

**2019 WATER QUALITY MONITORING
PROMPTON RESERVOIR
PROMPTON, PENNSYLVANIA**



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

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**2019 Water Quality Monitoring
Prompton Reservoir
Prompton, Pennsylvania**

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1.0 INTRODUCTION

1.1 PURPOSE OF THE MONITORING PROGRAM

The U.S. Army Corps of Engineers (USACE) manages Prompton Reservoir located in northeastern Pennsylvania within the Delaware River Basin. Prompton Reservoir provides flood control to downstream communities on the Lackawaxen River. Additionally, the reservoir provides important habitat for fish, waterfowl, and other wildlife, and recreational opportunities through fishing and boating. Because of the broad range of uses and demands that Prompton Reservoir serves, the USACE monitors water quality to compare with state water quality standards and to diagnose other problems that commonly effect reservoir health such as nutrient enrichment and toxic loadings. This report summarizes the results of monthly water quality monitoring at Prompton Reservoir for June to September 2019.

1.2 DESCRIPTION OF PROMPTON RESERVOIR

Prompton Reservoir was designed to provide flood control to downstream communities along the Lackawaxen River. A second authorized project purpose is recreation. The reservoir is located about 3 miles northwest of Honesdale, Pennsylvania, and dams a drainage area of 59.7 square miles. The primary surface water input to Prompton Reservoir originates from the West Branch of the Lackawaxen River. The reservoir is approximately 3 miles long and is about 30 feet deep at the face of the dam near the township of Prompton, Pennsylvania.

1.3 ELEMENTS OF THE STUDY

The USACE, Philadelphia District, has been monitoring water quality of Prompton Reservoir since 1975. Over this time, the yearly monitoring designs have evolved to address new concerns such as health of public drinking water and contamination of sediments. The 2019 monitoring program follows that in most recent years and includes the following major elements:

- Monthly water quality monitoring of reservoir and tributaries - to evaluate compliance with Pennsylvania state water quality standards and potential public health concerns; and
- Monthly profile samples for temperature, dissolved oxygen, chlorophyll, pH, turbidity, and conductivity at all stations in the reservoir and watershed.

2.0 METHODS

2.1 PHYSICAL STRATIFICATION MONITORING

Physical stratification monitoring of the water column at Prompton Reservoir was conducted five times between 26 June and 11 September 2019 (Table 2-1). Physical stratification parameters included temperature, dissolved oxygen (DO), pH, turbidity, and conductivity. Monitoring was conducted at four fixed stations located throughout the Prompton Reservoir watershed (Fig. 2-1). Surface water quality was monitored upstream of the lake at station PR-1S and downstream of the dam at station PR-4S (Fig. 2-1). Stations within the reservoir, PR-2 and PR-3, were monitored at 5-foot intervals from the surface to the bottom. All water quality parameters were measured with a calibrated YSI 6600 V2-4 water quality meter.

The results of stratification monitoring were compared to water quality standards authorized by the Pennsylvania Department of Environmental Protection (PADEP: Chapter 93 Water Quality Standards, 2000), where applicable. The water quality standard for DO is a minimum concentration of 5 mg/L and that for pH is an acceptable range from 6 to 9. All of the water quality data collected during physical stratification monitoring is summarized in Appendix A.

2.2 WATER COLUMN CHEMISTRY MONITORING

Water column chemistry monitoring of the water column at Prompton Reservoir was conducted five times between 26 June and 11 September 2019 (Table 2-1). Water samples were collected at four fixed stations within the reservoir watershed (Fig. 2-1). Surface water samples were collected at stations upstream (PR-1S) and downstream (PR-4S) of the reservoir. Surface, middle, and bottom water samples were collected at main reservoir body stations (PR-2 and PR-3). Surface water samples were collected by opening the sample containers approximately 1 foot below the water's surface. Middle and bottom water samples were collected with a Van Dorn design horizontal water sampler.

Water samples from all depths were analyzed for ammonia (NH₃), nitrite (NO₂), nitrate (NO₃), total kjeldahl nitrogen (TKN), soluble dissolved phosphorus (DP), total phosphorus (TP), total dissolved solids (TDS), total suspended solids (TSS), biochemical oxygen demand (BOD), alkalinity (ALK) and total organic carbon (TOC). Table 2-2 summarizes the water quality parameters, laboratory methods and reporting detection limits, state water quality standards, and allowable maximum hold times for each during the 2019 monitoring period. Laboratory reporting and custody sheets are provided in Appendix B.

Table 2-1. Prompton Reservoir water quality monitoring schedule for 2019				
Date of Sample Collection	Physical Stratification Monitoring (All Stations)	Water Column Chemistry Monitoring (All Stations)	Trophic State Determination (PR-3)	Coliform Bacteria Monitoring (All Surface Stations)
26 June	X	X	X	X
17 July	X	X	X	X
31 July	X	X	X	X
22 August	X	X	X	X
11 September	X	X	X	X



Figure 2-1. Location map for Prompton Reservoir and water quality monitoring stations in 2019.

Table 2-2. Water quality test methods, detection limits, state regulatory criteria, and sample holding times for water quality parameters monitored at Prompton Reservoir in 2019

Parameter	(2) Method	Laboratory Limit of Reporting	PADEP Surface Water Quality Criteria	Allowable Hold Times (Days)
Total Alkalinity	SM20 2320 B-11	10.0 mg/L	Min. 20 mg/L CaCO ₃	14
Biochemical Oxygen Demand (BOD)	SM5210 B-11	5.0 mg/L	None	2
Total Phosphorus	SM4500-P E	0.01 mg/L	None	28
Diss./Ortho-Phosphate	NA	NA	None	28
Soluble Phosphorus	SM4500-P E	0.007 mg/L	None	28
Total Organic Carbon (TOC)	SM5310 B-11	1.0 mg/L	None	28
Total Inorganic Carbon (TIC) *	NA	NA	None	28
Total Carbon (TOC + TIC) *	NA	NA	None	28
(1) Chlorophyll a	YSI Probe	----	None	In Situ
Total Kjeldahl Nitrogen	EPA 351.2/ LACHAT	0.20 mg/L	None	28
Ammonia	SM4500 H-11LACHAT	0.20 mg/L	Temp. and pH dependent	28
Nitrate	EPA 353.2/ SM4500NO2B	0.11 mg/L	Maximum 10 mg/L (nitrate + nitrite)	28
Nitrite	SM4500NO2 B-11	0.01 mg/L		28
Total Dissolved Solids	SM2540 C-11	10.0 mg/L	Maximum 750 mg/L	7
Total Suspended Solids	SM2540 D-11	4.0 mg/L	None	7

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

(2) Laboratory Methods Reference:

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

SM- "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.

* Total Inorganic Carbon and Total Carbon were not sampled for in 2019

2.3 TROPHIC STATE DETERMINATION

The trophic state of Prompton Reservoir was determined by methods outlined by Carlson (1977) and EPA (1983). In general, these methods calculate 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 used independently in the calculations of monthly TSIs (Table-2-1). Secchi disk depth was measured monthly at station PR-3 and used for the TSI calculation. Trophic state determinations were calculated only for Station PR-3 within the reservoir.

2.4 RESERVOIR BACTERIA MONITORING

Monitoring for coliform bacteria contaminants was conducted at Prompton Reservoir five times between 26 June and 11 September 2019. Surface water samples were collected in the same manner as for chemical parameter samples, and analyzed for total coliform and fecal coliform contamination. Table 2-3 presents the test methods, detection limits, PADEP standards, and sample holding times for the bacteria parameters monitored at Prompton Reservoir in 2019. The bacteria analytical method was based on a membrane filtration technique. All of the samples were analyzed within their maximum allowable hold times.

Monthly coliform bacteria counts were compared to the PADEP single sample and swimming beach water quality standard for bacteria. The multiple beach sample standards is defined as a maximum geometric mean of 200 colonies/100-ml based on five samples collected on different days within a 30-day period. Application of this standard is not necessary at Prompton reservoir because swimming and other human/water contact recreation is prohibited in the reservoir. However, it is used in evaluating the bacteria results.

Table 2-3. Water quality test methods, detection limits, PADEP standards, and sample holding times for bacteria parameters monitored at Beltzville Reservoir in 2019.

Parameter	Total Coliform	Fecal Coliform
Test method	SM 9223 B	SM 9222 D
Limit of Quantification	10 clns/100-mls	1 clns/100-mls
PADEP standard	None	Geometric mean < 200 clns/100-mls or a single sample reading of < 1000 clns/100-mls
Max. allowable holding time	30 hours	30 hours
Achieved holding time	< 30 hours	< 30 hours

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 (DO), and pH. For each parameter, seasonal and spatial patterns of surface water quality measured throughout the watershed, and seasonal and depth related patterns of the lake water column based on measures from the deepest portion of the reservoir (station PR-3) are described. The discussion on stratification is focused on station PR-3 as water quality problems related to depth are generally most severe in deeper water habitats, thus the evaluation will be a conservative one. All of the physical/chemical parameters were measured with a calibrated YSI 6600 V2-4 water quality monitoring probe 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.

Temperature of the tributary and downstream surface waters of Prompton Reservoir were influenced by seasonal weather patterns and in lake thermal warming patterns during 2019. Maximum temperatures were recorded during the 17 July sampling event (Fig. 3-1). Upstream tributary temperatures at station PR-1S were generally cooler than downstream release temperatures during the sampling season with an average temperature of 19.83°C and ranged from 17.9°C in June to 22.18°C in early July. Downstream temperatures at station PR-4S averaged 21.21°C and ranged from 20.41°C in early September to 21.80°C in late July. The warmer downstream temperatures likely result from thermally warmed waters being released from the reservoir.

The surface water temperatures (0-5 feet) of the reservoir were generally greater than the upstream station PR-1S as a result of in-lake thermal warming. Surface temperatures for the sampling period at reservoir body station PR-3, near the outlet works of the dam, averaged 24.91°C and ranged from 28.01°C in early July to 19.03°C in June. Prompton Reservoir experienced minor stratification with respect to temperature in 2019 (Fig. 3-2). In June, the onset of stratification was observed with the surface temperature (25.92°C) approximately 15.52°C warmer than the lower water column (10.40°C). The onset of de-stratification was evident in early September.

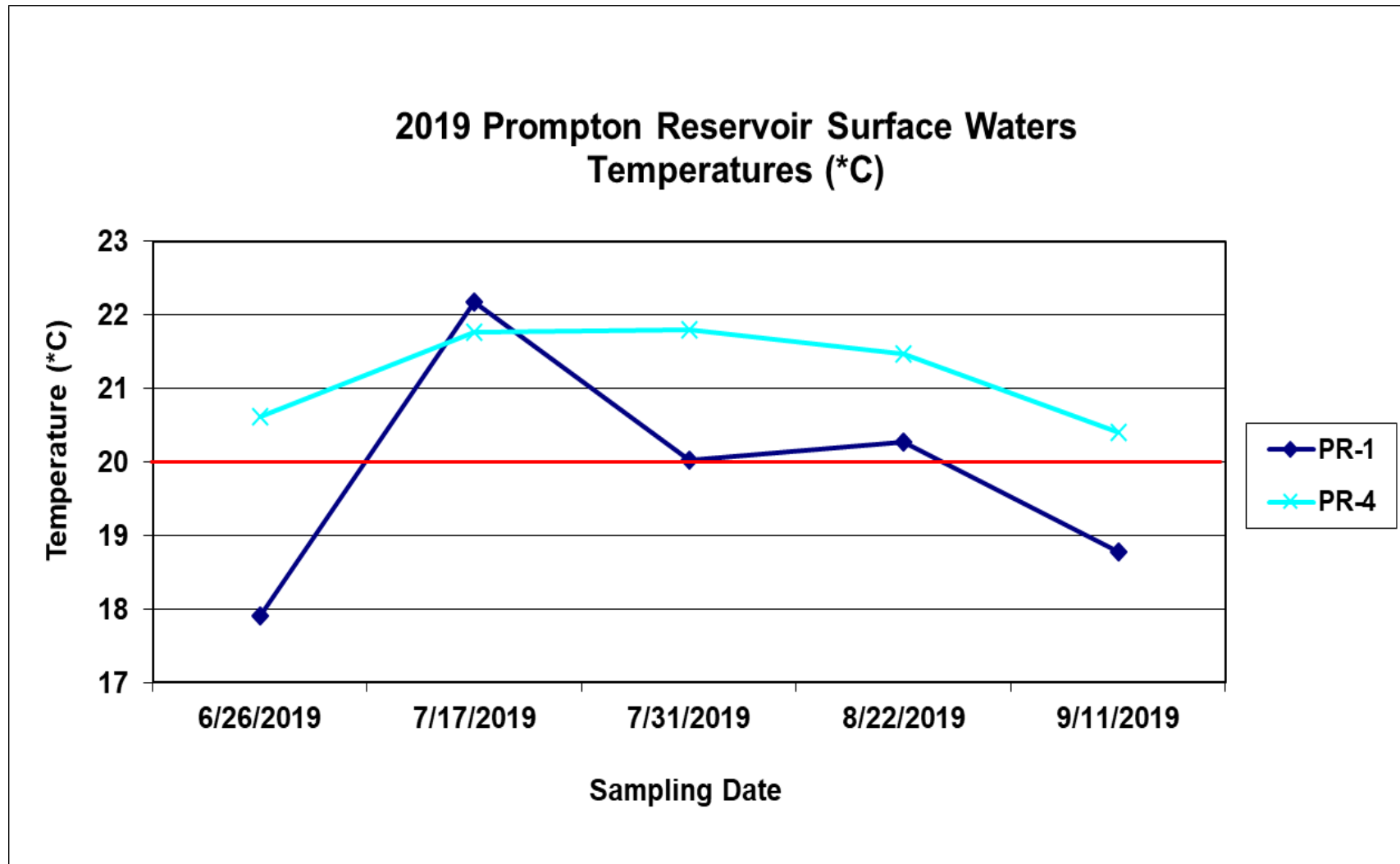


Figure 3-1. Temperature in tributary and outflow surface waters of Prompton Reservoir during 2019. See Appendix A for a summary of plotted values. The coldwater species preference temperature of 20°C is shown as a red line comparison.

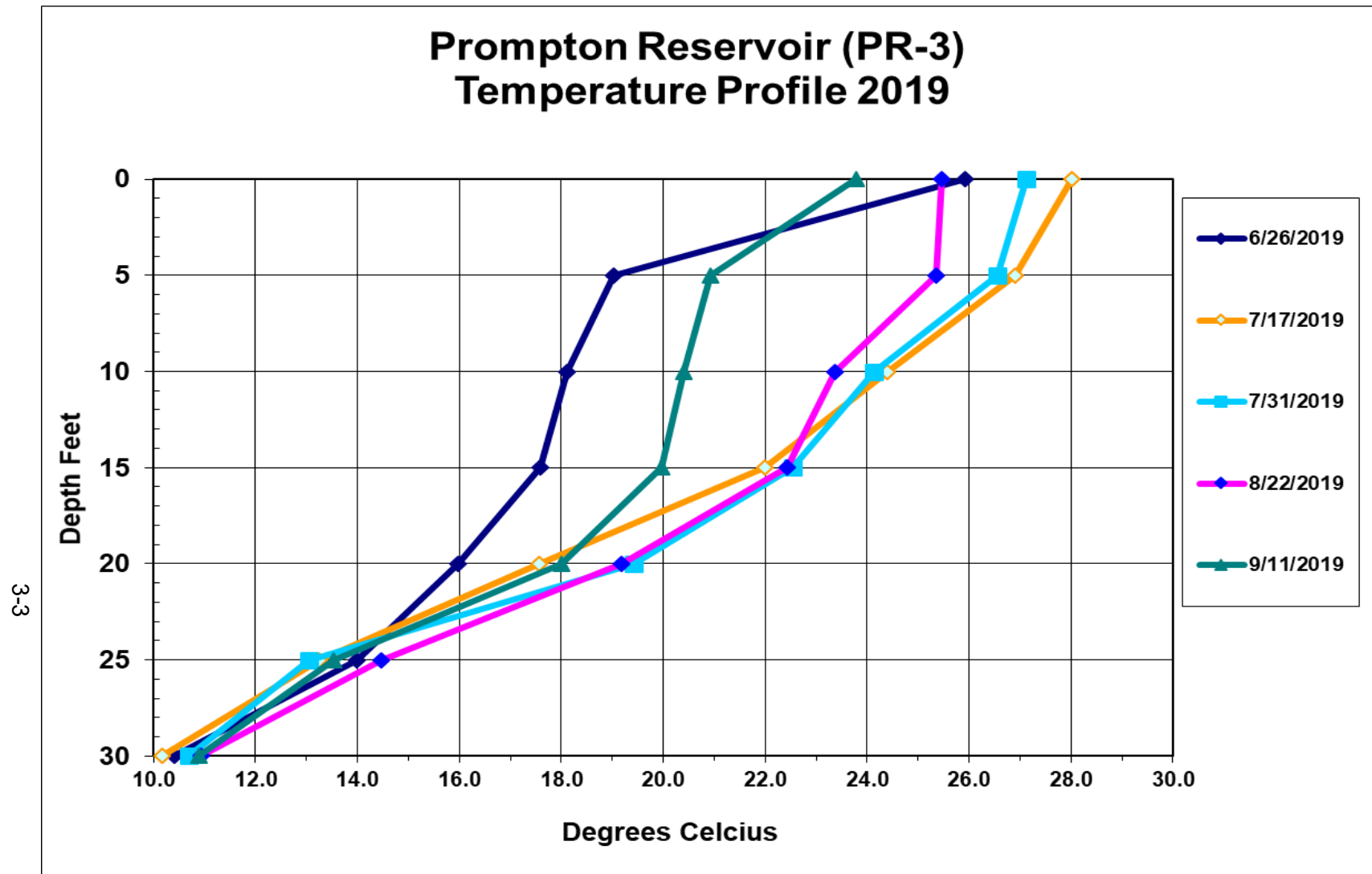


Figure 3-2. Temperature stratification of Prompton Reservoir during 2019 from water quality measured at station PR-3. See Appendix A for a summary of plotted values.

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.

Dissolved oxygen (DO) in the inflow and outflow surface waters of Prompton Reservoir generally followed a similar seasonal pattern throughout most of the 2019 sampling season (Fig. 3-3). Waters released from the reservoir and measured at station PR-4S had consistently lower dissolved oxygen levels than reservoir inflows at tributary station PR-1S as a result of the release of low oxygen waters from deeper in the reservoir. The greatest difference of DO readings was recorded on 22 August when inflow (PR-1S) DO was 8.66 mg/L and outflow (PR-4S) DO was 6.42 mg/L. Dissolved oxygen concentrations upstream (PR-1S) ranged from 8.58 mg/L in June to 9.11 mg/L in late July with an average seasonal reading of 8.84 mg/L. Dissolved oxygen concentrations downstream (PR-4S) ranged from 6.42 mg/L in August to 7.55 mg/L in September with a seasonal average of 7.14 mg/L.

The stratification of Prompton Reservoir influenced the distribution of DO in the water column during 2019 (Fig. 3-4). In June, the influence of the onset of stratification was apparent, as DO concentrations decreased from 9.96 mg/L at the surface to 0.26 mg/L at the bottom. From most of the sampling season, the lower water column from approximately 15 feet to the bottom was severely depleted of oxygen with concentrations less than 5 mg/L. The release of waters downstream containing lower DO concentrations had some lowering effect on DO levels recorded at downstream station PR-4S. However, the re-aeration of the released waters through the dam conduit system elevated DO concentrations above state criteria.

DO concentrations in the water column of Prompton Reservoir were not in compliance with PADEP water quality standards in late July and August. The Pennsylvania water quality standard for DO is a minimum concentration of 5 mg/L in 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 2019, the lower water column of Prompton was most affected by hypoxia. Hypoxic water was encountered in all months sampled and commonly occupied the lower half of the water column from a 15 foot depth continuing to the bottom. 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.

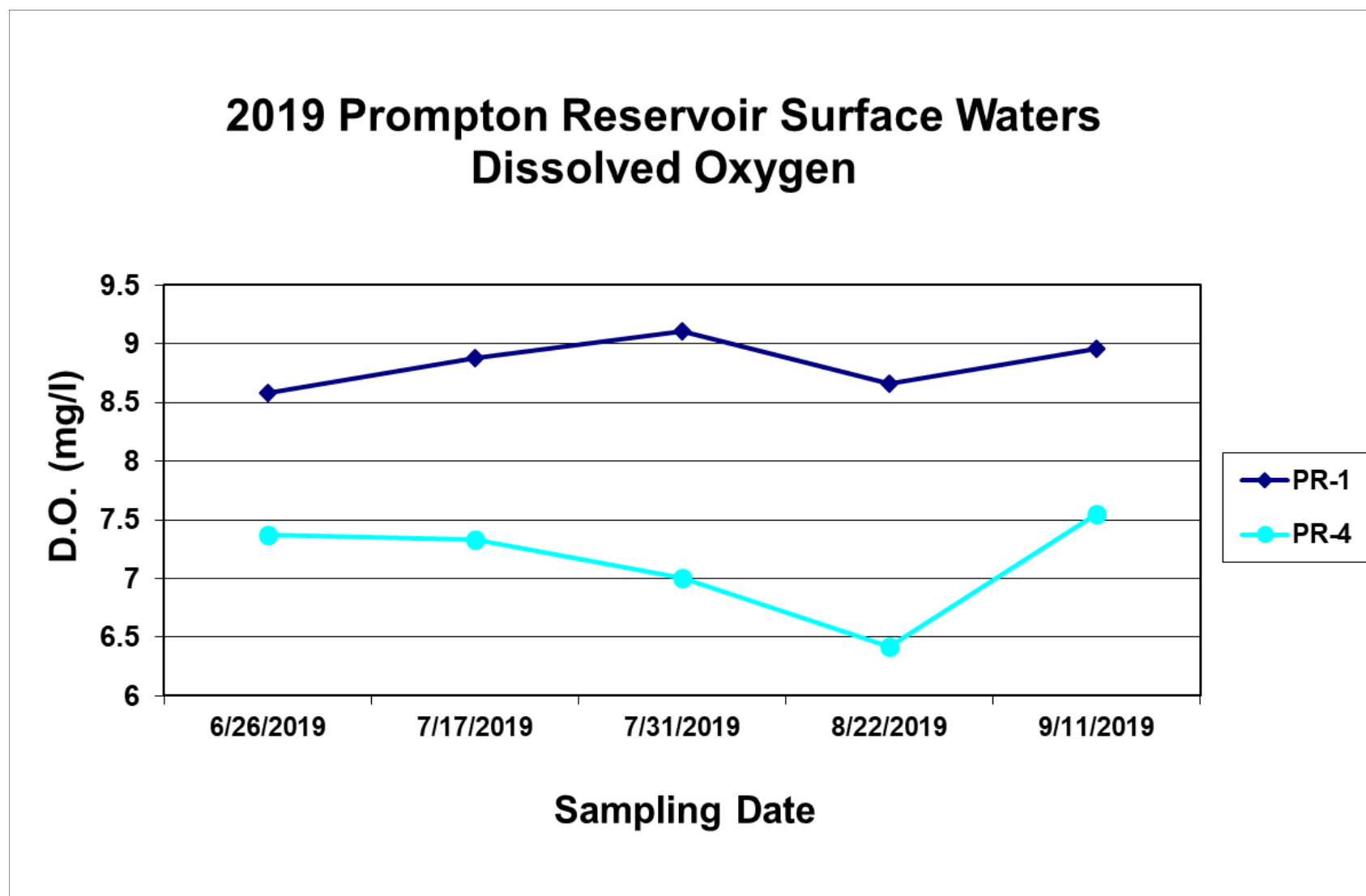


Figure 3-3. Dissolved oxygen in tributary surface waters of Prompton Reservoir during 2019. PADEP minimum DO standard is 5 mg/L. See Appendix A for a summary of plotted values.

3-6

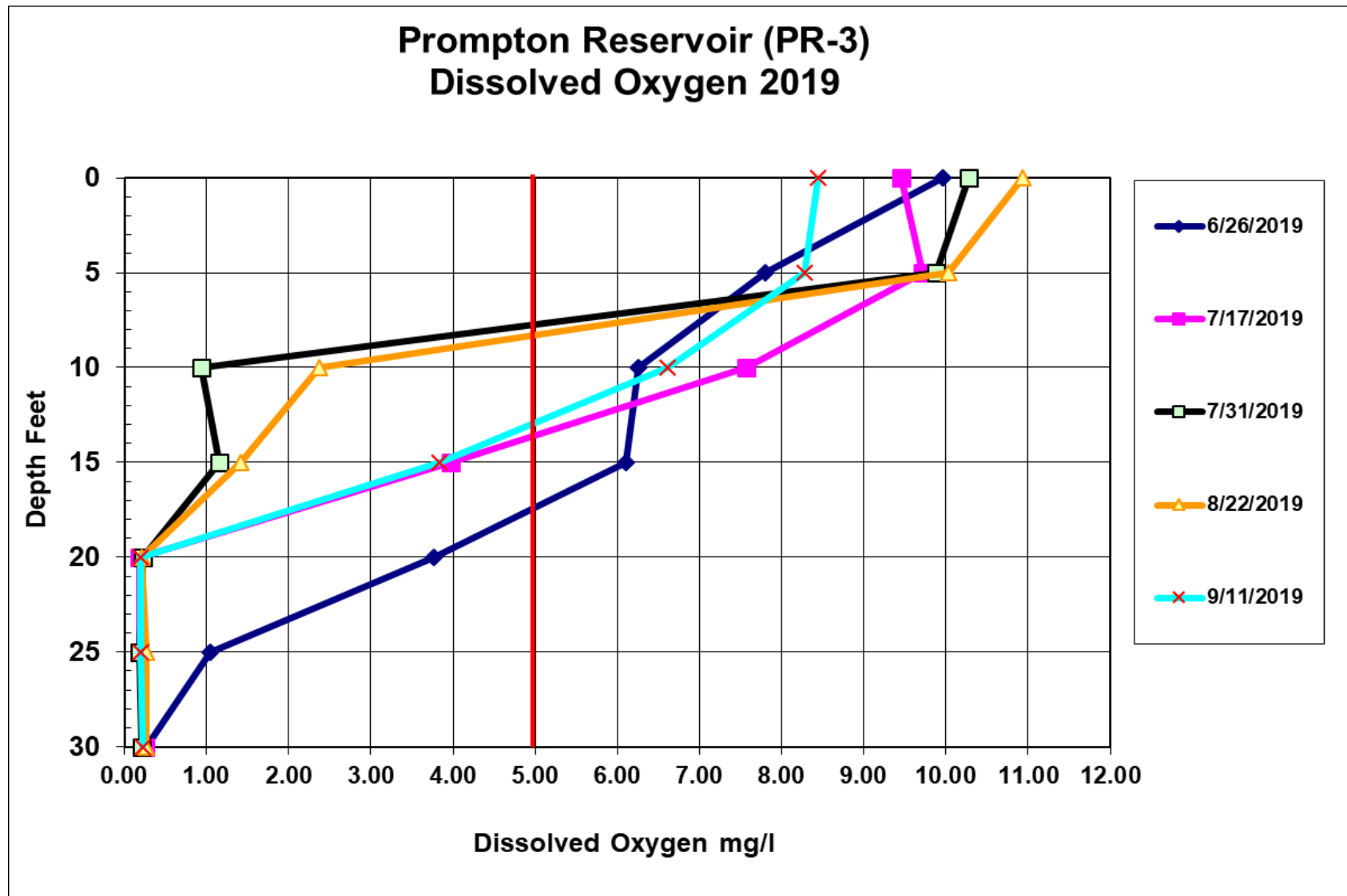


Figure 3-4. Dissolved oxygen stratification of Prompton Reservoir during 2019 from water quality measured at station PR-3. The PADEP minimum DO standard is 5 mg/L. See Appendix A for a summary of plotted value

3.1.3 pH

PH is the measure of the hydrogen –ion concentration in the water. A pH below 7 is considered acidic and a pH above 7 is basic. The pH scale is 0-14 with the lower numbers being more acidic and the higher numbers being more 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 water tributary stations PR-1S and PR-4S at Prompton Reservoir ranged from 6.92 in July to 8.62 in August (Fig. 3-5). The seasonal pH average for PR-1S and PR-4S were 8.07 and 7.26, respectively.

The water column of Prompton Reservoir maintained a relatively stable pH through most of the sampling season in 2019 with higher lake surface water pH seen in most months sampled (Fig. 3-6). In general the development of stratification and increase in surface temperatures during this time period is reflected with an increase in pH at the surface while the lower water column remained relatively constant. This was recorded in all months sampled. The elevated pH in surface waters of the reservoir during summer periods is most likely due to algal blooms. Blooms were observed at the lake in 2019. As a function of increased productivity, algae remove CO₂ from the water column. Since dissolved CO₂ is slightly acidic, its reduction in the water column is manifested by an increase in pH near the surface waters.

The surface waters of the Prompton Reservoir lake stations were not in compliance with PADEP standards for pH during 2019. The water quality standard for pH is a range of acceptability from 6 to 9. Near surface water readings from June through August exceeded the pH 9.0 criteria.

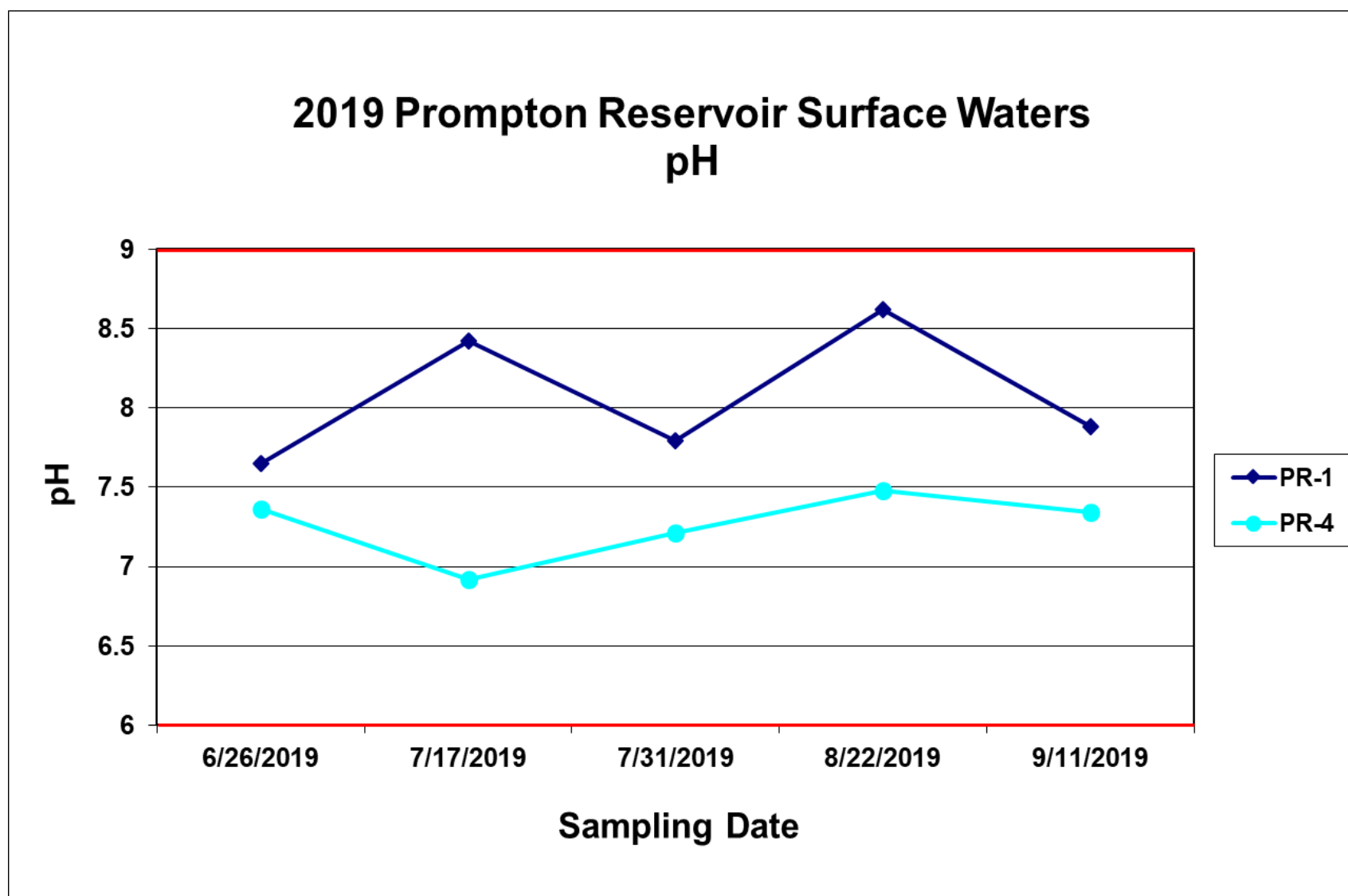


Figure 3-5. Measures of pH in tributary and outflow surface waters of Prompton Reservoir during 2019. PADEP minimum and maximum pH standards are 6 and 9, respectively. See Appendix A for a summary of plotted values.

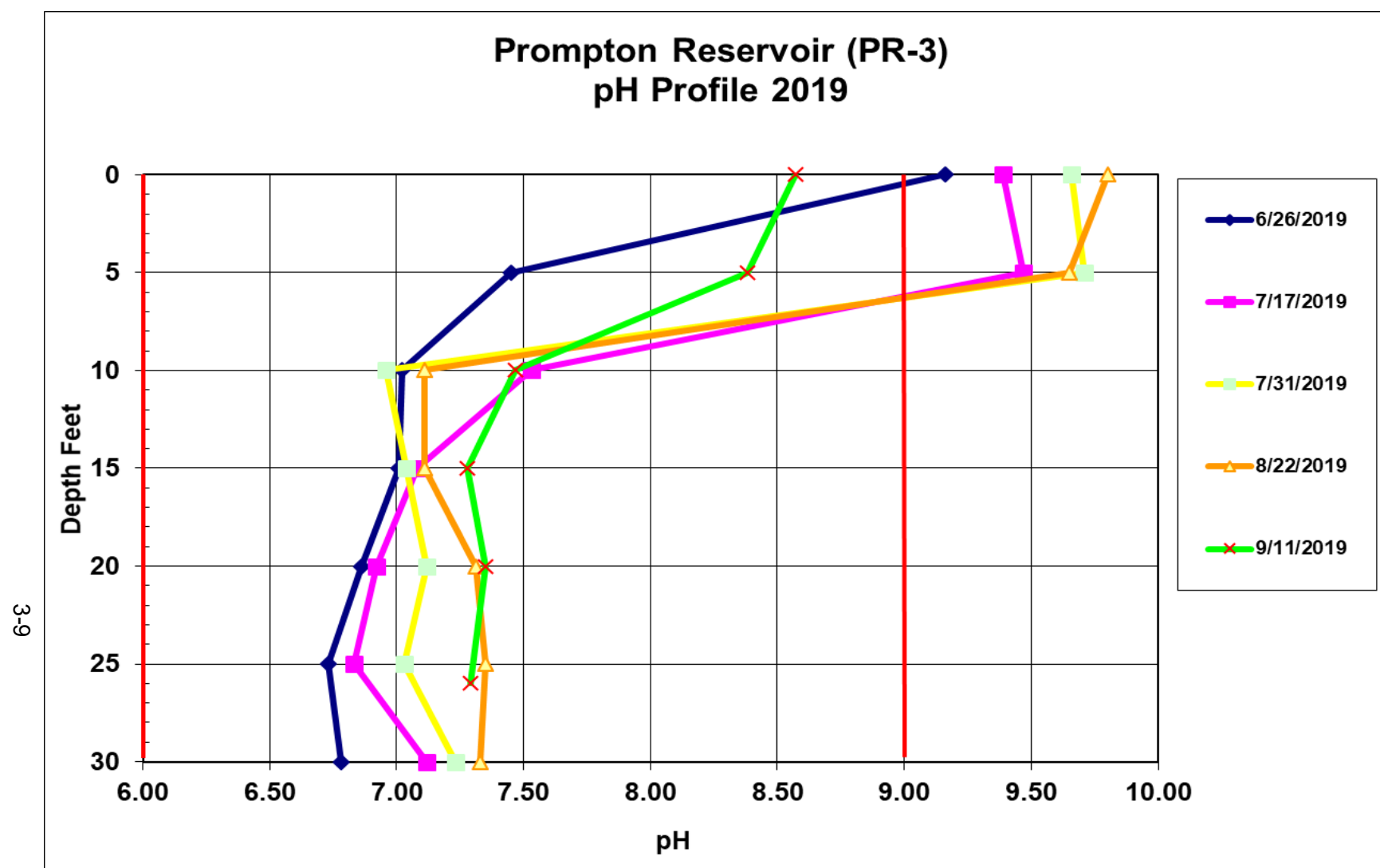


Figure 3-6. Stratification of pH at Prompton Reservoir during 2019, from water quality measured at station PR-3. PADEP minimum and maximum pH standards are 6 and 9, respectively. See Appendix A for a summary of plotted values.

