: Gregory Wacik Work Order Description: Beach 1,2,3

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561 Ext:

Samplers: MXS

Remarks: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXS

Sample No: 1	Desc: SB-1	Matrix: o	Date: <u>6/5/14</u>
fc, ec, tcb,			Time: <u>0705</u>
Sample No: 2	Desc: SB-2	Matrix: o	Date: <u>6/5/14</u>
fc, ec, tcb,			Time: <u>0706</u>
Sample No: 3	Desc: SB-3	Matrix: o	Date: <u>6/5/14</u>
fc, ec, tcb,			Time: <u>0707</u>

23247

23248

23249

Relinquished by: NP Received by: Mill Boat Received for laboratory by: Mill Boat

Date: 6/5/14 Time: 0710 Date: 6/5/14 Time: 0730

Sample entered by: W



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/16/14
 Lab ID: 2294-14-0023811

Date Collected: 06/09/14 07:15
 Collected By: mxh

Sample Desc: SB-1

Date Received: 06/09/14 07:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100mL	1	1	SM 9223B	06/10	11:00	DAD
Fecal Coliform	<2	/100mL	2	1	SM 9222D	06/09	11:25	PLW
Total Coliform Bacteria	360	mpn/100mL	1	1	SM 9223B	06/10	11:00	DAD

COMMENTS

- 01 The total coliform sample was placed in the incubator on 06/09/14 at 10:55.
- 02 Duplicate analysis of this sample for fecal coliform was outside the acceptable limit of 20%RPD.

Distribution of Reports:

Reviewed and Approved by:

Christina M. Kistler
 Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/16/14
 Lab ID: 2294-14-0023812

Date Collected: 06/09/14 07:16
 Collected By: mxb

Sample Desc: SB-2

Date Received: 06/09/14 07:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100mL	1	1	SM 9223B	06/10	11:00	DAD
Fecal Coliform	2	/100mL	1	1	SM 9222D	06/09	11:25	PLW
Total Coliform Bacteria	360	mpn/100mL	1	1	SM 9223B	06/10	11:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/09/14 at 10:55.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/16/14
 Lab ID: 2294-14-0023813
 Date Collected: 06/09/14 07:17
 Collected By: mxh
 Date Received: 06/09/14 07:45

Sample Desc: SB-3

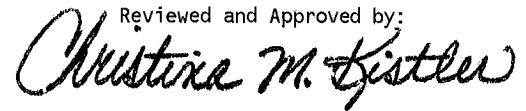
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	06/10	11:00	DAD
Fecal Coliform	3	/100ml	1	1	SM 9222D	06/09	11:25	PLW
Total Coliform Bacteria	410	mpn/100ml	1	1	SM 9223B	06/10	11:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/09/14 at 10:55.

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M. J. REIDER ASSOCIATES, INC.

mxzb
06/09/14 10:22:03 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 239295
Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561 Ext: _____

Samplers: MXB

Remarks: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 6 Deg C. If Temp Unacceptable, On Ice? Y N
Approved by: MXB

Sample No: 1 Desc: SB-1

0A⁹ fc, ec, tcb,

Date: 6/9/14
Time: 0715

Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Sample No: 2 Desc: SB-2

0A⁹ fc, ec, tcb,

Date: 6/9/14
Time: 0716

Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Sample No: 3 Desc: SB-3

0A⁹ fc, ec, tcb,

Date: 6/9/14
Time: 0717

Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NT

Received by: [Signature]

Received for laboratory by: [Signature]

Date: 6/9/14

Time: 0725

Date: 6/9/14

Time: 0745

Sample entered by: DSM



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/26/14
 Lab ID: 2294-14-0024487

Date Collected: 06/12/14 07:10
 Collected By: mxb

Sample Desc: SB-1

Date Received: 06/12/14 07:30

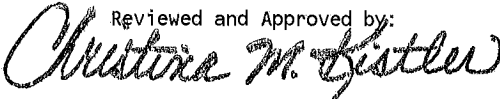
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGY								
Escherichia coli	23	mpn/100mL	1	1	SM 9223B	06/13	08:30	DAD
Fecal Coliform	18	/100mL	1	1	SM 9222D	06/12	08:20	DAD
Total Coliform Bacteria	730	mpn/100mL	1	1	SM 9223B	06/13	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/12/14 at 08:15.

Distribution of Reports:

Reviewed and Approved by:


Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/26/14
 Lab ID: 2294-14-0024488

Date Collected: 06/12/14 07:11
 Collected By: mxb

Sample Desc: SB-2

Date Received: 06/12/14 07:30

PWSID: 3060912

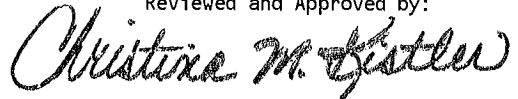
	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	21	mpn/100ml	1	1	SM 9223B	06/13	08:30	DAD
Fecal Coliform	30	/100mL	1	1	SM 9222D	06/12	08:20	DAD
Total Coliform Bacteria	730	mpn/100ml	1	1	SM 9223B	06/13	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/12/14 at 08:15.

Distribution of Reports:

Reviewed and Approved by:



Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/26/14
 Lab ID: 2294-14-0024489

Date Collected: 06/12/14 07:12
 Collected By: mxb

Sample Desc: SB-3

Date Received: 06/12/14 07:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	20	mpn/100ml	1	1	SM 9223B	06/13	08:30	DAD
Fecal Coliform	23	/100ml	1	1	SM 9222D	06/12	08:20	DAD
Total Coliform Bacteria	730	mpn/100ml	1	1	SM 9223B	06/13	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/12/14 at 08:15.

Distribution of Reports:

Reviewed and Approved by:

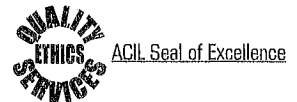
Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mxdb
06/12/14 7:46:23 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 239564
Customer: Gregory Wacik Work Order Description: Beach 1,2,3
Address: USACE, Philadelphia District Environmental Resources Branch
100 Penn Square East Philadelphia PA 19107
Phone: 215-656-6561 Ext: _____
Samplers: MXB

Remarks: _____
Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXB

Sample No:	Desc:	Matrix:	Date:	Time:
24487AD 1	SB-1 fc, ec, tcb,	o	6/12/14	0710
24488 2	SB-2 fc, ec, tcb,	o	6/12/14	0711
24489AD 3	SB-3 fc, ec, tcb,	o	6/12/14	0712

Relinquished by: AP Received for laboratory by: Michelle Burt
Date: 6/12/14 Time: 0715 Date: 6/12/14 Time: 0730
Sample entered by: (Signature)



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0025120

Date Collected: 06/16/14 07:10
 Collected By: mxh

Sample Desc: SB-1

Date Received: 06/16/14 07:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	5	mpn/100mL	1	1	SM 9223B	06/17	13:00	TBP
Fecal Coliform	5	/100mL	1	1	SM 9222D	06/16	11:05	PLW
Total Coliform Bacteria	340	mpn/100mL	1	1	SM 9223B	06/17	11:05	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 06/16/14 at 11:05.

Distribution of Reports:

Reviewed and Approved by:

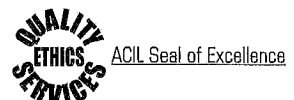
Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0025121

Date Collected: 06/16/14 07:11
 Collected By: mxh

Sample Desc: SB-2

Date Received: 06/16/14 07:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	5	mpn/100ml	1	1	SM 9223B	06/17	13:00	TBP
Fecal Coliform	8	/100ml	1	1	SM 9222D	06/16	11:05	PLW
Total Coliform Bacteria	550	mpn/100ml	1	1	SM 9223B	06/17	11:05	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 06/16/14 at 11:05.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0025122

Date Collected: 06/16/14 07:12
 Collected By: mxh

Sample Desc: SB-3

Date Received: 06/16/14 07:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100mL	1	1	SM 9223B	06/17	13:00	TBP
Fecal Coliform	5	/100mL	1	1	SM 9222D	06/16	11:05	PLW
Total Coliform Bacteria	440	mpn/100mL	1	1	SM 9223B	06/17	11:05	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 06/16/14 at 11:05.

Distribution of Reports:

Reviewed and Approved by:



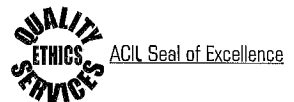
Christina Kistler
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M. J. REIDER ASSOCIATES, INC.

mxdb
06/16/14 7:46:46 AM

Chain of Custody

No: 239716

Project Leader: CMB

Work Order: 002788
Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561 Ext:

Samplers: MXB

Remarks: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N

Approved By: MXB

Sample No: 1 Desc: SB-1

fc, ec, tcb,

Date: 6/16/14
Time: 0716

Matrix: o
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Sample No: 2 Desc: SB-2

fc, ec, tcb,

Date: 6/16/14
Time: 0711

Matrix: o
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Sample No: 3 Desc: SB-3

fc, ec, tcb,

Date: 6/16/14
Time: 0712

Matrix: o
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NR

Received by: Michael Beatt Received for laboratory by: Michael Beatt

Date: 6/16/14

Time: 0720

Date: 6/16/14

Time: 0745

Sample entered by: Michael Beatt



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0025747
 Date Collected: 06/19/14 07:05
 Collected By: mxh
 Date Received: 06/19/14 07:35

Sample Desc: SB-1

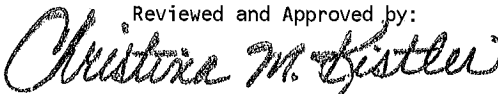
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGICAL								
MICROBIOLOGY								
Escherichia coli	60	mpn/100ml	1	1	SM 9223B	06/20	09:15	DAD
Fecal Coliform	60	/100mL	1	1	SM 9222D	06/19	08:48	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	06/20	09:15	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/19/14 at 09:00.

Distribution of Reports:

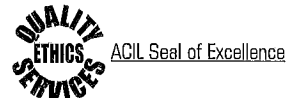
Reviewed and Approved by:

 Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0025748

Date Collected: 06/19/14 07:06
 Collected By: mxh

Sample Desc: SB-2

Date Received: 06/19/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	93	mpn/100ml	1	1	SM 9223B	06/20	09:15	DAD
Fecal Coliform	110	/100ml	1	1	SM 9222D	06/19	08:48	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	06/20	09:15	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/19/14 at 09:00.

Distribution of Reports:

Reviewed and Approved by:

Christina M. Kistler
 Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0025749

Date Collected: 06/19/14 07:07
 Collected By: mxh

Sample Desc: SB-3

Date Received: 06/19/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	77	mpn/100mL	1	1	SM 9223B	06/20	09:15	DAD
Fecal Coliform	78	/100mL	1	1	SM 9222D	06/19	08:48	DAD
Total Coliform Bacteria	>2400	mpn/100mL	1	1	SM 9223B	06/20	09:15	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/19/14 at 09:00.

Distribution of Reports:

Reviewed and Approved by:



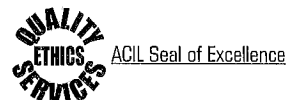
Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

raq
06/19/14 7:40:55 AM

Chain of Custody

No: 239967

Project Leader: CMB

Work Order: 002788
Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext:

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXB

Samplers: MXB

Sample No: 1 Desc: SB-1

Matrix: 0 Date: 6/19/14
Time: 8705
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

040
ic, ec, tcb,

Sample No: 2 Desc: SB-2

Matrix: 0 Date: 6/19/14
Time: 8706
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

P40
ic, ec, tcb,

Sample No: 3 Desc: SB-3

Matrix: 0 Date: 6/19/14
Time: 8707
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

P40
ic, ec, tcb,

Relinquished by: NP

Received for laboratory by: Muller Post

Date: 6/19/14

Date: 6/19/14

Time: 0715

Time: 0735

Sample entered by: MXB

25747

25748

25749



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0026337

Date Collected: 06/23/14 08:20
 Collected By: jbs

Sample Desc: SB-1

Date Received: 06/23/14 08:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	06/24	09:30	DAD
Fecal Coliform	3	/100mL	1	1	SM 9222D	06/23	09:15	DAD
Total Coliform Bacteria	360	mpn/100ml	1	1	SM 9223B	06/24	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/23/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0026338

Date Collected: 06/23/14 08:20
 Collected By: jbs

Sample Desc: SB-2

Date Received: 06/23/14 08:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	06/24	09:30	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	06/23	09:15	DAD
Total Coliform Bacteria	240	mpn/100ml	1	1	SM 9223B	06/24	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/23/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
Reported To: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Date of Report: 06/30/14
Lab ID: 2294-14-0026339

Date Collected: 06/23/14 08:20
Collected By: jbs

Sample Desc: SB-3

Date Received: 06/23/14 08:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	06/24	09:30	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	06/23	09:15	DAD
Total Coliform Bacteria	260	mpn/100ml	1	1	SM 9223B	06/24	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/23/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:

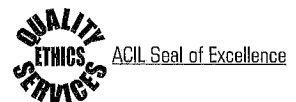
Christina Kistler
Account Executive

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Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 240112
Customer: Gregory Wacik Work Order Description: Beach 1,2,3
Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext: JBS
Samplers: JBS

Remarks: _____
Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: 16 Deg C. If Temp Unacceptable, On Ice? (X) N
Approved By: JBS

Sample No	Desc	Matrix	Date	Time
<u>26337</u> 26337	SB-1 fc, ec, tcb, <u>→</u>	0	<u>6-23-14</u>	<u>0820</u>
<u>26338</u> 26338	SB-2 fc, ec, tcb,	0	<u>6-23-14</u>	<u>0820</u>
<u>26339</u> 26339	SB-3 fc, ec, tcb, <u>✓</u>	0	<u>6-23-14</u>	<u>0820</u>

Relinquished by: AW Received by: [Signature]
Date: 6-23-14 Time: 0830
Date: 6-23-14 Time: 0840

Sample entered by: RJA



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0027204

Date Collected: 06/26/14 07:20
 Collected By: mxh

Sample Desc: SB-1

Date Received: 06/26/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	43	mpn/100mL	1	1	SM 9223B	06/27	08:30	DAD
Fecal Coliform	56	/100mL	1	1	SM 9222D	06/26	08:48	DAD
Total Coliform Bacteria	>2400	mpn/100mL	1	1	SM 9223B	06/27	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/26/14 at 08:25.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0027205

Date Collected: 06/26/14 07:21
 Collected By: mxb

Sample Desc: SB-2

Date Received: 06/26/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	17	mpn/100mL	1	1	SM 9223B	06/27	08:30	DAD
Fecal Coliform	36	/100mL	1	1	SM 9222D	06/26	08:48	DAD
Total Coliform Bacteria	2400	mpn/100mL	1	1	SM 9223B	06/27	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/26/14 at 08:25.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 06/30/14
 Lab ID: 2294-14-0027206

Date Collected: 06/26/14 07:22
 Collected By: mxh

Sample Desc: SB-3

Date Received: 06/26/14 07:40

PWSID: 3060912

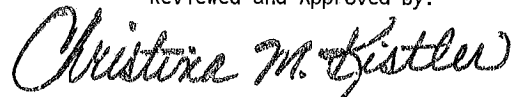
	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	28	mpn/100mL	1	1	SM 9223B	06/27	08:30	DAD
Fecal Coliform	31	/100mL	1	1	SM 9222D	06/26	08:48	DAD
Total Coliform Bacteria	>2400	mpn/100mL	1	1	SM 9223B	06/27	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/26/14 at 08:25.