3.2 WATER COLUMN CHEMISTRY MONITORING

The following sections describe temporal, spatial, and depth related patterns for water quality parameters measured at Prompton Reservoir during 2019 (Table 3-2).

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.

EPA guidance for ambient water quality criteria for Ammonia in freshwater are dependent on temperature and pH (EPA, 2013). Table 3.1 shows the acute and chronic criteria that are expected to protect freshwater aquatic life. The EPA (2013) also provides tables with the temperature and pH-dependent values of the acute criterion magnitude and the temperature and pH-dependent values of the chronic criterion magnitude. These tables provide an expected ammonia criteria over a wide range of pH and temperature values and can be utilized to evaluate field collected samples.

Table 3.1 Environmental Protection Agency Ammonia Freshwater Criteria 2013	
2013 Final Aquatic Life Criteria for Ammonia (Magnitude, Frequency, and Duration) (mg TAN/L) pH 7.0, T=20°C	
Acute (1-hour average)	17
Chronic (30-day rolling average)	1.9*
*Not to exceed 2.5 times the CCC as a 4-day average within the 30-days, i.e. 4.8 mg TAN/L at pH 7 and 20°C, more than once in three years on average. Criteria frequency: Not to be exceeded more than once in three years on average.	

Ammonia in the water column of Prompton Reservoir was low during 2019 (Table 3-2). Concentrations measured at all surface and middle water column stations were less than the reporting limit (0.20 mg/L). The highest concentration (1.70 mg/L) was measured in September in the bottom waters of the deeper portion of the reservoir located at station PR-3B. Concentrations in the bottom waters at station PR-3B throughout the sampling season averaged 1.24 mg/L. Increased ammonia is characteristic of low dissolved oxygen environments in stratified lakes resulting from the decomposition of organic materials. Prompton Reservoir experienced these conditions in 2019 resulting in elevated levels of Ammonia in the deeper areas of the reservoir. In 2019, Prompton Reservoir was in compliance with the PADEP water quality standard for ammonia, which is dependent on temperature and pH (Table 3-1).

Table 3-2. Summary of surface, middle, and bottom water quality monitoring data for Prompton Reservoir in 2019

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
PR-1S	6/26/2019	23	<10.0	0.02	<0.20	<0.01	0.41	NS	35	0.22	2.5	0.03	<4.0
	7/17/2019	55	<3.4	0.02	<0.20	<0.01	0.21	NS	42	0.22	2.0	0.02	18.4
	7/31/2019	35	<3.4	<0.007	<0.20	<0.01	0.24	NS	43	0.24	2.5	0.02	<4.0
	8/22/2019	<5.0	1.1	<0.007	<0.20	<0.01	0.16	NS	68	0.26	2.2	<0.01	<4.0
	9/11/2019	45	<1.0	<0.007	<0.20	<0.01	<0.11	NS	49	0.30	2.1	<0.01	<4.0
PR-2S	6/26/2019	14	<10	0.02	<0.20	<0.01	<0.11	NS	31	0.40	4.0	0.02	<4.0
	7/17/2019	30	<4.4	0.02	<0.20	<0.01	0.48	NS	47	0.55	3.8	0.02	7.4
	7/31/2019	25	4.0	0.008	<0.20	<0.01	<0.11	NS	57	0.42	4.0	<0.01	5.0
	8/22/2019	31	6.7	<0.007	<0.20	<0.01	<0.11	NS	61	1.2	4.6	0.02	11.0
	9/11/2019	20	4.7	0.008	<0.20	<0.01	<0.11	NS	43	0.42	4.1	0.03	7.3

Table 3-2 continued. Summary of surface, middle, and bottom water quality monitoring data for Prompton Reservoir in 2019

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
PR-2M	6/26/2019	25	<10	0.01	<0.20	<0.01	<0.11	NS	32	0.34	3.4	0.02	<4.0
	7/17/2019	29.5	<4.4	<0.007	<0.20	<0.01	<0.11	NS	39	0.43	3.3	0.02	4.0
	7/31/2019	30	3.8	0.009	<0.20	<0.01	<0.11	NS	59	0.98	4.3	<0.01	5.0
	8/22/2019	25	4.8	0.009	<0.20	<0.01	<0.11	NS	61	1.10	4.2	0.02	8.0
	9/11/2019	30	4.2	0.01	<0.20	<0.01	<0.11	NS	49	1.00	4.0	0.03	8.3
PR-2B	6/26/2019	<10	<10	0.02	<0.20	<0.01	0.24	NS	30	0.44	3.4	0.06	20
	7/17/2019	33	<3.4	0.02	0.21	<0.01	<0.11	NS	39	0.63	2.5	0.03	6.7
	7/31/2019	29	<3.4	0.01	<0.20	<0.01	<0.11	NS	54	0.58	3.5	0.03	5.2
	8/22/2019	32	1.3	0.01	0.27	<0.01	<0.11	NS	52	0.56	3.2	0.06	6.0
	9/11/2019	40	1.6	0.009	<0.20	<0.01	<0.11	NS	43	0.64	3.5	0.05	12.5

Table 3-2 continued. Summary of surface, middle, and bottom water quality monitoring data for Prompton Reservoir in 2019

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
PR-3S	6/26/2019	14	<10	0.02	<0.20	<0.01	<0.11	NS	35	0.49	3.8	0.02	<4.0
	7/17/2019	35	<3.4	0.01	<0.20	<0.01	<0.11	NS	49	0.51	3.4	<0.01	<4.0
	7/31/2019	17	3.6	<0.007	<0.20	<0.01	<0.11	NS	52	0.96	4.0	0.02	4.2
	8/22/2019	26	5.4	<0.007	<0.20	<0.01	<0.11	NS	50	0.65	4.6	<0.01	7.5
	9/11/2019	55	3.5	<0.007	<0.20	<0.01	<0.11	NS	50	0.58	4.2	0.02	5.2
PR-3M	6/26/2019	<10	<10	0.02	<0.20	<0.01	<0.11	NS	29	0.38	3.8	0.02	<4.0
	7/17/2019	25	<3.4	0.01	<0.20	<0.01	<0.11	NS	46	0.36	3.0	<0.01	<4.0
	7/31/2019	30	4.9	<0.007	<0.20	<0.01	<0.11	NS	44	0.35	3.5	0.02	<4.0
	8/22/2019	22	4.8	<0.007	<0.20	<0.01	<0.11	NS	51	0.51	3.7	<0.01	4.0
	9/11/2019	40	3.2	<0.007	<0.20	<0.01	<0.11	NS	43	0.43	4.0	0.03	4.2

Table 3-2 continued. Summary of surface, middle, and bottom water quality monitoring data for Prompton Reservoir in 2019

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
PR-3B	6/26/2019	20	<10	0.01	0.88	<0.01	<0.11	NS	36	1.1	4.3	0.05	21
	7/17/2019	31	5.3	0.05	1.2	<0.01	<0.11	NS	56	1.7	5.4	0.06	17.3
	7/31/2019	43	<3.4	0.06	1.0	<0.01	<0.11	NS	50	1.5	5.5	0.09	17
	8/22/2019	59	7.6	0.04	1.4	<0.01	<0.11	NS	67	1.7	6.3	0.10	18
	9/11/2019	50	7.3	0.08	1.7	<0.01	<0.11	NS	72	0.94	7.5	0.10	18
PR-4S	6/26/2019	10	<10	0.02	<0.20	<0.01	<0.11	NS	33	0.47	3.7	0.02	5.6
	7/17/2019	30	<3.4	0.02	<0.20	<0.01	0.15	NS	42	0.37	3.0	0.02	43.8
	7/31/2019	34	<3.4	0.02	<0.20	<0.01	0.14	NS	52	0.32	3.7	0.03	5.6
	8/22/2019	25.5	1.0	0.02	<0.20	<0.01	<0.11	NS	48	0.48	3.3	0.02	12.2
	9/11/2019	21	1.1	<0.007	<0.20	<0.01	<0.11	NS	52	0.57	3.6	0.02	<4.0
< Indicates a result less than the limit of quantification or limit of detection. NS – Not Sampled													

3.2.2 Nitrite and Nitrate

Nitrite (NO_2) 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. In 2019, nitrite concentrations in the waters of Prompton Reservoir measured at all stations and depths were less than the reporting limit of 0.01 mg/L (Table 3-2).

Nitrate (NO_3) 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. In 2019, nitrate concentrations in the lake waters of Prompton Reservoir measured at most stations and depths were less than the reporting limit of 0.11 mg/L (Table 3-2). Higher readings were seen in the lake tributary inflow waters (PR-1s). The maximum nitrate measure of 0.41 mg/L was collected at station PR-1S in June. This upstream tributary station also maintained the highest seasonal mean concentration of 0.23 mg/L.

Prompton Reservoir was in compliance with the PADEP water quality standard for nitrite and nitrate during 2019. The standard is a summed concentration of nitrite and nitrate of less than 10 mg/L. Throughout the monitoring period, a maximum summed concentration for all stations and depths of 0.42 mg/L was measured at the upstream tributary surface water station PR-1S on 26 June.

3.2.3 Total Kjeldahl Nitrogen

Total Kjeldahl Nitrogen (TKN) is a measure of organic nitrogen that includes ammonia. Organic nitrogen is not immediately available for biological activity and is therefore not available for plant growth until decomposition to inorganic form occurs. Total kjeldahl nitrogen was uniformly low in the water column of Prompton Reservoir during 2019 (Table 3-2). The highest single sample concentration of 1.70 mg/L and seasonal mean concentration of 1.39 mg/L were measured in the bottom water samples at station PR-3B.

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 minimum 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. Many of the deep water measures for total phosphorus taken at Prompton Reservoir in

2019 were greater than the 0.01 mg/L reporting limit (Table 3-2). The highest single concentration of 0.10 mg/L was measured in the lake bottom waters at station PR-3B on 22 August and 11 September. Higher concentrations of phosphorus in the lower water column are characteristic of temperature-stratified lakes. Low DO conditions in deeper waters create a reducing chemical environment that can mobilize phosphorus from bottom sediment. Prompton Reservoir experiences these conditions annually. Lower measurements of TP in lake surface waters at Prompton Reservoir are likely a product of algal phosphorus uptake during photosynthesis.

3.2.5 Dissolved Phosphorus

Dissolved phosphorus (Diss P) concentrations measured at many stations and depths in the water column of Prompton Reservoir were less than the reporting limit of 0.007 mg/L (Table 3-2). The highest single sample concentration of 0.08 mg/L and seasonal mean concentration of 0.05 mg/L were measured in the bottom water samples at station PR-3B.

3.2.6 Total Dissolved Solids

Total dissolved solids (TDS) is 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 in the water column of Prompton Reservoir stayed consistently low during 2019. Concentrations measured at all stations and depths ranged from 29 mg/L to 72 mg/L throughout the monitoring period (Table 3-2). Total dissolved solids measured at Prompton Reservoir in 2019 were in compliance with PADEP water quality standards. The Pennsylvania standard for TDS is concentrations less than 500 mg/L as a monthly average with a maximum concentration of 750 mg/L.

3.2.7 Total Suspended Solids

Total suspended solids (TSS) is 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). During 2019, total suspended solids (TSS) concentrations at all stations and depths ranged between less than the reporting limit of 4.0 mg/L to 43.8 mg/L (Table 3-2). The highest single sample measure of 43.8 mg/L was measured in the downstream surface waters at station PR-4S on 17 July. Uncharacteristically higher readings in water samples can be attributed to sample collection error caused by disturbing bottom sediments inadvertently during sampling and those suspended materials being included in the sample. Higher TSS sample results may reflect this sampling error.

3.2.8 Biochemical Oxygen Demand

Five-day biochemical oxygen demand (BOD5) 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.

Biochemical oxygen demand concentrations in the waters of Prompton Reservoir were inconclusive in 2019 as a result of inconsistent laboratory reporting limits (Table 3-2). Recordable results ranged from 1.0 mg/L to 7.6 mg/L. In considering the overall infrequency of samples showing higher readings in addition to historical sampling results, it is inferred that Prompton Reservoir and its associated tributaries fluctuated between moderately clean waters with some biodegradable wastes and fairly polluted water, many bacteria and much biodegradable wastes in 2019.

3.2.9 Alkalinity

Alkalinity (Alk) 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 CaCO_3 except where natural conditions are less.

Alkalinity of the water's in Prompton Reservoir remained near or greater than the state minimum standard during the 2019 sampling season (Table 3-2). Concentrations measured at all stations and depths during the monitoring period ranged from to <5.0 to 59.0 mg/L. The highest measure was taken at station PR-3B on 22 August. The natural alkalinity of water is largely dependent on the underlying geology and soils within the surrounding watershed. The alkalinity measured at Prompton Reservoir is likely a result of the regional geology and primary productivity. The reservoir waters and surrounding tributaries were in compliance with the PADEP alkalinity criteria in 2019.

3.2.10 Total Organic Carbon

Total organic carbon (TOC) is a measure of the dissolved and particulate organic carbon in water. The bulk of organic carbon in water is composed of humic substances and partly degraded animal and plant materials. High levels of organic carbon coincide with a lowering of dissolved oxygen concentrations. Carbon is a nutrient required for biological processes. Total organic carbon in the water column of Prompton Reservoir was present in low concentrations during 2019 (Table 3-2). Concentrations of TOC at all stations and depths ranged from 2.0 mg/L to 7.5 mg/L.

3.2.11 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. In all months sampled in 2019, chlorophyll *a* concentrations in the tributary and outflow stream surface waters were less than in-lake surface water concentrations (Appendix A). Concentrations measured in upstream and downstream stream surface waters averaged 2.41 ug/L. Concentrations were consistently higher at the in-lake surface stations where algal productivity would be expected to also be higher. Concentrations at lake stations PR-2 and PR-3, from 0-5 feet of depth, ranged between 3.4 ug/L and 10.80 ug/L with a seasonal average of 7.31 ug/L. Chlorophyll *a* readings were collected using a YSI 6600 V2-4 chlorophyll sensor.

3.3 TROPHIC 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. 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. Classification of Prompton Reservoir was based on a single sample taken each month at station PR-3 during the sampling season (Figure 3-7).

TSIs calculated for measures of total phosphorus classified Beltzville Reservoir as mesotrophic in June (47.35), late July (47.35), and September (47.35) and oligotrophic in early July (37.35) and August (37.35). TSIs calculated for measures of secchi disk depth classified Prompton Reservoir as eutrophic in late July (56.22), August (63.22), and September (60.00) and mesotrophic in June (49.66) and early July (49.66). TSIs calculated for measures of chlorophyll *a* classified Prompton Reservoir as eutrophic in June (50.50) and mesotrophic in early July (49.41), late July (49.30), August (45.93), and September (45.99). Chlorophyll *a* was measured with a YSI 6600 V2-4 chlorophyll sensor.

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 in the mesotrophic range during most of the 2019 sampling period.

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). Taking into account the general agreement between the EPA classifications with that of the Carlson (1977) calculated TSI values, the trophic condition of Prompton Reservoir would be considered mesotrophic and borderline eutrophic during most of the 2019 sampling season.

Table 3-3. EPA trophic classification criteria and monthly measures for Prompton Reservoir in 2019.

Water Quality Variable	Oligo-trophic	Meso-trophic	Eutrophic	26 June	17 July	31 July	22 August	11 September
Total phos. (ppb)	<10	10-20	>20	<20	<10	<20	<10	<20
Chlorophyll (ppb)	<4	4-10	>10	7.6	6.8	6.73	4.77	4.8
Secchi depth (m)	>4	2-4	<2	2.05	2.05	1.30	0.80	1.00

3.4 RESERVOIR BACTERIA MONITORING

Two forms of coliform bacteria contamination were monitored in the tributary and lake surface waters at Prompton Reservoir during 2019 including total and fecal coliform (Table 3-4). Total coliform includes *escherichia coliform* (*E. coli*) and related bacteria that are associated with fecal discharges. 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 values for all stations and dates ranged from <1 colonies/100-ml to >20000 colonies/100-ml. Bacteria in natural waters are common and their presence in the sample is not necessarily a human health concern. With respect to PADEP water quality standards, fecal coliform bacteria has been replaced with an e-coli criteria. For purposes of the 2019 reservoir bacteria sampling, previous fecal coliform criteria was used to evaluate bacteria contamination in the reservoir. Fecal contamination was low in Prompton Reservoir and elevated in its tributaries during 2019. The previous 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. Given that our regular monitoring was completed on one day grab samples, single sample results were then compared to the Pennsylvania Department of Health single sample standard of <1000 colonies/100-ml. The fecal coliform samples collected at Prompton Reservoir did not exceed this standard in 2019. Water contact recreation is not permitted at Prompton Reservoir.

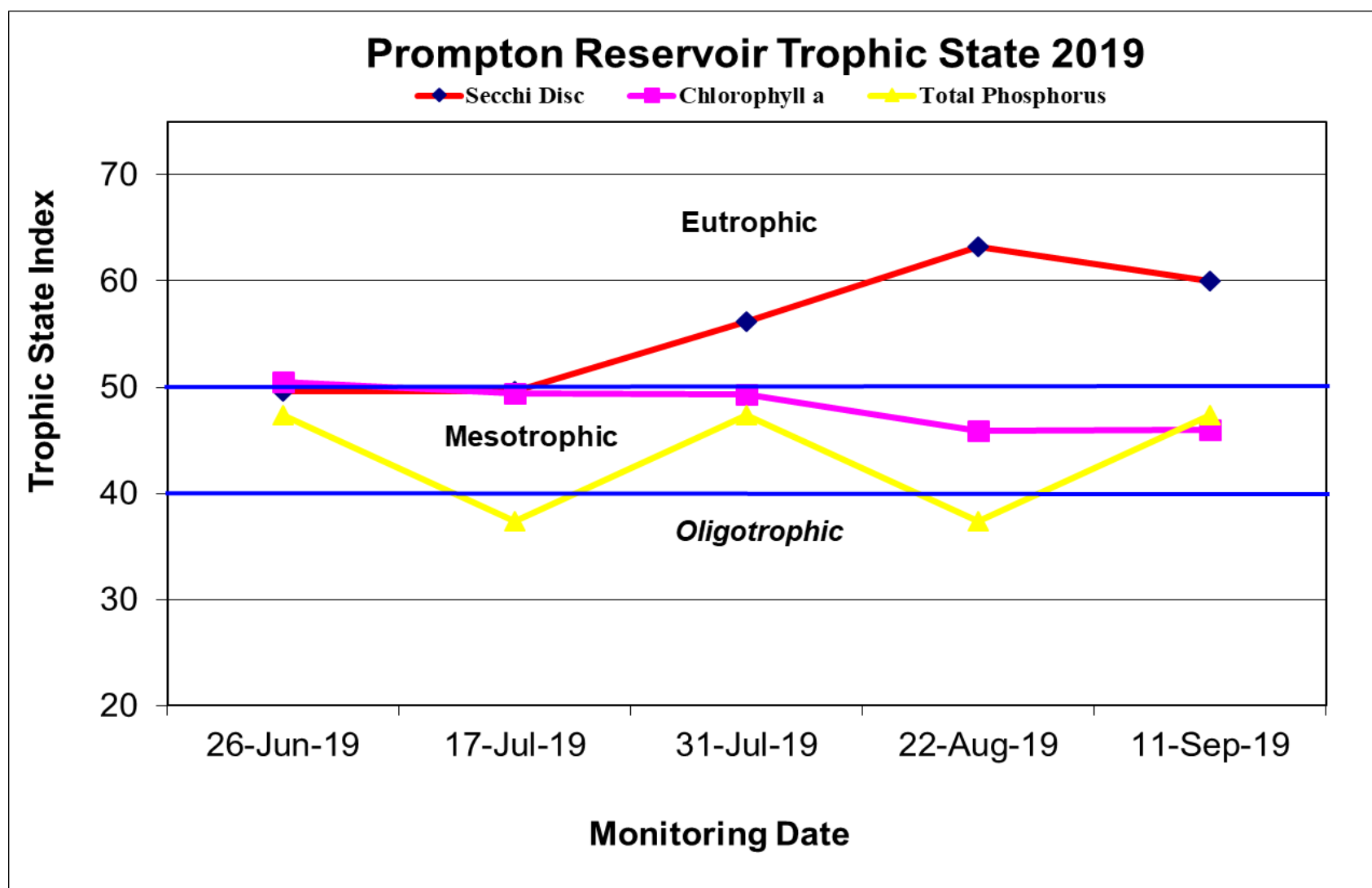


Figure 3-7. Trophic state indices calculated from secchi disk depth, concentrations of chlorophyll a, and total phosphorus measured in surface waters of Prompton Reservoir during 2019.

Table 3-4. Bacteria counts (colonies/100 ml) at Prompton Reservoir during 2019. Shaded values exceed the Pennsylvania Department of Health single sample water quality standard for bathing beaches. NS = Not Sampled in 2019

STATION	DATE		Total Coliform (TC)		Fecal Coliform (FC)		Escherichia coli
PR-1S	6/26/2019		13600		23		NS
	7/17/2019		16500		60		NS
	7/31/2019	>	2000		0		NS
	8/22/2019	<	1		43		NS
	9/11/2019	>	2000		22		NS
PR-2S	6/26/2019		700		1		NS
	7/17/2019		4300		1		NS
	7/31/2019		880	<	1		NS
	8/22/2019		1320		2		NS
	9/11/2019		4200		13		NS
PR-3S	6/26/2019		44		1		NS
	7/17/2019		1964	<	1		NS
	7/31/2019		780	<	1		NS
	8/22/2019		1320	<	1		NS
	9/11/2019		5700	<	1		NS
PR-4S	6/26/2019	>	20000		10		NS
	7/17/2019	>	20000		9		NS
	7/31/2019	>	2000		12		NS
	8/22/2019	>	20000		90		NS
	9/11/2019		41000		5		NS

4.0 REFERENCES

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APPENDIX A

STRATIFICATION DATA TABLES

2019 Prompton WQ Profile Summary

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
PR-1S Upstream	6/26/2019	11:40:56	0.5	17.9	90.5	8.58	7.65	-44.8	198.3	0.6	1.8	0.059
	7/17/2019	12:04:12	0.5	22.18	101.9	8.88	8.42	-90.8	199.7	4.8	1.2	0.08
	7/31/2019	12:02:57	0.5	20.02	100.3	9.11	7.79	-53.6	211.3	0.7	2.1	0.076
	8/22/2019	9:52:51	0.5	20.28	95.8	8.66	8.62	-102	95.2	0.3	2.4	0.08
	9/11/2019	11:44:06	0.5	18.77	96.1	8.96	7.88	-58.4	218.4	0	2	0.078
PR-2 Mid-Lake	6/26/2019	13:02:21	0.5	25.33	121.8	10.01	9.27	-142	115.3	1.3	8.4	0.061
		13:01:39	5	19.13	91.3	8.44	7.39	-30	155.3	2	9.5	0.052
		13:00:11	10	18.08	72	6.81	7.1	-12.6	159.6	1.4	3.4	0.051
		12:58:55	15	17.08	59.3	5.72	7.04	-9.6	158	2.7	1.9	0.052
		12:57:54	20	16.2	49.2	4.84	7.09	-12.5	155.4	5.1	2.6	0.054
PR-2 Mid-Lake	7/17/2019	13:20:20	0.5	28.21	125.2	9.76	9.41	-152	79.2	2.4	3.4	0.076
		13:19:36	5	26.3	119.8	9.67	9.39	-150	78	4	6.5	0.073
		13:18:45	10	24.08	71.5	6.01	7.27	-23.3	108.5	2.2	7.5	0.073
		13:17:05	15	21.65	31.1	2.74	6.98	-6	101	3.2	3.7	0.08
		13:16:00	18	20.37	14.9	1.34	6.94	-3.3	87.8	5.1	3.2	0.081
PR-2 Mid-Lake	7/31/2019	13:14:42	0.5	27.33	136.9	10.84	9.71	-170	61.7	6.5	8.7	0.081
		13:14:06	5	26.23	131.3	10.61	9.69	-168	55.1	5.8	7.4	0.078
		13:12:34	10	23.89	25.8	2.17	6.93	-2.8	56.1	4.4	2.6	0.076
		13:11:15	15	22.67	10.4	0.9	6.86	0.9	71.9	5.7	3.5	0.080
		13:10:16	18	22	7.5	0.66	6.9	-1.3	77.3	5.9	0	0.085
PR-2 Mid-Lake	8/22/2019	9:16:09	0.5	25.91	143.3	11.65	9.89	-180	54.1	14.8	10.8	0.085
		9:14:58	5	25.81	131.9	10.73	9.79	-174	53.9	13.5	10.2	0.08
		9:13:07	10	23.26	24.5	2.09	7.07	-11.2	79.4	1	2.6	0.076
		9:11:19	15	21.92	18.4	1.61	7.07	-11.1	68.3	1.4	1.7	0.078
		9:09:04	20	20.56	3.2	0.29	7.15	-16	31.2	41.5	2.7	0.087
PR-2 Mid-Lake	9/11/2019	13:24:16	0.5	24.57	109.9	9.15	9.04	-128	82.5	12.3	7.4	0.079
		13:22:41	5	21.1	99	8.81	8.75	-110	70.1	12.3	6.6	0.072
		13:20:05	10	20.23	62.1	5.62	7.35	-27.8	56.5	6.4	4.1	0.071
		13:17:54	15	19.45	41.6	3.83	7.39	-29.7	10.4	5.2	2.9	0.072
		13:16:08	20	18.23	2.6	0.24	7.48	-35	-163	-0.8	5.9	0.085

2019 Prompton WQ Profile Summary

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
PR-3 Upstream of Dam Secchi 2.05	6/26/2019											
		12:41:59	0.5	25.92	122.5	9.96	9.16	-136	50.6	1.1	8.7	0.061
		12:40:41	5	19.03	84.1	7.8	7.45	-33.2	83.5	2.1	10.8	0.051
		12:39:01	10	18.11	66.2	6.25	7.02	-8.4	76.1	1.6	3.3	0.051
		12:37:46	15	17.59	63.9	6.1	7.01	-7.4	62.3	1.3	2.8	0.05
		12:35:59	20	15.97	38.1	3.77	6.86	1	30.2	2.5	2.8	0.055
		12:33:59	25	13.98	10.2	1.05	6.73	8.5	-34.6	2.6	2	0.058
		12:32:46	30	10.4	2.3	0.26	6.78	5.6	-87.6	6.8	2.7	0.07
PR-3 Upstream of Dam Secchi 2.05	7/17/2019											
		12:57:48	0.5	28.01	120.9	9.46	9.39	-151	49	1.7	3.8	0.074
		12:57:06	5	26.9	121.6	9.71	9.47	-155	38.8	1.8	4.2	0.073
		12:56:02	10	24.4	90.6	7.57	7.53	-38.3	45.9	2.3	12.4	0.07
		12:54:34	15	21.99	45.4	3.97	7.08	-11.7	22.9	0.9	7.4	0.07
		12:53:06	20	17.56	2	0.19	6.92	-2.4	-53.7	1.9	3.9	0.07
		12:51:47	25	13.25	1.7	0.18	6.83	2.5	-74.2	4.3	3.9	0.072
		12:49:38	30	10.17	2.3	0.25	7.12	-14.1	-139	13.2	4	0.126
PR-3 Upstream of Dam Secchi 1.3	7/31/2019											
		12:50:23	0.5	27.13	129.2	10.27	9.66	-167	67.8	4	7.9	0.078
		12:47:44	5	26.56	123	9.88	9.71	-170	24	3.7	8.3	0.078
		12:46:33	10	24.13	11.1	0.93	6.96	-5	-14.7	0.4	4	0.075
		12:45:50	15	22.55	13.5	1.16	7.04	-9.3	-28.2	0.4	2.3	0.077
		12:44:37	20	19.43	2.4	0.22	7.12	-13.9	-89.7	2.1	3.3	0.083
		12:43:33	25	13.04	1.8	0.19	7.03	-9.1	-127	0.2	2.6	0.084
		12:42:06	30	10.7	1.8	0.21	7.23	-20	-150	7.7	4.2	0.132
PR-3 Upstream of Dam Secchi 0.8	8/22/2019											
		8:47:54	0.5	25.47	133.4	10.93	9.8	-174	47.2	10.9	6.6	0.081
		8:46:31	5	25.36	122.2	10.03	9.65	-165	40.4	9.7	6.1	0.079
		8:44:22	10	23.37	27.8	2.37	7.11	-13.8	9.9	0	2.2	0.074
		8:42:54	15	22.44	16.3	1.41	7.11	-13.8	-27.5	0.1	2.1	0.073
		8:40:49	20	19.18	2.3	0.21	7.31	-25	-139	0	2.1	0.088
		8:38:55	25	14.47	2.6	0.26	7.35	-27	-164	5.9	1.8	0.099
		8:35:43	30	10.94	2.4	0.27	7.33	-25.6	-180	14.4	4.6	0.164
PR-3 Upstream of Dam Secchi 1.0	9/11/2019											
		12:53:36	0.5	23.78	99.8	8.44	8.57	-100	82.8	10.6	5	0.077
		12:52:28	5	20.92	92.7	8.28	8.38	-88.1	76.5	9	5.8	0.072
		12:50:37	10	20.4	73.3	6.61	7.47	-34.7	68.2	7.7	3.6	0.071
		12:48:11	15	19.97	42.1	3.83	7.28	-23.6	40.6	3.1	2.6	0.073
		12:44:24	20	18.01	2.1	0.2	7.35	-27.6	-149	0.4	2.3	0.099
		12:42:58	25	13.54	1.9	0.2	7.29	-23.6	-167	1.5	2.4	0.127
		12:41:34	30	10.88	2	0.23	7.35	-26.8	-214	159	8.3	0.245
PR-4S Dam Outfall	6/26/2019	11:29:41	0.5	20.62	82.1	7.37	7.36	-28.5	162.3	0.7	3.6	0.055
	7/17/2019	11:47:41	0.5	21.76	83.5	7.33	6.92	-2.7	193	0.3	2.7	0.071
	7/31/2019	11:49:34	0.5	21.8	79.9	7.01	7.21	-19.2	201.5	0.5	2.5	0.077
	8/22/2019	10:07:19	0.5	21.47	72.7	6.42	7.48	-35.4	136.4	0.6	2.2	0.077
	9/11/2019	11:24:26	0.5	20.41	83.7	7.55	7.34	-27.2	186.2	9.7	3.6	0.074

APPENDIX B

LABORATORY CUSTODY SHEETS

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC90655

Sampling Date: 06/26/19

Report to:

Army Corps of Engineers

joseph.m.loeper@usace.army.mil

ATTN: Joseph Loeper

Total number of pages in report: 21



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Sample Summary

USACE-Philadelphia District

Job No: JC90655

Philadelphia District, Reservoir Sampling

Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC90655-1	06/26/19	11:45 GW	06/26/19	AQ	Surface Water	PR-1S
JC90655-2	06/26/19	13:00 GW	06/26/19	AQ	Surface Water	PR-2S
JC90655-3	06/26/19	13:00 GW	06/26/19	AQ	Surface Water	PR-2M
JC90655-4	06/26/19	13:00 GW	06/26/19	AQ	Surface Water	PR-2D
JC90655-5	06/26/19	12:30 GW	06/26/19	AQ	Surface Water	PR-3S
JC90655-6	06/26/19	12:30 GW	06/26/19	AQ	Surface Water	PR-3M
JC90655-7	06/26/19	12:30 GW	06/26/19	AQ	Surface Water	PR-3D
JC90655-8	06/26/19	11:00 GW	06/26/19	AQ	Surface Water	PR-4S

CASE NARRATIVE / CONFORMANCE SUMMARY

2

Client: USACE-Philadelphia District

Job No JC90655

Site: Philadelphia District, Reservoir Sampling

Report Date 7/12/2019 5:50:36 PM

On 06/26/2019, 8 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.2 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC90655 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

General Chemistry By Method EPA 351.2/LACHAT

Matrix: AQ

Batch ID: GP22277

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90654-1DUP, JC90654-1MS were used as the QC samples for Nitrogen, Total Kjeldahl.

General Chemistry By Method EPA 353.2/LACHAT

Matrix: AQ

Batch ID: GP22264

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90660-2DUP, JC90660-2MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Friday, July 12, 2019

Page 1 of 4

General Chemistry By Method EPA353.2/SM4500NO2B

Matrix: AQ

Batch ID: R179597

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC90655-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R179598

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC90655-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R179599

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC90655-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R179600

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC90655-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R179601

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC90655-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R179602

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC90655-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R179603

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC90655-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R179610

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC90655-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM2320 B-11

Matrix: AQ

Batch ID: GN97287

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90585-9DUP were used as the QC samples for Alkalinity, Total as CaCO₃.
- JC90655-2 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.2.
- JC90655-3 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC90655-1 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.

Matrix: AQ

Batch ID: GN97288

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90654-1DUP were used as the QC samples for Alkalinity, Total as CaCO₃.
- JC90655-6 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.2.
- JC90655-5 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.2.
- JC90655-4 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.2.
- JC90655-8 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.2.
- JC90655-7 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.

General Chemistry By Method SM2540 C-11

Matrix: AQ

Batch ID: GN97041

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90649-1DUP were used as the QC samples for Solids, Total Dissolved.

General Chemistry By Method SM2540 D-11

Matrix: AQ

Batch ID: GN97010

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90659-3DUP were used as the QC samples for Solids, Total Suspended.

General Chemistry By Method SM4500NH3 H-11LACHAT

Matrix: AQ

Batch ID: GP22314

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90585-14DUP, JC90585-14MS, JC90585-14MSD were used as the QC samples for Nitrogen, Ammonia.

Matrix: AQ

Batch ID: GP22315

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90655-5DUP, JC90655-5MS, JC90655-5MSD were used as the QC samples for Nitrogen, Ammonia.

General Chemistry By Method SM4500NO2 B-11

Matrix: AQ

Batch ID: GN96916

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90655-4DUP, JC90655-4MS were used as the QC samples for Nitrogen, Nitrite.

General Chemistry By Method SM5210 B-11

Matrix: AQ

Batch ID: GP22068

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90709-2DUP were used as the QC samples for BOD, 5 Day.

General Chemistry By Method SM5310 B-11

Matrix: AQ

Batch ID: GP22238

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC90655-1MS, JC90655-1MSD were used as the QC samples for Total Organic Carbon.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Page 1 of 2

Job Number: JC90655
Account: USACE-Philadelphia District
Project: Philadelphia District, Reservoir Sampling
Collected: 06/26/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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JC90655-1 PR-1S

Alkalinity, Total as CaCO ₃ ^a	23.0	10			mg/l	SM2320 B-11
Nitrogen, Nitrate ^b	0.41	0.11			mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.41	0.10			mg/l	EPA 353.2/LACHAT
Nitrogen, Total Kjeldahl	0.22	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	35.0	10			mg/l	SM2540 C-11
Total Organic Carbon	2.5	1.0			mg/l	SM5310 B-11

JC90655-2 PR-2S

Alkalinity, Total as CaCO ₃ ^c	14.0	10			mg/l	SM2320 B-11
Nitrogen, Total Kjeldahl	0.40	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	31.0	10			mg/l	SM2540 C-11
Total Organic Carbon	4.0	1.0			mg/l	SM5310 B-11

JC90655-3 PR-2M

Alkalinity, Total as CaCO ₃ ^a	25.0	10			mg/l	SM2320 B-11
Nitrogen, Total Kjeldahl	0.34	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	32.0	10			mg/l	SM2540 C-11
Total Organic Carbon	3.4	1.0			mg/l	SM5310 B-11

JC90655-4 PR-2D

Nitrogen, Nitrate ^b	0.24	0.11			mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.24	0.10			mg/l	EPA 353.2/LACHAT
Nitrogen, Total Kjeldahl	0.44	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	30.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	20.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	3.4	1.0			mg/l	SM5310 B-11

JC90655-5 PR-3S

Alkalinity, Total as CaCO ₃ ^c	14.0	10			mg/l	SM2320 B-11
Nitrogen, Total Kjeldahl	0.49	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	35.0	10			mg/l	SM2540 C-11
Total Organic Carbon	3.8	1.0			mg/l	SM5310 B-11

JC90655-6 PR-3M

Nitrogen, Total Kjeldahl	0.38	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	29.0	10			mg/l	SM2540 C-11
Total Organic Carbon	3.8	1.0			mg/l	SM5310 B-11

Summary of Hits

Page 2 of 2

Job Number: JC90655
Account: USACE-Philadelphia District
Project: Philadelphia District, Reservoir Sampling
Collected: 06/26/19



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JC90655-7 PR-3D

Alkalinity, Total as CaCO ₃ ^a	20.0	10			mg/l	SM2320 B-11
Nitrogen, Ammonia	0.88	0.20			mg/l	SM4500NH ₃ H-11LACHAT
Nitrogen, Total Kjeldahl	1.1	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	36.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	21.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	4.3	1.0			mg/l	SM5310 B-11

JC90655-8 PR-4S

Alkalinity, Total as CaCO ₃ ^c	10.0	10			mg/l	SM2320 B-11
Nitrogen, Total Kjeldahl	0.47	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	33.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	5.6	4.0			mg/l	SM2540 D-11
Total Organic Carbon	3.7	1.0			mg/l	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Sample was titrated to a final pH of 4.2.



Dayton, NJ

Section 4

4

Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

Client Sample ID: PR-1S	Date Sampled: 06/26/19
Lab Sample ID: JC90655-1	Date Received: 06/26/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	23.0	10	mg/l	1	07/08/19 21:03	MS	SM2320 B-11
BOD, 5 Day	< 10	10	mg/l	1	06/28/19 11:43	RI	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/11/19 15:44	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	0.41	0.11	mg/l	1	07/09/19 16:13	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.41	0.10	mg/l	1	07/09/19 16:13	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	06/27/19 13:00	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.22	0.20	mg/l	1	07/12/19 13:30	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	35.0	10	mg/l	1	06/30/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	< 4.0	4.0	mg/l	1	06/29/19 12:24	RC	SM2540 D-11
Total Organic Carbon	2.5	1.0	mg/l	1	07/08/19 23:26	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-2S	Date Sampled: 06/26/19
Lab Sample ID: JC90655-2	Date Received: 06/26/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	14.0	10	mg/l	1	07/08/19 21:03	MS	SM2320 B-11
BOD, 5 Day	< 10	10	mg/l	1	06/28/19 11:45	RI	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/11/19 15:46	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/09/19 16:14	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/09/19 16:14	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	06/27/19 13:00	JO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.40	0.20	mg/l	1	07/12/19 13:31	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	31.0	10	mg/l	1	06/30/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	< 4.0	4.0	mg/l	1	06/29/19 12:24	RC	SM2540 D-11
Total Organic Carbon	4.0	1.0	mg/l	1	07/09/19 00:01	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.2.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-2M	Date Sampled:	06/26/19
Lab Sample ID:	JC90655-3	Date Received:	06/26/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	25.0	10	mg/l	1	07/08/19 21:03	MS	SM2320 B-11
BOD, 5 Day	< 10	10	mg/l	1	06/28/19 11:48	RI	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/11/19 15:47	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/09/19 16:15	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/09/19 16:15	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	06/27/19 13:00	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.34	0.20	mg/l	1	07/12/19 13:32	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	32.0	10	mg/l	1	06/30/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	< 4.0	4.0	mg/l	1	06/29/19 12:24	RC	SM2540 D-11
Total Organic Carbon	3.4	1.0	mg/l	1	07/09/19 00:12	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-2D	Date Sampled: 06/26/19
Lab Sample ID: JC90655-4	Date Received: 06/26/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	< 10	10	mg/l	1	07/08/19 21:56	MS	SM2320 B-11
BOD, 5 Day	< 10	10	mg/l	1	06/28/19 11:50	RI	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/11/19 15:48	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	0.24	0.11	mg/l	1	07/09/19 16:16	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.24	0.10	mg/l	1	07/09/19 16:16	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	06/27/19 13:00	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.44	0.20	mg/l	1	07/12/19 13:33	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	30.0	10	mg/l	1	06/30/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	20.0	4.0	mg/l	1	06/29/19 12:24	RC	SM2540 D-11
Total Organic Carbon	3.4	1.0	mg/l	1	07/09/19 00:25	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.2.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-3S	Date Sampled: 06/26/19
Lab Sample ID: JC90655-5	Date Received: 06/26/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	14.0	10	mg/l	1	07/08/19 21:56	MS	SM2320 B-11
BOD, 5 Day	< 10	10	mg/l	1	06/28/19 11:52	RI	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/11/19 16:01	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/09/19 16:18	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/09/19 16:18	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	06/27/19 13:00	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.49	0.20	mg/l	1	07/12/19 13:33	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	35.0	10	mg/l	1	06/30/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	< 4.0	4.0	mg/l	1	06/29/19 12:24	RC	SM2540 D-11
Total Organic Carbon	3.8	1.0	mg/l	1	07/09/19 01:00	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.2.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-3M	Date Sampled:	06/26/19
Lab Sample ID:	JC90655-6	Date Received:	06/26/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	< 10	10	mg/l	1	07/08/19 21:56	MS	SM2320 B-11
BOD, 5 Day	< 10	10	mg/l	1	06/28/19 12:17	RI	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/11/19 16:03	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/09/19 16:19	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/09/19 16:19	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	06/27/19 13:00	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.38	0.20	mg/l	1	07/12/19 13:34	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	29.0	10	mg/l	1	06/30/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	< 4.0	4.0	mg/l	1	06/29/19 12:24	RC	SM2540 D-11
Total Organic Carbon	3.8	1.0	mg/l	1	07/09/19 01:12	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.2.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-3D	Date Sampled: 06/26/19
Lab Sample ID: JC90655-7	Date Received: 06/26/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	20.0	10	mg/l	1	07/08/19 21:56	MS	SM2320 B-11
BOD, 5 Day	< 10	10	mg/l	1	06/28/19 12:18	RI	SM5210 B-11
Nitrogen, Ammonia	0.88	0.20	mg/l	1	07/11/19 16:04	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/09/19 16:20	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/09/19 16:20	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	06/27/19 15:00	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	1.1	0.20	mg/l	1	07/12/19 13:35	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	36.0	10	mg/l	1	06/30/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	21.0	4.0	mg/l	1	06/29/19 12:24	RC	SM2540 D-11
Total Organic Carbon	4.3	1.0	mg/l	1	07/09/19 01:23	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-4S	Date Sampled: 06/26/19
Lab Sample ID: JC90655-8	Date Received: 06/26/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	10.0	10	mg/l	1	07/08/19 21:56	MS	SM2320 B-11
BOD, 5 Day	< 10	10	mg/l	1	06/28/19 10:59	RI	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/11/19 16:06	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/09/19 16:21	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/09/19 16:21	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	06/27/19 15:00	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.47	0.20	mg/l	1	07/12/19 13:36	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	33.0	10	mg/l	1	06/30/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	5.6	4.0	mg/l	1	06/29/19 12:24	RC	SM2540 D-11
Total Organic Carbon	3.7	1.0	mg/l	1	07/09/19 01:35	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.2.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



SW

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 1 of 1

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FED-EX Tracking #
SGS Quote #
Butte Order Control #
SGS Job #

TM-061819-30
JC90655

Client / Reporting Information		Project Information		Requested Analysis										Matrix Codes																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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₋₆₇		H ₂ PO ₋₆₈		H ₂ PO ₋₆₉		H ₂ PO ₋₇₀		H ₂ PO ₋₇₁		H ₂ PO ₋₇₂		H ₂ PO ₋₇₃		H ₂ PO ₋₇₄		H ₂ PO ₋₇₅		H ₂ PO ₋₇₆		H ₂ PO ₋₇₇		H ₂ PO ₋₇₈		H ₂ PO ₋₇₉		H ₂ PO ₋₈₀		H ₂ PO ₋₈₁		H ₂ PO ₋₈₂		H ₂ PO ₋₈₃		H ₂ PO ₋₈₄		H ₂ PO ₋₈₅		H ₂ PO ₋₈₆		H ₂ PO ₋₈₇		H ₂ PO ₋₈₈		H ₂ PO ₋₈₉		H ₂ PO ₋₉₀		H ₂ PO ₋₉₁		H ₂ PO ₋₉₂		H ₂ PO ₋₉₃		H ₂ PO ₋₉₄		H ₂ PO ₋₉₅		H ₂ PO ₋₉₆		H ₂ PO ₋₉₇		H ₂ PO ₋₉₈		H ₂ PO ₋₉₉		H ₂ PO ₋₁₀₀		H ₂ PO ₋₁₀₁		H ₂ PO ₋₁₀₂		H ₂ PO ₋₁₀₃		H ₂ PO ₋₁₀₄		H ₂ PO ₋₁₀₅		H ₂ PO ₋₁₀₆		H ₂ PO ₋₁₀₇		H ₂ PO ₋₁₀₈		H ₂ PO ₋₁₀₉		H ₂ PO ₋₁₁₀		H ₂ PO ₋₁₁₁		H ₂ PO ₋₁₁₂		H ₂ PO ₋₁₁₃		H ₂ PO ₋₁₁₄		H ₂ PO ₋₁₁₅		H ₂ PO ₋₁₁₆		H ₂ PO ₋₁₁₇		H ₂ PO ₋₁₁₈		H ₂ PO ₋₁₁₉		H ₂ PO ₋₁₂₀		H ₂ PO ₋₁₂₁		H ₂ PO ₋₁₂₂		H ₂ PO ₋₁₂₃		H ₂ PO ₋₁₂₄		H ₂ PO ₋₁₂₅		H ₂ PO ₋₁₂₆		H ₂ PO ₋₁₂₇		H ₂ PO ₋₁₂₈		H ₂ PO ₋₁₂₉		H ₂ PO ₋₁₃₀		H ₂ PO ₋₁₃₁		H ₂ PO ₋₁₃₂		H ₂ PO ₋₁₃₃		H ₂ PO ₋₁₃₄		H ₂ PO ₋₁₃₅		H ₂ PO ₋₁₃₆		H ₂ PO ₋₁₃₇		H ₂ PO ₋₁₃₈		H ₂ PO ₋₁₃₉		H ₂ PO ₋₁₄₀		H ₂ PO ₋₁₄₁		H ₂ PO ₋₁₄₂		H ₂ PO ₋₁₄₃		H ₂ PO ₋₁₄₄		H ₂ PO ₋₁₄₅		H ₂ PO ₋₁₄₆		H ₂ PO ₋₁₄₇		H ₂ PO ₋₁₄₈		H ₂ PO ₋₁₄₉		H ₂ PO ₋₁₅₀		H ₂ PO ₋₁₅₁		H ₂ PO ₋₁₅₂		H ₂ PO ₋₁₅₃		H ₂ PO ₋₁₅₄		H ₂ PO ₋₁₅₅		H ₂ PO ₋₁₅₆		H ₂ PO ₋₁₅₇		H ₂ PO ₋₁₅₈		H ₂ PO ₋₁₅₉		H ₂ PO ₋₁₆₀		H ₂ PO ₋₁₆₁		H ₂ PO ₋₁₆₂		H ₂ PO ₋₁₆₃		H ₂ PO ₋₁₆₄		H ₂ PO ₋₁₆₅		H ₂ PO ₋₁₆₆		H ₂ PO ₋₁₆₇		H ₂ PO ₋₁₆₈		H ₂ PO ₋₁₆₉		H ₂ PO ₋₁₇₀		H ₂ PO ₋₁₇₁		H ₂ PO ₋₁₇₂		H ₂ PO ₋₁₇₃		H ₂ PO ₋₁₇₄		H ₂ PO ₋₁₇₅		H ₂ PO ₋₁₇₆		H ₂ PO ₋₁₇₇		H ₂ PO ₋₁₇₈		H ₂ PO ₋₁₇₉		H ₂ PO ₋₁₈₀		H ₂ PO ₋₁₈₁		H ₂ PO ₋₁₈₂		H ₂ PO ₋₁₈₃		H ₂ PO ₋₁₈₄		H ₂ PO ₋₁₈₅		H ₂ PO ₋₁₈₆		H ₂ PO ₋₁₈₇		H ₂ PO ₋₁₈₈		H ₂ PO ₋₁₈₉		H ₂ PO ₋₁₉₀		H ₂ PO ₋₁₉₁		H ₂ PO ₋₁₉₂		H ₂ PO ₋₁₉₃		H ₂ PO ₋₁₉₄		H ₂ PO ₋₁₉₅		H ₂ PO ₋₁₉₆		H ₂ PO ₋₁₉₇		H ₂ PO ₋₁₉₈		H ₂ PO ₋₁₉₉		H ₂ PO ₋₂₀₀		H ₂ PO ₋₂₀₁		H ₂ PO ₋₂₀₂		H ₂ PO ₋₂₀₃		H ₂ PO ₋₂₀₄		H ₂ PO ₋₂₀₅		H ₂ PO ₋₂₀₆		H ₂ PO ₋₂₀₇		H ₂ PO ₋₂₀₈		H ₂ PO ₋₂₀₉		H ₂ PO ₋₂₁₀		H ₂ PO ₋₂₁₁		H ₂ PO ₋₂₁₂		H ₂ PO ₋₂₁₃		H ₂ PO ₋₂₁₄		H ₂ PO ₋₂₁₅		H ₂ PO ₋₂₁₆		H ₂ PO ₋₂₁₇		H ₂ PO ₋₂₁₈		H ₂ PO ₋₂₁₉		H ₂ PO ₋₂₂₀		H ₂ PO ₋₂₂₁		H ₂ PO ₋₂₂₂		H ₂ PO ₋₂₂₃		H ₂ PO ₋₂₂₄		H ₂ PO ₋₂₂₅		H ₂ PO ₋₂₂₆		H ₂ PO ₋₂₂₇		H ₂ PO ₋₂₂₈		H ₂ PO ₋₂₂₉		H ₂ PO ₋₂₃₀		H ₂ PO ₋₂₃₁		H ₂ PO ₋₂₃₂		H ₂ PO ₋₂₃₃		H ₂ PO ₋₂₃₄		H ₂ PO ₋₂₃₅		H ₂ PO ₋₂₃₆		H ₂ PO ₋₂₃₇		H ₂ PO ₋₂₃₈		H ₂ PO ₋₂₃₉		H ₂ PO ₋₂₄₀		H ₂ PO ₋₂₄₁		H ₂ PO ₋₂₄₂		H ₂ PO ₋₂₄₃		H ₂ PO ₋₂₄₄		H ₂ PO ₋₂₄₅		H ₂ PO ₋₂₄₆		H ₂ PO ₋₂₄₇		H ₂ PO ₋₂₄₈		H ₂ PO ₋₂₄₉		H ₂ PO ₋₂₅₀		H ₂ PO ₋₂₅₁		H ₂ PO ₋₂₅₂		H ₂ PO ₋₂₅₃		H ₂ PO ₋₂₅₄		H ₂ PO ₋₂₅₅		H ₂ PO ₋₂₅₆		H ₂ PO ₋₂₅₇		H ₂ PO ₋₂₅₈		H ₂ PO ₋₂₅₉		H ₂ PO ₋₂₆₀		H ₂ PO ₋₂₆₁		H ₂ PO ₋₂₆₂		H ₂ PO ₋₂₆₃		H ₂ PO ₋₂₆₄		H ₂ PO ₋₂₆₅		H ₂ PO ₋₂₆₆		H ₂ PO ₋₂₆₇		H ₂ PO ₋₂₆₈		H ₂ PO ₋₂₆₉		H ₂ PO ₋₂₇₀		H ₂ PO ₋₂₇₁		H ₂ PO ₋₂₇₂		H ₂ PO ₋₂₇₃		H ₂ PO ₋₂₇₄		H ₂ PO ₋₂₇₅		H ₂ PO ₋₂₇₆		H ₂ PO ₋₂₇₇		H ₂ PO ₋₂₇₈		H ₂ PO ₋₂₇₉		H ₂ PO ₋₂₈₀		H ₂ PO ₋₂₈₁		H ₂ PO ₋₂₈₂		H ₂ PO ₋₂₈₃		H ₂ PO ₋₂₈₄		H ₂ PO ₋₂₈₅		H ₂ PO ₋₂₈₆		H ₂ PO ₋₂₈₇		H ₂ PO ₋₂₈₈		H ₂ PO ₋₂₈₉		H ₂ PO ₋₂₉₀		H ₂ PO ₋₂₉₁		H ₂ PO ₋₂₉₂		H ₂ PO ₋₂₉₃		H ₂ PO ₋₂₉₄		H ₂ PO ₋₂₉₅		H ₂ PO ₋₂₉₆		H ₂ PO ₋₂₉₇		H ₂ PO ₋₂₉₈		H ₂ PO ₋₂₉₉		H ₂ PO ₋₃₀₀		H ₂ PO ₋₃₀₁		H ₂ PO ₋₃₀₂		H ₂ PO ₋₃₀₃		H ₂ PO ₋₃₀₄		H ₂ PO ₋₃₀₅		H ₂ PO ₋₃₀₆		H ₂ PO ₋₃₀₇		H ₂ PO ₋₃₀₈		H ₂ PO ₋₃₀₉		H ₂ PO ₋₃₁₀		H ₂ PO ₋₃₁₁		H ₂ PO ₋₃₁₂		H ₂ PO ₋₃₁₃		H ₂ PO ₋₃₁₄		H ₂ PO ₋₃₁₅		H ₂ PO ₋₃₁₆		H ₂ PO ₋₃₁₇		H ₂ PO ₋₃₁₈		H ₂ PO ₋₃₁₉		H ₂ PO ₋₃₂₀		H ₂ PO ₋₃₂₁		H ₂ PO ₋₃₂₂		H ₂ PO ₋₃₂₃		H ₂ PO ₋₃₂₄		H ₂ PO ₋₃₂₅		H ₂ PO ₋₃₂₆		H ₂ PO ₋₃₂₇		H ₂ PO ₋₃₂₈		H ₂ PO ₋₃₂₉		H ₂ PO ₋₃₃₀		H ₂ PO ₋₃₃₁		H ₂ PO ₋₃₃₂		H ₂ PO ₋₃₃₃		H ₂ PO ₋₃₃₄		H ₂ PO ₋₃₃₅		H ₂ PO ₋₃₃₆		H ₂ PO ₋₃₃₇		H ₂ PO ₋₃₃₈		H ₂ PO ₋₃₃₉		H ₂ PO ₋₃₄₀		H ₂ PO ₋₃₄₁		H ₂ PO ₋₃₄₂		H ₂ PO ₋₃₄₃		H ₂ PO ₋₃₄₄		H ₂ PO ₋₃₄₅		H ₂ PO ₋₃₄₆		H ₂ PO ₋₃₄₇		H ₂ PO ₋₃₄₈		H ₂ PO ₋₃₄₉		H ₂ PO ₋₃₅₀		H ₂ PO ₋₃₅₁		H ₂ PO ₋₃₅₂		H ₂ PO ₋₃₅₃		H ₂ PO ₋₃₅₄		H ₂ PO ₋₃₅₅		H ₂ PO ₋₃₅₆		H ₂ PO ₋₃₅₇		H ₂ PO ₋₃₅₈		H ₂ PO ₋₃₅₉		H ₂ PO ₋₃₆₀		H ₂ PO ₋₃₆₁		H ₂ PO ₋₃₆₂		H ₂ PO ₋₃₆₃		H ₂ PO ₋₃₆₄		H ₂ PO ₋₃₆₅		H ₂ PO ₋₃₆₆		H ₂ PO ₋₃₆₇		H ₂ PO ₋₃₆₈		H ₂ PO ₋₃₆₉		H ₂ PO ₋₃₇₀		H ₂ PO ₋₃₇₁		H ₂ PO ₋₃₇₂		H ₂ PO ₋₃₇₃		H ₂ PO ₋₃₇₄		H ₂ PO ₋₃₇₅		H ₂ PO ₋₃₇₆		H ₂ PO ₋₃₇₇		H ₂ PO ₋₃₇₈		H ₂ PO ₋₃₇₉		H ₂ PO ₋₃₈₀		H ₂ PO ₋₃₈₁		H ₂ PO ₋₃₈₂		H ₂ PO ₋₃₈₃		H ₂ PO ₋₃₈₄		H ₂ PO ₋₃₈₅		H ₂ PO ₋₃₈₆		H ₂ PO ₋₃₈₇		H ₂ PO ₋₃₈₈		H ₂ PO ₋₃₈₉		H ₂ PO ₋₃₉₀		H ₂ PO ₋₃₉₁		H ₂ PO ₋₃₉₂		H ₂ PO ₋₃₉₃		H ₂ PO ₋₃₉₄		H ₂ PO ₋₃₉₅		H ₂ PO ₋₃₉₆		H ₂ PO ₋₃₉₇		H ₂ PO ₋₃₉₈		H ₂ PO ₋₃₉₉		H ₂ PO ₋₄₀₀		H ₂ PO ₋₄₀₁		H ₂ PO ₋₄₀₂		H ₂ PO ₋₄₀₃		H ₂ PO ₋₄₀₄		H ₂ PO ₋₄₀₅		H ₂ PO ₋₄₀₆		H ₂ PO ₋₄₀₇		H ₂ PO ₋₄₀₈		H ₂ PO ₋₄₀₉		H ₂ PO ₋₄₁₀		H ₂ PO ₋₄₁₁		H ₂ PO ₋₄₁₂		H ₂ PO ₋₄₁₃		H ₂ PO ₋₄₁₄		H ₂ PO ₋₄₁₅		H ₂ PO ₋₄₁₆		H ₂ PO ₋₄₁₇		H ₂ PO ₋₄₁₈		H ₂ PO ₋₄₁₉		H ₂ PO ₋₄₂₀		H ₂ PO ₋₄₂₁		H ₂ PO ₋₄₂₂		H ₂ PO ₋₄₂₃		H ₂ PO ₋₄₂₄		H ₂ PO ₋₄₂₅		H ₂ PO ₋₄₂₆		H ₂ PO ₋₄₂₇		H ₂ PO ₋₄₂₈		H ₂ PO ₋₄₂₉		H ₂ PO ₋₄₃₀		H ₂ PO ₋₄₃₁		H ₂ PO ₋₄₃₂		H ₂ PO ₋₄₃₃		H ₂ PO ₋₄₃₄		H ₂ PO ₋₄₃₅		H ₂ PO ₋₄₃₆		H ₂ PO ₋₄₃₇		H ₂ PO ₋₄₃₈		H ₂ PO ₋₄₃₉		H ₂ PO ₋₄₄₀		H ₂ PO ₋₄₄₁		H ₂ PO ₋₄₄₂		H ₂ PO ₋₄₄₃		H ₂ PO ₋₄₄₄		H ₂ PO ₋₄₄₅		H ₂ PO ₋₄₄₆		H ₂ PO ₋₄₄₇		H ₂ PO ₋₄₄₈		H ₂ PO ₋₄₄₉		H ₂ PO ₋₄₅₀		H ₂ PO ₋₄₅₁	

SGS Sample Receipt Summary

Job Number: JC90655

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 6/26/2019 7:16:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (3.5); Cooler 2: (3.6); Cooler 3: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.1); Cooler 2: (3.2); Cooler 3: (3.2);

Cooler Security
Y or N
Y or N

- | | |
|--|---|
| 1. Custody Seals Present: <input checked="" type="checkbox"/> <input type="checkbox"/> | 3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/> |
| 2. Custody Seals Intact: <input checked="" type="checkbox"/> <input type="checkbox"/> | 4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> <input type="checkbox"/> |

Cooler Temperature
Y or N

- | | |
|---|-----------|
| 1. Temp criteria achieved: <input checked="" type="checkbox"/> <input type="checkbox"/> | IR Gun |
| 2. Cooler temp verification: | |
| 3. Cooler media: | Ice (Bag) |
| 4. No. Coolers: | 3 |

Quality Control Preservation
Y or N
N/A

- | | |
|---|--|
| 1. Trip Blank present / cooler: <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Trip Blank listed on COC: <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Samples preserved properly: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 4. VOCs headspace free: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |

Sample Integrity - Documentation
Y or N

- | | |
|---|--|
| 1. Sample labels present on bottles: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Container labeling complete: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Sample container label / COC agree: <input checked="" type="checkbox"/> <input type="checkbox"/> | |

Sample Integrity - Condition
Y or N

- | | |
|---|--------|
| 1. Sample recvd within HT: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. All containers accounted for: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Condition of sample: | Intact |

Sample Integrity - Instructions
Y or N N/A

- | | |
|--|--|
| 1. Analysis requested is clear: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests: <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 4. Compositing instructions clear: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 5. Filtering instructions clear: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |

Test Strip Lot #s:	pH 1-12: 229517	pH 12+: 208717	Other: (Specify)
--------------------	-----------------	----------------	------------------

Comments

SM089-03
Rev. Date 12/7/17

JC90655: Chain of Custody

Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC90655X

Sampling Date: 06/26/19

Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
Joseph.M.Looper@usace.army.mil

ATTN: Joseph Looper

Total number of pages in report: **12**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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3.1: Chain of Custody	11



Sample Summary

USACE-Philadelphia District

Job No: JC90655X

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected		Matrix Code	Type	Client	
	Date	Time By	Received		Sample ID	
JC90655-1X	06/26/19	11:45 GW	06/26/19	AQ	Surface Water	PR-1S
JC90655-2X	06/26/19	13:00 GW	06/26/19	AQ	Surface Water	PR-2S
JC90655-5X	06/26/19	12:30 GW	06/26/19	AQ	Surface Water	PR-3S
JC90655-8X	06/26/19	11:00 GW	06/26/19	AQ	Surface Water	PR-4S



Dayton, NJ

Section 2

Subcontract Lab Data

Report of Analysis

Serialized: 07/25/2019 12:13pm QC36

KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Regarding:

SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

PROJECT ID:**W09769****LABORATORY REPORT NUMBER:****L7139323**

REVISED REPORT NOTIFICATION

The chain of custody was added to the report.



Authorized by: Douglas J. Gump
Client Services Manager

KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Regarding:
KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769, SGS NORTH AMERICA, INC.

P.O. No:

Inv. No: PI
PWSID No:

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7139323-1	PR-1S	06/26/19 11:45am NA C	Customer
Received Date/Time/Temp 06/26/19 05:20pm 8.1 C		Iced (Y/N): Y	

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- PR-1S

Total Coliform, MF	13600 E		cfu/100ml	SM 9222B	1	100	06/26/19 07:38PM LK
Fecal Coliform, MF	23		cfu/100ml	SM 9222D	100	1	06/26/19 06:51PM ZS

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7139323-2	PR-2S	06/26/19 01:00pm NA C	Customer
Received Date/Time/Temp 06/26/19 05:20pm 8.1 C		Iced (Y/N): Y	

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- PR-2S

Total Coliform, MF	700		cfu/100ml	SM 9222B	10	10	06/26/19 07:38PM LK
Fecal Coliform, MF	1		cfu/100ml	SM 9222D	100	1	06/26/19 06:51PM ZS

PIN: 28748

This report is a revision of report number 6530336
Serial Number: 6530367

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769, SGS NORTH AMERICA, INC.

P.O. No:

Inv. No: PI
PWSID No:

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7139323-3 PR-3S 06/26/19 12:30pm NA C Customer
Received Date/Time/Temp 06/26/19 05:20pm 8.1 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- PR-3S

Total Coliform, MF	44		cfu/100ml	SM 9222B	100	1	06/26/19 07:38PM LK
Fecal Coliform, MF	1		cfu/100ml	SM 9222D	100	1	06/26/19 06:51PM ZS

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7139323-4 PR-4S 06/26/19 11:00am NA C Customer
Received Date/Time/Temp 06/26/19 05:20pm 8.1 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- PR-4S

Total Coliform, MF	>20000		cfu/100ml	SM 9222B	1	100	06/26/19 06:36PM LK
Fecal Coliform, MF	10		cfu/100ml	SM 9222D	100	1	06/26/19 06:51PM ZS

Sample Comments | Result Qualifiers:

L7139323-1 :

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.



PIN: 28748

This report is a revision of report number 6530336
Serial Number: 6530367

DEFINITIONS

The following terms or abbreviations are used in this report:

Eurofins QC, LLC (EQC)

<	Less than: In conjunction with a numerical value, indicates a concentration less than RL / MDL
>	Greater than: In conjunction with a numerical value, indicates a concentration greater than RL / MDL
CFU	Colony Forming Unit
DF	Dilution Factor (For Microbiology, DF = volume of sample tested)
DRY	Result was reported on a dry weight basis
MCL	EPA recommended "Maximum Contaminant Level"
MDL	Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
ND	For odor test: No Odor Observed
ND	For all other tests: Analyte concentration Not Detected greater than the RL / MDL

NEG	Negative / Absent
NTU	Nephelometric Turbidity Units
POS	Positive / Present
PPB (µg/L)	Parts per billion: equivalent to 1 microgram per kilogram (µg/Kg) for solids or one microgram per liter (µg/L) for aqueous samples
PPM (mg/L)	Parts per million: equivalent to 1 milligram per kilogram (mg/Kg) for solids or one milligram per liter (mg/L) for aqueous samples
PRES	Presumptive
QUAL	Qualifier (Q)
RL	Laboratory Reporting Limit or Limit of Quantitation (LOQ)
TNTC	Too Numerous To Count
TON	Threshold Odor Number

Data Qualifiers

J	Estimated value > MDL, but < RL
T	Temperature exceedance at receipt, refer to Sample Comments / Results Qualifiers section
E	Estimated CFU count (Microbiology)
Q	Qualifier defined in Sample Comment section on report

Warranties, Terms, and Conditions

- Unless otherwise indicated in the Parameter field, analyses for environmental microbiology, odor, and pharmaceutical microbiology are performed at the EQC Horsham Facility (702 Electronic Dr. Horsham, PA 19044).
- Analyses for Field Parameters are performed by EQC Field staff. Locations and certifications are identified on the Chain of Custody as follows:
 - "ERF" = field staff performs tests under NJ State certification # 02015.
 - "VL" = field staff performs tests under NJ State certification # 06005.
 - "WG" = field staff performs tests under NJ State certification # PA001.
- Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.
- The report shall not be reproduced, except in full, without the written consent of the laboratory.
- All samples are collected as "grab" samples unless otherwise identified.
- Reported results relate only to the sample as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.
- EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance. EQC's internet program "LIVE ACCESS" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.
- The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry), Amanda Berd (Pharmaceutical Microbiology), and Jordan Thorngren (Water Microbiology).