Distribution of Reports:

Reviewed and Approved by:



Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

bsw
06/26/14 7:58:06 AM

Chain of Custody

No: 240411

Project Leader: CMB

Work Order: 002788
Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Remarks:

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561 Ext:

Bottle Prep by:

Total Sampling Time (hours):
Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXB

Samplers: MXB

Sample No: 1 Desc: SB-1

fc, ec, tcb,

Sample No: 2 Desc: SB-2

fc, ec, tcb,

Sample No: 3 Desc: SB-3

fc, ec, tcb,

Date: 6/26/14
Time: 0720

Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Date: 6/26/14
Time: 0721

Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Date: 6/26/14
Time: 0723

Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

27204

27205

27206

Relinquished by: NIP

Received by: Michael Best

Received for laboratory by: Michael Best

Date: 6/26/14

Time: 0727

Date: 6/26/14

Time: 0740

Sample entered by: _____



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/08/14
 Lab ID: 2294-14-0027692
 Date Collected: 06/30/14 07:10
 Collected By: mxb
 Date Received: 06/30/14 07:40

Sample Desc: SB-1

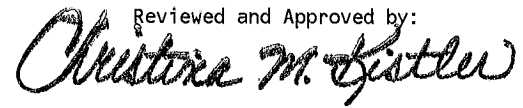
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	07/01	09:30	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	06/30	09:32	DAD
Total Coliform Bacteria	210	mpn/100ml	1	1	SM 9223B	07/01	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/30/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:


Christina Kistler
 Account Executive

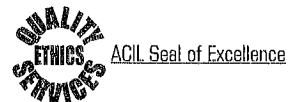
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CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/08/14
 Lab ID: 2294-14-0027693

Date Collected: 06/30/14 07:12
 Collected By: mxb

Sample Desc: SB-2

Date Received: 06/30/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	07/01	09:30	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	06/30	09:32	DAD
Total Coliform Bacteria	170	mpn/100ml	1	1	SM 9223B	07/01	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/30/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

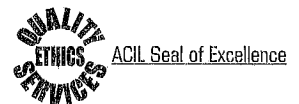
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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/08/14
 Lab ID: 2294-14-0027694

Date Collected: 06/30/14 07:13
 Collected By: mxb

Sample Desc: SB-3

Date Received: 06/30/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	07/01	09:30	DAD
Fecal Coliform	<2	/100mL	2	1	SM 9222D	06/30	09:32	DAD
Total Coliform Bacteria	180	mpn/100ml	1	1	SM 9223B	07/01	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 06/30/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mxlb
06/30/14 7:52:42 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 240587
Customer: Gregory Wacik Work Order Description: Beach 1,2,3

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561 Ext: _____
Total Sampling Time (hours): _____ Bottle Prep by: _____

Samplers: MXB Laboratory Receipt Temp: S Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXB

Sample No:	Desc:	Matrix:	Date:	Time:
27692 DAD	1 SB-1 fc, ec, tcb,	o	6/30/14	0710
27693 DAD	2 SB-2 fc, ec, tcb,	o	6/30/14	0712
27694 DAD	3 SB-3 fc, ec, tcb,	o	6/30/14	0713

Relinquished by: NR Received for laboratory by: [Signature]

Date: 6/30/14 Time: 0720 Date: 6/30/14 Time: 0740

Sample entered by: [Signature]



CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
Reported To: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Date of Report: 07/11/14
Lab ID: 2294-14-0028393
Date Collected: 07/03/14 07:10
Collected By: mxb
Date Received: 07/03/14 07:30

Sample Desc: SB-1

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	16	mpn/100ml	1	1	SM 9223B	07/04	10:00	DAD
Fecal Coliform	23	/100ml	1	1	SM 9222D	07/03	08:45	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	07/04	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/03/14 at 09:15.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
Account Executive

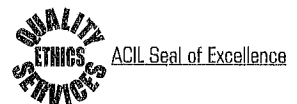
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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/11/14
 Lab ID: 2294-14-0028394
 Date Collected: 07/03/14 07:11
 Collected By: mxb
 Date Received: 07/03/14 07:30

Sample Desc: SB-2

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	12	mpn/100ml	1	1	SM 9223B	07/04	10:00	DAD
Fecal Coliform	23	/100ml	1	1	SM 9222D	07/03	08:45	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	07/04	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/03/14 at 09:15.

Distribution of Reports:

Reviewed and Approved by:

Christina M. Kistler
 Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/11/14
 Lab ID: 2294-14-0028395
 Date Collected: 07/03/14 07:12
 Collected By: mxb
 Date Received: 07/03/14 07:30

Sample Desc: SB-3

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	19	mpn/100ml	1	1	SM 9223B	07/04	10:00	DAD
Fecal Coliform	31	/100ml	1	1	SM 9222D	07/03	08:45	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	07/04	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/03/14 at 09:15.

Distribution of Reports:

Reviewed and Approved by:



Christina Kistler
 Account Executive

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raq
04/17/15 7:47:55 AM

M. J. REIDER ASSOCIATES, INC.

Chain of Custody

Work Order: 002788
Work Order Description: Beach 1,2,3

Project Leader: CMB

No: 240920

Account: 2294
Customer: Gregory Wacik

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext: _____

Samplers: MXB

Remarks: _____
Total Sampling Time (hours): _____
Bottle Prep by: _____
Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXB

=====

28393 Sample No: 1 Desc: SB-1

Matrix: 0 Date: 7/3/14
Time: 0712
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

28394 Sample No: 2 Desc: SB-2

Matrix: 0 Date: 7/3/14
Time: 0711
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

28395 Sample No: 3 Desc: SB-3

Matrix: 0 Date: 7/3/14
Time: 0712
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NR
Date: 7/3/14 Time: 0715

Received by: Mark A. Boat

Received for laboratory by: Mark A. Boat
Date: 7/3/14 Time: 0730

Sample entered by: MCW



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/15/14
 Lab ID: 2294-14-0028757

Date Collected: 07/07/14 07:15
 Collected By: mxh

Sample Desc: SB-1

Date Received: 07/07/14 07:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	5	mpn/100ml	1	1	SM 9223B	07/08	09:40	PLW
Fecal Coliform	6	/100ml	1	1	SM 9222D	07/07	09:45	PLW
Total Coliform Bacteria	770	mpn/100ml	1	1	SM 9223B	07/08	09:40	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 07/07/14 at 09:30.

Distribution of Reports:

Reviewed and Approved by:

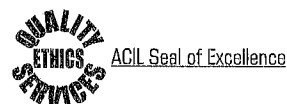
Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/15/14
 Lab ID: 2294-14-0028758

Date Collected: 07/07/14 07:16
 Collected By: mxh

Sample Desc: SB-2

Date Received: 07/07/14 07:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100mL	1	1	SM 9223B	07/08	09:40	PLW
Fecal Coliform	3	/100mL	1	1	SM 9222D	07/07	09:45	PLW
Total Coliform Bacteria	580	mpn/100mL	1	1	SM 9223B	07/08	09:40	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 07/07/14 at 09:30.

Distribution of Reports:

Reviewed and Approved by:

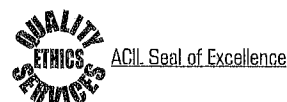
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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/15/14
 Lab ID: 2294-14-0028759

Date Collected: 07/07/14 07:17
 Collected By: mxb

Sample Desc: SB-3

Date Received: 07/07/14 07:45

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	07/08	09:40	PLW
Fecal Coliform	3	/100ml	1	1	SM 9222D	07/07	09:45	PLW
Total Coliform Bacteria	980	mpn/100ml	1	1	SM 9223B	07/08	09:40	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 07/07/14 at 09:30.

Distribution of Reports:

Reviewed and Approved by:

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Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 240995
 Customer: Gregory Wacik Work Order Description: Beach 1,2,3
 Address: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107
 Phone: 215-656-6561 Ext:
 Samplers: MXB

Remarks:

Total Sampling Time (hours): _____ Bottle Prep by: _____
 Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
 Approved By: MXB

28757	Sample No: 1	Desc: SB-1	Matrix: 0	Date: 7/7/14
	fc, ec, tcb,	A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: 0745	
28758	Sample No: 2	Desc: SB-2	Matrix: 0	Date: 7/7/14
	fc, ec, tcb,	A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: 0716	
28759	Sample No: 3	Desc: SB-3	Matrix: 0	Date: 7/7/14
	fc, ec, tcb,	A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: 0717	

Relinquished by: NP Received by: Michelle Bat Received for Laboratory by: Michelle Bat
 Date: 7/7/14 Time: 0720 Date: 7/7/14 Time: 0745

Sample entered by: QSN



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/15/14
 Lab ID: 2294-14-0029586
 Date Collected: 07/10/14 07:15
 Collected By: MXB
 Date Received: 07/10/14 07:40

Sample Desc: SB-1

PWSID: 3060912

BACTI

MICROBIOLOGY

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	07/11	08:30	DAD
Fecal Coliform	2	/100mL	1	1	SM 9222D	07/10	08:48	DAD
Total Coliform Bacteria	390	mpn/100mL	1	1	SM 9223B	07/11	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/10/14 at 08:25.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/15/14
 Lab ID: 2294-14-0029587
 Date Collected: 07/10/14 07:16
 Collected By: MXB
 Date Received: 07/10/14 07:40

Sample Desc: SB-2

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	07/11	08:30	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	07/10	08:48	DAD
Total Coliform Bacteria	240	mpn/100ml	1	1	SM 9223B	07/11	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/10/14 at 08:25.

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Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/15/14
 Lab ID: 2294-14-0029588

Date Collected: 07/10/14 07:17
 Collected By: MXB

Sample Desc: SB-3

Date Received: 07/10/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	07/11	08:30	DAD
Fecal Coliform	3	/100ml	1	1	SM 9222D	07/10	08:48	DAD
Total Coliform Bacteria	580	mpn/100ml	1	1	SM 9223B	07/11	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/10/14 at 08:25.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mxdb
07/10/14 7:59:50 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 241300
 Customer: Gregory Wacik Work Order Description: Beach 1,2,3
 Address: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107
 Phone: 215-656-6561 Ext:
 Samplers: MXB

Remarks:

Total Sampling Time (hours): _____ Bottle Prep by: _____
 Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
 Approved By: WXB

Sample No: 1 Desc: SB-1
29586 DAO fc, ec, tcb,
 Sample No: 2 Desc: SB-2
29587 fc, ec, tcb,
 Sample No: 3 Desc: SB-3
29588 fc, ec, tcb,

Matrix: 0 Date: 07/10/14
 Time: 0715
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
 Matrix: 0 Date: 07/10/14
 Time: 0716
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
 Matrix: 0 Date: 07/10/14
 Time: 0717
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NP Received for laboratory by: Michael Best

Date: 07/10/14 Time: 0720 Date: 07/10/14 Time: 0740

Sample entered by: M CM



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/22/14
 Lab ID: 2294-14-0030993

Date Collected: 07/17/14 07:20
 Collected By: mxb

Sample Desc: SB-1

Date Received: 07/17/14 07:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	07/18	10:00	DAD
Fecal Coliform	3	/100mL	1	1	SM 9222D	07/17	08:48	DAD
Total Coliform Bacteria	1400	mpn/100mL	1	1	SM 9223B	07/18	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/17/14 at 09:55.

Distribution of Reports:

Reviewed and Approved by:


Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/22/14
 Lab ID: 2294-14-0030994

Date Collected: 07/17/14 07:21
 Collected By: mxh

Sample Desc: SB-2

Date Received: 07/17/14 07:50

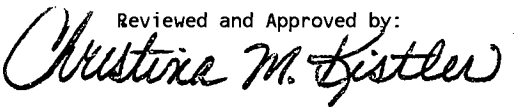
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100ml	1	1	SM 9223B	07/18	10:00	DAD
Fecal Coliform	2	/100ml	1	1	SM 9222D	07/17	08:48	DAD
Total Coliform Bacteria	1000	mpn/100ml	1	1	SM 9223B	07/18	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/17/14 at 09:55.

Distribution of Reports:

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Christina Kistler
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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/22/14
 Lab ID: 2294-14-0030995

Date Collected: 07/17/14 07:22
 Collected By: mxb

Sample Desc: SB-3

Date Received: 07/17/14 07:50

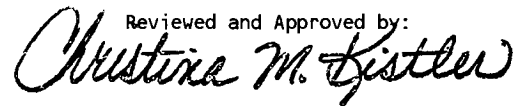
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	07/18	10:00	DAD
Fecal Coliform	3	/100mL	1	1	SM 9222D	07/17	08:48	DAD
Total Coliform Bacteria	980	mpn/100ml	1	1	SM 9223B	07/18	10:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/17/14 at 09:55.

Distribution of Reports:

Reviewed and Approved by:


Christina Kistler
 Account Executive

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mcb
07/17/14 8:01:33 AM

M. J. REIDER ASSOCIATES, INC.

Chain of Custody

Work Order: 002788
Work Order Description: Beach 1,2,3

Project Leader: CMB

No: 241729

Account: 2294
Customer: Gregory Wacik

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext:

Samplers: MKB

Remarks:
Total Sampling Time (hours):
Bottle Prep by:
Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MKB

=====

Sample No:	Desc:	SB-1	SB-2	SB-3	Date:	Time:
30993 PAD	fc, ec, tcb,				7-17-14	0720
30994	fc, ec, tcb,				7-17-14	0721
30995	fc, ec, tcb,				7-17-14	0722

Relinquished by: NP Received by: *M. J. Reider*

Date: 7/17/14 Time: 0730 Received for laboratory by: *M. J. Reider*

Date: 7/17/14 Time: 0730 Sample entered by: *CMB*



CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
Reported To: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Date of Report: 07/17/14
Lab ID: 2294-14-0030197

Date Collected: 07/14/14 07:10
Collected By: mxb

Sample Desc: SB-1

Date Received: 07/14/14 07:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	10	mpn/100ml	1	1	SM 9223B	07/15	09:00	DAD
Fecal Coliform	11	/100ml	1	1	SM 9222D	07/14	08:34	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	07/15	09:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/14/14 at 09:00.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
Account Executive

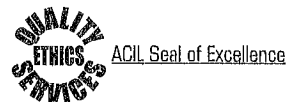
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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/17/14
 Lab ID: 2294-14-0030198

Date Collected: 07/14/14 07:12
 Collected By: mxb

Sample Desc: SB-2

Date Received: 07/14/14 07:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	6	mpn/100ml	1	1	SM 9223B	07/15	09:00	DAD
Fecal Coliform	18	/100ml	1	1	SM 9222D	07/14	08:34	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	07/15	09:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/14/14 at 09:00.

Distribution of Reports:

Reviewed and Approved by:

Christina M. Kistler
 Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/17/14
 Lab ID: 2294-14-0030199

Date Collected: 07/14/14 07:13
 Collected By: mxb

Sample Desc: SB-3

Date Received: 07/14/14 07:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	6	mpn/100ml	1	1	SM 9223B	07/15	09:00	DAD
Fecal Coliform	5	/100ml	1	1	SM 9222D	07/14	08:34	DAD
Total Coliform Bacteria	2000	mpn/100ml	1	1	SM 9223B	07/15	09:00	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/14/14 at 09:00.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

07/14/14 7:53:56 AM

Chain of Custody

No: 241454

Project Leader: CMB

Work Order: 002788

Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Remarks: _____

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107




Phone: 215-656-6561 Ext: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N

Approved By: MYB

Samplers: MYB

30197 DA Sample No: 1 Desc: SB-1
fc, ec, tcb, 
30198 Sample No: 2 Desc: SB-2
fc, ec, tcb, 
30199 Sample No: 3 Desc: SB-3
fc, ec, tcb, 

Matrix: 0 Date: 07/14/14
Time: 0710
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: 0 Date: 07/14/14
Time: 0712
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: 0 Date: 07/14/14
Time: 0713
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NP

Received by: MYB Received for laboratory by: MYB

Date: 7/14/14

Date: 7/14/14

Time: 0730

Time: 0730

Sample entered by: MYB



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/25/14
 Lab ID: 2294-14-0031661

Date Collected: 07/21/14 07:15
 Collected By: mxb

Sample Desc: SB-1

Date Received: 07/21/14 07:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100mL	1	1	SM 9223B	07/22	11:00	PLW
Fecal Coliform	3	/100mL	1	1	SM 9222D	07/21	10:45	PLW
Total Coliform Bacteria	1100	mpn/100mL	1	1	SM 9223B	07/22	11:00	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 07/21/14 at 10:45.

Distribution of Reports:

Reviewed and Approved by:

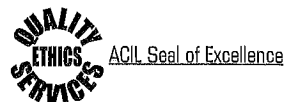
Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/25/14
 Lab ID: 2294-14-0031662

Date Collected: 07/21/14 07:16
 Collected By: mxb

Sample Desc: SB-2

Date Received: 07/21/14 07:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100mL	1	1	SM 9223B	07/22	11:00	PLW
Fecal Coliform	3	/100mL	1	1	SM 9222D	07/21	10:45	PLW
Total Coliform Bacteria	1200	mpn/100mL	1	1	SM 9223B	07/22	11:00	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 07/21/14 at 10:45.