EQC Accreditations

Horsham Facility	<u>NELAP/State IDs-</u>	PA: 46-05499	NJ: PA093	NY: 12080	MD: 357
East Rutherford Facility	<u>State ID-</u>	NJ: 02015			
Vineland Facility	<u>State ID-</u>	NJ: 06005			
Wind Gap Facility	<u>State ID-</u>	NJ: PA001			



CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08510
TEL 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

P7139323-1



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Client / Reporting Information				Project Information				Demanded Analysis								
Company Name: USACE - Phila. District				Project Name: USACE Reservoirs - F.E. Walter/Pompton				L7139323-1								
Street Address: 100 Penn Sq. East				City: Phila. PA 19107				8.1C Iced: Y								
State: PA				City: Phila. PA				CU/WHM 06/26/19 1720								
Project Contact: Joe Loeper				Project #				06/26/19 1755								
Phone #				Client Purchase Order #				ZS								
315-6056-60545				TM-062019-56												
Sampler(s) Name(s): Greg Wasik 597-9780				Project Manager: Tammy McCloskey												
SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled by	Sub (to Cont.)	Matrix	# of bottles	Number of preserved bottles							
									HC	H ₂ O ₂	H ₂ SO ₄	NH ₄ OH	DI Water	MEOH	BNCORE	
1	WA-1S *		6/26/19	6:40	LG	G	SW	2								
2	WA-2S *		7:30	7:30	LG	G	SW	2								
3	WA-3S *		10:40	10:40	LG	G	SW	2								
4	WA-4S *		10:00	10:00	LG	G	SW	2								
5	WA-5S *		8:40	8:40	LG	G	SW	2								
6	WA-6S *		8:05	8:05	LG	G	SW	2								
7	WA-7S *		8:40	8:40	LG	G	SW	2								
8	PR-1S		11:45	11:45	LG	G	SW	2								
9	PR-2S		1:00	1:00	LG	G	SW	2								
10	PR-3S		12:30	12:30	LG	G	SW	2								
11	PR-4S		11:00	11:00	LG	G	SW	2								

Turn Around Time (Business Days)		Deliverable		Comments / Special Instructions	
<input type="checkbox"/> 10 Business Days	<input type="checkbox"/> Commercial "A" (Level 1)	<input type="checkbox"/> NYASP Category A	<input type="checkbox"/> DOD-QSMS	Samples to Eurofin Lab Pompton/Wakelee Res.	
<input type="checkbox"/> 5 Business Days	<input type="checkbox"/> Commercial "B" (Level 2)	<input type="checkbox"/> NYASP Category B			
<input type="checkbox"/> 3 Business Days	<input type="checkbox"/> NJ Reduced (Level 3)	<input type="checkbox"/> MA MCP Criteria			
<input type="checkbox"/> 2 Business Days	<input type="checkbox"/> Full Tier 1 (Level 4)	<input type="checkbox"/> CT RCP Criteria			
<input type="checkbox"/> 1 Business Day	<input type="checkbox"/> Commercial "C"	<input type="checkbox"/> State Forms			
<input type="checkbox"/> Other	<input type="checkbox"/> NJ DKQP	<input type="checkbox"/> EDD Format			
All data available via Lablink				Commercial "A" = Results only; Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Partial Raw data	
Approval needed for 1-3 Business Day TAT					
Requisitioned by: [Signature]	Approved By (SGS PM): [Signature]	Date: 6/26/19	Date: 6/26/19		
Requisitioned by: [Signature]	Requisitioned by: [Signature]	Date: 6/26/19	Date: 6/26/19		
Requisitioned by: [Signature]	Requisitioned by: [Signature]	Date: 6/26/19	Date: 6/26/19		

Matrix Codes			
DW - Drinking Water	SW - Surface Water	LIQ - Other Liquid	SOL - Other Solid
GW - Ground Water	SL - Sludge	ALK - Air	WP - Waste
WY - Wastewater	SED - Sediment	CL - Oil	FB - Field Blank
EB - Equipment Blank	RB - Rinse Blank	TB - Trip Blank	
LAB USE ONLY			

* Received by water Micro at 1735. Could not analyze within sample hold time. Samples not analyzed. Pages of 6-26-19



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

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www.sgs.com/ehsusa

Client / Reporting Information
Company Name: USACE-Phila.District
Street Address: 100 Penn Sq East
City: Phila PA 19107
Project Contact: Joe Loeper
Phone #: 215-656-0545
Email: 610-597-9780
Project Manager: Greg Wacik
Project #

Project Information
Project Name: USACE Reservoirs - Prompton
Street: Prompton PA
Billing Information (if different from Report to)
Company Name: Prompton PA
Street Address: Prompton PA
City: Prompton PA
State: PA
Zip: 19107
Client Purchase Order #: TM-061819-30
Attention: Tammy McClosky

Requested Analysis
TP04 (S06 to M5 Reider)
Alkalinity, Ammonia
BOD, TDS, TKN
TAC, TSS, XNO30

Matrix Codes
DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED - Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB - Equipment Blank
RB - Rinse Blank
TB - Trip Blank

LAB USE ONLY
BZZ
L3673
1943
503

Turn Around Time (Business Days)
☐ 10 Business Days
☐ 5 Business Days
☐ 3 Business Days
☐ 2 Business Days
☐ 1 Business Day
☐ Other

Approved By (SGS PM): / Date: 4/24/19 9:15
Approval needed for 1-3 Business Day TAT

Deliverable
☐ Commercial "A" (Level 1)
☐ Commercial "B" (Level 2)
☐ NJ Reduced (Level 3)
☐ Full Tier I (Level 4)
☐ Commercial "C"
☐ NJ DKQP
☐ NYASP Category A
☐ NYASP Category B
☐ MA MCP Criteria
☐ CT RCP Criteria
☐ State Forms
☐ EDD Format
☐ DOD-QSMS

Comments / Special Instructions
TCF/ECF Samples To Eurofin Lab.
TP04 Samples To M5 Reider Lab
http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Received By: 1 P. Shah
Date / Time: 4/24/19 9:15
Received By: 2 P. Shah
Date / Time: 4/24/19 17:00
Received By: 3
Date / Time: 4/24/19 17:00
Received By: 4
Date / Time: 4/24/19 17:00
Received By: 5
Date / Time: 4/24/19 17:00

Custody Seal #
☐ Intact
☐ Not Intact
Preserved where applicable
☐ Ambient
☐ Therm. ID:
On Ice
Cooler Temp. 3.5C-P
3.6C-P
3.6C-P

JC90655X: Chain of Custody

Page 1 of 2



SGS Sample Receipt Summary

Job Number: JC90655

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 6/26/2019 7:16:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (3.5); Cooler 2: (3.6); Cooler 3: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.1); Cooler 2: (3.2); Cooler 3: (3.2);

Cooler Security
Y or N

1. Custody Seals Present:

☒ ☐

3. COC Present:

☒ ☐

2. Custody Seals Intact:

☒ ☐

4. Smpl Dates/Time OK

☒ ☐
Cooler Temperature
Y or N

1. Temp criteria achieved:

☒ ☐

2. Cooler temp verification:

IR Gun

3. Cooler media:

Ice (Bag)

4. No. Coolers:

3

Quality Control Preservation
Y or N
N/A

1. Trip Blank present / cooler:

☐ ☒ ☐

2. Trip Blank listed on COC:

☐ ☒ ☐

3. Samples preserved properly:

☒ ☐

4. VOCs headspace free:

☐ ☐ ☒
Sample Integrity - Documentation
Y or N

1. Sample labels present on bottles:

☒ ☐

2. Container labeling complete:

☒ ☐

3. Sample container label / COC agree:

☒ ☐
Sample Integrity - Condition
Y or N

1. Sample recvd within HT:

☒ ☐

2. All containers accounted for:

☒ ☐

3. Condition of sample:

Intact

Sample Integrity - Instructions
Y or N
N/A

1. Analysis requested is clear:

☒ ☐

2. Bottles received for unspecified tests

☐ ☒

3. Sufficient volume recvd for analysis:

☒ ☐

4. Compositing instructions clear:

☐ ☐ ☒

5. Filtering instructions clear:

☐ ☐ ☒

Test Strip Lot #s:

pH 1-12:

229517

pH 12+:

208717

Other: (Specify)

Comments

SM089-03

Rev. Date 12/7/17

JC90655X: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC90655XA

Sampling Date: 06/26/19

Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
Joseph.M.Looper@usace.army.mil

ATTN: Joseph Looper

Total number of pages in report: **18**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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Section 1: Sample Summary

Section 2: Subcontract Lab Data

Section 3: Misc. Forms

3.1: Chain of Custody

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Sample Summary

USACE-Philadelphia District

Job No: JC90655XA

Philadelphia District, Reservoir Sampling

Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC90655-1F	06/26/19	11:45	GW	06/26/19	AQ Surface H2O Filtered	PR-1S
JC90655-1XA	06/26/19	11:45	GW	06/26/19	AQ Surface Water	PR-1S
JC90655-2F	06/26/19	13:00	GW	06/26/19	AQ Surface H2O Filtered	PR-2S
JC90655-2XA	06/26/19	13:00	GW	06/26/19	AQ Surface Water	PR-2S
JC90655-3F	06/26/19	13:00	GW	06/26/19	AQ Surface H2O Filtered	PR-2M
JC90655-3XA	06/26/19	13:00	GW	06/26/19	AQ Surface Water	PR-2M
JC90655-4F	06/26/19	13:00	GW	06/26/19	AQ Surface H2O Filtered	PR-2D
JC90655-4XA	06/26/19	13:00	GW	06/26/19	AQ Surface Water	PR-2D
JC90655-5F	06/26/19	12:30	GW	06/26/19	AQ Surface H2O Filtered	PR-3S
JC90655-5XA	06/26/19	12:30	GW	06/26/19	AQ Surface Water	PR-3S
JC90655-6F	06/26/19	12:30	GW	06/26/19	AQ Surface H2O Filtered	PR-3M
JC90655-6XA	06/26/19	12:30	GW	06/26/19	AQ Surface Water	PR-3M
JC90655-7F	06/26/19	12:30	GW	06/26/19	AQ Surface H2O Filtered	PR-3D



Sample Summary
(continued)

USACE-Philadelphia District

Job No: JC90655XA

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected		Matrix Code	Type	Client	
	Date	Time By	Received		Sample ID	
JC90655-7XA	06/26/19	12:30 GW	06/26/19	AQ	Surface Water	PR-3D
JC90655-8F	06/26/19	11:00 GW	06/26/19	AQ	Surface H2O Filtered	PR-4S
JC90655-8XA	06/26/19	11:00 GW	06/26/19	AQ	Surface Water	R-4S



Dayton, NJ

Section 2

Subcontract Lab Data

Report of Analysis



M.J. Reider Associates, Inc.

ENVIRONMENTAL TESTING LABORATORY
U.S. EPA/PA DEP #06-00003

Certificate of Analysis

Laboratory No.: 9022357

Report: 07/03/19

Lab Contact: Richard A Wheeler

Attention: Tammy McCloskey
Reported To: SGS North America
2235 US Highway 130
Dayton, NJ 08810

Project: Army Corp Reservoirs
JC906655XA

Lab ID: 9022357-01 **Collected By:** Client **Sampled:** 06/26/19 11:45 **Received:** 06/28/19 09:20
Sample Desc: PR-1S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	06/28/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.03	mg/l	0.01	0.01	SM 4500-P E	06/28/19		JCL

Lab ID: 9022357-02 **Collected By:** Client **Sampled:** 06/26/19 13:00 **Received:** 06/28/19 09:20
Sample Desc: PR-2S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	07/01/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.01	SM 4500-P E	07/01/19		JCL

Lab ID: 9022357-03 **Collected By:** Client **Sampled:** 06/26/19 13:00 **Received:** 06/28/19 09:20
Sample Desc: PR-2M **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.01	mg/l	0.007	0.05	SM 4500-P E	07/01/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.01	SM 4500-P E	07/01/19		JCL



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Additional accreditations by CT (PH-0210), MD (261), NY(12094)

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M.J. Reider Associates, Inc.

2

Lab ID: 9022357-04 **Collected By:** Client **Sampled:** 06/26/19 13:00 **Received:** 06/28/19 09:20
Sample Desc: PR-2D **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	07/01/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.06	mg/l	0.01	0.01	SM 4500-P E	07/01/19		JCL

Lab ID: 9022357-05 **Collected By:** Client **Sampled:** 06/26/19 12:30 **Received:** 06/28/19 09:20
Sample Desc: PR-3S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	07/01/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.01	SM 4500-P E	07/01/19		JCL

Lab ID: 9022357-06 **Collected By:** Client **Sampled:** 06/26/19 12:30 **Received:** 06/28/19 09:20
Sample Desc: PR-3M **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	07/01/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.01	SM 4500-P E	07/01/19		JCL

Lab ID: 9022357-07 **Collected By:** Client **Sampled:** 06/26/19 12:30 **Received:** 06/28/19 09:20
Sample Desc: PR-3D **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.01	mg/l	0.007	0.05	SM 4500-P E	07/01/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.05	mg/l	0.01	0.01	SM 4500-P E	07/01/19		JCL



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Additional accreditations by CT (PH-0210), MD (261), NY(12094)

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M.J. Reider Associates, Inc.

2

Lab ID: 9022357-08 **Collected By:** Client **Sampled:** 06/26/19 11:00 **Received:** 06/28/19 09:20
Sample Desc: PR-4S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	07/01/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.01	SM 4500-P E	07/01/19		JCL



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Page 3 of 10

Quality Control

General Chemistry

	Result	Reporting Limit	Units	%REC	%REC Limits	RPD	RPD Limit	Analyte Notes
Batch B9F1624								
MB (B9F1624-BLK1)	Prepared & Analyzed: 06/28/2019							
Phosphorus as P, Total	<0.01	0.01	mg/l					U
MB (B9F1624-BLK2)	Prepared & Analyzed: 06/28/2019							
Phosphorus as P, Total	<0.01	0.01	mg/l					U
LFB (B9F1624-BS1)	Prepared & Analyzed: 06/28/2019							
Phosphorus as P, Total	1.01	0.01	mg/l	101	80-120			
Batch B9G0032								
MB (B9G0032-BLK1)	Prepared & Analyzed: 07/01/2019							
Phosphorus as P, Total	<0.01	0.01	mg/l					U
MB (B9G0032-BLK2)	Prepared & Analyzed: 07/01/2019							
Phosphorus as P, Total	<0.01	0.01	mg/l					U
LFB (B9G0032-BS1)	Prepared & Analyzed: 07/01/2019							
Phosphorus as P, Total	1.02	0.01	mg/l	102	80-120			
LFM (B9G0032-MS1)	Source: 9022357-08 Prepared & Analyzed: 07/01/2019							
Phosphorus as P, Total	1.02	0.01	mg/l	99.4	80-120			
LFMD (B9G0032-MSD1)	Source: 9022357-08 Prepared & Analyzed: 07/01/2019							
Phosphorus as P, Total	1.02	0.01	mg/l	99.8	80-120	0.393	20	

Dissolved General Chemistry

	Result	Reporting Limit	Units	%REC	%REC Limits	RPD	RPD Limit	Analyte Notes
Batch B9F1625								
MB (B9F1625-BLK1)	Prepared & Analyzed: 06/28/2019							
Phosphorus as P, Dissolved	<0.05	0.05	mg/l					G-11, U
LFB (B9F1625-BS1)	Prepared & Analyzed: 06/28/2019							
Phosphorus as P, Dissolved	1.02	0.05	mg/l		80-120			G-11
Batch B9G0037								
MB (B9G0037-BLK1)	Prepared & Analyzed: 07/01/2019							
Phosphorus as P, Dissolved	<0.05	0.05	mg/l					G-11, U
LFB (B9G0037-BS1)	Prepared & Analyzed: 07/01/2019							
Phosphorus as P, Dissolved	1.01	0.05	mg/l		80-120			G-11



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NELAC accreditations for various drinking water, wastewater and solid & chemical materials analytes.

Additional accreditations by CT (PH-0210), MD (261), NY(12094)

M.J. Reider Associates, Inc.

2

Preparation Methods

Specific Method	Preparation Method	Prepared Date	Prepared By
9022357-01			
SM 4500-P E	SM 4500-P B	06/28/2019	JCL
9022357-02			
SM 4500-P E	SM 4500-P B	07/01/2019	JCL
9022357-03			
SM 4500-P E	SM 4500-P B	07/01/2019	JCL
9022357-04			
SM 4500-P E	SM 4500-P B	07/01/2019	JCL
9022357-05			
SM 4500-P E	SM 4500-P B	07/01/2019	JCL
9022357-06			
SM 4500-P E	SM 4500-P B	07/01/2019	JCL
9022357-07			
SM 4500-P E	SM 4500-P B	07/01/2019	JCL
9022357-08			
SM 4500-P E	SM 4500-P B	07/01/2019	JCL

Notes and Definitions

- G-11 The sample was filtered after it was received at the laboratory.
J Estimated value
U Analyte was not detected above the indicated value.



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Page 5 of 10

SGS North America
Army Corp Reservoirs

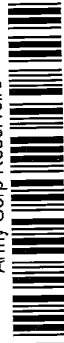
PM: RAW

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

www.sgs.com/ehsusa

Page 1 of 2



Project Information Project Name: Philadelphia District, Reservoir Sampling Billing Information (if different from Report to): Company Name: _____ State: _____ Zip: _____ Street Address: _____ City: _____ State: _____ Zip: _____ Project Contact: tammy.mcdonkey@gs.com Phone # _____ Client Purchase Order # _____ Project Manager _____ Samples Name(s): GW										Requested Analysis Matrix Codes: DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SL - Sludge SS - Sediment SO - Soil SI - Other Solid LIQ - Other Liquid AIR - Air VP - Vapor EP - Environmental Product RB - Rese Blank TB - Trip Blank									
Data Deliverable Information <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> PULITY (Level 3 & 4) <input type="checkbox"/> NJ Reduced <input type="checkbox"/> Commercial "C" Commercial "A" = Results Only Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Polished Raw data										Comments / Special Instructions FILTERGEN = MJ Reider to filter prior to TPO4 analysis on samples noted per client instructions. (Each sample should be TPO4 total and TPO4 lab filtered).									
Turnaround Time (Business days) <input type="checkbox"/> Standard 10 Business Days <input type="checkbox"/> 5 Business Days RUSH <input type="checkbox"/> 3 Business Days RUSH <input type="checkbox"/> 2 Business Days RUSH <input type="checkbox"/> 1 Business Day EMERGENCY <input checked="" type="checkbox"/> Other Due 7/10/2019 Emergency & Rush T/A data available via Lablink. Approval needed for RUSH/Emergency TAT										Approved by (GSF PM) / Date: _____									
Relinquished by: Date / Time: 6/27/19 17:47 Signature: [Signature]										Relinquished by: Date / Time: _____ Signature: _____									
Relinquished by: Date / Time: _____ Signature: _____										Relinquished by: Date / Time: _____ Signature: _____									
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Relinquished by: Date / Time: _____ Signature: _____																			

2062819

Wm. J. Spencer

Client / Reporting Information Company Name: _____ Street Address: _____ City: _____ State: _____ Zip: _____ Project Contact: _____ E-mail: _____ Phone #: _____ Client Purchase Order #: _____ Standard Name(s): _____ Project Name: _____ Project Manager: _____										Project Information Philadelphia District, Reservoir Sampling Billing Information (if different from Report to): Company Name: _____ Street Address: _____ City: _____ State: _____ Zip: _____ Attention: _____										FED-EX Tracking # SCS Quote # _____									
Client / Reporting Information Company Name: _____ Street Address: _____ City: _____ State: _____ Zip: _____ Project Contact: _____ E-mail: _____ Phone #: _____ Client Purchase Order #: _____ Standard Name(s): _____ Project Name: _____ Project Manager: _____										Project Information Philadelphia District, Reservoir Sampling Billing Information (if different from Report to): Company Name: _____ Street Address: _____ City: _____ State: _____ Zip: _____ Attention: _____										FED-EX Tracking # SCS Quote # _____									
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Client / Reporting Information				Project Information				FED-EX Tracking #			
Company Name	Street Address	City	State	Zip	Project Contact	E-mail	Phone #	Client Purchase Order #	Standard Name(s)	Project Name	Project Manager
7XA	PR-3D	Field ID / Point of Collection	MECHID Visit #	Date	Time	Sampled by	Meth	# of bottles	ENCORE	DI Water	None
7F	PR-3D	6/26/19	12:30:00 PM	GW	AQ						
8XA	PR-4S	6/26/19	12:30:00 PM	GW	AQ						
8F	PR-4S	6/26/19	11:00:00 AM	GW	AQ						
		6/26/19	11:00:00 AM	GW	AQ						

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8XA	PR-4S	6/26/19	12:30:00 PM	GW	AQ						
8F	PR-4S	6/26/19	11:00:00 AM	GW	AQ						
		6/26/19	11:00:00 AM	GW	AQ						

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8XA	PR-4S	6/26/19	12:30:00 PM	GW	AQ						
8F	PR-4S	6/26/19	11:00:00 AM	GW	AQ						
		6/26/19	11:00:00 AM	GW	AQ						

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Company Name	Street Address	City	State	Zip	Project Contact	E-mail	Phone #	Client Purchase Order #	Standard Name(s)	Project Name	Project Manager
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8F	PR-4S	6/26/19	11:00:00 AM	GW	AQ						
		6/26/19	11:00:00 AM	GW	AQ						

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Company Name	Street Address	City	State	Zip	Project Contact	E-mail	Phone #	Client Purchase Order #	Standard Name(s)	Project Name	Project Manager
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7F	PR-3D	6/26/19	12:30:00 PM	GW	AQ						
8XA	PR-4S	6/26/19	12:30:00 PM	GW	AQ						
8F	PR-4S	6/26/19	11:00:00 AM	GW	AQ						
		6/26/19	11:00:00 AM	GW	AQ						

9022357

Date / Time: 6/27/2019 1:14:19 PM

CSR: TAMMY

Job #: JC90655XA

Client Project: Philadelphia District, Reservoir Sampling

Deliverable: REDT2

TAT: Due 7/10/2019

Sub Lab: MJ Reider Associates Inc, Env. Testing Laboratories
Address: 107 Angelica Street

City: Reading

State: PA Zip: 19611

Contact: Sample Receiving / Rich Wheeler

Phone: 610-374-5129

SGS Sample #	Client Sample Description	Analysis	Location	Sampled By	Date Sampled	Time Sampled	Aliquot
JC90655-1XA	PR-1S	TPO4		GW	6/26/2019	11:45:00 AM	
JC90655-1F	PR-1S	FILTERGN ,TPO4		GW	6/26/2019	11:45:00 AM	
JC90655-2XA	PR-2S	TPO4		GW	6/26/2019	1:00:00 PM	
JC90655-2F	PR-2S	FILTERGN ,TPO4		GW	6/26/2019	1:00:00 PM	
JC90655-3XA	PR-2M	TPO4		GW	6/26/2019	1:00:00 PM	
JC90655-3F	PR-2M	FILTERGN ,TPO4		GW	6/26/2019	1:00:00 PM	
JC90655-4XA	PR-2D	TPO4		GW	6/26/2019	1:00:00 PM	
JC90655-4F	PR-2D	FILTERGN ,TPO4		GW	6/26/2019	1:00:00 PM	
JC90655-5XA	PR-3S	TPO4		GW	6/26/2019	12:30:00 PM	
JC90655-5F	PR-3S	FILTERGN ,TPO4		GW	6/26/2019	12:30:00 PM	
JC90655-6XA	PR-3M	TPO4		GW	6/26/2019	12:30:00 PM	
JC90655-6F	PR-3M	FILTERGN ,TPO4		GW	6/26/2019	12:30:00 PM	
JC90655-7XA	PR-3D	TPO4		GW	6/26/2019	12:30:00 PM	
JC90655-7F	PR-3D	FILTERGN ,TPO4		GW	6/26/2019	12:30:00 PM	
JC90655-8XA	PR-4S	TPO4		GW	6/26/2019	11:00:00 AM	
JC90655-8F	PR-4S	FILTERGN ,TPO4		GW	6/26/2019	11:00:00 AM	

Comments: FILTERGEN = MJ Reider to filter prior to TPO4 analysis on samples noted per client instructions. (Each sample should be TPO4 total and TPO4 lab filtered).

9022357

Sample Management Receipt:

Date: _____

MJRA Terms & Conditions

All samples submitted must be accompanied by signed documentation representing a Chain of Custody (COC). The COC Record acts as a contract between the client and MJRA. Signing the COC form gives approval for MJRA to perform the requested analyses and is an agreement to pay for the cost of such analyses. COC Records must be completed in black or blue indelible ink (must not run when wet). COC documentation begins at the time of sample collection. Client is required to document all sample details prior to releasing samples to MJRA. All samples must be placed on ice immediately after sampling and shipped or delivered to the laboratory in a manner that will maintain the sample temperature above freezing and below 6C (loose ice is preferred).

Sample Submission, Sample Acceptance & Sampling Containers

Included on the COC must be the sample description, date and time of collection (including start and stop for composites), container size and type, preservative information, sample matrix, indication of whether the sample is a grab or composite, number of containers & a list of the tests to be performed. Poor sample collection technique, inappropriate sampling containers and/or improper sample preservation may lead to sample rejection. Suitable sample containers, labels, and preservatives (as applicable), along with blank COCs are provided at no additional cost.

Turnaround Times (TAT)

Average TAT for test results range from 5 to 15 working days depending on the specific analyses and time of year submitted. Faster turnaround times (*RUSH TAT) may be available depending on the current workload in a particular department and the nature of the analyses requested. We encourage you to verify requests for expedited sample results with one of our Technical Directors prior to sample submittal. Without confirmation from a Technical Director, your results may not be completed by your deadline. *RUSH TAT Surcharges are applied for expedited turnaround times.

Analytical Results, Sample Collection Integrity & Subcontracting

Analytical values are for the sample as submitted and relate only to the item tested. The value indicates a snapshot of the constituent content of the sample at the time of sample collection. Analytical results can be impacted by poor sample collection technique and/or improper preservation. All sample collection completed by MJRA was performed in accordance with applicable regulatory protocols or as specified in customer specific sampling plans. Constituent content will vary over time based on the matrix of the sample and the physical and chemical changes to its environment. All sample results and laboratory reports are strictly confidential. Results will not be available to anyone except the primary client or authorized party representing the client unless MJRA receives additional permissions from the client. When necessary, MJRA will subcontract certain analyses to a third party accredited laboratory. If client prohibits subcontracting, it must be provided in writing and include instruction on how to proceed with client samples that require third party analyses.

Payment Terms

Payment Terms are Net 30 days. Prices are subject to change without notice. A standing monthly charge of 1.5% of the clients over-30-day-unpaid balance may be added to the balance after 30 days and each month thereafter (day 31, 61, 91 etc.). The laboratory accepts all major credit cards, ACH transactions, checks and cash. New clients must pay for all services rendered prior to sample collection and/or in some cases report processing. Clients must contact the MJRA accounting department to pursue a credit-based account. MJRA reserves the right to terminate the client's credit account and to refuse to perform additional services on a credit basis if any balance is outstanding for more than 60 days.

Warranty & Litigation

MJRA does not guarantee any results of its services but has agreed to use its best efforts, in accordance with the standards and practices of the industry, to cause such results to be accurate and complete. We disclaim any other warranties, expressed or implied, including a warranty of fitness for a particular purpose and warranty of merchantability. Clients agree that they shall reimburse MJRA for any and all fees, cost and litigation expenses, including reasonable attorney fees incurred by MJRA in obtaining payment for the services rendered. All costs associated with compliance with any subpoena for documents, testimony, or any other purpose relating to work performed by MJRA, for a client, shall be paid by that client. MJRA's aggregate liability for negligent acts and omissions and of an intentional breach by MJRA will not exceed the fee paid for the services. Client agrees to indemnify and hold MJRA harmless for any and all liabilities in excess of said amount. Neither MJRA nor the client shall be liable to the other for special, incidental consequential or punitive liability or damages included but not limited to those arising from delay, loss of use, loss of profits or revenues. MJRA will not be liable to the client unless the client has notified MJRA of the discovery of the alleged negligent act, error, omissions or breach within 30 days of the

Reviewed and Approved by:



Richard A Wheeler
Director of Field Services



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Additional accreditations by CT (PH-0210), MD (261), NY(12094)

Page 10 of 10

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 1 of 1

FED-EX Tracking # _____ Bottle Order Control # _____
SGS Quote # _____ SGS Job # **TM-061819-30**
JC90655

Client / Reporting Information
Company Name: **USACE-Phila.District**
Street Address: **100 Penn Sq East**
City: **Phila** State: **PA** Zip: **19107**
Project Contact: **Joe Loeper** E-mail: _____
Phone #: **215-656-0545** Project Manager: **Greg Wacik 610-597-9780** Project Manager: **Tammy McClosky**

Project Information
Project Name: **USACE Reservoirs - Prompton**
Street: _____ City: **Prompton** State: **PA**
Billing Information (if different from Report to)
Company Name: _____ Street Address: _____
City: _____ State: _____ Zip: _____
Client Purchase Order #: **TM-061819-30**
Attention: _____

Requested Analysis
Matrix Codes
DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED - Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB - Equipment Blank
RB - Rinse Blank
TB - Trip Blank

LAB USE ONLY
BZZ
L3673
1943
503

Initial Assessment: **2A**
Label Verification: _____

Turn Around Time (Business Days)
☐ 10 Business Days
☐ 5 Business Days
☐ 3 Business Days
☐ 2 Business Days
☐ 1 Business Day
☐ Other _____
All data available to public

Approved By (SGS PM): / Date: _____
* Approval needed for 1-3 Business Day TAT

Deliverable
☐ Commercial "A" (Level 1)
☐ Commercial "B" (Level 2)
☐ NJ Reduced (Level 3)
☐ Full Tier I (Level 4)
☐ Commercial "C"
☐ NJ DKQP
☐ NYASP Category A
☐ NYASP Category B
☐ MA MCP Criteria
☐ CT RCP Criteria
☐ State Forms
☐ EDD Format
☐ DOD-QSMS

Comments / Special Instructions
TCF/ECF Samples To Eurofin Lab.
TP04 Samples To MJS Reider Lab
<http://www.sgs.com/en/terms-and-conditions>

Sample Custody must be documented below each time samples change possession, including courier delivery.

Received By:	Date / Time:	Received By:	Date / Time:	Received By:	Date / Time:	Received By:	Date / Time:
[Signature]	4/24/19 9:15	[Signature]	4/24/19 9:15	[Signature]	4/24/19 9:15	[Signature]	4/24/19 9:15
3		4		5		6	

Custody Seal # _____
☐ Intact
☐ Not Intact
Preserved where applicable
On Ice ☐ Cooler Temp. **3.5C-P**
3.6C-P
3.6C-P

JC90655XA: Chain of Custody

Page 1 of 2



SGS Sample Receipt Summary

Job Number: JC90655

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 6/26/2019 7:16:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (3.5); Cooler 2: (3.6); Cooler 3: (3.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.1); Cooler 2: (3.2); Cooler 3: (3.2);

Cooler Security
Y or N

1. Custody Seals Present:

☒ ☐

3. COC Present:

☒ ☐

2. Custody Seals Intact:

☒ ☐

4. Smpl Dates/Time OK

☒ ☐
Cooler Temperature
Y or N

1. Temp criteria achieved:

☒ ☐

2. Cooler temp verification:

IR Gun

3. Cooler media:

Ice (Bag)

4. No. Coolers:

3

Quality Control Preservation
Y or N
N/A

1. Trip Blank present / cooler:

☐ ☒ ☐

2. Trip Blank listed on COC:

☐ ☒ ☐

3. Samples preserved properly:

☒ ☐

4. VOCs headspace free:

☐ ☐ ☒
Sample Integrity - Documentation
Y or N

1. Sample labels present on bottles:

☒ ☐

2. Container labeling complete:

☒ ☐

3. Sample container label / COC agree:

☒ ☐
Sample Integrity - Condition
Y or N

1. Sample recvd within HT:

☒ ☐

2. All containers accounted for:

☒ ☐

3. Condition of sample:

Intact

Sample Integrity - Instructions
Y or N N/A

1. Analysis requested is clear:

☒ ☐

2. Bottles received for unspecified tests

☐ ☒

3. Sufficient volume recvd for analysis:

☒ ☐

4. Compositing instructions clear:

☐ ☐ ☒

5. Filtering instructions clear:

☐ ☐ ☒

Test Strip Lot #s:

pH 1-12:

229517

pH 12+:

208717

Other: (Specify)

Comments

SM089-03

Rev. Date 12/7/17

JC90655XA: Chain of Custody

Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC91795

Sampling Date: 07/17/19

Report to:

Army Corps of Engineers

joseph.m.loeper@usace.army.mil

ATTN: Joseph Loeper

Total number of pages in report: **21**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

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Test results relate only to samples analyzed.

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Sample Summary

USACE-Philadelphia District

Job No: JC91795

Philadelphia District, Reservoir Sampling

Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
JC91795-1	07/17/19	12:10	GW	07/17/19	AQ	Surface Water	PR-1S
JC91795-2	07/17/19	13:20	GW	07/17/19	AQ	Surface Water	PR-2S
JC91795-3	07/17/19	13:20	GW	07/17/19	AQ	Surface Water	PR-2M
JC91795-4	07/17/19	13:20	GW	07/17/19	AQ	Surface Water	PR-2D
JC91795-5	07/17/19	12:50	GW	07/17/19	AQ	Surface Water	PR-3S
JC91795-6	07/17/19	12:50	GW	07/17/19	AQ	Surface Water	PR-3M
JC91795-7	07/17/19	12:50	GW	07/17/19	AQ	Surface Water	PR-3D
JC91795-8	07/17/19	11:45	GW	07/17/19	AQ	Surface Water	PR-4S

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: USACE-Philadelphia District

Job No JC91795

Site: Philadelphia District, Reservoir Sampling

Report Date 7/26/2019 10:39:21 A

On 07/17/2019, 8 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.1 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC91795 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

General Chemistry By Method EPA 351.2/LACHAT

Matrix: AQ

Batch ID: GP22539

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC91893-1DUP, JC91893-1MS were used as the QC samples for Nitrogen, Total Kjeldahl.
- Matrix Spike Recovery(s) for Nitrogen, Total Kjeldahl are outside control limits. Spike recovery indicates possible matrix interference.

Matrix: AQ

Batch ID: GP22570

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC91795-8DUP, JC91795-8MS were used as the QC samples for Nitrogen, Total Kjeldahl.

General Chemistry By Method EPA 353.2/LACHAT

Matrix: AQ

Batch ID: GP22548

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC91921-1DUP, JC91921-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Friday, July 26, 2019

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General Chemistry By Method EPA353.2/SM4500NO2B

Matrix: AQ **Batch ID:** R179939

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC91795-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R179940

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC91795-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R179941

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC91795-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R179942

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC91795-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R179943

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC91795-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R179944

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC91795-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R179945

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC91795-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R179946

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC91795-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM2320 B-11

Matrix: AQ **Batch ID:** GN97809

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC91790-2DUP were used as the QC samples for Alkalinity, Total as CaCO₃.
- JC91795-1 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC91795-2 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC91795-4 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC91795-8 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC91795-7 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC91795-6 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC91795-5 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC91795-3 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.

General Chemistry By Method SM2540 C-11

Matrix: AQ

Batch ID: GN97675

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC91795-1DUP were used as the QC samples for Solids, Total Dissolved.

General Chemistry By Method SM2540 D-11

Matrix: AQ

Batch ID: GN97828

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC91795-1DUP were used as the QC samples for Solids, Total Suspended.
- JC91795-7 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 150 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

General Chemistry By Method SM4500NH3 H-11LACHAT

Matrix: AQ

Batch ID: GP22601

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92091-1DUP, JC92091-1MS, JC92091-1MSD were used as the QC samples for Nitrogen, Ammonia.
- Matrix Spike Recovery(s) for Nitrogen, Ammonia are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

General Chemistry By Method SM4500NO2 B-11

Matrix: AQ

Batch ID: GN97713

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC91885-1DUP, JC91885-1MS were used as the QC samples for Nitrogen, Nitrite.

General Chemistry By Method SM5210 B-11

Matrix: AQ

Batch ID: GP22476

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC91795-1DUP were used as the QC samples for BOD, 5 Day.