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/25/14
 Lab ID: 2294-14-0031663

Date Collected: 07/21/14 07:17
 Collected By: mxb

Sample Desc: SB-3

Date Received: 07/21/14 07:50

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	07/22	11:00	PLW
Fecal Coliform	5	/100mL	1	1	SM 9222D	07/21	10:45	PLW
Total Coliform Bacteria	1200	mpn/100ml	1	1	SM 9223B	07/22	11:00	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 07/21/14 at 10:45.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mxdb
07/21/14 7:52:04 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 241865
Work Order Description: Beach 1,2,3
Customer: Gregory Wacik
Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext:
Samplers: MXB

Remarks:
Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXB

Sample No:	1	Desc:	SB-1
	fc, ec, tcb,		
Sample No:	2	Desc:	SB-2
	fc, ec, tcb,		
Sample No:	3	Desc:	SB-3
	fc, ec, tcb,		

Matrix: 0 Date: 7/21/14
Time: 0715
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: 0 Date: 7/21/14
Time: 0716
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: 0 Date: 7/21/14
Time: 0717
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

31661
31662
31663

Relinquished by: NR Received by: Michael Best Received for laboratory by: Michael Best

Date: 7/21/14 Time: 0720 Date: 7/21/14 Time: 0750

Sample entered by: C



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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/31/14
 Lab ID: 2294-14-0032351

Date Collected: 07/24/14 07:08
 Collected By: mxb

Sample Desc: SB-1

Date Received: 07/24/14 07:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	07/25	08:30	DAD
Fecal Coliform	11	/100ml	1	1	SM 9222D	07/24	09:40	DAD
Total Coliform Bacteria	2400	mpn/100ml	1	1	SM 9223B	07/25	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/24/14 at 08:40.

Distribution of Reports:

Reviewed and Approved by:

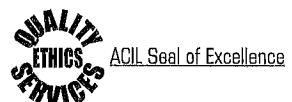
Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/31/14
 Lab ID: 2294-14-0032352

Date Collected: 07/24/14 07:09
 Collected By: mxb

Sample Desc: SB-2

Date Received: 07/24/14 07:30

PWSID: 3060912

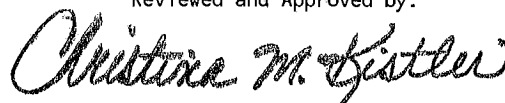
	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	07/25	08:30	DAD
Fecal Coliform	8	/100mL	1	1	SM 9222D	07/24	09:40	DAD
Total Coliform Bacteria	1700	mpn/100ml	1	1	SM 9223B	07/25	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/24/14 at 08:40.

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 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 07/31/14
 Lab ID: 2294-14-0032353

Date Collected: 07/24/14 07:10
 Collected By: mxb

Sample Desc: SB-3

Date Received: 07/24/14 07:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	07/25	08:30	DAD
Fecal Coliform	2	/100ml	1	1	SM 9222D	07/24	09:40	DAD
Total Coliform Bacteria	2000	mpn/100ml	1	1	SM 9223B	07/25	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/24/14 at 08:40.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Chain of Custody

Account: 2294
Customer: Gregory Wacik

Work Order: 002788
Work Order Description: Beach 1,2,3

Project Leader: CMB
No: 242077

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext: _____

Remarks: _____
Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: S Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MAXS

Samplers: MAXS

- Sample No: 1 Desc: SB-1
fc, ec, tcb,
- Sample No: 2 Desc: SB-2
fc, ec, tcb,
- Sample No: 3 Desc: SB-3
fc, ec, tcb,

- Matrix: 0 Date: 7/24/14
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3; Time: 0708
- Matrix: 0 Date: 7/24/14
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3; Time: 0709
- Matrix: 0 Date: 7/24/14
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3; Time: 0716

32351
DAD
32352
DAD
32353
DAD

Relinquished by: NP Received for laboratory by: Maxill Bat

Date: 7/24/14 Time: 0715 Date: 7/24/14 Time: 0730

Sample entered by: QM



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/04/14
 Lab ID: 2294-14-0033447

Date Collected: 07/31/14 07:10
 Collected By: mxb

Sample Desc: SB-1

Date Received: 07/31/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100ml	1	1	SM 9223B	08/01	08:15	DAD
Fecal Coliform	3	/100ml	1	1	SM 9222D	07/31	08:35	DAD
Total Coliform Bacteria	1200	mpn/100ml	1	1	SM 9223B	08/01	08:15	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/31/14 at 08:15.

Distribution of Reports:

Reviewed and Approved by:

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 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/04/14
 Lab ID: 2294-14-0033448

Date Collected: 07/31/14 07:11
 Collected By: mxb

Sample Desc: SB-2

Date Received: 07/31/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	08/01	08:15	DAD
Fecal Coliform	<2	/100ml	2	1	SM 9222D	07/31	08:35	DAD
Total Coliform Bacteria	1200	mpn/100ml	1	1	SM 9223B	08/01	08:15	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/31/14 at 08:15.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/04/14
 Lab ID: 2294-14-0033449

Date Collected: 07/31/14 07:12
 Collected By: mxb

Sample Desc: SB-3

Date Received: 07/31/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	08/01	08:15	DAD
Fecal Coliform	<2	/100mL	2	1	SM 9222D	07/31	08:35	DAD
Total Coliform Bacteria	1000	mpn/100mL	1	1	SM 9223B	08/01	08:15	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 07/31/14 at 08:15.

Distribution of Reports:

Reviewed and Approved by:



Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mxdb
07/31/14 7:56:41 AM

Chain of Custody

No: 242473

Project Leader: CMB

Work Order: 002788
Work Order Description: Beach 1,2,3

Customer: Gregory Wacik


Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext: _____

Remarks: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: mxs

Samplers: mxs

Sample No: 1 Desc: SB-1 DAD
fc, ec, tcb, 
Sample No: 2 Desc: SB-2
fc, ec, tcb,
Sample No: 3 Desc: SB-3
fc, ec, tcb,

Matrix: 0 Date: 07/31/14
Time: 0710
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: 0 Date: 07/31/14
Time: 0711
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: 0 Date: 07/31/14
Time: 0712
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

335447
335448
335449

Relinquished by: NP

Received by: Michael Boat Received for Laboratory by: Michael Boat

Date: 7/31/14 Time: 0718

Date: 7/31/14 Time: 0740

Sample entered by: DM



CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
Reported To: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Date of Report: 08/04/14
Lab ID: 2294-14-0032803

Date Collected: 07/28/14 07:10
Collected By: mxh

Sample Desc: SB-1

Date Received: 07/28/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	6	mpn/100mL	1	1	SM 9223B	07/29	11:20	PLW
Fecal Coliform	43	/100mL	1	1	SM 9222D	07/28	11:15	PLW
Total Coliform Bacteria	2400	mpn/100mL	1	1	SM 9223B	07/29	11:20	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 07/28/14 at 11:15.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/04/14
 Lab ID: 2294-14-0032804

Date Collected: 07/28/14 07:11
 Collected By: mxb

Sample Desc: SB-2

Date Received: 07/28/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	8	mpn/100mL	1	1	SM 9223B	07/29	11:20	PLW
Fecal Coliform	30	/100mL	1	1	SM 9222D	07/28	11:15	PLW
Total Coliform Bacteria	1600	mpn/100mL	1	1	SM 9223B	07/29	11:20	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 07/28/14 at 11:15.

Distribution of Reports:

Reviewed and Approved by:



Christina Kistler
 Account Executive

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ACIL Seal of Excellence



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/04/14
 Lab ID: 2294-14-0032805

Date Collected: 07/28/14 07:12
 Collected By: mxb

Sample Desc: SB-3

Date Received: 07/28/14 07:35

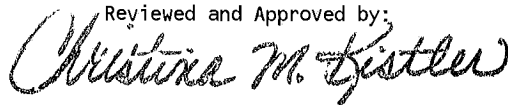
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	10	mpn/100mL	1	1	SM 9223B	07/29	11:20	PLW
Fecal Coliform	30	/100mL	1	1	SM 9222D	07/28	11:15	PLW
Total Coliform Bacteria	2400	mpn/100mL	1	1	SM 9223B	07/29	11:20	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 07/28/14 at 11:15.

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Reviewed and Approved by:


Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mxh
07/28/14 7:56:04 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 242208
 Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Address: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Phone: 215-656-6561 Ext: _____

Samplers: MXC

Remarks: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
 Approved By: MXB

Sample No: 1 Desc: SB-1
 fc, ec, tcb,

Sample No: 2 Desc: SB-2
 fc, ec, tcb,

Sample No: 3 Desc: SB-3
 fc, ec, tcb,

Matrix: 0 Date: 7/28/14
 Time: 0710
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Matrix: 0 Date: 7/28/14
 Time: 0711
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Matrix: 0 Date: 7/28/14
 Time: 0712
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

32803
 32804
 32805

Relinquished by: NP Received by: [Signature] Received for laboratory by: [Signature]

Date: 7/28/14 Time: 0715 Date: 7/28/14 Time: 0735

Sample entered by: [Signature]



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/13/14
 Lab ID: 2294-14-0033868

Date Collected: 08/04/14 07:15
 Collected By: mxh

Sample Desc: SB-1

Date Received: 08/04/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	08/05	09:30	DAD
Fecal Coliform	3	/100ml	1	1	SM 9222D	08/04	09:34	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	08/05	09:50	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/04/14 at 09:40.

Distribution of Reports:

Reviewed and Approved by:

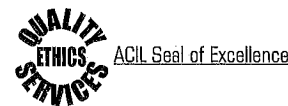
Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/13/14
 Lab ID: 2294-14-0033869

Date Collected: 08/04/14 07:16
 Collected By: mxh

Sample Desc: SB-2

Date Received: 08/04/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	08/05	09:30	DAD
Fecal Coliform	11	/100ml	1	1	SM 9222D	08/04	09:34	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	08/05	09:50	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/04/14 at 09:40.

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/13/14
 Lab ID: 2294-14-0033870

Date Collected: 08/04/14 07:18
 Collected By: mxh

Sample Desc: SB-3

Date Received: 08/04/14 07:40

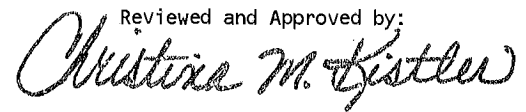
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGICAL								
MICROBIOLOGY								
Escherichia coli	4	mpn/100mL	1	1	SM 9223B	08/05	09:30	DAD
Fecal Coliform	10	/100mL	1	1	SM 9222D	08/04	09:34	DAD
Total Coliform Bacteria	>2400	mpn/100mL	1	1	SM 9223B	08/05	09:50	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/04/14 at 09:40.

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Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 242659
 Customer: Gregory Wacik Work Order Description: Beach 1,2,3
 Address: USACE, Philadelphia District Environmental Resources Branch
 100 Penn Square East Philadelphia PA 19107
 Phone: 215-656-6561 Ext:
 Samplers: MMS

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 4 Deg C. If Temp Unacceptable, On Ice? Y N
 Approved By: MMS

=====

- 33868 ✓ Sample No: 1 Desc: SB-1
 PPD fc, ec, tcb,
- 33869 Sample No: 2 Desc: SB-2
 fc, ec, tcb,
- 33870 ✓ Sample No: 3 Desc: SB-3
 fc, ec, tcb,

Matrix: 0 Date: 8/4/14
 Time: 0715
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Matrix: 0 Date: 8/4/14
 Time: 0716
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Matrix: 0 Date: 8/4/14
 Time: 0718
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NP Received for laboratory by: Mitchell Best

Date: 8/4/14 Time: 0725 Date: 8/4/14 Time: 0740

Sample entered by: [Signature]



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/18/14
 Lab ID: 2294-14-0034547

Date Collected: 08/07/14 07:11
 Collected By: mxh

Sample Desc: SB-1

Date Received: 08/07/14 07:40

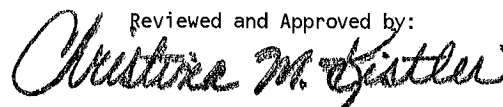
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100mL	1	.1	SM 9223B	08/08	09:30	DAD
Fecal Coliform	3	/100mL	1	1	SM 9222D	08/07	09:39	DAD
Total Coliform Bacteria	>2400	mpn/100mL	1	1	SM 9223B	08/08	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/07/14 at 09:30.

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/18/14
 Lab ID: 2294-14-0034548

Date Collected: 08/07/14 07:12
 Collected By: mxh

Sample Desc: SB-2

Date Received: 08/07/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	08/08	09:30	DAD
Fecal Coliform	3	/100ml	1	1	SM 9222D	08/07	09:39	DAD
Total Coliform Bacteria	2400	mpn/100ml	1	1	SM 9223B	08/08	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/07/14 at 09:30.

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/18/14
 Lab ID: 2294-14-0034549

Date Collected: 08/07/14 07:13
 Collected By: mxh

Sample Desc: SB-3

Date Received: 08/07/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	08/08	09:30	DAD
Fecal Coliform	3	/100ml	1	1	SM 9222D	08/07	09:39	DAD
Total Coliform Bacteria	2400	mpn/100ml	1	1	SM 9223B	08/08	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/07/14 at 09:30.

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Reviewed and Approved by:

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 Account Executive

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Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 242877
 Customer: Gregory Wacik Work Order Description: Beach 1,2,3
 Address: USACE, Philadelphia District Environmental Resources Branch
 100 Penn Square East Philadelphia PA 19107
 Phone: 215-656-6561 Ext:
 Samplers: WMS

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
 Approved By: WMS

=====

- 34547 Sample No: 1 Desc: SB-1
 fc, ec, tcb, Date: 8/7/14
Time: 0711
- 34548 Sample No: 2 Desc: SB-2
 fc, ec, tcb, Date: 8/7/14
Time: 0712
- 34549 Sample No: 3 Desc: SB-3
 fc, ec, tcb, Date: 8/7/14
Time: 0713

- Matrix: 0
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
- Matrix: 0
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
- Matrix: 0
 A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NP Received by: Michael Best Received for Laboratory by: Michael Best
 Date: 8/7/14 Time: 0720 Date: 8/7/14 Time: 0740
 Sample entered by: OGM



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/18/14
 Lab ID: 2294-14-0035095

Date Collected: 08/11/14 07:10
 Collected By: mxb

Sample Desc: SB-1

Date Received: 08/11/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100mL	1	1	SM 9223B	08/12	11:20	PLW
Fecal Coliform	3	/100mL	1	1	SM 9222D	08/11	10:20	PLW
Total Coliform Bacteria	>2400	mpn/100mL	1	1	SM 9223B	08/12	11:20	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 08/11/14 at 10:25.

Distribution of Reports:

Reviewed and Approved by:



Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/18/14
 Lab ID: 2294-14-0035096

Date Collected: 08/11/14 07:11
 Collected By: mxh

Sample Desc: SB-2

Date Received: 08/11/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100mL	1	1	SM 9223B	08/12	11:20	PLW
Fecal Coliform	3	/100mL	1	1	SM 9222D	08/11	10:20	PLW
Total Coliform Bacteria	2400	mpn/100mL	1	1	SM 9223B	08/12	11:20	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 08/11/14 at 10:25.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
Reported To: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Date of Report: 08/18/14
Lab ID: 2294-14-0035097

Date Collected: 08/11/14 07:12
Collected By: mxh

Sample Desc: SB-3

Date Received: 08/11/14 07:35

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	08/12	11:20	PLW
Fecal Coliform	2	/100ml	1	1	SM 9222D	08/11	10:20	PLW
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	08/12	11:20	PLW

COMMENTS

01 The total coliform sample was placed in the incubator on 08/11/14 at 10:25.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
Account Executive

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Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 243047
Customer: Gregory Wacik Work Order Description: Beach 1,2,3

Remarks:

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext:

Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: 4 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXB

Samplers: MXB

Sample No: 1	Desc: SB-1	Matrix: 0	Date: 08/11/14
fc, ec, tcb,		A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: 0700
Sample No: 2	Desc: SB-2	Matrix: 0	Date: 08/11/14
fc, ec, tcb,		A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: 0711
Sample No: 3	Desc: SB-3	Matrix: 0	Date: 08/11/14
fc, ec, tcb,		A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: 0712

35095
35096
35097

Relinquished by: NJP

Received by: Michelle Best

Date: 08/11/14 Time: 0715

Date: 08/11/14 Time: 0735

Sample entered by: 99M



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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/21/14
 Lab ID: 2294-14-0036421
 Date Collected: 08/18/14 07:05
 Collected By: mxb
 Date Received: 08/18/14 07:30

Sample Desc: SB-1

PWSID: 3060912

BACTI

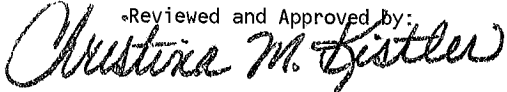
MICROBIOLOGY

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
Escherichia coli	1	mpn/100ml	1	1	SM 9223B	08/19	08:30	DAD
Fecal Coliform	5	/100ml	1	1	SM 9222D	08/18	08:35	DAD
Total Coliform Bacteria	550	mpn/100ml	1	1	SM 9223B	08/19	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/18/14 at 08:30.