General Chemistry By Method SM5310 B-11

Matrix: AQ

Batch ID: GP22478

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC91795-1MS, JC91795-1MSD were used as the QC samples for Total Organic Carbon.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Page 1 of 2

Job Number: JC91795
Account: USACE-Philadelphia District
Project: Philadelphia District, Reservoir Sampling
Collected: 07/17/19



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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JC91795-1 PR-1S

Alkalinity, Total as CaCO ₃ ^a	55.0	5.0			mg/l	SM2320 B-11
Nitrogen, Nitrate ^b	0.21	0.11			mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.21	0.10			mg/l	EPA 353.2/LACHAT
Nitrogen, Total Kjeldahl	0.22	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	42.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	18.4	4.0			mg/l	SM2540 D-11
Total Organic Carbon	2.0	1.0			mg/l	SM5310 B-11

JC91795-2 PR-2S

Alkalinity, Total as CaCO ₃ ^a	30.0	5.0			mg/l	SM2320 B-11
Nitrogen, Nitrate ^b	0.48	0.11			mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.48	0.10			mg/l	EPA 353.2/LACHAT
Nitrogen, Total Kjeldahl	0.55	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	47.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	7.4	4.0			mg/l	SM2540 D-11
Total Organic Carbon	3.8	1.0			mg/l	SM5310 B-11

JC91795-3 PR-2M

Alkalinity, Total as CaCO ₃ ^a	29.5	10			mg/l	SM2320 B-11
Nitrogen, Total Kjeldahl	0.43	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	39.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	4.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	3.3	1.0			mg/l	SM5310 B-11

JC91795-4 PR-2D

Alkalinity, Total as CaCO ₃ ^a	33.0	5.0			mg/l	SM2320 B-11
Nitrogen, Ammonia	0.21	0.20			mg/l	SM4500NH3 H-11/LACHAT
Nitrogen, Total Kjeldahl	0.63	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	39.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	6.7	4.0			mg/l	SM2540 D-11
Total Organic Carbon	2.5	1.0			mg/l	SM5310 B-11

JC91795-5 PR-3S

Alkalinity, Total as CaCO ₃ ^a	35.0	5.0			mg/l	SM2320 B-11
Nitrogen, Total Kjeldahl	0.51	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	49.0	10			mg/l	SM2540 C-11
Total Organic Carbon	3.4	1.0			mg/l	SM5310 B-11

Summary of Hits

Job Number: JC91795
Account: USACE-Philadelphia District
Project: Philadelphia District, Reservoir Sampling
Collected: 07/17/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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JC91795-6 PR-3M

Alkalinity, Total as CaCO ₃ ^a	25.0	10			mg/l	SM2320 B-11
Nitrogen, Total Kjeldahl	0.36	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	46.0	10			mg/l	SM2540 C-11
Total Organic Carbon	3.0	1.0			mg/l	SM5310 B-11

JC91795-7 PR-3D

Alkalinity, Total as CaCO ₃ ^a	31.0	10			mg/l	SM2320 B-11
BOD, 5 Day	5.3	3.4			mg/l	SM5210 B-11
Nitrogen, Ammonia	1.2	0.20			mg/l	SM4500NH ₃ H-11LACHAT
Nitrogen, Total Kjeldahl	1.7	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	56.0	10			mg/l	SM2540 C-11
Solids, Total Suspended ^c	17.3	4.0			mg/l	SM2540 D-11
Total Organic Carbon	5.4	1.0			mg/l	SM5310 B-11

JC91795-8 PR-4S

Alkalinity, Total as CaCO ₃ ^a	30.0	5.0			mg/l	SM2320 B-11
Nitrogen, Nitrate ^b	0.15	0.11			mg/l	EPA353.2/SM4500NO ₂ B
Nitrogen, Nitrate + Nitrite	0.16	0.10			mg/l	EPA 353.2/LACHAT
Nitrogen, Total Kjeldahl	0.37	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	42.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	43.8	4.0			mg/l	SM2540 D-11
Total Organic Carbon	3.0	1.0			mg/l	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 150 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

Sample Results

Report of Analysis

Report of Analysis

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Client Sample ID:	PR-1S	Date Sampled:	07/17/19
Lab Sample ID:	JC91795-1	Date Received:	07/17/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	55.0	5.0	mg/l	1	07/22/19 16:38	CM	SM2320 B-11
BOD, 5 Day	< 3.4	3.4	mg/l	1	07/18/19 21:52	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/25/19 14:49	KI	SM4500NH ₃ H-11/LACHAT
Nitrogen, Nitrate ^b	0.21	0.11	mg/l	1	07/23/19 11:43	KI	EPA353.2/SM4500NO ₂ B
Nitrogen, Nitrate + Nitrite	0.21	0.10	mg/l	1	07/23/19 11:43	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	07/18/19 22:41	EB	SM4500NO ₂ B-11
Nitrogen, Total Kjeldahl	0.22	0.20	mg/l	1	07/23/19 13:04	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	42.0	10	mg/l	1	07/18/19 16:00	RC	SM2540 C-11
Solids, Total Suspended	18.4	4.0	mg/l	1	07/23/19 10:23	RC	SM2540 D-11
Total Organic Carbon	2.0	1.0	mg/l	1	07/19/19 14:08	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

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Client Sample ID:	PR-2S	Date Sampled:	07/17/19
Lab Sample ID:	JC91795-2	Date Received:	07/17/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	30.0	5.0	mg/l	1	07/22/19 16:38	CM	SM2320 B-11
BOD, 5 Day	< 4.4	4.4	mg/l	1	07/18/19 21:55	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/25/19 14:50	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	0.48	0.11	mg/l	1	07/23/19 11:44	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.48	0.10	mg/l	1	07/23/19 11:44	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	07/18/19 22:41	EB	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.55	0.20	mg/l	1	07/23/19 13:05	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	47.0	10	mg/l	1	07/18/19 16:00	RC	SM2540 C-11
Solids, Total Suspended	7.4	4.0	mg/l	1	07/23/19 10:23	RC	SM2540 D-11
Total Organic Carbon	3.8	1.0	mg/l	1	07/19/19 15:43	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

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Client Sample ID:	PR-2M	Date Sampled:	07/17/19
Lab Sample ID:	JC91795-3	Date Received:	07/17/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	29.5	10	mg/l	1	07/22/19 16:38	CM	SM2320 B-11
BOD, 5 Day	< 4.4	4.4	mg/l	1	07/18/19 22:00	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/25/19 14:52	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/23/19 11:45	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/23/19 11:45	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	07/18/19 22:41	EB	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.43	0.20	mg/l	1	07/23/19 13:06	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	39.0	10	mg/l	1	07/18/19 16:00	RC	SM2540 C-11
Solids, Total Suspended	4.0	4.0	mg/l	1	07/23/19 10:23	RC	SM2540 D-11
Total Organic Carbon	3.3	1.0	mg/l	1	07/19/19 16:08	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

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Client Sample ID:	PR-2D	Date Sampled:	07/17/19
Lab Sample ID:	JC91795-4	Date Received:	07/17/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	33.0	5.0	mg/l	1	07/22/19 16:38	CM	SM2320 B-11
BOD, 5 Day	< 3.4	3.4	mg/l	1	07/18/19 22:03	EB	SM5210 B-11
Nitrogen, Ammonia	0.21	0.20	mg/l	1	07/25/19 14:53	KI	SM4500NH3 H-11 LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/23/19 11:46	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/23/19 11:46	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	07/18/19 22:41	EB	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.63	0.20	mg/l	1	07/23/19 13:08	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	39.0	10	mg/l	1	07/18/19 16:00	RC	SM2540 C-11
Solids, Total Suspended	6.7	4.0	mg/l	1	07/23/19 10:23	RC	SM2540 D-11
Total Organic Carbon	2.5	1.0	mg/l	1	07/19/19 16:19	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

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Client Sample ID:	PR-3S	Date Sampled:	07/17/19
Lab Sample ID:	JC91795-5	Date Received:	07/17/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	35.0	5.0	mg/l	1	07/22/19 16:38	CM	SM2320 B-11
BOD, 5 Day	< 3.4	3.4	mg/l	1	07/18/19 22:06	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/25/19 14:54	KI	SM4500NH3 H-11 LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/23/19 11:50	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/23/19 11:50	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	07/18/19 22:56	EB	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.51	0.20	mg/l	1	07/23/19 13:09	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	49.0	10	mg/l	1	07/18/19 16:00	RC	SM2540 C-11
Solids, Total Suspended	< 4.0	4.0	mg/l	1	07/23/19 10:23	RC	SM2540 D-11
Total Organic Carbon	3.4	1.0	mg/l	1	07/19/19 16:30	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

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Client Sample ID:	PR-3M	Date Sampled:	07/17/19
Lab Sample ID:	JC91795-6	Date Received:	07/17/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	25.0	10	mg/l	1	07/22/19 16:38	CM	SM2320 B-11
BOD, 5 Day	< 3.4	3.4	mg/l	1	07/18/19 22:10	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/25/19 14:56	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/23/19 11:51	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/23/19 11:51	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	07/18/19 22:56	EB	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.36	0.20	mg/l	1	07/23/19 13:10	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	46.0	10	mg/l	1	07/18/19 16:00	RC	SM2540 C-11
Solids, Total Suspended	< 4.0	4.0	mg/l	1	07/23/19 10:23	RC	SM2540 D-11
Total Organic Carbon	3.0	1.0	mg/l	1	07/19/19 16:41	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-3D	Date Sampled: 07/17/19
Lab Sample ID: JC91795-7	Date Received: 07/17/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	31.0	10	mg/l	1	07/22/19 16:38	CM	SM2320 B-11
BOD, 5 Day	5.3	3.4	mg/l	1	07/18/19 22:15	EB	SM5210 B-11
Nitrogen, Ammonia	1.2	0.20	mg/l	1	07/25/19 14:57	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	07/23/19 11:52	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	07/23/19 11:52	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	07/18/19 22:56	EB	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	1.7	0.20	mg/l	1	07/23/19 13:11	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	56.0	10	mg/l	1	07/18/19 16:00	RC	SM2540 C-11
Solids, Total Suspended ^c	17.3	4.0	mg/l	1	07/23/19 10:23	RC	SM2540 D-11
Total Organic Carbon	5.4	1.0	mg/l	1	07/19/19 16:53	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 150 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-4S	Date Sampled: 07/17/19
Lab Sample ID: JC91795-8	Date Received: 07/17/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	30.0	5.0	mg/l	1	07/22/19 16:38	CM	SM2320 B-11
BOD, 5 Day	< 3.4	3.4	mg/l	1	07/18/19 22:18	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	07/25/19 14:59	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	0.15	0.11	mg/l	1	07/23/19 11:53	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.16	0.10	mg/l	1	07/23/19 11:53	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	07/18/19 22:56	EB	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.37	0.20	mg/l	1	07/25/19 11:23	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	42.0	10	mg/l	1	07/18/19 16:00	RC	SM2540 C-11
Solids, Total Suspended	43.8	4.0	mg/l	1	07/23/19 10:23	RC	SM2540 D-11
Total Organic Carbon	3.0	1.0	mg/l	1	07/19/19 17:04	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 1 of 1

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes	
Company Name: USACE-Phila. District		Project Name: USACE Reservoirs - Prompton		SGS Quote #: JC91795		Matrix Codes	
Street Address: 100 Penn Sq. East		Street: Prompton		SGS Job #		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SD - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Waste FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
City: Phila State: PA Zip: 19107		Billing Information (if different from Report to) Company Name: Prompton PA		Requested Analysis			
Project Contact: Joe Loeper		Protocol: #		City: Prompton State: PA Zip: 19107			
Phone #: 215-656-0545		Client Purchase Order #		City: Prompton State: PA Zip: 19107			
Sampler(s) Name(s): Greg Wasik		Project Manager: Tammy McCloskey		Attention:			
Field ID / Point of Collection		Date		Time		Number of preserved Bottles	
1F PR-1S (#see note)		7/17/19		1210		9 X	
2F PR-2S		1320		1320		9 X	
3F PR-2M		1320		1320		9 X	
4F PR-2D		1320		1320		9 X	
5F PR-3S		1250		1250		9 X	
6F PR-3M		1250		1250		9 X	
7F PR-3D		1250		1250		9 X	
8F PR-4S (#see note)		1145		1145		9 X	
Turn Around Time (Business Days)		Deliverable		Comments / Special Instructions		LAB USE ONLY	
<input type="checkbox"/> 10 Business Days <input type="checkbox"/> 8 Business Days <input type="checkbox"/> 5 Business Days <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 2 Business Days <input type="checkbox"/> 1 Business Day <input type="checkbox"/> Other		Approved By (SGS PM): / Date:		Commercial "A" (Level 1) Commercial "B" (Level 2) NJ Reduced (Level 3) Full Tier I (Level 4) Commercial "C" NJ DKQP		NYASP Category A NYASP Category B MA MCP Criteria CT RCP Criteria State Forms EDD Format	
All data per state via Lablink		Approval needed for 1-3 Business Day TAT		Commercial "A" = Results only; Commercial "B" = Results + QC Summary; Partial Raw data Commercial "C" = Results + QC Summary + Partial Raw data		TCE/PCF Samples to Eurofin lab. TP04 Samples to MJS Reider lab	
Relinquished By: [Signature]		Date / Time: 7/17/19 1540		Relinquished By: [Signature]		Date / Time: 7/17/19 1930	
Relinquished By: [Signature]		Date / Time: 7/17/19 1540		Relinquished By: [Signature]		Date / Time: 7/17/19 1930	
Relinquished By: [Signature]		Date / Time: 7/17/19 1540		Relinquished By: [Signature]		Date / Time: 7/17/19 1930	
Relinquished By: [Signature]		Date / Time: 7/17/19 1540		Relinquished By: [Signature]		Date / Time: 7/17/19 1930	
Relinquished By: [Signature]		Date / Time: 7/17/19 1540		Relinquished By: [Signature]		Date / Time: 7/17/19 1930	

JC91795: Chain of Custody

Page 1 of 2



SGS Sample Receipt Summary

Job Number: JC91795

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 7/17/2019 7:38:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (2.8); Cooler 2: (2.3); Cooler 3: (2.9); Cooler 4: (3.1); Cooler 5: (2.7); Cooler 6: (2.9); Cooler 7: (2.7);

Cooler Temps (Corrected) °C: Cooler 1: (2.8); Cooler 2: (2.3); Cooler 3: (2.9); Cooler 4: (3.1); Cooler 5: (2.7); Cooler 6: (2.9); Cooler 7: (2.7);

Cooler Security
Y or N
Y or N

- | | |
|--|---|
| 1. Custody Seals Present: <input checked="" type="checkbox"/> <input type="checkbox"/> | 3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/> |
| 2. Custody Seals Intact: <input checked="" type="checkbox"/> <input type="checkbox"/> | 4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> <input type="checkbox"/> |

Cooler Temperature
Y or N

- | | |
|---|-----------|
| 1. Temp criteria achieved: <input checked="" type="checkbox"/> <input type="checkbox"/> | IR Gun |
| 2. Cooler temp verification: | |
| 3. Cooler media: | Ice (Bag) |
| 4. No. Coolers: | 7 |

Quality Control Preservation
Y or N
N/A

- | | |
|---|--|
| 1. Trip Blank present / cooler: <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Trip Blank listed on COC: <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Samples preserved properly: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 4. VOCs headspace free: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |

Sample Integrity - Documentation
Y or N

- | | |
|---|--|
| 1. Sample labels present on bottles: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Container labeling complete: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Sample container label / COC agree: <input checked="" type="checkbox"/> <input type="checkbox"/> | |

Sample Integrity - Condition
Y or N

- | | |
|---|--------|
| 1. Sample recvd within HT: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. All containers accounted for: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Condition of sample: | Intact |

Sample Integrity - Instructions
Y or N
N/A

- | | |
|--|--|
| 1. Analysis requested is clear: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests: <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 4. Compositing instructions clear: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 5. Filtering instructions clear: <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> | |

Test Strip Lot #s:	pH 1-12: 229517	pH 12+: 208717	Other: (Specify)
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Comments

SM089-03
Rev. Date 12/7/17

JC91795: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC91795X

Sampling Date: 07/17/19

Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
Joseph.M.Looper@usace.army.mil

ATTN: Joseph Looper

Total number of pages in report: 15



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read 'Mike Earp'.

Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Section 3: Misc. Forms 13

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Sample Summary

USACE-Philadelphia District

Job No: JC91795X

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected		Matrix Code	Type	Client	
	Date	Time By	Received		Sample	ID
JC91795-1X	07/17/19	12:10 GW	07/17/19	AQ	Surface Water	PR-1S
JC91795-2X	07/17/19	13:20 GW	07/17/19	AQ	Surface Water	PR-2S
JC91795-5X	07/17/19	12:50 GW	07/17/19	AQ	Surface Water	PR-3S
JC91795-8X	07/17/19	11:45 GW	07/17/19	AQ	Surface Water	PR-4S

Subcontract Lab Data

Report of Analysis

KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Regarding:

SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

PROJECT ID:

W09769 USACE

LABORATORY REPORT NUMBER:

L7146700



Authorized by: Douglas J. Gump
Client Services Manager

KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Regarding:
KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE,

P.O. No:

Inv. No: PI
PWSID No:

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7146700-1	WA-1S	07/17/19 09:40am NA C	Customer
Received Date/Time/Temp 07/17/19 05:40pm 3.4 C Iced (Y/N): Y			

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-1S

Total Coliform, MF	11300 E, Q		cfu/100ml	SM 9222B	1	100	07/17/19 07:38PM KC2
Fecal Coliform, MF	3 Q		cfu/100ml	SM 9222D	100	1	07/17/19 07:44PM JG2

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7146700-2	WA-2S	07/17/19 07:10am NA C	Customer
Received Date/Time/Temp 07/17/19 05:40pm 3.4 C Iced (Y/N): Y			

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-2S

Total Coliform, MF	15300 E, Q		cfu/100ml	SM 9222B	1	100	07/17/19 07:38PM KC2
Fecal Coliform, MF	2 Q		cfu/100ml	SM 9222D	100	1	07/17/19 07:44PM JG2

PIN: 28748

Unserialized Copy

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE,

P.O. No:

Inv. No: PI
PWSID No:

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7146700-3 WA-3S 07/17/19 10:30am NA C Customer
Received Date/Time/Temp 07/17/19 05:40pm 3.4 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-3S

Total Coliform, MF	>20000 Q	cfu/100ml	SM 9222B	1	100	07/17/19 07:38PM	KC2
Fecal Coliform, MF	23 Q	cfu/100ml	SM 9222D	100	1	07/17/19 07:44PM	JG2

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7146700-4 WA-4S 07/17/19 10:15am NA C Customer
Received Date/Time/Temp 07/17/19 05:40pm 3.4 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-4S

Total Coliform, MF	>20000 Q	cfu/100ml	SM 9222B	1	100	07/17/19 07:38PM	KC2
Fecal Coliform, MF	70 E, Q	cfu/100ml	SM 9222D	10	10	07/17/19 07:44PM	JG2

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7146700-5 WA-5S 07/17/19 10:00am NA C Customer
Received Date/Time/Temp 07/17/19 05:40pm 3.4 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-5S

Total Coliform, MF	8300 E, Q	cfu/100ml	SM 9222B	1	100	07/17/19 09:00PM	KC2
Fecal Coliform, MF	10 E, Q	cfu/100ml	SM 9222D	10	10	07/17/19 07:44PM	JG2

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7146700-6 WA-6S 07/17/19 08:00am NA C Customer
Received Date/Time/Temp 07/17/19 05:40pm 3.4 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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PIN: 28748

Unserialized Copy

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE,

P.O. No:

Inv. No: PI
PWSID No:

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7146700-6 WA-6S 07/17/19 08:00am NA C Customer
Received Date/Time/Temp 07/17/19 05:40pm 3.4 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-6S

Total Coliform, MF	7700 Q		cfu/100ml	SM 9222B	1	100	07/17/19 09:00PM KC2
Fecal Coliform, MF	1 Q		cfu/100ml	SM 9222D	100	1	07/17/19 07:44PM JG2

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7146700-7 WA-7S 07/17/19 08:30am NA C Customer
Received Date/Time/Temp 07/17/19 05:40pm 3.4 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-7S

Total Coliform, MF	>20000 Q		cfu/100ml	SM 9222B	1	100	07/17/19 09:00PM KC2
Fecal Coliform, MF	1 Q		cfu/100ml	SM 9222D	100	1	07/17/19 07:44PM JG2

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7146700-8 PR-1S 07/17/19 12:10pm NA C Customer
Received Date/Time/Temp 07/17/19 05:40pm 3.4 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- PR-1S

Total Coliform, MF	16500 E, Q		cfu/100ml	SM 9222B	1	100	07/17/19 07:38PM KC2
Fecal Coliform, MF	60 E, Q		cfu/100ml	SM 9222D	10	10	07/17/19 07:44PM JG2

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7146700-9 PR-2S 07/17/19 01:20pm NA C Customer
Received Date/Time/Temp 07/17/19 05:40pm 3.4 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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PIN: 28748

Unserialized Copy

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE,

P.O. No:

Inv. No: PI
PWSID No:

Sample ID	Sample Description	Samp. Date/Time/Temp				Sampled by	
L7146700-9	PR-2S	07/17/19 01:20pm NA C				Customer	
Received Date/Time/Temp		07/17/19 05:40pm 3.4 C		Iced (Y/N): Y			
Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
ENVIRONMENTAL MICROBIOLOGY -- PR-2S							
Total Coliform, MF	4300 Q		cfu/100ml	SM 9222B	1	100	07/17/19 09:00PM KC2
Fecal Coliform, MF	1 Q		cfu/100ml	SM 9222D	100	1	07/17/19 07:44PM JG2

Sample ID	Sample Description					Samp. Date/Time/Temp	Sampled by
L7146700-10	PR-3S					07/17/19 12:50pm NA C	Customer
Received Date/Time/Temp		07/17/19 05:40pm	3.4 C	Iced (Y/N):		Y	
Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
ENVIRONMENTAL MICROBIOLOGY -- PR-3S							
Total Coliform, MF	1964 E, Q		cfu/100ml	SM 9222B	10	10	07/17/19 09:00PM KC2
Fecal Coliform, MF	<1 Q		cfu/100ml	SM 9222D	100	1	07/17/19 07:44PM JG2

Sample ID	Sample Description	Samp. Date/Time/Temp				Sampled by	
L7146700-11	PR-4S	07/17/19 11:45am NA C				Customer	
Received Date/Time/Temp		07/17/19 05:40pm	3.4 C	Iced (Y/N): Y			
Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
ENVIRONMENTAL MICROBIOLOGY -- PR-4S							
Total Coliform, MF	>20000 Q		cfu/100ml	SM 9222B	1	100	07/17/19 09:00PM KC2
Fecal Coliform, MF	9 Q		cfu/100ml	SM 9222D	100	1	07/17/19 07:44PM JG2

Sample Comments | Result Qualifiers:

L7146700-1 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

PIN: 28748

Unserialized Copy

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE,

P.O. No:

Inv. No: PI
PWSID No:

L7146700-2 :

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7146700-3 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7146700-4 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7146700-5 :

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7146700-6 :

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

L7146700-7 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7146700-8 :

PIN: 28748

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Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE,

P.O. No:

Inv. No: PI
PWSID No:

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7146700-9 :

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7146700-10 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7146700-11 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.



PIN: 28748

Unserialized Copy

DEFINITIONS

The following terms or abbreviations are used in this report:

Eurofins QC, LLC (EQC)

<	Less than: In conjunction with a numerical value, indicates a concentration less than RL / MDL
>	Greater than: In conjunction with a numerical value, indicates a concentration greater than RL / MDL
CFU	Colony Forming Unit
DF	Dilution Factor (For Microbiology, DF = volume of sample tested)
DRY	Result was reported on a dry weight basis
MCL	EPA recommended "Maximum Contaminant Level"
MDL	Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
ND	For odor test: No Odor Observed
ND	For all other tests: Analyte concentration Not Detected greater than the RL / MDL

NEG	Negative / Absent
NTU	Nephelometric Turbidity Units
POS	Positive / Present
PPB (µg/L)	Parts per billion: equivalent to 1 microgram per kilogram (µg/Kg) for solids or one microgram per liter (µg/L) for aqueous samples
PPM (mg/L)	Parts per million: equivalent to 1 milligram per kilogram (mg/Kg) for solids or one milligram per liter (mg/L) for aqueous samples
PRES	Presumptive
QUAL	Qualifier (Q)
RL	Laboratory Reporting Limit or Limit of Quantitation (LOQ)
TNTC	Too Numerous To Count
TON	Threshold Odor Number

Data Qualifiers

J	Estimated value > MDL, but < RL
T	Temperature exceedance at receipt, refer to Sample Comments / Results Qualifiers section
E	Estimated CFU count (Microbiology)
Q	Qualifier defined in Sample Comment section on report

Warranties, Terms, and Conditions

- Unless otherwise indicated in the Parameter field, analyses for environmental microbiology, odor, and pharmaceutical microbiology are performed at the EQC Horsham Facility (702 Electronic Dr. Horsham, PA 19044).
- Analyses for Field Parameters are performed by EQC Field staff. Locations and certifications are identified on the Chain of Custody as follows:
 - "ERF" = field staff performs tests under NJ State certification # 02015.
 - "VL" = field staff performs tests under NJ State certification # 06005.
 - "WG" = field staff performs tests under NJ State certification # PA001.
- Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.
- The report shall not be reproduced, except in full, without the written consent of the laboratory.
- All samples are collected as "grab" samples unless otherwise identified.
- Reported results relate only to the sample as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.
- EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance. EQC's internet program "LIVE ACCESS" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.
- The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry), Amanda Berd (Pharmaceutical Microbiology), and Jordan Thorngren (Water Microbiology).

EQC Accreditations

Horsham Facility	<u>NELAP/State IDs-</u>	PA: 46-05499	NJ: PA093	NY: 12080	MD: 357
East Rutherford Facility	<u>State ID-</u>	NJ: 02015			
Vineland Facility	<u>State ID-</u>	NJ: 06005			
Wind Gap Facility	<u>State ID-</u>	NJ: PA001			

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 1 of 1

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes	
Company Name: USACE-Phila. District		Project Name: USACE Reservoirs - Prompton		SGS Quote # JC91795		Matrix Codes	
Street Address: 100 Penn Sq. East		Street: Prompton		SGS Job #		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SD - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Waste FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
City: Phila		City: Prompton		SGS Job #			
State: PA		State: PA		SGS Job #			
Zip: 19107		Zip: PA		SGS Job #			
Project Contact: Joe Loeper		Project Contact: Joe Loeper		SGS Job #			
Phone #: 215-656-0545		Phone #: 215-656-0545		SGS Job #			
E-mail: greg.wasik@usace.army.mil		E-mail: greg.wasik@usace.army.mil		SGS Job #			
Client Purchase Order #		Client Purchase Order #		SGS Job #			
Project Manager: Greg Wasik		Project Manager: Greg Wasik		SGS Job #			
Attention:		Attention:		SGS Job #			
Field ID / Point of Collection		Date		Time		Matrix	
1F PR-1S (#see note)		7/17/19		1210		G SW	
2F PR-2S		1320		1320		G SW	
3F PR-2M		1320		1320		G SW	
4F PR-2D		1320		1320		G SW	
5F PR-3S		1250		1250		G SW	
6F PR-3M		1250		1250		G SW	
7F PR-3D		1250		1250		G SW	
8F PR-4S (#see note)		1145		1145		G SW	
Turn Around Time (Business Days)		Deliverable		Comments / Special Instructions		LAB USE ONLY	
10 Business Days		Commercial "A" (Level 1)		NYASP Category A		37	
6 Business Days		Commercial "B" (Level 2)		NYASP Category B		63874	
3 Business Days		NJ Reduced (Level 3)		MA MCP Criteria		1967	
2 Business Days		Full Tier I (Level 4)		CT RCP Criteria		SUB	
1 Business Day		Commercial "C"		State Forms			
Other		NJ DKQP		EDD Format			
All data per state via Lablink		Approval needed for 1-3 Business Day TAT		Commercial "A" = Results only; Commercial "B" = Results + QC Summary; Partial Raw data			
Retinquished By:		Date / Time:		Retinquished By:		Date / Time:	
1		7/17/19 1540		2		7/17/19 1540	
3		7/17/19 1540		4		7/17/19 1540	
5		7/17/19 1540		6		7/17/19 1540	
Custody Seal #		Intact		Preserved where applicable		Therm. ID:	
2		Intact		Preserved where applicable		Therm. ID:	
3		Intact		Preserved where applicable		Therm. ID:	
4		Intact		Preserved where applicable		Therm. ID:	
5		Intact		Preserved where applicable		Therm. ID:	

JC91795X: Chain of Custody

Page 1 of 2



SGS Sample Receipt Summary

Job Number: JC91795

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 7/17/2019 7:38:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (2.8); Cooler 2: (2.3); Cooler 3: (2.9); Cooler 4: (3.1); Cooler 5: (2.7); Cooler 6: (2.9); Cooler 7: (2.7);

Cooler Temps (Corrected) °C: Cooler 1: (2.8); Cooler 2: (2.3); Cooler 3: (2.9); Cooler 4: (3.1); Cooler 5: (2.7); Cooler 6: (2.9); Cooler 7: (2.7);

<u>Cooler Security</u>	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	7		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Test Strip Lot #s:	pH 1-12:	229517	pH 12+:	208717	Other: (Specify)	
--------------------	----------	--------	---------	--------	------------------	--

Comments

SM089-03
Rev. Date 12/7/17

JC91795X: Chain of Custody
Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC91795XA

Sampling Date: 07/17/19

Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
Joseph.M.Loeper@usace.army.mil

ATTN: Joseph Loeper

Total number of pages in report: 18



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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Section 2: Subcontract Lab Data

Section 3: Misc. Forms

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Sample Summary

USACE-Philadelphia District

Job No: JC91795XA

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC91795-1F	07/17/19	12:10	GW	07/17/19	AQ Surface H2O Filtered	PR-1S
JC91795-1XA	07/17/19	12:10	GW	07/17/19	AQ Surface Water	PR-1S
JC91795-2F	07/17/19	13:20	GW	07/17/19	AQ Surface H2O Filtered	PR-2S
JC91795-2XA	07/17/19	13:20	GW	07/17/19	AQ Surface Water	PR-2S
JC91795-3F	07/17/19	13:20	GW	07/17/19	AQ Surface H2O Filtered	PR-2M
JC91795-3XA	07/17/19	13:20	GW	07/17/19	AQ Surface Water	PR-2M
JC91795-4F	07/17/19	13:20	GW	07/17/19	AQ Surface H2O Filtered	PR-2D
JC91795-4XA	07/17/19	13:20	GW	07/17/19	AQ Surface Water	PR-2D
JC91795-5F	07/17/19	12:50	GW	07/17/19	AQ Surface H2O Filtered	PR-3S
JC91795-5XA	07/17/19	12:50	GW	07/17/19	AQ Surface Water	PR-3S
JC91795-6F	07/17/19	12:50	GW	07/17/19	AQ Surface H2O Filtered	PR-3M
JC91795-6XA	07/17/19	12:50	GW	07/17/19	AQ Surface Water	PR-3M
JC91795-7F	07/17/19	12:50	GW	07/17/19	AQ Surface H2O Filtered	PR-3D



Sample Summary
(continued)

USACE-Philadelphia District

Job No: JC91795XA

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected		Time By	Received	Matrix		Client Sample ID
	Date				Code	Type	
JC91795-7XA	07/17/19	12:50	GW	07/17/19	AQ	Surface Water	PR-3D
JC91795-8F	07/17/19	11:45	GW	07/17/19	AQ	Surface H2O Filtered	PR-4S
JC91795-8XA	07/17/19	11:45	GW	07/17/19	AQ	Surface Water	PR-4S



Dayton, NJ

Section 2

Subcontract Lab Data

Report of Analysis



M.J. Reider Associates, Inc.

ENVIRONMENTAL TESTING LABORATORY
U.S. EPA/PA DEP #06-00003

Certificate of Analysis

Laboratory No.: 9025191

Report: 08/01/19

Lab Contact: Richard A Wheeler

Attention: Tammy McCloskey
Reported To: SGS North America
2235 US Highway 130
Dayton, NJ 08810

Project: Army Corp Reservoirs

Lab ID: 9025191-01 **Collected By:** Client **Sampled:** 07/17/19 12:10 **Received:** 07/19/19 08:30
Sample Desc: PR-1S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	07/19/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.01	SM 4500-P E	07/19/19		JCL

Lab ID: 9025191-02 **Collected By:** Client **Sampled:** 07/17/19 13:20 **Received:** 07/19/19 08:30
Sample Desc: PR-2S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	07/19/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.01	SM 4500-P E	07/19/19		JCL

Lab ID: 9025191-03 **Collected By:** Client **Sampled:** 07/17/19 13:20 **Received:** 07/19/19 08:30
Sample Desc: PR-2M **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	07/19/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.01	SM 4500-P E	07/19/19		JCL



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Additional accreditations by CT (PH-0210), MD (261), NY(12094)

Page 1 of 10



Lab ID: 9025191-04 **Collected By:** Client **Sampled:** 07/17/19 13:20 **Received:** 07/19/19 08:30
Sample Desc: PR-2D **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	07/19/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.03	mg/l	0.01	0.01	SM 4500-P E	07/19/19		JCL

Lab ID: 9025191-05 **Collected By:** Client **Sampled:** 07/17/19 12:50 **Received:** 07/19/19 08:30
Sample Desc: PR-3S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.01	mg/l	0.007	0.05	SM 4500-P E	07/19/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	<0.01	mg/l	0.01	0.01	SM 4500-P E	07/19/19		JCL

Lab ID: 9025191-06 **Collected By:** Client **Sampled:** 07/17/19 12:50 **Received:** 07/19/19 08:30
Sample Desc: PR-3M **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.01	mg/l	0.007	0.05	SM 4500-P E	07/19/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	<0.01	mg/l	0.01	0.01	SM 4500-P E	07/19/19		JCL

Lab ID: 9025191-07 **Collected By:** Client **Sampled:** 07/17/19 12:50 **Received:** 07/19/19 08:30
Sample Desc: PR-3D **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.05	mg/l	0.007	0.05	SM 4500-P E	07/19/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.06	mg/l	0.01	0.01	SM 4500-P E	07/19/19		JCL



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Lab ID: 9025191-08 **Collected By:** Client **Sampled:** 07/17/19 11:45 **Received:** 07/19/19 08:30
Sample Desc: PR-4S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	07/19/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.01	SM 4500-P E	07/19/19		JCL



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Quality Control

General Chemistry

	Result	Reporting Limit	Units	%REC	%REC Limits	RPD	RPD Limit	Analyte Notes
Batch B9G1163								
MB (B9G1163-BLK1)				Prepared & Analyzed: 07/19/2019				
Phosphorus as P, Total	<0.05	0.05	mg/l					U
MB (B9G1163-BLK2)				Prepared & Analyzed: 07/19/2019				
Phosphorus as P, Total	<0.05	0.05	mg/l					U
MB (B9G1163-BLK3)				Prepared & Analyzed: 07/19/2019				
Phosphorus as P, Total	<0.05	0.05	mg/l					U
LFB (B9G1163-BS1)				Prepared & Analyzed: 07/19/2019				
Phosphorus as P, Total	1.01	0.05	mg/l	101	80-120			
Batch B9G1189								
MB (B9G1189-BLK1)				Prepared & Analyzed: 07/19/2019				
Phosphorus as P, Total	<0.05	0.05	mg/l					U
MB (B9G1189-BLK2)				Prepared & Analyzed: 07/19/2019				
Phosphorus as P, Total	<0.05	0.05	mg/l					U
MB (B9G1189-BLK3)				Prepared & Analyzed: 07/19/2019				
Phosphorus as P, Total	<0.05	0.05	mg/l					U
LFB (B9G1189-BS1)				Prepared & Analyzed: 07/19/2019				
Phosphorus as P, Total	1.00	0.05	mg/l	100	80-120			
LFM (B9G1189-MS1)		Source: 9025191-03		Prepared & Analyzed: 07/19/2019				
Phosphorus as P, Total	1.00	0.05	mg/l	98.6	80-120			



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General Chemistry (Continued)

Batch B9G1189 (Continued)

LFMD (B9G1189-MSD1)

Phosphorus as P, Total

Result	Reporting Limit	Units	%REC	%REC Limits	RPD	RPD Limit	Analyte Notes
1.00	0.05	mg/l	97.8	80-120	0.800	20	

Source: 9025191-03

Prepared & Analyzed: 07/19/2019

Dissolved General Chemistry

Batch B9G1166

MB (B9G1166-BLK1)

Phosphorus as P, Dissolved

<0.05	0.05	mg/l					G-11, U
-------	------	------	--	--	--	--	---------

Prepared & Analyzed: 07/19/2019

LFB (B9G1166-BS1)

Phosphorus as P, Dissolved

1.01	0.05	mg/l	101	80-120			G-11
------	------	------	-----	--------	--	--	------

Prepared & Analyzed: 07/19/2019

LFM (B9G1166-MS1)

Phosphorus as P, Dissolved

1.01	0.05	mg/l	99.5	80-120			
------	------	------	------	--------	--	--	--

Source: 9025191-02

Prepared & Analyzed: 07/19/2019

LFMD (B9G1166-MSD1)

Phosphorus as P, Dissolved

1.00	0.05	mg/l	98.8	80-120	0.694	20	
------	------	------	------	--------	-------	----	--

Source: 9025191-02

Prepared & Analyzed: 07/19/2019

Batch B9G1190

MB (B9G1190-BLK1)

Phosphorus as P, Dissolved

<0.05	0.05	mg/l					G-11, U
-------	------	------	--	--	--	--	---------

Prepared & Analyzed: 07/19/2019

LFB (B9G1190-BS1)

Phosphorus as P, Dissolved

1.02	0.05	mg/l	102	80-120			G-11
------	------	------	-----	--------	--	--	------

Prepared & Analyzed: 07/19/2019



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M.J. Reider Associates, Inc.