Distribution of Reports:

Reviewed and Approved by:


Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/21/14
 Lab ID: 2294-14-0036422

Date Collected: 08/18/14 07:06
 Collected By: mxb

Sample Desc: SB-2

Date Received: 08/18/14 07:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	<1	mpn/100ml	1	1	SM 9223B	08/19	08:30	DAD
Fecal Coliform	8	/100ml	1	1	SM 9222D	08/18	08:35	DAD
Total Coliform Bacteria	690	mpn/100ml	1	1	SM 9223B	08/19	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/18/14 at 08:30.

Distribution of Reports:

Reviewed and Approved by:

Christina M. Kistler
 Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/21/14
 Lab ID: 2294-14-0036423

Date Collected: 08/18/14 07:07
 Collected By: mxb

Sample Desc: SB-3

Date Received: 08/18/14 07:30

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100ml	1	1	SM 9223B	08/19	08:30	DAD
Fecal Coliform	3	/100ml	1	1	SM 9222D	08/18	08:35	PLW
Total Coliform Bacteria	920	mpn/100ml	1	1	SM 9223B	08/19	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/18/14 at 08:30.

Distribution of Reports:

Reviewed and Approved by:

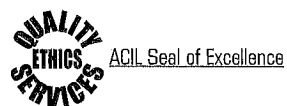
Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

mx8
08/18/14 7:46:27 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 243381
Work Order Description: Beach 1,2,3
Customer: Gregory Wacik
Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107
Phone: 215-656-6561 Ext:
Samplers: MX8

Remarks:
Total Sampling Time (hours): _____ Bottle Prep by: _____
Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MX8

Sample No:	Desc:	SB-1
<u>36421</u>	<u>AD</u> fc, ec, tcb,	Date: <u>08/18/14</u> Time: <u>0705</u>
<u>36422</u>	fc, ec, tcb,	Date: <u>08/18/14</u> Time: <u>0706</u>
<u>36423</u>	fc, ec, tcb,	Date: <u>08/18/14</u> Time: <u>0707</u>

Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: 0
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: AW Received for Laboratory by: M. J. Reider
Date: 08/18/14 Time: 0710 Date: 08/18/14 Time: 0730
Sample entered by: AW



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/21/14
 Lab ID: 2294-14-0035928

Date Collected: 08/14/14 07:00
 Collected By: mxb

Sample Desc: SB-1

Date Received: 08/14/14 07:40

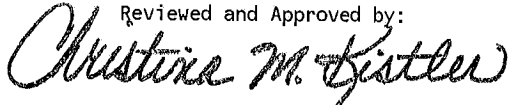
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	4	mpn/100ml	1	1	SM 9223B	08/15	08:30	DAD
Fecal Coliform	6	/100ml	1	1	SM 9222D	08/14	08:26	DAD
Total Coliform Bacteria	2400	mpn/100ml	1	1	SM 9223B	08/15	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/14/14 at 08:00.

Distribution of Reports:

Reviewed and Approved by:


Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/21/14
 Lab ID: 2294-14-0035929

Date Collected: 08/14/14 07:01
 Collected By: mxb

Date Received: 08/14/14 07:40

Sample Desc: SB-2

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100ml	1	1	SM 9223B	08/15	08:30	DAD
Fecal Coliform	2	/100ml	1	1	SM 9222D	08/14	08:26	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	08/15	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/14/14 at 08:00.

Distribution of Reports:

Reviewed and Approved by:

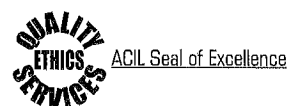
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 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/21/14
 Lab ID: 2294-14-0035930
 Date Collected: 08/14/14 07:02
 Collected By: mxb
 Date Received: 08/14/14 07:40

Sample Desc: SB-3

PWSID: 3060912

BACTI

MICROBIOLOGY

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
Escherichia coli	3	mpn/100ml	1	1	SM 9223B	08/15	08:30	DAD
Fecal Coliform	2	/100ml	1	1	SM 9222D	08/14	08:26	DAD
Total Coliform Bacteria	>2400	mpn/100ml	1	1	SM 9223B	08/15	08:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/14/14 at 08:00.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M. J. REIDER ASSOCIATES, INC.

jbs
08/14/14 7:41:57 AM

Chain of Custody

Work Order: 002788
Project Leader: CMB
No: 243251

Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Remarks:

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561 Ext:

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXS

Samplers: MXS

- 35928 Sample No: 1 Desc: SB-1
fc, ec, tcb,
- 35929 Sample No: 2 Desc: SB-2
fc, ec, tcb,
- 35930 Sample No: 3 Desc: SB-3
fc, ec, tcb,

Matrix: o Date: 8/14/14
Time: 0700
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: o Date: 8/14/14
Time: 0701
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;
Matrix: o Date: 8/14/14
Time: 0702
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NP

Received by: Michael Boat

Received for laboratory by: Michael Boat

Date: 8/14/14

Time: 0708

Date: 8/14/14

Time: 0740

Sample entered by: W



CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/26/14
 Lab ID: 2294-14-0037243

Date Collected: 08/21/14 07:10
 Collected By: mxh

Sample Desc: SB-1

Date Received: 08/21/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100mL	1	1	SM 9223B	08/22	11:45	DAD
Fecal Coliform	5	/100mL	1	1	SM 9222D	08/21	11:35	DAD
Total Coliform Bacteria	330	mpn/100mL	1	1	SM 9223B	08/22	11:45	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/21/14 at 11:45.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/26/14
 Lab ID: 2294-14-0037244

Date Collected: 08/21/14 07:11
 Collected By: mxh

Sample Desc: SB-2

Date Received: 08/21/14 07:40

PWSID: 3060912

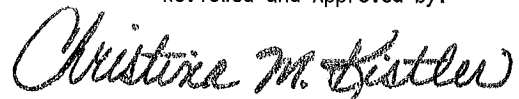
	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100mL	1	1	SM 9223B	08/22	11:45	DAD
Fecal Coliform	2	/100mL	1	1	SM 9222D	08/21	11:35	DAD
Total Coliform Bacteria	1200	mpn/100mL	1	1	SM 9223B	08/22	11:45	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/21/14 at 11:45.

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M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 08/26/14
 Lab ID: 2294-14-0037245

Date Collected: 08/21/14 07:12
 Collected By: mxh

Sample Desc: SB-3

Date Received: 08/21/14 07:40

PWSID: 3060912

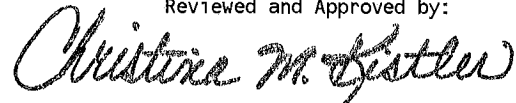
	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	2	mpn/100mL	1	1	SM 9223B	08/22	11:45	DAD
Fecal Coliform	3	/100mL	1	1	SM 9222D	08/21	11:35	DAD
Total Coliform Bacteria	1100	mpn/100mL	1	1	SM 9223B	08/22	11:45	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 08/21/14 at 11:45.

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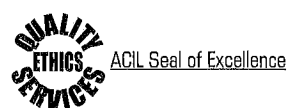
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M. J. REIDER ASSOCIATES, INC.

jbs
08/21/14 7:46:18 AM

Chain of Custody

No: 243651

Work Order: 002788 Project Leader: CMB
Work Order Description: Beach 1,2,3

Customer: Gregory Wacik

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561 Ext:

Samplers: WAKS

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: WAKS

Sample No: 1	Desc: SB-1
37243	OAD-7, ec, tcb,
Sample No: 2	Desc: SB-2
37244	fc, ec, tcb,
Sample No: 3	Desc: SB-3
37245	fc, ec, tcb,

Matrix: 0	Date: 8/21/14
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: 0710
Matrix: 0	Date: 8/21/14
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: 0711
Matrix: 0	Date: 8/21/14
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: 0712

Relinquished by: NP

Received by: M. J. Reider Received for laboratory by: M. J. Reider

Date: 8/21/14

Time: 0720

Date: 8/21/14

Time: 0740

Sample entered by: WAKS



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 09/12/14
 Lab ID: 2294-14-0039271

Date Collected: 09/02/14 07:10
 Collected By: mxb

Sample Desc: SB-1

Date Received: 09/02/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	1	mpn/100mL	1	1	SM 9223B	09/03	09:15	DAD
Fecal Coliform	5	/100mL	1	1	SM 9222D	09/02	09:18	DAD
Total Coliform Bacteria	520	mpn/100mL	1	1	SM 9223B	09/03	09:15	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 09/02/14 at 09:15.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 09/12/14
 Lab ID: 2294-14-0039272

Date Collected: 09/02/14 07:11
 Collected By: mxh

Sample Desc: SB-2

Date Received: 09/02/14 07:40

PWSID: 3060912

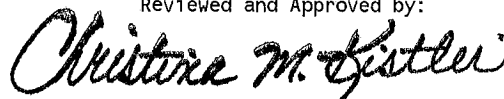
	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100ml	1	1	SM 9223B	09/03	09:15	DAD
Fecal Coliform	3	/100ml	1	1	SM 9222D	09/02	09:18	DAD
Total Coliform Bacteria	580	mpn/100ml	1	1	SM 9223B	09/03	09:15	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 09/02/14 at 09:15.

Distribution of Reports:

Reviewed and Approved by:



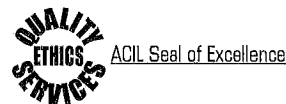
Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS
M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 09/12/14
 Lab ID: 2294-14-0039273

Date Collected: 09/02/14 07:12
 Collected By: mxh

Sample Desc: SB-3

Date Received: 09/02/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	3	mpn/100ml	1	1	SM 9223B	09/03	09:15	DAD
Fecal Coliform	5	/100ml	1	1	SM 9222D	09/02	09:18	DAD
Total Coliform Bacteria	820	mpn/100ml	1	1	SM 9223B	09/03	09:15	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 09/02/14 at 09:15.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

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Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 244251
 Customer: Gregory Wacik Work Order Description: Beach 1,2,3
 Address: USACE, Philadelphia District Environmental Resources Branch
 100 Penn Square East Philadelphia PA 19107
 Phone: 215-656-6561 Ext: _____
 Samplers: mxlb

Remarks: _____
 Total Sampling Time (hours): _____ Bottle Prep by: _____
 Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
 Approved By: mxlb

Sample No: 1	Desc: SB-1
<u>39271</u> <u>DAJ</u>	fc, ec, tcb,
Sample No: 2	Desc: SB-2
<u>39272</u>	fc, ec, tcb,
Sample No: 3	Desc: SB-3
<u>39273</u>	fc, ec, tcb,

Matrix: 0	Date: <u>9-2-14</u>
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: <u>0710</u>
Matrix: 0	Date: <u>9-2-14</u>
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: <u>0711</u>
Matrix: 0	Date: <u>9-2-14</u>
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;	Time: <u>0712</u>

Relinquished by: NP Received by: Michael Beut Received for laboratory by: Michael Beut
 Date: 9-2-14 Time: 0720 Date: 9-2-14 Time: 0740
 Sample entered by: ASM



CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 09/18/14
 Lab ID: 2294-14-0039708

Date Collected: 09/04/14 07:10
 Collected By: mxh

Sample Desc: SB-1

Date Received: 09/04/14 07:40

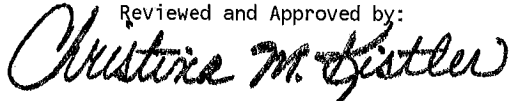
PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	13	mpn/100mL	1	1	SM 9223B	09/05	09:30	DAD
Fecal Coliform	13	/100mL	1	1	SM 9222D	09/04	09:17	DAD
Total Coliform Bacteria	1400	mpn/100mL	1	1	SM 9223B	09/05	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 09/04/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:


Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 09/18/14
 Lab ID: 2294-14-0039709

Date Collected: 09/04/14 07:11
 Collected By: mxh

Sample Desc: SB-2

Date Received: 09/04/14 07:40

PWSID: 3060912

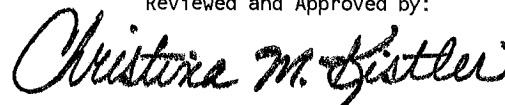
	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTI								
MICROBIOLOGY								
Escherichia coli	13	mpn/100ml	1	1	SM 9223B	09/05	09:30	DAD
Fecal Coliform	16	/100ml	1	1	SM 9222D	09/04	09:17	DAD
Total Coliform Bacteria	2000	mpn/100ml	1	1	SM 9223B	09/05	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 09/04/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:



Christina Kistler
 Account Executive

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CERTIFICATE OF ANALYSIS

M.J. Reider Associates, Inc.



Attention: Gregory Wacik
 Reported To: USACE, Philadelphia District
 Environmental Resources Branch
 100 Penn Square East
 Philadelphia PA 19107

Date of Report: 09/18/14
 Lab ID: 2294-14-0039710

Date Collected: 09/04/14 07:12
 Collected By: mxb

Sample Desc: SB-3

Date Received: 09/04/14 07:40

PWSID: 3060912

	Result	Unit	Rep Limit	Dilutn Factor	Procedure	Test Date	Test Time	Analyst
BACTERIOLOGICAL								
MICROBIOLOGY								
Escherichia coli	9	mpn/100mL	1	1	SM 9223B	09/05	09:30	DAD
Fecal Coliform	18	/100mL	1	1	SM 9222D	09/04	09:17	DAD
Total Coliform Bacteria	1600	mpn/100mL	1	1	SM 9223B	09/05	09:30	DAD

COMMENTS

01 The total coliform sample was placed in the incubator on 09/04/14 at 09:20.

Distribution of Reports:

Reviewed and Approved by:

Christina Kistler
 Account Executive

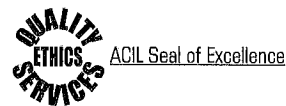
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ENVIRONMENTAL TESTING LABORATORY 107 ANGELICA STREET, READING, PA 19611

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M. J. REIDER ASSOCIATES, INC.

mxdb
09/04/14 7:42:12 AM

Chain of Custody

Account: 2294 Work Order: 002788 Project Leader: CMB No: 244422

Customer: Gregory Wacik Work Order Description: Beach 1,2,3

Address: USACE, Philadelphia District
Environmental Resources Branch
100 Penn Square East
Philadelphia PA 19107

Phone: 215-656-6561 Ext:

Samplers: MXS

Remarks: _____

Total Sampling Time (hours): _____ Bottle Prep by: _____

Laboratory Receipt Temp: 5 Deg C. If Temp Unacceptable, On Ice? Y N
Approved By: MXS

39708 ✓ Sample No: 1 Desc: SB-1
DAD fc, ec, tcb, →

39709 ✓ Sample No: 2 Desc: SB-2
fc, ec, tcb,

39710 ✓ Sample No: 3 Desc: SB-3
fc, ec, tcb,

Matrix: 0 Date: 9-4-14
Time: 0710
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Matrix: 0 Date: 9-4-14
Time: 0711
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Matrix: 0 Date: 9-4-14
Time: 0712
A - 1 X 250mlMicro P w/ Sterile/Na2S2O3;

Relinquished by: NP Received by: M. J. Reider

Date: 9-4-14 Time: 0720

Date: 9-4-14 Time: 0740

Sample entered by: [Signature]