2

Preparation Methods

Specific Method	Preparation Method	Prepared Date	Prepared By
9025191-01			
SM 4500-P E	SM 4500-P B	07/19/2019	JCL
9025191-02			
SM 4500-P E	SM 4500-P B	07/19/2019	JCL
9025191-03			
SM 4500-P E	SM 4500-P B	07/19/2019	JCL
9025191-04			
SM 4500-P E	SM 4500-P B	07/19/2019	JCL
9025191-05			
SM 4500-P E	SM 4500-P B	07/19/2019	JCL
9025191-06			
SM 4500-P E	SM 4500-P B	07/19/2019	JCL
9025191-07			
SM 4500-P E	SM 4500-P B	07/19/2019	JCL
9025191-08			
SM 4500-P E	SM 4500-P B	07/19/2019	JCL

Notes and Definitions

- G-11 The sample was filtered after it was received at the laboratory.
J Estimated value
U Analyte was not detected above the indicated value.



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PM: RAW
SGS North America
Army Corp Reservoirs

PM: RAW

SGS North America

Army Corp Reservoirs

Page 1 of 2



Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes	
Company Name:		Project Name:		SGS Job #		JC91795XA	
Street Address		Billing Information (if different from Report to)					
City		Company Name					
State		State					
Zip		Zip					
Project Contact		Project #					
E-mail		Client Purchase Order #					
Phone #		Project Manager					
Simulator (Name(s))		Attention:					
GW							
Field ID / Point of Collection		Collection		Number of preserved bottles		LAB USE ONLY	
MECHD Val #		Date		# of bottles		TP04	
1XA PR-1S		7/17/19		GW		X	
1F PR-1S		7/17/19		GW		X	
2XA PR-2S		7/17/19		GW		X	
2F PR-2S		7/17/19		GW		X	
3XA PR-2M		7/17/19		GW		X	
3F PR-2M		7/17/19		GW		X	
4XA PR-2D		7/17/19		GW		X	
4F PR-2D		7/17/19		GW		X	
5XA PR-3S		7/17/19		GW		X	
5F PR-3S		7/17/19		GW		X	
6XA PR-3M		7/17/19		GW		X	
6F PR-3M		7/17/19		GW		X	
Turnaround Time (Business days)		Data Deliverable Information		Comments / Special Instructions			
Approved By (SGS PM) / Date:		Commercial "A" (Level 1)		NYASP Category A			
Standard 10 Business Days		Commercial "B" (Level 2)		NYASP Category B			
5 Business Days RUSH		FULLT1 (Level 3+)		State Forms			
3 Business Days RUSH		NJ Reduced		EDD Format			
2 Business Days RUSH		Commercial "C"		Other REDT2			
1 Business Day EMERGENCY		Commercial "A" = Results Only					
Emergency & Full T1 data available via Lelink. Approval needed for RUSH/Emergency TAT		Commercial "B" = Results + QC Summary					
Relinquished by:		Relinquished by:		Relinquished by:			
Date / Time:		Date / Time:		Date / Time:			
1 1540		Fedex		2			
3		7-19-19		4			
5		7-19-19 8:30		5			

9025191

Date / Time: 7/18/2019 1:18:56 PM

CSR: BETHW

Job #: JC91795XA

Client Project: Philadelphia District, Reservoir Sampling

Deliverable: REDT2

TAT: Due 7/31/2019

Sub Lab: MJ Reider Associates Inc, Env. Testing Laboratories

Address: 107 Angelica Street

City: Reading

State: PA Zip: 19611

Contact: Sample Receiving / Rich Wheeler

Phone: 610-374-5129

SGS Sample #	Client Sample Description	Analysis	Location	Sampled By	Date Sampled	Time Sampled	Aliquot
JC91795-1XA	PR-1S	TPO4		GW	7/17/2019	12:10:00 PM	
JC91795-1F	PR-1S	FILTERGN ,TPO4		GW	7/17/2019	12:10:00 PM	
JC91795-2XA	PR-2S	TPO4		GW	7/17/2019	1:20:00 PM	
JC91795-2F	PR-2S	FILTERGN ,TPO4		GW	7/17/2019	1:20:00 PM	
JC91795-3XA	PR-2M	TPO4		GW	7/17/2019	1:20:00 PM	
JC91795-3F	PR-2M	FILTERGN ,TPO4		GW	7/17/2019	1:20:00 PM	
JC91795-4XA	PR-2D	TPO4		GW	7/17/2019	1:20:00 PM	
JC91795-4F	PR-2D	FILTERGN ,TPO4		GW	7/17/2019	1:20:00 PM	
JC91795-5XA	PR-3S	TPO4		GW	7/17/2019	12:50:00 PM	
JC91795-5F	PR-3S	FILTERGN ,TPO4		GW	7/17/2019	12:50:00 PM	
JC91795-6XA	PR-3M	TPO4		GW	7/17/2019	12:50:00 PM	
JC91795-6F	PR-3M	FILTERGN ,TPO4		GW	7/17/2019	12:50:00 PM	
JC91795-7XA	PR-3D	TPO4		GW	7/17/2019	12:50:00 PM	
JC91795-7F	PR-3D	FILTERGN ,TPO4		GW	7/17/2019	12:50:00 PM	
JC91795-8XA	PR-4S	TPO4		GW	7/17/2019	11:45:00 AM	
JC91795-8F	PR-4S	FILTERGN ,TPO4		GW	7/17/2019	11:45:00 AM	

MJRA Terms & Conditions

All samples submitted must be accompanied by signed documentation representing a Chain of Custody (COC). The COC Record acts as a contract between the client and MJRA. Signing the COC form gives approval for MJRA to perform the requested analyses and is an agreement to pay for the cost of such analyses. COC Records must be completed in black or blue indelible ink (must not run when wet). COC documentation begins at the time of sample collection. Client is required to document all sample details prior to releasing samples to MJRA. All samples must be placed on ice immediately after sampling and shipped or delivered to the laboratory in a manner that will maintain the sample temperature above freezing and below 6C (loose ice is preferred).

Sample Submission, Sample Acceptance & Sampling Containers

Included on the COC must be the sample description, date and time of collection (including start and stop for composites), container size and type, preservative information, sample matrix, indication of whether the sample is a grab or composite, number of containers & a list of the tests to be performed. Poor sample collection technique, inappropriate sampling containers and/or improper sample preservation may lead to sample rejection. Suitable sample containers, labels, and preservatives (as applicable), along with blank COCs are provided at no additional cost.

Turnaround Times (TAT)

Average TAT for test results range from 5 to 15 working days depending on the specific analyses and time of year submitted. Faster turnaround times (*RUSH TAT) may be available depending on the current workload in a particular department and the nature of the analyses requested. We encourage you to verify requests for expedited sample results with one of our Technical Directors prior to sample submittal. Without confirmation from a Technical Director, your results may not be completed by your deadline. *RUSH TAT Surcharges are applied for expedited turnaround times.

Analytical Results, Sample Collection Integrity & Subcontracting

Analytical values are for the sample as submitted and relate only to the item tested. The value indicates a snapshot of the constituent content of the sample at the time of sample collection. Analytical results can be impacted by poor sample collection technique and/or improper preservation. All sample collection completed by MJRA was performed in accordance with applicable regulatory protocols or as specified in customer specific sampling plans. Constituent content will vary over time based on the matrix of the sample and the physical and chemical changes to its environment. All sample results and laboratory reports are strictly confidential. Results will not be available to anyone except the primary client or authorized party representing the client unless MJRA receives additional permissions from the client. When necessary, MJRA will subcontract certain analyses to a third party accredited laboratory. If client prohibits subcontracting, it must be provided in writing and include instruction on how to proceed with client samples that require third party analyses.


Payment Terms

Payment Terms are Net 30 days. Prices are subject to change without notice. A standing monthly charge of 1.5% of the clients over-30-day-unpaid balance may be added to the balance after 30 days and each month thereafter (day 31, 61, 91 etc.). The laboratory accepts all major credit cards, ACH transactions, checks and cash. New clients must pay for all services rendered prior to sample collection and/or in some cases report processing. Clients must contact the MJRA accounting department to pursue a credit-based account. MJRA reserves the right to terminate the client's credit account and to refuse to perform additional services on a credit basis if any balance is outstanding for more than 60 days.

Warranty & Litigation

MJRA does not guarantee any results of its services but has agreed to use its best efforts, in accordance with the standards and practices of the industry, to cause such results to be accurate and complete. We disclaim any other warranties, expressed or implied, including a warranty of fitness for a particular purpose and warranty of merchantability. Clients agree that they shall reimburse MJRA for any and all fees, cost and litigation expenses, including reasonable attorney fees incurred by MJRA in obtaining payment for the services rendered. All costs associated with compliance with any subpoena for documents, testimony, or any other purpose relating to work performed by MJRA, for a client, shall be paid by that client. MJRA's aggregate liability for negligent acts and omissions and of an intentional breach by MJRA will not exceed the fee paid for the services. Client agrees to indemnify and hold MJRA harmless for any and all liabilities in excess of said amount. Neither MJRA nor the client shall be liable to the other for special, incidental consequential or punitive liability or damages included but not limited to those arising from delay, loss of use, loss of profits or revenues. MJRA will not be liable to the client unless the client has notified MJRA of the discovery of the alleged negligent act, error, omissions or breach within 30 days of the

Reviewed and Approved by:



Rafael A Quijada For Richard A Wheeler
Director of Field Services



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Additional accreditations by CT (PH-0210), MD (261), NY(12094)

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 1 of 1

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes	
Company Name: USACE-Phila. District		Project Name: USACE Reservoirs - Prompton		Requested Analysis: TP04 (S06 to MS Reid), Alkalinity, Ammonia, BOD, TDS, TKN, TOC, TSS, XAN030		Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL - Sludge, SED - Sediment, OL - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Waste, FB - Field Blank, EB - Equipment Blank, RB - Rinsate Blank, TB - Trip Blank	
Street Address: 100 Penn Sq. East		Street: Prompton		Billing Information (if different from Report to):		LAB USE ONLY	
City: Phila, State: PA, Zip: 19107		City: Prompton, State: PA		Company Name:			
Project Contact: Joe Loeper		Project Manager: Tommy McCloskey		Attention:			
Phone #: 215-656-0545		Client Purchase Order #		City:			
Sample(s) Name(s): Greg Wasik		Phone #: 610-597-9780		State:			
Field ID / Point of Collection: 1F PR-1S		Date: 7/17/19		Time: 1210			
2F PR-2S		Date: 7/17/19		Time: 1320			
3F PR-2M		Date: 7/17/19		Time: 1320			
4F PR-2D		Date: 7/17/19		Time: 1320			
5F PR-3S		Date: 7/17/19		Time: 1250			
6F PR-3M		Date: 7/17/19		Time: 1250			
7F PR-3D		Date: 7/17/19		Time: 1250			
8F PR-4S		Date: 7/17/19		Time: 1145			
Turn Around Time (Business Days):		Deliverable:		Comments / Special Instructions:			
Approved By (SGS PM): / Date:		Commercial "A" (Level 1)		NYASP Category A		DOD-GSMS	
10 Business Days		Commercial "B" (Level 2)		NYASP Category B			
6 Business Days		NJ Reduced (Level 3)		MA MCP Criteria			
3 Business Days		Full Tier I (Level 4)		CT RCP Criteria			
2 Business Days		Commercial "C"		State Forms			
1 Business Day		NJ DKQP		EDD Format			
Other							
All data per State via Lablink		Approval needed for 1-3 Business Day TAT		Commercial "A" = Results only; Commercial "B" = Results + QC Summary; Commercial "C" = Results + QC Summary + Partial Raw data		http://www.sgs.com/en/terms-and-conditions	
Relinquished By: [Signature]		Date / Time: 7/17/19 1540		Relinquished By: [Signature]		Date / Time: 7/17/19 1930	
Relinquished By: [Signature]		Date / Time: 7/17/19 1540		Relinquished By: [Signature]		Date / Time: 7/17/19 1930	
Relinquished By: [Signature]		Date / Time: 7/17/19 1540		Relinquished By: [Signature]		Date / Time: 7/17/19 1930	
Relinquished By: [Signature]		Date / Time: 7/17/19 1540		Relinquished By: [Signature]		Date / Time: 7/17/19 1930	
Relinquished By: [Signature]		Date / Time: 7/17/19 1540		Relinquished By: [Signature]		Date / Time: 7/17/19 1930	

JC91795XA: Chain of Custody

Page 1 of 2



SGS Sample Receipt Summary

Job Number: JC91795

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 7/17/2019 7:38:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (2.8); Cooler 2: (2.3); Cooler 3: (2.9); Cooler 4: (3.1); Cooler 5: (2.7); Cooler 6: (2.9); Cooler 7: (2.7);

Cooler Temps (Corrected) °C: Cooler 1: (2.8); Cooler 2: (2.3); Cooler 3: (2.9); Cooler 4: (3.1); Cooler 5: (2.7); Cooler 6: (2.9); Cooler 7: (2.7);

<u>Cooler Security</u>		<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>		3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>		4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	7		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Test Strip Lot #s:	pH 1-12:	229517	pH 12+:	208717	Other: (Specify)	
--------------------	----------	--------	---------	--------	------------------	--

Comments

SM089-03
Rev. Date 12/7/17

JC91795XA: Chain of Custody

Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

Prompton

SGS Job Number: JC92500

Sampling Date: 07/31/19

Report to:

Army Corps of Engineers

joseph.m.loeper@usace.army.mil

ATTN: Joseph Loeper

Total number of pages in report: 22



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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Sample Summary

USACE-Philadelphia District

Job No: JC92500

Philadelphia District, Reservoir Sampling
Project No: Prompton

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC92500-1	07/31/19	12:05 GW	07/31/19	AQ	Surface Water	PR-1S
JC92500-2	07/31/19	13:00 GW	07/31/19	AQ	Surface Water	PR-2S
JC92500-3	07/31/19	13:00 GW	07/31/19	AQ	Surface Water	PR-2M
JC92500-4	07/31/19	13:00 GW	07/31/19	AQ	Surface Water	PR-2D
JC92500-5	07/31/19	12:45 GW	07/31/19	AQ	Surface Water	PR-3S
JC92500-6	07/31/19	12:45 GW	07/31/19	AQ	Surface Water	PR-3M
JC92500-7	07/31/19	12:45 GW	07/31/19	AQ	Surface Water	PR-3D
JC92500-8	07/31/19	11:45 GW	07/31/19	AQ	Surface Water	PR-4S

CASE NARRATIVE / CONFORMANCE SUMMARY

2

Client: USACE-Philadelphia District

Job No JC92500

Site: Philadelphia District, Reservoir Sampling

Report Date 8/14/2019 1:58:34 PM

On 07/31/2019, 8 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC92500 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

General Chemistry By Method EPA 351.2/LACHAT

Matrix: AQ

Batch ID: GP22967

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92500-1DUP, JC92500-1MS were used as the QC samples for Nitrogen, Total Kjeldahl.
- Matrix Spike Recovery(s) for Nitrogen, Total Kjeldahl are outside control limits. Spike recovery indicates possible matrix interference.

General Chemistry By Method EPA 353.2/LACHAT

Matrix: AQ

Batch ID: GP22893

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92496-1MS, JC92730-1DUP were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ

Batch ID: GP22894

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92500-5DUP, JC92500-5MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Wednesday, August 14, 2019

Page 1 of 5

General Chemistry By Method EPA353.2/SM4500NO2B

Matrix: AQ

Batch ID: R180250

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC92500-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R180251

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC92500-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R180252

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC92500-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R180253

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC92500-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R180254

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC92500-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R180255

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC92500-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R180256

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC92500-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R180257

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC92500-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM2320 B-11

Matrix: AQ

Batch ID: GN98359

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92496-1DUP were used as the QC samples for Alkalinity, Total as CaCO₃.
- JC92500-4 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC92500-3 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC92500-1 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC92500-2 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.

Matrix: AQ

Batch ID: GN98432

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92500-5DUP were used as the QC samples for Alkalinity, Total as CaCO₃.
- JC92500-5 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC92500-8 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC92500-6 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC92500-7 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.

General Chemistry By Method SM2540 C-11

Matrix: AQ

Batch ID: GN98332

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92500-1DUP were used as the QC samples for Solids, Total Dissolved.

General Chemistry By Method SM2540 D-11

Matrix: AQ

Batch ID: GN98274

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92600-1DUP were used as the QC samples for Solids, Total Suspended.

Matrix: AQ

Batch ID: GN98322

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92500-1DUP were used as the QC samples for Solids, Total Suspended.
- JC92500-2 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.
- JC92500-1 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.
- JC92500-3 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.
- JC92500-6 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 800 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.
- JC92500-5 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.
- JC92500-4 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.

Matrix: AQ

Batch ID: GN98384

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92566-1DUP were used as the QC samples for Solids, Total Suspended.
- JC92500-7 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 200 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

General Chemistry By Method SM4500NH3 H-11LACHAT

Matrix: AQ

Batch ID: GP22923

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92411-1DUP, JC92411-1MS, JC92411-1MSD were used as the QC samples for Nitrogen, Ammonia.

General Chemistry By Method SM4500NO2 B-11

Matrix: AQ

Batch ID: GN98175

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92512-9DUP, JC92512-9MS were used as the QC samples for Nitrogen, Nitrite.

General Chemistry By Method SM5210 B-11

Matrix: AQ

Batch ID: GP22758

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC92500-8DUP were used as the QC samples for BOD, 5 Day.

Wednesday, August 14, 2019

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General Chemistry By Method SM5310 B-11

Matrix: AQ**Batch ID:** GP22884

- Sample(s) JC92847-1MS, JC92847-1MSD were used as the QC samples for Total Organic Carbon.

Matrix: DW**Batch ID:** GP22884

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Job Number: JC92500
Account: USACE-Philadelphia District
Project: Philadelphia District, Reservoir Sampling
Collected: 07/31/19



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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JC92500-1 PR-1S

Alkalinity, Total as CaCO ₃ ^a	35.0	10			mg/l	SM2320 B-11
Nitrogen, Nitrate ^b	0.24	0.11			mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.24	0.10			mg/l	EPA 353.2/LACHAT
Nitrogen, Total Kjeldahl	0.24	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	43.0	10			mg/l	SM2540 C-11
Total Organic Carbon	2.5	1.0			mg/l	SM5310 B-11

JC92500-2 PR-2S

Alkalinity, Total as CaCO ₃ ^a	25.0	10			mg/l	SM2320 B-11
BOD, 5 Day	4.0	3.4			mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.42	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	57.0	10			mg/l	SM2540 C-11
Solids, Total Suspended ^c	5.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	4.0	1.0			mg/l	SM5310 B-11

JC92500-3 PR-2M

Alkalinity, Total as CaCO ₃ ^a	30.0	10			mg/l	SM2320 B-11
BOD, 5 Day	3.8	3.4			mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.98	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	59.0	10			mg/l	SM2540 C-11
Solids, Total Suspended ^c	5.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	4.3	1.0			mg/l	SM5310 B-11

JC92500-4 PR-2D

Alkalinity, Total as CaCO ₃ ^a	29.0	10			mg/l	SM2320 B-11
Nitrogen, Total Kjeldahl	0.58	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	54.0	10			mg/l	SM2540 C-11
Solids, Total Suspended ^c	5.2	4.0			mg/l	SM2540 D-11
Total Organic Carbon	3.5	1.0			mg/l	SM5310 B-11

JC92500-5 PR-3S

Alkalinity, Total as CaCO ₃ ^a	17.0	10			mg/l	SM2320 B-11
BOD, 5 Day	3.6	3.4			mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.96	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	52.0	10			mg/l	SM2540 C-11
Solids, Total Suspended ^c	4.2	4.0			mg/l	SM2540 D-11
Total Organic Carbon	4.0	1.0			mg/l	SM5310 B-11

Summary of Hits

Job Number: JC92500
Account: USACE-Philadelphia District
Project: Philadelphia District, Reservoir Sampling
Collected: 07/31/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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JC92500-6 PR-3M

Alkalinity, Total as CaCO ₃ ^a	30.0	10			mg/l	SM2320 B-11
BOD, 5 Day	4.9	3.4			mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.35	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	44.0	10			mg/l	SM2540 C-11
Total Organic Carbon	3.5	1.0			mg/l	SM5310 B-11

JC92500-7 PR-3D

Alkalinity, Total as CaCO ₃ ^a	43.0	10			mg/l	SM2320 B-11
Nitrogen, Ammonia	1.0	0.20			mg/l	SM4500NH ₃ H-11/LACHAT
Nitrogen, Total Kjeldahl	1.5	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	50.0	10			mg/l	SM2540 C-11
Solids, Total Suspended ^d	17.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	5.5	1.0			mg/l	SM5310 B-11

JC92500-8 PR-4S

Alkalinity, Total as CaCO ₃ ^a	34.0	10			mg/l	SM2320 B-11
Nitrogen, Nitrate ^b	0.14	0.11			mg/l	EPA353.2/SM4500NO ₂ B
Nitrogen, Nitrate + Nitrite	0.14	0.10			mg/l	EPA 353.2/LACHAT
Nitrogen, Total Kjeldahl	0.32	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	52.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	5.6	4.0			mg/l	SM2540 D-11
Total Organic Carbon	3.7	1.0			mg/l	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.

(d) Reported sample aliquot obtained from filtration of 200 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.



Dayton, NJ

Section 4

4

Sample Results

Report of Analysis

Report of Analysis

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Client Sample ID:	PR-1S	Date Sampled:	07/31/19
Lab Sample ID:	JC92500-1	Date Received:	07/31/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	35.0	10	mg/l	1	08/06/19 16:24	MS	SM2320 B-11
BOD, 5 Day	< 3.4	3.4	mg/l	1	08/01/19 21:36	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	08/09/19 17:01	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	0.24	0.11	mg/l	1	08/08/19 16:21	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.24	0.10	mg/l	1	08/08/19 16:21	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/01/19 11:03	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.24	0.20	mg/l	1	08/14/19 11:05	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	43.0	10	mg/l	1	08/06/19 15:37	RC	SM2540 C-11
Solids, Total Suspended ^c	< 4.0	4.0	mg/l	1	08/06/19 09:44	RC	SM2540 D-11
Total Organic Carbon	2.5	1.0	mg/l	1	08/08/19 20:44	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-2S	Date Sampled: 07/31/19
Lab Sample ID: JC92500-2	Date Received: 07/31/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	25.0	10	mg/l	1	08/06/19 16:24	MS	SM2320 B-11
BOD, 5 Day	4.0	3.4	mg/l	1	08/01/19 21:40	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	08/09/19 17:02	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	08/08/19 16:22	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	08/08/19 16:22	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/01/19 11:03	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.42	0.20	mg/l	1	08/14/19 11:06	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	57.0	10	mg/l	1	08/06/19 15:37	RC	SM2540 C-11
Solids, Total Suspended ^c	5.0	4.0	mg/l	1	08/06/19 09:44	RC	SM2540 D-11
Total Organic Carbon	4.0	1.0	mg/l	1	08/08/19 20:55	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-2M	Date Sampled: 07/31/19
Lab Sample ID: JC92500-3	Date Received: 07/31/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	30.0	10	mg/l	1	08/06/19 16:24	MS	SM2320 B-11
BOD, 5 Day	3.8	3.4	mg/l	1	08/01/19 21:43	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	08/09/19 17:04	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	08/08/19 16:23	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	08/08/19 16:23	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/01/19 11:03	JO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.98	0.20	mg/l	1	08/14/19 11:06	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	59.0	10	mg/l	1	08/06/19 15:37	RC	SM2540 C-11
Solids, Total Suspended ^c	5.0	4.0	mg/l	1	08/06/19 09:44	RC	SM2540 D-11
Total Organic Carbon	4.3	1.0	mg/l	1	08/08/19 21:06	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-2D	Date Sampled:	07/31/19
Lab Sample ID:	JC92500-4	Date Received:	07/31/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	29.0	10	mg/l	1	08/06/19 16:26	MS	SM2320 B-11
BOD, 5 Day	< 3.4	3.4	mg/l	1	08/01/19 21:46	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	08/09/19 17:05	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	08/08/19 16:24	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	08/08/19 16:24	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/01/19 11:03	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.58	0.20	mg/l	1	08/14/19 11:07	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	54.0	10	mg/l	1	08/06/19 15:37	RC	SM2540 C-11
Solids, Total Suspended ^c	5.2	4.0	mg/l	1	08/06/19 09:44	RC	SM2540 D-11
Total Organic Carbon	3.5	1.0	mg/l	1	08/08/19 21:40	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-3S	Date Sampled:	07/31/19
Lab Sample ID:	JC92500-5	Date Received:	07/31/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	17.0	10	mg/l	1	08/07/19 20:39	MS	SM2320 B-11
BOD, 5 Day	3.6	3.4	mg/l	1	08/01/19 21:50	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	08/09/19 17:07	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	08/08/19 16:33	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	08/08/19 16:33	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/01/19 11:22	JOO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.96	0.20	mg/l	1	08/14/19 11:08	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	52.0	10	mg/l	1	08/06/19 15:37	RC	SM2540 C-11
Solids, Total Suspended ^c	4.2	4.0	mg/l	1	08/06/19 09:44	RC	SM2540 D-11
Total Organic Carbon	4.0	1.0	mg/l	1	08/08/19 21:51	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-3M	Date Sampled:	07/31/19
Lab Sample ID:	JC92500-6	Date Received:	07/31/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	30.0	10	mg/l	1	08/07/19 20:39	MS	SM2320 B-11
BOD, 5 Day	4.9	3.4	mg/l	1	08/01/19 21:52	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	08/09/19 17:08	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	08/08/19 16:34	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	08/08/19 16:34	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/01/19 11:22	JO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.35	0.20	mg/l	1	08/14/19 11:11	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	44.0	10	mg/l	1	08/06/19 15:37	RC	SM2540 C-11
Solids, Total Suspended ^c	< 4.0	4.0	mg/l	1	08/06/19 09:44	RC	SM2540 D-11
Total Organic Carbon	3.5	1.0	mg/l	1	08/08/19 22:02	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 800 mL of sample. Volume was reduced from 1 liter due to nature of sample matrix.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-3D	Date Sampled:	07/31/19
Lab Sample ID:	JC92500-7	Date Received:	07/31/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	43.0	10	mg/l	1	08/07/19 20:39	MS	SM2320 B-11
BOD, 5 Day	< 3.4	3.4	mg/l	1	08/01/19 21:56	EB	SM5210 B-11
Nitrogen, Ammonia	1.0	0.20	mg/l	1	08/09/19 17:09	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	08/08/19 16:35	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	08/08/19 16:35	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/01/19 11:22	JO	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	1.5	0.20	mg/l	1	08/14/19 11:12	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	50.0	10	mg/l	1	08/06/19 15:37	RC	SM2540 C-11
Solids, Total Suspended ^c	17.0	4.0	mg/l	1	08/07/19 10:38	RC	SM2540 D-11
Total Organic Carbon	5.5	1.0	mg/l	1	08/08/19 22:13	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 200 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-4S	Date Sampled:	07/31/19
Lab Sample ID:	JC92500-8	Date Received:	07/31/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	34.0	10	mg/l	1	08/07/19 20:39	MS	SM2320 B-11
BOD, 5 Day	< 3.4	3.4	mg/l	1	08/01/19 22:10	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	08/09/19 17:14	KI	SM4500NH ₃ H-11/LACHAT
Nitrogen, Nitrate ^b	0.14	0.11	mg/l	1	08/08/19 16:36	KI	EPA353.2/SM4500NO ₂ B
Nitrogen, Nitrate + Nitrite	0.14	0.10	mg/l	1	08/08/19 16:36	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/01/19 11:22	JO	SM4500NO ₂ B-11
Nitrogen, Total Kjeldahl	0.32	0.20	mg/l	1	08/14/19 11:13	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	52.0	10	mg/l	1	08/06/19 15:37	RC	SM2540 C-11
Solids, Total Suspended	5.6	4.0	mg/l	1	08/05/19 09:46	RC	SM2540 D-11
Total Organic Carbon	3.7	1.0	mg/l	1	08/08/19 22:24	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



SW

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehusa3

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E

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes	
Company Name: USACE-Phila District	Project Name: USACE Reservoirs - Prompton	Billing Information (if different from Report to)		Requested Analysis		Matrix Codes	
Street Address: 100 Penn Sq East	Street: Prompton	City: Phila	State: PA	Company Name:		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
City: Phila	State: PA	Zip: 19107	City: Prompton	State: PA			
Project Contact: Joe Loeper	E-mail:	Phone #: 215-656-0545	Client Purchase Order #:	City:	State:	Zip:	
Sample(s) Name(s): Greg Wawik 5979780	Project Manager: Tommy McCluskey	Attention:					
SSS Item #	Field ID / Point of Collection	MECH/OI Val #	Date	Time	Sampled by	Drawn by	Number of preserved Bottles
1F	PR-1S		7/31/19	1205	MP	G SW	9
2F	PR-2S			1:00		G SW	9
3F	PR-2M			1:00		G SW	9
4F	PR-2D			1:00		G SW	9
5F	PR-3S			2:45		G SW	9
6F	PR-3M			2:45		G SW	9
7F	PR-3D			2:45		G SW	9
8F	PR-4S			11:45		G SW	9
Turn Around Time (Business Days)		Deliverable		Comments / Special Instructions			
<input type="checkbox"/> 10 Business Days <input type="checkbox"/> 5 Business Days <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 2 Business Days <input type="checkbox"/> 1 Business Day <input type="checkbox"/> Other		Approved By (SGS PM) / Date: INITIAL ASSESSMENT 2 AAR LABEL VERIFICATION		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> NJ Reduced (Level 3) <input type="checkbox"/> Full Tier I (Level 4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ OKQP		<input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> MA MCP Criteria <input type="checkbox"/> CT RCP Criteria <input type="checkbox"/> State Forms <input type="checkbox"/> EDO Format	
All data available to Lab/Client		Approval needed for 1-3 Business Day TAT		Commercial "A" = Results only; Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Partial Raw data		TCF/PCF Samples to Eurofin lab. TP04 samples to MJS Reider lab http://www.sgs.com/en/terms-and-conditions	
Relinquished By:	Date / Time:	Received By:	Date / Time:	Relinquished By:	Date / Time:	Received By:	Date / Time:
3	7/31/19 1200	1	7/31/19 1300	4	7/31/19 1845	2	7/31/19 1845
Relinquished By:	Date / Time:	Received By:	Date / Time:	Relinquished By:	Date / Time:	Received By:	Date / Time:
5		5		4		4	
Intact <input type="checkbox"/> Not intact <input type="checkbox"/>		Preserved where applicable <input type="checkbox"/>		Therm ID:		On Ice <input type="checkbox"/> Cooler Temp: °C	

CIP 3238383838 39
3.9

JC92500: Chain of Custody

Page 1 of 2



SGS Sample Receipt Summary

Job Number: JC92500

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 7/31/2019 6:45:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (3.7); Cooler 2: (3.8); Cooler 3: (3.8); Cooler 4: (3.8); Cooler 5: (3.8); Cooler 6: (3.7); Cooler 7: (3.9);

Cooler Temps (Corrected) °C: Cooler 1: (3.6); Cooler 2: (3.7); Cooler 3: (3.7); Cooler 4: (3.7); Cooler 5: (3.7); Cooler 6: (3.6); Cooler 7: (3.8);

Cooler Security
Y or N
Y or N

- | | |
|--|---|
| 1. Custody Seals Present: <input checked="" type="checkbox"/> <input type="checkbox"/> | 3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/> |
| 2. Custody Seals Intact: <input checked="" type="checkbox"/> <input type="checkbox"/> | 4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> <input type="checkbox"/> |

Cooler Temperature
Y or N

- | | |
|---|-----------|
| 1. Temp criteria achieved: <input checked="" type="checkbox"/> <input type="checkbox"/> | IR Gun |
| 2. Cooler temp verification: | |
| 3. Cooler media: | Ice (Bag) |
| 4. No. Coolers: | 7 |

Quality Control Preservation
Y or N
N/A

- | | |
|---|---|
| 1. Trip Blank present / cooler: <input type="checkbox"/> <input type="checkbox"/> | ✓ |
| 2. Trip Blank listed on COC: <input type="checkbox"/> <input type="checkbox"/> | ✓ |
| 3. Samples preserved properly: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 4. VOCs headspace free: <input type="checkbox"/> <input type="checkbox"/> | ✓ |

Sample Integrity - Documentation
Y or N

- | | |
|---|--|
| 1. Sample labels present on bottles: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Container labeling complete: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Sample container label / COC agree: <input checked="" type="checkbox"/> <input type="checkbox"/> | |

Sample Integrity - Condition
Y or N

- | | |
|---|--------|
| 1. Sample recvd within HT: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. All containers accounted for: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Condition of sample: | Intact |

Sample Integrity - Instructions
Y or N
N/A

- | | |
|---|---|
| 1. Analysis requested is clear: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests: <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 4. Compositing instructions clear: <input type="checkbox"/> <input type="checkbox"/> | ✓ |
| 5. Filtering instructions clear: <input type="checkbox"/> <input type="checkbox"/> | ✓ |

Test Strip Lot #s:	pH 1-12: 229517	pH 12+: 208717	Other: (Specify) _____
--------------------	-----------------	----------------	------------------------

Comments

SM089-03
Rev. Date 12/7/17

JC92500: Chain of Custody

Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

Prompton

SGS Job Number: JC92500X

Sampling Date: 07/31/19

Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
Joseph.M.Loepner@usace.army.mil

ATTN: Joseph Loepner

Total number of pages in report: **16**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Sample Summary

USACE-Philadelphia District

Job No: JC92500X

Philadelphia District, Reservoir Sampling
Project No: Prompton

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC92500-1X	07/31/19	12:05	GW	07/31/19	AQ Surface Water	PR-1S
JC92500-2X	07/31/19	13:00	GW	07/31/19	AQ Surface Water	PR-2S
JC92500-5X	07/31/19	12:45	GW	07/31/19	AQ Surface Water	PR-3S
JC92500-8X	07/31/19	11:45	GW	07/31/19	AQ Surface Water	PR-4S



Dayton, NJ

Section 2

Subcontract Lab Data

Report of Analysis

Serialized: 08/21/2019 08:50am QC35

KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Regarding:

SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

PROJECT ID:

W09769 USACE

LABORATORY REPORT NUMBER:

L7147730



Authorized by: Douglas J. Gump
Client Services Manager

KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Regarding:
KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: PI
PWSID No:

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7147730-1	WA-1S	07/31/19 07:00am NA C	Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y			

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- WA-1S

Total Coliform, MF	>2000 Q		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
Fecal Coliform, MF	9 Q		cfu/100ml	SM 9222D	100	1	07/31/19 07:25PM LK

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7147730-2	WA-2S	07/31/19 07:45am NA C	Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y			

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-2S

Total Coliform, MF	>2000 Q		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
Fecal Coliform, MF	<1 Q		cfu/100ml	SM 9222D	100	1	07/31/19 07:25PM LK

PIN: 28748

Serial Number: 6538344

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: PI
PWSID No:

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7147730-3 WA-3S 07/31/19 10:35am NA C Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-3S

Total Coliform, MF	>2000 Q		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
Fecal Coliform, MF	28 Q		cfu/100ml	SM 9222D	100	1	07/31/19 07:25PM LK

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7147730-4 WA-4S 07/31/19 10:15am NA C Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- WA-4S

Total Coliform, MF	>2000 Q		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
Fecal Coliform, MF	68 E, Q		cfu/100ml	SM 9222D	100	1	07/31/19 07:25PM LK

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7147730-5 WA-5S 07/31/19 10:00am NA C Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-5S

Total Coliform, MF	>2000 Q		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
Fecal Coliform, MF	16 Q		cfu/100ml	SM 9222D	100	1	07/31/19 07:25PM LK

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7147730-6 WA-6S 07/31/19 09:05am NA C Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

PIN: 28748

Serial Number: 6538344

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: PI
PWSID No:

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7147730-6 WA-6S 07/31/19 09:05am NA C Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- WA-6S

Total Coliform, MF	>2000 Q		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
Fecal Coliform, MF	<1 Q		cfu/100ml	SM 9222D	100	1	07/31/19 07:25PM LK

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7147730-7 WA-7S 07/31/19 09:00am NA C Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- WA-7S

Total Coliform, MF	>2000 Q		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
Fecal Coliform, MF	<1 Q		cfu/100ml	SM 9222D	100	1	07/31/19 07:25PM LK

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7147730-8 PR-1S 07/31/19 12:05pm NA C Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- PR-1S

Total Coliform, MF	>2000 Q		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
--------------------	---------	--	-----------	----------	----	----	---------------------

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7147730-9 PR-2S 07/31/19 01:00pm NA C Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- PR-2S

Total Coliform, MF	880 E, Q		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
Fecal Coliform, MF	<1 Q		cfu/100ml	SM 9222D	100	1	07/31/19 07:25PM LK

PIN: 28748

Serial Number: 6538344

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: PI
PWSID No:

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7147730-10 PR-3S 07/31/19 12:45pm NA C Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- PR-3S

Total Coliform, MF	780		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
Fecal Coliform, MF	<1		cfu/100ml	SM 9222D	100	1	07/31/19 07:25PM LK

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7147730-11 PR-4S 07/31/19 11:45am NA C Customer
Received Date/Time/Temp 07/31/19 05:00pm 1.0 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- PR-4S

Total Coliform, MF	>2000 Q		cfu/100ml	SM 9222B	10	10	07/31/19 08:15PM LK
Fecal Coliform, MF	12 Q		cfu/100ml	SM 9222D	100	1	07/31/19 07:25PM LK

Sample Comments | Result Qualifiers:

L7147730-1 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7147730-2 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7147730-3 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7147730-4 :

PIN: 28748

Serial Number: 6538344

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: PI
PWSID No:

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7147730-5 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: Fecal coliform, SM 9222D, result was compromised due to water from the water bath used for incubation leaking into the plastic bag containing the sample plate. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7147730-6 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7147730-7 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7147730-8 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7147730-9 :

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

Q: Fecal coliform, SM 9222D, result was compromised due to water from the water bath used for incubation leaking into the plastic bag containing the sample plate. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7147730-10 :

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available,

PIN: 28748

Serial Number: 6538344

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: PI
PWSID No:

the reported result may not be acceptable for regulatory purposes.

L7147730-11 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: Fecal coliform, SM 9222D, result was compromised due to water from the water bath used for incubation leaking into the plastic bag containing the sample plate. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.



PIN: 28748

Serial Number: 6538344

DEFINITIONS

The following terms or abbreviations are used in this report:

Eurofins QC, LLC (EQC)

<	Less than: In conjunction with a numerical value, indicates a concentration less than RL / MDL
>	Greater than: In conjunction with a numerical value, indicates a concentration greater than RL / MDL
CFU	Colony Forming Unit
DF	Dilution Factor (For Microbiology, DF = volume of sample tested)
DRY	Result was reported on a dry weight basis
MCL	EPA recommended "Maximum Contaminant Level"
MDL	Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
ND	For odor test: No Odor Observed
ND	For all other tests: Analyte concentration Not Detected greater than the RL / MDL

NEG	Negative / Absent
NTU	Nephelometric Turbidity Units
POS	Positive / Present
PPB (µg/L)	Parts per billion: equivalent to 1 microgram per kilogram (µg/Kg) for solids or one microgram per liter (µg/L) for aqueous samples
PPM (mg/L)	Parts per million: equivalent to 1 milligram per kilogram (mg/Kg) for solids or one milligram per liter (mg/L) for aqueous samples
PRES	Presumptive
QUAL	Qualifier (Q)
RL	Laboratory Reporting Limit or Limit of Quantitation (LOQ)
TNTC	Too Numerous To Count
TON	Threshold Odor Number

Data Qualifiers

J	Estimated value ≥ MDL, but < RL
T	Temperature exceedance at receipt, refer to Sample Comments / Results Qualifiers section
E	Estimated CFU count (Microbiology)
Q	Qualifier defined in Sample Comment section on report

Warranties, Terms, and Conditions

- Unless otherwise indicated in the Parameter field, analyses for environmental microbiology, odor, and pharmaceutical microbiology are performed at the EQC Horsham Facility (702 Electronic Dr. Horsham, PA 19044).
- Analyses for Field Parameters are performed by EQC Field staff. Locations and certifications are identified on the Chain of Custody as follows:
 - "ERF" = field staff performs tests under NJ State certification # 02015.
 - "VL" = field staff performs tests under NJ State certification # 06005.
 - "WG" = field staff performs tests under NJ State certification # PA001.
- Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.
- The report shall not be reproduced, except in full, without the written consent of the laboratory.
- All samples are collected as "grab" samples unless otherwise identified.
- Reported results relate only to the sample as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.
- EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance. EQC's internet program "LIVE ACCESS" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.
- The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry), Amanda Berd (Pharmaceutical Microbiology), and Zachary Smith (Water Microbiology).

EQC Accreditations

Horsham Facility	NELAP/State IDs-	PA: 46-05499	NJ: PA093	NY: 12080	MD: 357
East Rutherford Facility	State ID-	NJ: 02015			
Vineland Facility	State ID-	NJ: 06005			
Wind Gap Facility	State ID-	NJ: PA001			

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



SW

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehusa3

Page 1 of 1

E

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes	
Company Name: USACE-Phila District	Project Name: USACE Reservoirs - Prompton	Billing Information (if different from Report to)		Requested Analysis		Matrix Codes	
Street Address: 100 Penn Sq East	Street: Prompton	City: Phila	State: PA	Company Name:		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIG - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank	
City: Phila	State: PA	Zip: 19107	City: Prompton	State: PA			
Project Contact: Joe Loeper	E-mail:	Phone #: 215-656-0545	Client Purchase Order #:	City:	State:	Zip:	
Sample(s) Name(s): Greg Wawik 597-9780	Phone #: 610	Project Manager: Tommy McCluskey	Attention:				
SSS Item #	Field ID / Point of Collection	MECH/OI Val #	Date	Time	Sampled by	Drawn by	Number of preserved Bottles
1F	PR-1S		7/31/19	1205	MP	G SW	9
2F	PR-2S			1:00		G SW	9
3F	PR-2M			1:00		G SW	9
4F	PR-2D			1:00		G SW	9
5F	PR-3S			2:45		G SW	9
6F	PR-3M			2:45		G SW	9
7F	PR-3D			2:45		G SW	9
8F	PR-4S			11:45		G SW	9
Turn Around Time (Business Days)							
Approved By (SGS PM) / Date: INITIAL ASSESSMENT 2 AAR				Deliverable			
LABEL VERIFICATION				Comments / Special Instructions			
10 Business Days 5 Business Days 3 Business Days 2 Business Days 1 Business Day Other All data available to Lab				Commercial "A" (Level 1) Commercial "B" (Level 2) NJ Reduced (Level 3) Full Tier 1 (Level 4) Commercial "C" NJ OKQP NYASP Category A NYASP Category B MA MCP Criteria CT RCP Criteria State Forms EDD Format DOO-QSMS TCF/PCF Samples to Eurofin Lab. TP04 Samples to MJS Reider Lab http://www.sgs.com/en/terms-and-conditions			
Sample Custody must be documented below each time sample change possession, including courier delivery.							
Relinquished By: 3	Date / Time: 7/31/19 1200	Received By: 1	Date / Time: 7/31/19 1200	Relinquished By: 4	Date / Time: 7/31/19 1200	Received By: 2	Date / Time: 7/31/19 1200
Relinquished By: 5	Date / Time:	Received By:	Date / Time:	Relinquished By:	Date / Time:	Received By:	Date / Time:
Custody Seal #				Therm ID:			
<input type="checkbox"/> Intact <input type="checkbox"/> Not intact				<input type="checkbox"/> Preserved where applicable <input type="checkbox"/> Aseptically			
<input type="checkbox"/> On Ice <input type="checkbox"/> Cooler Temp: °C							

CIP 3238383838 39
3.9

JC92500X: Chain of Custody

Page 1 of 2



SGS Sample Receipt Summary

Job Number: JC92500

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 7/31/2019 6:45:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (3.7); Cooler 2: (3.8); Cooler 3: (3.8); Cooler 4: (3.8); Cooler 5: (3.8); Cooler 6: (3.7); Cooler 7: (3.9);

Cooler Temps (Corrected) °C: Cooler 1: (3.6); Cooler 2: (3.7); Cooler 3: (3.7); Cooler 4: (3.7); Cooler 5: (3.7); Cooler 6: (3.6); Cooler 7: (3.8);

<u>Cooler Security</u>	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	7		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Test Strip Lot #s:	pH 1-12:	229517	pH 12+:	208717	Other: (Specify)	
--------------------	----------	--------	---------	--------	------------------	--

Comments

SM089-03
Rev. Date 12/7/17

JC92500X: Chain of Custody

Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

Prompton

SGS Job Number: JC92500XA

Sampling Date: 07/31/19

Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
Joseph.M.Loeper@usace.army.mil

ATTN: Joseph Loeper

Total number of pages in report: 17



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "Mike Earp".

Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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Section 2: Subcontract Lab Data

Section 3: Misc. Forms

3.1: Chain of Custody

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Sample Summary

USACE-Philadelphia District

Job No: JC92500XA

Philadelphia District, Reservoir Sampling
Project No: Prompton

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC92500-1F	07/31/19	12:05	07/31/19	AQ	Surface H2O Filtered	PR-1S
JC92500-1XA	07/31/19	12:05	07/31/19	AQ	Surface Water	PR-1S
JC92500-2F	07/31/19	13:00	07/31/19	AQ	Surface H2O Filtered	PR-2S
JC92500-2XA	07/31/19	13:00	07/31/19	AQ	Surface Water	PR-2S
JC92500-3F	07/31/19	13:00	07/31/19	AQ	Surface H2O Filtered	PR-2M
JC92500-3XA	07/31/19	13:00	07/31/19	AQ	Surface Water	PR-2M
JC92500-4F	07/31/19	13:00	07/31/19	AQ	Surface H2O Filtered	PR-2D
JC92500-4XA	07/31/19	13:00	07/31/19	AQ	Surface Water	PR-2D
JC92500-5F	07/31/19	12:45	07/31/19	AQ	Surface H2O Filtered	PR-3S
JC92500-5XA	07/31/19	12:45	07/31/19	AQ	Surface Water	PR-3S
JC92500-6F	07/31/19	12:45	07/31/19	AQ	Surface H2O Filtered	PR-3M
JC92500-6XA	07/31/19	12:45	07/31/19	AQ	Surface Water	PR-3M
JC92500-7F	07/31/19	12:45	07/31/19	AQ	Surface H2O Filtered	PR-3D



Sample Summary
(continued)

USACE-Philadelphia District

Job No: JC92500XA

Philadelphia District, Reservoir Sampling
Project No: Prompton

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC92500-7XA	07/31/19	12:45	GW	07/31/19	AQ Surface Water	PR-3D
JC92500-8F	07/31/19	11:45	GW	07/31/19	AQ Surface H2O Filtered	PR-4S
JC92500-8XA	07/31/19	11:45	GW	07/31/19	AQ Surface Water	PR-4S



Dayton, NJ

Section 2

Subcontract Lab Data

Report of Analysis



M.J. Reider Associates, Inc.

ENVIRONMENTAL TESTING LABORATORY
U.S. EPA/PA DEP #06-00003

Certificate of Analysis

Laboratory No.: 9026970

Report: 08/06/19

Lab Contact: Richard A Wheeler

Attention: Tammy McCloskey
Reported To: SGS North America
2235 US Highway 130
Dayton, NJ 08810

Project: Army Corp Reservoirs

Lab ID: 9026970-01 **Collected By:** Client **Sampled:** 07/31/19 12:05 **Received:** 08/02/19 09:40
Sample Desc: PR-1S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	08/05/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.05	SM 4500-P E	08/05/19	J	JCL

Lab ID: 9026970-02 **Collected By:** Client **Sampled:** 07/31/19 13:00 **Received:** 08/02/19 09:40
Sample Desc: PR-2S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.008	mg/l	0.007	0.05	SM 4500-P E	08/05/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	<0.01	mg/l	0.01	0.05	SM 4500-P E	08/05/19	U	JCL

Lab ID: 9026970-03 **Collected By:** Client **Sampled:** 07/31/19 13:00 **Received:** 08/02/19 09:40
Sample Desc: PR-2M **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.009	mg/l	0.007	0.05	SM 4500-P E	08/05/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	<0.01	mg/l	0.01	0.05	SM 4500-P E	08/05/19	U	JCL



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Additional accreditations by CT (PH-0210), MD (261), NY(12094)

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Lab ID: 9026970-04 **Collected By:** Client **Sampled:** 07/31/19 13:00 **Received:** 08/02/19 09:40
Sample Desc: PR-2D **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.01	mg/l	0.007	0.05	SM 4500-P E	08/05/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.03	mg/l	0.01	0.05	SM 4500-P E	08/05/19	J	JCL

Lab ID: 9026970-05 **Collected By:** Client **Sampled:** 07/31/19 12:45 **Received:** 08/02/19 09:40
Sample Desc: PR-3S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	08/05/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.05	SM 4500-P E	08/05/19	J	JCL

Lab ID: 9026970-06 **Collected By:** Client **Sampled:** 07/31/19 12:45 **Received:** 08/02/19 09:40
Sample Desc: PR-3M **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	08/05/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.05	SM 4500-P E	08/05/19	J	JCL

Lab ID: 9026970-07 **Collected By:** Client **Sampled:** 07/31/19 12:45 **Received:** 08/02/19 09:40
Sample Desc: PR-3D **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.06	mg/l	0.007	0.05	SM 4500-P E	08/05/19	G-11	JCL
General Chemistry								
Phosphorus as P, Total	0.09	mg/l	0.01	0.05	SM 4500-P E	08/05/19		JCL



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Lab ID: 9026970-08 Collected By: Client Sampled: 07/31/19 11:45 Received: 08/02/19 09:40
Sample Desc: PR-4S Sample Type: Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	08/05/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.03	mg/l	0.01	0.05	SM 4500-P E	08/05/19	J	JCL

Quality Control

General Chemistry

	Result	Reporting Limit	Units	%REC	%REC Limits	RPD	RPD Limit	Analyte Notes
Batch B9H0202								
MB (B9H0202-BLK1)								
Phosphorus as P, Total	<0.05	0.05	mg/l					U
LFM (B9H0202-MS1)		Source: 9026970-06						
Phosphorus as P, Total	1.01	0.05	mg/l	98.9	80-120			
LFMD (B9H0202-MSD1)		Source: 9026970-06						
Phosphorus as P, Total	1.01	0.05	mg/l	99.1	80-120	0.198	20	

Dissolved General Chemistry

	Result	Reporting Limit	Units	%REC	%REC Limits	RPD	RPD Limit	Analyte Notes
Batch B9H0203								
MB (B9H0203-BLK1)								
Phosphorus as P, Dissolved	<0.05	0.05	mg/l					G-11, U
LFB (B9H0203-BS1)								
Phosphorus as P, Dissolved	1.00	0.05	mg/l	100	80-120			G-11
LFM (B9H0203-MS1)		Source: 9026970-01						
Phosphorus as P, Dissolved	1.01	0.05	mg/l	101	80-120			
LFMD (B9H0203-MSD1)		Source: 9026970-01						
Phosphorus as P, Dissolved	1.00	0.05	mg/l	100	80-120	0.498	20	



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2

Preparation Methods

Specific Method	Preparation Method	Prepared Date	Prepared By
9026970-01			
SM 4500-P E	SM 4500-P B	08/05/2019	JCL
9026970-02			
SM 4500-P E	SM 4500-P B	08/05/2019	JCL
9026970-03			
SM 4500-P E	SM 4500-P B	08/05/2019	JCL
9026970-04			
SM 4500-P E	SM 4500-P B	08/05/2019	JCL
9026970-05			
SM 4500-P E	SM 4500-P B	08/05/2019	JCL
9026970-06			
SM 4500-P E	SM 4500-P B	08/05/2019	JCL
9026970-07			
SM 4500-P E	SM 4500-P B	08/05/2019	JCL
9026970-08			
SM 4500-P E	SM 4500-P B	08/05/2019	JCL

Notes and Definitions

- G-11 The sample was filtered after it was received at the laboratory.
J Estimated value
U Analyte was not detected above the indicated value.



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Emily Cople 8/2/19 940

Rec'd temp 1.9 on ice



C. J. L. Corp.
 8/12/19 9:40
 Rec'd Temp
 1.90C
 on ice

902-6970

Date / Time: 8/1/2019 10:28:32 AM

CSR: BETHW

Job #: JC92500XA

Client Project: Philadelphia District, Reservoir Sampling

Deliverable: REDT2

TAT: Due 8/14/2019

Sub Lab: MJ Reider Associates Inc, Env. Testing Laboratories

Address: 107 Angelica Street

City: Reading

State: PA

Zip: 19611

Contact: Sample Receiving / Rich Wheeler

Phone: 610-374-5129

SGS Sample #	Client Sample Description	Analysis	Location	Sampled By	Date Sampled	Time Sampled	Aliquot
JC92500-8E	PR-4S	FILTERGN, TPO4		GW	7/31/2019	11:45:00 AM	
JC92500-1XA	PR-1S	TPO4		GW	7/31/2019	12:05:00 PM	
JC92500-1E	PR-1S	FILTERGN, TPO4		GW	7/31/2019	12:05:00 PM	
JC92500-2XA	PR-2S	TPO4		GW	7/31/2019	1:00:00 PM	
JC92500-2E	PR-2S	FILTERGN, TPO4		GW	7/31/2019	1:00:00 PM	
JC92500-3XA	PR-2M	TPO4		GW	7/31/2019	1:00:00 PM	
JC92500-3E	PR-2M	FILTERGN, TPO4		GW	7/31/2019	1:00:00 PM	
JC92500-4XA	PR-2D	TPO4		GW	7/31/2019	1:00:00 PM	
JC92500-4E	PR-2D	FILTERGN, TPO4		GW	7/31/2019	1:00:00 PM	
JC92500-5XA	PR-3S	TPO4		GW	7/31/2019	12:45:00 PM	
JC92500-5E	PR-3S	FILTERGN, TPO4		GW	7/31/2019	12:45:00 PM	
JC92500-6XA	PR-3M	TPO4		GW	7/31/2019	12:45:00 PM	
JC92500-6E	PR-3M	FILTERGN, TPO4		GW	7/31/2019	12:45:00 PM	
JC92500-7XA	PR-3D	TPO4		GW	7/31/2019	12:45:00 PM	
JC92500-7E	PR-3D	FILTERGN, TPO4		GW	7/31/2019	12:45:00 PM	
JC92500-8XA	PR-4S	TPO4		GW	7/31/2019	11:45:00 AM	

9026970

Comments:

Sample Management Receipt:

Date:

MJRA Terms & Conditions

All samples submitted must be accompanied by signed documentation representing a Chain of Custody (COC). The COC Record acts as a contract between the client and MJRA. Signing the COC form gives approval for MJRA to perform the requested analyses and is an agreement to pay for the cost of such analyses. COC Records must be completed in black or blue indelible ink (must not run when wet). COC documentation begins at the time of sample collection. Client is required to document all sample details prior to releasing samples to MJRA. All samples must be placed on ice immediately after sampling and shipped or delivered to the laboratory in a manner that will maintain the sample temperature above freezing and below 6C (loose ice is preferred).

Sample Submission, Sample Acceptance & Sampling Containers

Included on the COC must be the sample description, date and time of collection (including start and stop for composites), container size and type, preservative information, sample matrix, indication of whether the sample is a grab or composite, number of containers & a list of the tests to be performed. Poor sample collection technique, inappropriate sampling containers and/or improper sample preservation may lead to sample rejection. Suitable sample containers, labels, and preservatives (as applicable), along with blank COCs are provided at no additional cost.

Turnaround Times (TAT)

Average TAT for test results range from 5 to 15 working days depending on the specific analyses and time of year submitted. Faster turnaround times (*RUSH TAT) may be available depending on the current workload in a particular department and the nature of the analyses requested. We encourage you to verify requests for expedited sample results with one of our Technical Directors prior to sample submittal. Without confirmation from a Technical Director, your results may not be completed by your deadline. *RUSH TAT Surcharges are applied for expedited turnaround times.

Analytical Results, Sample Collection Integrity & Subcontracting

Analytical values are for the sample as submitted and relate only to the item tested. The value indicates a snapshot of the constituent content of the sample at the time of sample collection. Analytical results can be impacted by poor sample collection technique and/or improper preservation. All sample collection completed by MJRA was performed in accordance with applicable regulatory protocols or as specified in customer specific sampling plans. Constituent content will vary over time based on the matrix of the sample and the physical and chemical changes to its environment. All sample results and laboratory reports are strictly confidential. Results will not be available to anyone except the primary client or authorized party representing the client unless MJRA receives additional permissions from the client. When necessary, MJRA will subcontract certain analyses to a third party accredited laboratory. If client prohibits subcontracting, it must be provided in writing and include instruction on how to proceed with client samples that require third party analyses.

Payment Terms

Payment Terms are Net 30 days. Prices are subject to change without notice. A standing monthly charge of 1.5% of the clients over-30-day-unpaid balance may be added to the balance after 30 days and each month thereafter (day 31, 61, 91 etc.). The laboratory accepts all major credit cards, ACH transactions, checks and cash. New clients must pay for all services rendered prior to sample collection and/or in some cases report processing. Clients must contact the MJRA accounting department to pursue a credit-based account. MJRA reserves the right to terminate the client's credit account and to refuse to perform additional services on a credit basis if any balance is outstanding for more than 60 days.

Warranty & Litigation

MJRA does not guarantee any results of its services but has agreed to use its best efforts, in accordance with the standards and practices of the industry, to cause such results to be accurate and complete. We disclaim any other warranties, expressed or implied, including a warranty of fitness for a particular purpose and warranty of merchantability. Clients agree that they shall reimburse MJRA for any and all fees, cost and litigation expenses, including reasonable attorney fees incurred by MJRA in obtaining payment for the services rendered. All costs associated with compliance with any subpoena for documents, testimony, or any other purpose relating to work performed by MJRA, for a client, shall be paid by that client. MJRA's aggregate liability for negligent acts and omissions and of an intentional breach by MJRA will not exceed the fee paid for the services. Client agrees to indemnify and hold MJRA harmless for any and all liabilities in excess of said amount. Neither MJRA nor the client shall be liable to the other for special, incidental consequential or punitive liability or damages included but not limited to those arising from delay, loss of use, loss of profits or revenues. MJRA will not be liable to the client unless the client has notified MJRA of the discovery of the alleged negligent act, error, omissions or breach within 30 days of the

Reviewed and Approved by:

Richard A Wheeler
Director of Field Services107 Angelica Street • Reading, PA 19611 • www.mjreider.com • (610) 374-5129 • fax (610) 374-7234**This certificate shall not be reproduced except in full without the written approval of M.J. Reider Associates, Inc.**

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



SW

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehusa3

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E

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes	
Company Name: USACE-Phila District		Project Name: USACE Reservoirs - Prompton		Requested Analysis: TP04 (Sob to MS Reider), Alkalinity, Ammonia, BOD, TDS, TKN, TSS, XAO30		Matrix Codes: DW - Drinking Water, GW - Ground Water, WW - Water, SW - Surface Water, SO - Soil, SL - Sludge, SED - Sediment, OI - Oil, LIQ - Other Liquid, AIR - Air, SOL - Other Solid, WP - Wipe, FB - Field Blank, EB - Equipment Blank, RB - Rinse Blank, TB - Trip Blank	
Street Address: 100 Penn Sq East		Street: Prompton		Billing Information (if different from Report to):		LAS USE ONLY	
City: Phila PA		City: Prompton PA		Company Name:		621	
State: PA		State: PA		Strat Address:		62	
Zip: 19107		Zip: PA		Strat Address:		L18T2	
Project Contact: Joe Loeper		Client Purchase Order #		City:		1401	
E-mail:		Photo #		State:			
Phone #		Project Manager		Attention:			
215-656-0545		Greg Wawik 597-9780		Tommy McCluskey			
Sample(s) Name(s):		Date		Time			
Field ID / Point of Collection		MECH/OI Val #		Sensitivity			
1F PR-1S		7/31/19		1205			
2F PR-2S		7/31/19		1:00			
3F PR-2M		7/31/19		1:00			
4F PR-2D		7/31/19		1:00			
5F PR-3S		7/31/19		2:45			
6F PR-3M		7/31/19		2:45			
7F PR-3D		7/31/19		2:45			
8F PR-4S		7/31/19		11:45			
Turn Around Time (Business Days)		Deliverable		Comments / Special Instructions			
Approved By (SGS PM) / Date:		Commercial "A" (Level 1)		NYASP Category A		DDO-GSMS	
INITIAL ASSESSMENT: 2 AAR		Commercial "B" (Level 2)		NYASP Category B			
LABEL VERIFICATION:		NJ Reduced (Level 3)		MA MCP Criteria			
		Full Tier I (Level 4)		CT RCP Criteria			
		Commercial "C"		State Forms			
		NJ OKQP		EDD Format			
All data available to Lab		Approval needed for 1-3 Business Day TAT		Commercial "A" = Results only; Commercial "B" = Results + QC Summary		Commercial "C" = Results + QC Summary + Partial Raw data	
Sample Custody must be documented below each time sample change possession, including courier delivery.		Requisitioned By: 1		Received By: 2		Requisitioned By: 3	
Date / Time: 7/31/19 1200		Date / Time: 7/31/19 1300		Date / Time: 7/31/19 1845		Date / Time: 7/31/19 1845	
Requisitioned By: 3		Received By: 4		Requisitioned By: 5		Received By: 6	
Date / Time: 7/31/19 1845		Date / Time: 7/31/19 1845		Date / Time: 7/31/19 1845		Date / Time: 7/31/19 1845	
Intact		Preserved where applicable		Therm ID:		On Ice	
Not intact		Aspirant				Cooler Temp: °C	

CIP 3238 3838 33 39
3.9

JC92500XA: Chain of Custody

Page 1 of 2



SGS Sample Receipt Summary

Job Number: JC92500

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 7/31/2019 6:45:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (3.7); Cooler 2: (3.8); Cooler 3: (3.8); Cooler 4: (3.8); Cooler 5: (3.8); Cooler 6: (3.7); Cooler 7: (3.9);

Cooler Temps (Corrected) °C: Cooler 1: (3.6); Cooler 2: (3.7); Cooler 3: (3.7); Cooler 4: (3.7); Cooler 5: (3.7); Cooler 6: (3.6); Cooler 7: (3.8);

Cooler Security
Y or N
Y or N

- | | |
|--|---|
| 1. Custody Seals Present: <input checked="" type="checkbox"/> <input type="checkbox"/> | 3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/> |
| 2. Custody Seals Intact: <input checked="" type="checkbox"/> <input type="checkbox"/> | 4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> <input type="checkbox"/> |

Cooler Temperature
Y or N

- | | |
|---|-----------|
| 1. Temp criteria achieved: <input checked="" type="checkbox"/> <input type="checkbox"/> | IR Gun |
| 2. Cooler temp verification: | |
| 3. Cooler media: | Ice (Bag) |
| 4. No. Coolers: | 7 |

Quality Control Preservation
Y or N
N/A

- | | |
|---|---|
| 1. Trip Blank present / cooler: <input type="checkbox"/> <input type="checkbox"/> | ✓ |
| 2. Trip Blank listed on COC: <input type="checkbox"/> <input type="checkbox"/> | ✓ |
| 3. Samples preserved properly: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 4. VOCs headspace free: <input type="checkbox"/> <input type="checkbox"/> | ✓ |

Sample Integrity - Documentation
Y or N

- | | |
|---|--|
| 1. Sample labels present on bottles: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Container labeling complete: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Sample container label / COC agree: <input checked="" type="checkbox"/> <input type="checkbox"/> | |

Sample Integrity - Condition
Y or N

- | | |
|---|--------|
| 1. Sample recvd within HT: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. All containers accounted for: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 3. Condition of sample: | Intact |

Sample Integrity - Instructions
Y or N
N/A

- | | |
|---|---|
| 1. Analysis requested is clear: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests: <input type="checkbox"/> <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: <input checked="" type="checkbox"/> <input type="checkbox"/> | |
| 4. Compositing instructions clear: <input type="checkbox"/> <input type="checkbox"/> | ✓ |
| 5. Filtering instructions clear: <input type="checkbox"/> <input type="checkbox"/> | ✓ |

Test Strip Lot #s:

pH 1-12: 229517

pH 12+: 208717

Other: (Specify)

Comments

SM089-03
Rev. Date 12/7/17

JC92500XA: Chain of Custody

Page 2 of 2

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC93721

Sampling Date: 08/22/19

Report to:

Army Corps of Engineers

joseph.m.loeper@usace.army.mil

ATTN: Joseph Loeper

Total number of pages in report: **22**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Sample Summary

USACE-Philadelphia District

Job No: JC93721

Philadelphia District, Reservoir Sampling

Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected			Received	Matrix		Client Sample ID
	Date	Time	By		Code	Type	
JC93721-1	08/22/19	10:00	GW	08/22/19	AQ	Surface Water	PR-1S
JC93721-2	08/22/19	09:10	GW	08/22/19	AQ	Surface Water	PR-2S
JC93721-3	08/22/19	09:10	GW	08/22/19	AQ	Surface Water	PR-2M
JC93721-4	08/22/19	09:10	GW	08/22/19	AQ	Surface Water	PR-2D
JC93721-5	08/22/19	08:30	GW	08/22/19	AQ	Surface Water	PR-3S
JC93721-6	08/22/19	08:30	GW	08/22/19	AQ	Surface Water	PR-3M
JC93721-7	08/22/19	08:30	GW	08/22/19	AQ	Surface Water	PR-3D
JC93721-8	08/22/19	10:10	GW	08/22/19	AQ	Surface Water	PR-4S

CASE NARRATIVE / CONFORMANCE SUMMARY

2

Client: USACE-Philadelphia District

Job No JC93721

Site: Philadelphia District, Reservoir Sampling

Report Date 9/6/2019 9:49:54 AM

On 08/22/2019, 8 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.7 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC93721 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

General Chemistry By Method EPA 351.2/LACHAT

Matrix: AQ

Batch ID: GP23422

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC93721-1DUP, JC93721-1MS were used as the QC samples for Nitrogen, Total Kjeldahl.

General Chemistry By Method EPA 353.2/LACHAT

Matrix: AQ

Batch ID: GP23451

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC93721-1DUP, JC93721-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Friday, September 06, 2019

Page 1 of 4

General Chemistry By Method EPA353.2/SM4500NO2B

Matrix: AQ **Batch ID:** R180755

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC93721-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R180756

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC93721-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R180757

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC93721-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R180758

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC93721-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R180759

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC93721-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R180760

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC93721-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R180761

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC93721-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R180762

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC93721-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM2320 B-11

Matrix: AQ **Batch ID:** GN99401

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC93941-1DUP were used as the QC samples for Alkalinity, Total as CaCO₃.
- JC93721-8 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC93721-5 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC93721-1 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.2.
- JC93721-2 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC93721-4 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC93721-6 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC93721-7 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC93721-3 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.

General Chemistry By Method SM2540 C-11

Matrix: AQ

Batch ID: GN99256

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC93721-1DUP were used as the QC samples for Solids, Total Dissolved.

General Chemistry By Method SM2540 D-11

Matrix: AQ

Batch ID: GN99252

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC93721-1DUP were used as the QC samples for Solids, Total Suspended.
- JC93721-4 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 400 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.
- JC93721-3 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 300 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.
- JC93721-7 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 100 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.
- JC93721-1 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 550 mL of sample. Volume was reduced from 1 liter due to limited volume.

General Chemistry By Method SM4500NH3 H-11LACHAT

Matrix: AQ

Batch ID: GP23445

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC93721-1DUP, JC93721-1MS, JC93721-1MSD were used as the QC samples for Nitrogen, Ammonia.

General Chemistry By Method SM4500NO2 B-11

Matrix: AQ

Batch ID: GN99045

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC93690-1DUP, JC93690-1MS were used as the QC samples for Nitrogen, Nitrite.

General Chemistry By Method SM5210 B-11

Matrix: AQ

Batch ID: GP23227

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC93721-1DUP were used as the QC samples for BOD, 5 Day.
- JC93721-1 for BOD, 5 Day: DO depletion less than 2.
- JC93721-8 for BOD, 5 Day: DO depletion less than 2.
- JC93721-4 for BOD, 5 Day: DO depletion less than 2.

General Chemistry By Method SM5310 B-11

Matrix: AQ

Batch ID: GP23425

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC93721-1MS, JC93721-1MSD were used as the QC samples for Total Organic Carbon.

Friday, September 06, 2019

Page 3 of 4

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Summary of Hits

Page 1 of 2

Job Number: JC93721
Account: USACE-Philadelphia District
Project: Philadelphia District, Reservoir Sampling
Collected: 08/22/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JC93721-1 PR-1S

BOD, 5 Day ^a	1.1	1.0			mg/l	SM5210 B-11
Nitrogen, Nitrate ^b	0.16	0.11			mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.16	0.10			mg/l	EPA 353.2/LACHAT
Nitrogen, Total Kjeldahl	0.26	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	68.0	10			mg/l	SM2540 C-11
Total Organic Carbon	2.2	1.0			mg/l	SM5310 B-11

JC93721-2 PR-2S

Alkalinity, Total as CaCO ₃ ^c	31.0	10			mg/l	SM2320 B-11
BOD, 5 Day	6.7	1.0			mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	1.2	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	61.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	11.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	4.6	1.0			mg/l	SM5310 B-11

JC93721-3 PR-2M

Alkalinity, Total as CaCO ₃ ^c	25.0	5.0			mg/l	SM2320 B-11
BOD, 5 Day	4.8	1.0			mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	1.1	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	61.0	10			mg/l	SM2540 C-11
Solids, Total Suspended ^d	8.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	4.2	1.0			mg/l	SM5310 B-11

JC93721-4 PR-2D

Alkalinity, Total as CaCO ₃ ^c	32.0	5.0			mg/l	SM2320 B-11
BOD, 5 Day ^a	1.3	1.0			mg/l	SM5210 B-11
Nitrogen, Ammonia	0.27	0.20			mg/l	SM4500NH ₃ H-11/LACHAT
Nitrogen, Total Kjeldahl	0.56	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	52.0	10			mg/l	SM2540 C-11
Solids, Total Suspended ^e	6.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	3.2	1.0			mg/l	SM5310 B-11

JC93721-5 PR-3S

Alkalinity, Total as CaCO ₃ ^c	26.0	5.0			mg/l	SM2320 B-11
BOD, 5 Day	5.4	1.0			mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.65	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	50.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	7.5	4.0			mg/l	SM2540 D-11
Total Organic Carbon	4.6	1.0			mg/l	SM5310 B-11

Summary of Hits

Job Number: JC93721
Account: USACE-Philadelphia District
Project: Philadelphia District, Reservoir Sampling
Collected: 08/22/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JC93721-6 PR-3M

Alkalinity, Total as CaCO ₃ ^c	22.0	5.0			mg/l	SM2320 B-11
BOD, 5 Day	4.8	1.0			mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.51	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	51.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	4.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	3.7	1.0			mg/l	SM5310 B-11

JC93721-7 PR-3D

Alkalinity, Total as CaCO ₃ ^c	59.0	5.0			mg/l	SM2320 B-11
BOD, 5 Day	7.6	1.0			mg/l	SM5210 B-11
Nitrogen, Ammonia	1.4	0.20			mg/l	SM4500NH ₃ H-11/LACHAT
Nitrogen, Total Kjeldahl	1.7	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	67.0	10			mg/l	SM2540 C-11
Solids, Total Suspended ^f	18.0	4.0			mg/l	SM2540 D-11
Total Organic Carbon	6.3	1.0			mg/l	SM5310 B-11

JC93721-8 PR-4S

Alkalinity, Total as CaCO ₃ ^c	25.5	5.0			mg/l	SM2320 B-11
BOD, 5 Day ^a	1.0	1.0			mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.48	0.20			mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	48.0	10			mg/l	SM2540 C-11
Solids, Total Suspended	12.2	4.0			mg/l	SM2540 D-11
Total Organic Carbon	3.3	1.0			mg/l	SM5310 B-11

(a) DO depletion less than 2.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Sample was titrated to a final pH of 4.5.

(d) Reported sample aliquot obtained from filtration of 300 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

(e) Reported sample aliquot obtained from filtration of 400 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

(f) Reported sample aliquot obtained from filtration of 100 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.



Dayton, NJ

Section 4

4

Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-1S	Date Sampled:	08/22/19
Lab Sample ID:	JC93721-1	Date Received:	08/22/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	< 5.0	5.0	mg/l	1	08/28/19 15:41	UP	SM2320 B-11
BOD, 5 Day ^b	1.1	1.0	mg/l	1	08/23/19 22:19	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/05/19 15:52	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^c	0.16	0.11	mg/l	1	09/05/19 12:08	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	0.16	0.10	mg/l	1	09/05/19 12:08	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/22/19 22:22	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.26	0.20	mg/l	1	09/04/19 14:43	BM	EPA 351.2/LACHAT
Solids, Total Dissolved	68.0	10	mg/l	1	08/28/19 15:00	RC	SM2540 C-11
Solids, Total Suspended ^d	< 4.0	4.0	mg/l	1	08/28/19 10:43	RC	SM2540 D-11
Total Organic Carbon	2.2	1.0	mg/l	1	09/04/19 22:41	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.2.

(b) DO depletion less than 2.

(c) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(d) Reported sample aliquot obtained from filtration of 550 mL of sample. Volume was reduced from 1 liter due to limited volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-2S	Date Sampled:	08/22/19
Lab Sample ID:	JC93721-2	Date Received:	08/22/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	31.0	10	mg/l	1	08/28/19 15:41	UP	SM2320 B-11
BOD, 5 Day	6.7	1.0	mg/l	1	08/23/19 22:21	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/05/19 15:53	KI	SM4500NH ₃ H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/05/19 12:09	KI	EPA353.2/SM4500NO ₂ B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/05/19 12:09	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/22/19 22:45	CM	SM4500NO ₂ B-11
Nitrogen, Total Kjeldahl	1.2	0.20	mg/l	1	09/04/19 14:43	BM	EPA 351.2/LACHAT
Solids, Total Dissolved	61.0	10	mg/l	1	08/28/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	11.0	4.0	mg/l	1	08/28/19 10:43	RC	SM2540 D-11
Total Organic Carbon	4.6	1.0	mg/l	1	09/04/19 23:22	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-2M	Date Sampled: 08/22/19
Lab Sample ID: JC93721-3	Date Received: 08/22/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	25.0	5.0	mg/l	1	08/28/19 15:41	UP	SM2320 B-11
BOD, 5 Day	4.8	1.0	mg/l	1	08/23/19 22:24	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/05/19 15:55	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/05/19 12:10	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/05/19 12:10	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/22/19 22:45	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	1.1	0.20	mg/l	1	09/04/19 14:44	BM	EPA 351.2/LACHAT
Solids, Total Dissolved	61.0	10	mg/l	1	08/28/19 15:00	RC	SM2540 C-11
Solids, Total Suspended ^c	8.0	4.0	mg/l	1	08/28/19 10:43	RC	SM2540 D-11
Total Organic Carbon	4.2	1.0	mg/l	1	09/04/19 23:34	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 300 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-2D	Date Sampled:	08/22/19
Lab Sample ID:	JC93721-4	Date Received:	08/22/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	32.0	5.0	mg/l	1	08/28/19 15:41	UP	SM2320 B-11
BOD, 5 Day ^b	1.3	1.0	mg/l	1	08/23/19 22:26	EB	SM5210 B-11
Nitrogen, Ammonia	0.27	0.20	mg/l	1	09/05/19 15:56	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^c	< 0.11	0.11	mg/l	1	09/05/19 12:11	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/05/19 12:11	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/22/19 22:45	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.56	0.20	mg/l	1	09/04/19 14:47	BM	EPA 351.2/LACHAT
Solids, Total Dissolved	52.0	10	mg/l	1	08/28/19 15:00	RC	SM2540 C-11
Solids, Total Suspended ^d	6.0	4.0	mg/l	1	08/28/19 10:43	RC	SM2540 D-11
Total Organic Carbon	3.2	1.0	mg/l	1	09/04/19 23:45	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) DO depletion less than 2.

(c) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(d) Reported sample aliquot obtained from filtration of 400 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-3S	Date Sampled:	08/22/19
Lab Sample ID:	JC93721-5	Date Received:	08/22/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	26.0	5.0	mg/l	1	08/28/19 15:41	UP	SM2320 B-11
BOD, 5 Day	5.4	1.0	mg/l	1	08/23/19 22:29	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/05/19 16:48	KI	SM4500NH ₃ H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/05/19 12:12	KI	EPA353.2/SM4500NO ₂ B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/05/19 12:12	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/22/19 22:45	CM	SM4500NO ₂ B-11
Nitrogen, Total Kjeldahl	0.65	0.20	mg/l	1	09/04/19 14:48	BM	EPA 351.2/LACHAT
Solids, Total Dissolved	50.0	10	mg/l	1	08/28/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	7.5	4.0	mg/l	1	08/28/19 10:43	RC	SM2540 D-11
Total Organic Carbon	4.6	1.0	mg/l	1	09/04/19 23:56	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-3M	Date Sampled: 08/22/19
Lab Sample ID: JC93721-6	Date Received: 08/22/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	22.0	5.0	mg/l	1	08/28/19 16:33	UP	SM2320 B-11
BOD, 5 Day	4.8	1.0	mg/l	1	08/23/19 22:30	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/05/19 15:59	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/05/19 12:16	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/05/19 12:16	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/22/19 22:45	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.51	0.20	mg/l	1	09/04/19 14:49	BM	EPA 351.2/LACHAT
Solids, Total Dissolved	51.0	10	mg/l	1	08/28/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	4.0	4.0	mg/l	1	08/28/19 10:43	RC	SM2540 D-11
Total Organic Carbon	3.7	1.0	mg/l	1	09/05/19 00:07	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-3D	Date Sampled:	08/22/19
Lab Sample ID:	JC93721-7	Date Received:	08/22/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	59.0	5.0	mg/l	1	08/28/19 16:33	UP	SM2320 B-11
BOD, 5 Day	7.6	1.0	mg/l	1	08/23/19 22:32	EB	SM5210 B-11
Nitrogen, Ammonia	1.4	0.20	mg/l	1	09/05/19 16:00	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/05/19 12:17	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/05/19 12:17	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/22/19 22:45	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	1.7	0.20	mg/l	1	09/04/19 14:49	BM	EPA 351.2/LACHAT
Solids, Total Dissolved	67.0	10	mg/l	1	08/28/19 15:00	RC	SM2540 C-11
Solids, Total Suspended ^c	18.0	4.0	mg/l	1	08/28/19 10:43	RC	SM2540 D-11
Total Organic Carbon	6.3	1.0	mg/l	1	09/05/19 00:41	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 100 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-4S	Date Sampled: 08/22/19
Lab Sample ID: JC93721-8	Date Received: 08/22/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	25.5	5.0	mg/l	1	08/28/19 16:33	UP	SM2320 B-11
BOD, 5 Day ^b	1.0	1.0	mg/l	1	08/23/19 22:34	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/05/19 16:02	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^c	< 0.11	0.11	mg/l	1	09/05/19 12:18	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/05/19 12:18	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	08/22/19 23:05	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.48	0.20	mg/l	1	09/04/19 14:50	BM	EPA 351.2/LACHAT
Solids, Total Dissolved	48.0	10	mg/l	1	08/28/19 15:00	RC	SM2540 C-11
Solids, Total Suspended	12.2	4.0	mg/l	1	08/28/19 10:43	RC	SM2540 D-11
Total Organic Carbon	3.3	1.0	mg/l	1	09/05/19 00:52	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) DO depletion less than 2.

(c) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SW

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

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E/

[illegible]

5.15

JC93721: Chain of Custody

Page 1 of 3



[illegible]

SGS Sample Receipt Summary

Job Number: JC93721

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 8/22/2019 4:48:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (2.1); Cooler 2: (2.6); Cooler 3: (2.8);

Cooler Temps (Corrected) °C: Cooler 1: (2.0); Cooler 2: (2.5); Cooler 3: (2.7);

Cooler Security
Y or N

1. Custody Seals Present: ☒ ☐
2. Custody Seals Intact: ☒ ☐

3. COC Present: ☒ ☐
4. Smpl Dates/Time OK: ☒ ☐

Cooler Temperature
Y or N

1. Temp criteria achieved: ☒ ☐
2. Cooler temp verification: IR Gun
3. Cooler media: Ice (Bag)
4. No. Coolers: 3

Quality Control Preservation
Y or N N/A

1. Trip Blank present / cooler: ☐ ☒ ☐
2. Trip Blank listed on COC: ☐ ☒ ☐
3. Samples preserved properly: ☒ ☐
4. VOCs headspace free: ☐ ☐ ☒

Sample Integrity - Documentation
Y or N

1. Sample labels present on bottles: ☒ ☐
2. Container labeling complete: ☒ ☐
3. Sample container label / COC agree: ☒ ☐

Sample Integrity - Condition
Y or N

1. Sample recvd within HT: ☒ ☐
2. All containers accounted for: ☒ ☐
3. Condition of sample: Intact

Sample Integrity - Instructions
Y or N N/A

1. Analysis requested is clear: ☒ ☐
2. Bottles received for unspecified tests: ☐ ☒
3. Sufficient volume recvd for analysis: ☒ ☐
4. Compositing instructions clear: ☐ ☐ ☒
5. Filtering instructions clear: ☐ ☐ ☒

Test Strip Lot #s: pH 1-12: 229517 pH 12+: 208717 Other: (Specify) _____

Comments

 SM089-03
Rev. Date 12/7/17

JC93721: Chain of Custody

Page 3 of 3

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC93721X

Sampling Date: 08/22/19



Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
Joseph.M.Looper@usace.army.mil

ATTN: Joseph Loeper

Total number of pages in report: **14**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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Sample Summary

USACE-Philadelphia District

Job No: JC93721X

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected		Matrix Code	Type	Client	
	Date	Time By	Received		Sample ID	
JC93721-1X	08/22/19	10:00 GW	08/22/19	AQ	Surface Water	PR-1S
JC93721-2X	08/22/19	09:10 GW	08/22/19	AQ	Surface Water	PR-2S
JC93721-5X	08/22/19	08:30 GW	08/22/19	AQ	Surface Water	PR-3S
JC93721-8X	08/22/19	10:10 GW	08/22/19	AQ	Surface Water	PR-4S

Subcontract Lab Data

Report of Analysis

Serialized: 08/27/2019 10:57am QC35

KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Regarding:

SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

PROJECT ID:

W09769 USACE

LABORATORY REPORT NUMBER:

L7156392



Authorized by: Douglas J. Gump
Client Services Manager

KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Regarding:
KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: 1989214 PI
PWSID No:

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7156392-1	PR-1S	08/22/19 10:00am NA C	Customer
Received Date/Time/Temp 08/22/19 02:35pm 4.8 C		Iced (Y/N): Y	

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- PR-1S

Total Coliform, MF	<1 Q		cfu/100ml	SM 9222B	100	1	08/22/19 07:28PM LK
Fecal Coliform, MF	43 Q		cfu/100ml	SM 9222D	100	1	08/22/19 03:55PM KC2

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7156392-2	PR-2S	08/22/19 09:10am NA C	Customer
Received Date/Time/Temp 08/22/19 02:35pm 4.8 C		Iced (Y/N): Y	

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- PR-2S

Total Coliform, MF	1320 E, Q		cfu/100ml	SM 9222B	10	10	08/22/19 07:28PM LK
Fecal Coliform, MF	2 Q		cfu/100ml	SM 9222D	100	1	08/22/19 03:55PM KC2

PIN: 28748

Serial Number: 6540026

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: 1989214 PI
PWSID No:

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7156392-3	PR-3S	08/22/19 08:30am NA C	Customer
Received Date/Time/Temp 08/22/19 02:35pm 4.8 C		Iced (Y/N): Y	

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- PR-3S

Total Coliform, MF	1320 E, Q		cfu/100ml	SM 9222B	10	10	08/22/19 07:28PM LK
Fecal Coliform, MF	<1 Q		cfu/100ml	SM 9222D	100	1	08/22/19 03:55PM KC2

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7156392-4	PR-4S	08/22/19 10:10am NA C	Customer
Received Date/Time/Temp 08/22/19 02:35pm 4.8 C		Iced (Y/N): Y	

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- PR-4S

Total Coliform, MF	>20000 Q		cfu/100ml	SM 9222B	1	100	08/22/19 07:28PM LK
Fecal Coliform, MF	90 E, Q		cfu/100ml	SM 9222D	10	10	08/22/19 03:55PM KC2

Sample Comments | Result Qualifiers:

L7156392-1 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7156392-2 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

L7156392-3 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.

PIN: 28748

Serial Number: 6540026

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: 1989214 PI
PWSID No:

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

L7156392-4 :

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

Q: For microbiological test, this sample was received in an unverified container. Because container lot quality records are not available, the reported result may not be acceptable for regulatory purposes.



PIN: 28748

Serial Number: 6540026

DEFINITIONS

The following terms or abbreviations are used in this report:

Eurofins QC, LLC (EQC)

<	Less than: In conjunction with a numerical value, indicates a concentration less than RL / MDL
>	Greater than: In conjunction with a numerical value, indicates a concentration greater than RL / MDL
CFU	Colony Forming Unit
DF	Dilution Factor (For Microbiology, DF = volume of sample tested)
DRY	Result was reported on a dry weight basis
MCL	EPA recommended "Maximum Contaminant Level"
MDL	Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
ND	For odor test: No Odor Observed
ND	For all other tests: Analyte concentration Not Detected greater than the RL / MDL

NEG	Negative / Absent
NTU	Nephelometric Turbidity Units
POS	Positive / Present
PPB (µg/L)	Parts per billion: equivalent to 1 microgram per kilogram (µg/Kg) for solids or one microgram per liter (µg/L) for aqueous samples
PPM (mg/L)	Parts per million: equivalent to 1 milligram per kilogram (mg/Kg) for solids or one milligram per liter (mg/L) for aqueous samples
PRES	Presumptive
QUAL	Qualifier (Q)
RL	Laboratory Reporting Limit or Limit of Quantitation (LOQ)
TNTC	Too Numerous To Count
TON	Threshold Odor Number

Data Qualifiers

J	Estimated value ≥ MDL, but < RL
T	Temperature exceedance at receipt, refer to Sample Comments / Results Qualifiers section
E	Estimated CFU count (Microbiology)
Q	Qualifier defined in Sample Comment section on report

Warranties, Terms, and Conditions

- Unless otherwise indicated in the Parameter field, analyses for environmental microbiology, odor, and pharmaceutical microbiology are performed at the EQC Horsham Facility (702 Electronic Dr. Horsham, PA 19044).
- Analyses for Field Parameters are performed by EQC Field staff. Locations and certifications are identified on the Chain of Custody as follows:
 - "ERF" = field staff performs tests under NJ State certification # 02015.
 - "VL" = field staff performs tests under NJ State certification # 06005.
 - "WG" = field staff performs tests under NJ State certification # PA001.
- Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.
- The report shall not be reproduced, except in full, without the written consent of the laboratory.
- All samples are collected as "grab" samples unless otherwise identified.
- Reported results relate only to the sample as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.
- EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance. EQC's internet program "LIVE ACCESS" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.
- The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry), Amanda Berd (Pharmaceutical Microbiology), and Zachary Smith (Water Microbiology).

EQC Accreditations

Horsham Facility	NELAP/State IDs-	PA: 46-05499	NJ: PA093	NY: 12080	MD: 357
East Rutherford Facility	State ID-	NJ: 02015			
Vineland Facility	State ID-	NJ: 06005			
Wind Gap Facility	State ID-	NJ: PA001			

Client / Reporting Information				Project Information				Requested Analysis				Matrix Codes			
Company Name: USACE - Phila. District Street: 100 Penn Sq. East City: Phila. PA Zip: 19107 Project Contact: Joe Loeper Phone #: 215-656-6545 Sampler(s) Name(s): Greg Dacic 597-9780				Project Name: USACE - Prompton Reservoir Street: Prompton PA City: Prompton PA State: PA Zip: PA Attention:				Billing Information (if different from Report to): Company Name: Street Address: City: State: Zip:				Matrix Codes: DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil Q - Other Liquid AL - Other Solid FB - Field Blank B - Equipment Blank RB - Rose Blank TB - Trip Blank			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sample # 1 2 3 4				Number of preserved bottles H ₂ O HNO ₃ H ₂ SO ₄ NONE DI Water MEOH EMCORE				LAB USE ONLY			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR-35 PR-45				Sampled by: G SW 2 G SW 2 G SW 2 G SW 2				Matrix: SW 2 SW 2 SW 2 SW 2				Comments / Special Instructions: Samples Provided TO Eurofins Lab			
Field ID / Point of Collection: PR-15 PR-25 PR															

L7156392-1

4.8C lced:Y

JG2

CU/AS-4 08/22/19 1435 JGZ

08/22/19 1502

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feed: all 10,100
col: all 1,10,100

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SW

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

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E/

[illegible]

3.1 3

JC93721X: Chain of Custody

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JC93721X

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/usausa

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes	
Company Name: USACE - Phila - District		Project Name: USACE - Prompton Reservoir		FED-EX Tracking #		Bottle Order Control #	
Street Address: 100 Penn Sq East		Street: Prompton PA		SGS Quote #		SGS Job # JC 93721	
City: Phila. PA		City: Prompton PA		SGS Job #		Matrix Codes	
State: PA		State: PA		SGS Job #		DW - Drinking Water	
Zip: 19107		Zip: PA		SGS Job #		GW - Ground Water	
Project Contact: Joe Loeper		Project #		SGS Job #		WW - Water	
E-mail: 215-656-6545		Client Purchase Order #		SGS Job #		SL - Sludge	
Phone #		City		SGS Job #		SED - Sediment	
Sample(s) Name(s): 610 - Greg Jack 597-9780		State		SGS Job #		LIQ - Other Liquid	
Phone #		Zip		SGS Job #		AIR - Air	
Assigned Manager: Tammy McClosky		Attention:		SGS Job #		SO ₄ - Other Solid	
Collection		Number of preserved bottles		SGS Job #		WFP - Wipe	
MEQ/NDI Vol #		Date		SGS Job #		FB - Field Blank	
Time		Time		SGS Job #		EB - Equipment Blank	
Sampled by		Time		SGS Job #		RB - Rinse Blank	
Matrix		Time		SGS Job #		TB - Trip Blank	
# of bottles		Time		SGS Job #		LAB USE ONLY	
SCD		Time		SGS Job #			
NH ₄		Time		SGS Job #			
NH ₃		Time		SGS Job #			
NO ₃		Time		SGS Job #			
NO ₂		Time		SGS Job #			
PO ₄		Time		SGS Job #			
ON Nitrate		Time		SGS Job #			
MECH		Time		SGS Job #			
BOD		Time		SGS Job #			
COD		Time		SGS Job #			
TSS		Time		SGS Job #			
pH		Time		SGS Job #			
DO		Time		SGS Job #			
ORP		Time		SGS Job #			
EC		Time		SGS Job #			
Chlorine		Time		SGS Job #			
Copper		Time		SGS Job #			
Lead		Time		SGS Job #			
Mercury		Time		SGS Job #			
Manganese		Time		SGS Job #			
Nickel		Time		SGS Job #			
Silver		Time		SGS Job #			
Vanadium		Time		SGS Job #			
Zinc		Time		SGS Job #			
Aluminum		Time		SGS Job #			
Barium		Time		SGS Job #			
Boron		Time		SGS Job #			
Bromine		Time		SGS Job #			
Calcium		Time		SGS Job #			
Chlorine		Time		SGS Job #			
Cobalt		Time		SGS Job #			
Copper		Time		SGS Job #			
Fluorine		Time		SGS Job #			
Iron		Time		SGS Job #			
Iodine		Time		SGS Job #			
Magnesium		Time		SGS Job #			
Manganese		Time		SGS Job #			
Mercury		Time		SGS Job #			
Molybdenum		Time		SGS Job #			
Nickel		Time		SGS Job #			
Nitrogen		Time		SGS Job #			
Oxygen		Time		SGS Job #			
Phosphorus		Time		SGS Job #			
Potassium		Time		SGS Job #			
Selenium		Time		SGS Job #			
Silicon		Time		SGS Job #			
Sulfur		Time		SGS Job #			
Tantalum		Time		SGS Job #			
Tellurium		Time		SGS Job #			
Thallium		Time		SGS Job #			
Tin		Time		SGS Job #			
Titanium		Time		SGS Job #			
Tungsten		Time		SGS Job #			
Vanadium		Time		SGS Job #			
Zinc		Time		SGS Job #			
Zirconium		Time		SGS Job #			

SGS Sample Receipt Summary

Job Number: JC93721

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 8/22/2019 4:48:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (2.1); Cooler 2: (2.6); Cooler 3: (2.8);

Cooler Temps (Corrected) °C: Cooler 1: (2.0); Cooler 2: (2.5); Cooler 3: (2.7);

Cooler Security
Y or N

1. Custody Seals Present: ☒ ☐
2. Custody Seals Intact: ☒ ☐

3. COC Present: ☒ ☐
4. Smpl Dates/Time OK: ☒ ☐

Cooler Temperature
Y or N

1. Temp criteria achieved: ☒ ☐
2. Cooler temp verification: IR Gun
3. Cooler media: Ice (Bag)
4. No. Coolers: 3

Quality Control Preservation
Y or N N/A

1. Trip Blank present / cooler: ☐ ☒ ☐
2. Trip Blank listed on COC: ☐ ☒ ☐
3. Samples preserved properly: ☒ ☐
4. VOCs headspace free: ☐ ☐ ☒

Sample Integrity - Documentation
Y or N

1. Sample labels present on bottles: ☒ ☐
2. Container labeling complete: ☒ ☐
3. Sample container label / COC agree: ☒ ☐

Sample Integrity - Condition
Y or N

1. Sample recvd within HT: ☒ ☐
2. All containers accounted for: ☒ ☐
3. Condition of sample: Intact

Sample Integrity - Instructions
Y or N N/A

1. Analysis requested is clear: ☒ ☐
2. Bottles received for unspecified tests: ☐ ☒
3. Sufficient volume recvd for analysis: ☒ ☐
4. Compositing instructions clear: ☐ ☐ ☒
5. Filtering instructions clear: ☐ ☐ ☒

Test Strip Lot #s:

pH 1-12: 229517

pH 12+: 208717

Other: (Specify) _____

Comments

SM089-03
Rev. Date 12/7/17

JC93721X: Chain of Custody
Page 3 of 3

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC93721XA

Sampling Date: 08/22/19

Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
Joseph.M.Looper@usace.army.mil

ATTN: Joseph Looper

Total number of pages in report: **18**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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Section 1: Sample Summary

Section 2: Subcontract Lab Data

Section 3: Misc. Forms

3.1: Chain of Custody

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Sample Summary

USACE-Philadelphia District

Job No: JC93721XA

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC93721-1F	08/22/19	10:00	GW	08/22/19	AQ Surface H2O Filtered	PR-1S
JC93721-1XA	08/22/19	10:00	GW	08/22/19	AQ Surface Water	PR-1S
JC93721-2F	08/22/19	09:10	GW	08/22/19	AQ Surface H2O Filtered	PR-2S
JC93721-2XA	08/22/19	09:10	GW	08/22/19	AQ Surface Water	PR-2S
JC93721-3F	08/22/19	09:10	GW	08/22/19	AQ Surface H2O Filtered	PR-2M
JC93721-3XA	08/22/19	09:10	GW	08/22/19	AQ Surface Water	PR-2M
JC93721-4F	08/22/19	09:10	GW	08/22/19	AQ Surface H2O Filtered	PR-2D
JC93721-4XA	08/22/19	09:10	GW	08/22/19	AQ Surface Water	PR-2D
JC93721-5F	08/22/19	08:30	GW	08/22/19	AQ Surface H2O Filtered	PR-3S
JC93721-5XA	08/22/19	08:30	GW	08/22/19	AQ Surface Water	PR-3S
JC93721-6F	08/22/19	08:30	GW	08/22/19	AQ Surface H2O Filtered	PR-3M
JC93721-6XA	08/22/19	08:30	GW	08/22/19	AQ Surface Water	PR-3M
JC93721-7F	08/22/19	08:30	GW	08/22/19	AQ Surface H2O Filtered	PR-3D



Sample Summary
(continued)

USACE-Philadelphia District

Job No: JC93721XA

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected		Matrix Code	Type	Client	
	Date	Time By	Received		Sample	ID
JC93721-7XA	08/22/19	08:30 GW	08/22/19	AQ	Surface Water	PR-3D
JC93721-8F	08/22/19	10:10 GW	08/22/19	AQ	Surface H2O Filtered	PR-4S
JC93721-8XA	08/22/19	10:10 GW	08/22/19	AQ	Surface Water	PR-4S



Dayton, NJ

Section 2

Subcontract Lab Data

Report of Analysis



M.J. Reider Associates, Inc.

ENVIRONMENTAL TESTING LABORATORY
U.S. EPA/PA DEP #06-00003

Certificate of Analysis

Laboratory No.: 9030179

Report: 08/29/19

Lab Contact: Amy L. Morriss

Attention: Tammy McCloskey
Reported To: SGS North America
2235 US Highway 130
Dayton, NJ 08810

Project: Army Corp Reservoirs

Lab ID: 9030179-01 **Collected By:** Client **Sampled:** 08/22/19 10:00 **Received:** 08/27/19 09:39
Sample Desc: PR-1S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	08/28/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	<0.01	mg/l	0.01	0.05	SM 4500-P E	08/28/19	U	JCL

Lab ID: 9030179-02 **Collected By:** Client **Sampled:** 08/22/19 09:10 **Received:** 08/27/19 09:39
Sample Desc: PR-2S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	08/28/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.05	SM 4500-P E	08/28/19	J	JCL

Lab ID: 9030179-03 **Collected By:** Client **Sampled:** 08/22/19 09:10 **Received:** 08/27/19 09:39
Sample Desc: PR-2M **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.009	mg/l	0.007	0.05	SM 4500-P E	08/28/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.05	SM 4500-P E	08/28/19	J	JCL



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Additional accreditations by CT (PH-0210), MD (261), NY(12094)

Page 1 of 9



Lab ID: 9030179-04 **Collected By:** Client **Sampled:** 08/22/19 09:10 **Received:** 08/27/19 09:39
Sample Desc: PR-2D **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.01	mg/l	0.007	0.05	SM 4500-P E	08/28/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.06	mg/l	0.01	0.05	SM 4500-P E	08/28/19		JCL

Lab ID: 9030179-05 **Collected By:** Client **Sampled:** 08/22/19 08:30 **Received:** 08/27/19 09:39
Sample Desc: PR-3S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	08/28/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	<0.01	mg/l	0.01	0.05	SM 4500-P E	08/28/19	U	JCL

Lab ID: 9030179-06 **Collected By:** Client **Sampled:** 08/22/19 08:30 **Received:** 08/27/19 09:39
Sample Desc: PR-3M **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	08/28/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	<0.01	mg/l	0.01	0.05	SM 4500-P E	08/28/19	U	JCL

Lab ID: 9030179-07 **Collected By:** Client **Sampled:** 08/22/19 08:30 **Received:** 08/27/19 09:39
Sample Desc: PR-3D **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.04	mg/l	0.007	0.05	SM 4500-P E	08/28/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.10	mg/l	0.01	0.05	SM 4500-P E	08/28/19		JCL



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Lab ID: 9030179-08 Collected By: Client Sampled: 08/22/19 10:10 Received: 08/27/19 09:39
Sample Desc: PR-4S Sample Type: Grab

	Result	Unit	MDL	Rep. Limit	Procedure	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.02	mg/l	0.007	0.05	SM 4500-P E	08/28/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.05	SM 4500-P E	08/28/19	J	JCL

Quality Control

General Chemistry

	Result	Reporting Limit	Units	%REC	%REC Limits	RPD	RPD Limit	Analyte Notes
Batch B9H1622								
MB (B9H1622-BLK1)								
Phosphorus as P, Total	<0.05	0.05	mg/l					U
MB (B9H1622-BLK2)								
Phosphorus as P, Total	<0.05	0.05	mg/l					U
LFB (B9H1622-BS1)								
Phosphorus as P, Total	1.01	0.05	mg/l	101	80-120			
LFM (B9H1622-MS1)		Source: 9030179-01						
Phosphorus as P, Total	1.00	0.05	mg/l	100	80-120			
LFMD (B9H1622-MSD1)		Source: 9030179-01						
Phosphorus as P, Total	0.99	0.05	mg/l	99.2	80-120	1.20	20	

Dissolved General Chemistry

	Result	Reporting Limit	Units	%REC	%REC Limits	RPD	RPD Limit	Analyte Notes
Batch B9H1623								
MB (B9H1623-BLK1)								
Phosphorus as P, Dissolved	<0.05	0.05	mg/l					G-11, U
MB (B9H1623-BLK2)								
Phosphorus as P, Dissolved	<0.05	0.05	mg/l					U
LFB (B9H1623-BS1)								
Phosphorus as P, Dissolved	1.00	0.05	mg/l	100	80-120			G-11



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M.J. Reider Associates, Inc.

2

Preparation Methods

Specific Method	Preparation Method	Prepared Date	Prepared By
9030179-01			
SM 4500-P E	SM 4500-P B	08/28/2019	JCL
9030179-02			
SM 4500-P E	SM 4500-P B	08/28/2019	JCL
9030179-03			
SM 4500-P E	SM 4500-P B	08/28/2019	JCL
9030179-04			
SM 4500-P E	SM 4500-P B	08/28/2019	JCL
9030179-05			
SM 4500-P E	SM 4500-P B	08/28/2019	JCL
9030179-06			
SM 4500-P E	SM 4500-P B	08/28/2019	JCL
9030179-07			
SM 4500-P E	SM 4500-P B	08/28/2019	JCL
9030179-08			
SM 4500-P E	SM 4500-P B	08/28/2019	JCL

Notes and Definitions

- G-11 The sample was filtered after it was received at the laboratory.
J Estimated value
U Analyte was not detected above the indicated value.



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TEL. 732-329-0200 FAX: 732-32
www.sgs.com/ehsusa

PM; ALM

514218
—18

1-20, 21-30, 31-40, 41-50, 51-60, 61-70, 71-80, 81-90, 91-100

CHAIN OF CUSTODY
SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
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9030179

Date / Time: 8/26/2019 11:47:25 AM
 CSR: TAMMY
 Job #: JC93721XA
 Client Project: Philadelphia District, Reservoir Sampling
 Deliverable: REDT2
 TAT: Due 9/5/2019

Sub Lab: MJ Reider Associates Inc, Env. Testing Laboratories
 Address: 107 Angelica Street
 City: Reading
 State: PA
 Zip: 19611
 Contact: Sample Receiving / Rich Wheeler
 Phone: 610-374-5129

SGS Sample #	Client Sample Description	Analysis	Location	Sampled By	Date Sampled	Time Sampled	Aliquot
JC93721-1XA	PR-1S	TPO4		GW	8/22/2019	10:00:00 AM	
JC93721-1F	PR-1S	FILTERGN_TPO4		GW	8/22/2019	10:00:00 AM	
JC93721-2XA	PR-2S	TPO4		GW	8/22/2019	9:10:00 AM	
JC93721-2F	PR-2S	FILTERGN_TPO4		GW	8/22/2019	9:10:00 AM	
JC93721-3XA	PR-2M	TPO4		GW	8/22/2019	9:10:00 AM	
JC93721-3F	PR-2M	FILTERGN_TPO4		GW	8/22/2019	9:10:00 AM	
JC93721-4XA	PR-2D	TPO4		GW	8/22/2019	9:10:00 AM	
JC93721-4F	PR-2D	FILTERGN_TPO4		GW	8/22/2019	9:10:00 AM	
JC93721-5XA	PR-3S	TPO4		GW	8/22/2019	8:30:00 AM	
JC93721-5F	PR-3S	FILTERGN_TPO4		GW	8/22/2019	8:30:00 AM	
JC93721-6XA	PR-3M	TPO4		GW	8/22/2019	8:30:00 AM	
JC93721-6F	PR-3M	FILTERGN_TPO4		GW	8/22/2019	8:30:00 AM	
JC93721-7XA	PR-3D	TPO4		GW	8/22/2019	8:30:00 AM	
JC93721-7F	PR-3D	FILTERGN_TPO4		GW	8/22/2019	8:30:00 AM	
JC93721-8XA	PR-4S	TPO4		GW	8/22/2019	10:10:00 AM	
JC93721-8F	PR-4S	FILTERGN_TPO4		GW	8/22/2019	10:10:00 AM	

96

9030179

Comments:

Sample Management Receipt:

Date:

FA

MJRA Terms & Conditions

All samples submitted must be accompanied by signed documentation representing a Chain of Custody (COC). The COC Record acts as a contract between the client and MJRA. Signing the COC form gives approval for MJRA to perform the requested analyses and is an agreement to pay for the cost of such analyses. COC Records must be completed in black or blue indelible ink (must not run when wet). COC documentation begins at the time of sample collection. Client is required to document all sample details prior to releasing samples to MJRA. All samples must be placed on ice immediately after sampling and shipped or delivered to the laboratory in a manner that will maintain the sample temperature above freezing and below 6C (loose ice is preferred).

Sample Submission, Sample Acceptance & Sampling Containers

Included on the COC must be the sample description, date and time of collection (including start and stop for composites), container size and type, preservative information, sample matrix, indication of whether the sample is a grab or composite, number of containers & a list of the tests to be performed. Poor sample collection technique, inappropriate sampling containers and/or improper sample preservation may lead to sample rejection. Suitable sample containers, labels, and preservatives (as applicable), along with blank COCs are provided at no additional cost.

Turnaround Times (TAT)

Average TAT for test results range from 5 to 15 working days depending on the specific analyses and time of year submitted. Faster turnaround times (*RUSH TAT) may be available depending on the current workload in a particular department and the nature of the analyses requested. We encourage you to verify requests for expedited sample results with one of our Technical Directors prior to sample submittal. Without confirmation from a Technical Director, your results may not be completed by your deadline. *RUSH TAT Surcharges are applied for expedited turnaround times.

Analytical Results, Sample Collection Integrity & Subcontracting

Analytical values are for the sample as submitted and relate only to the item tested. The value indicates a snapshot of the constituent content of the sample at the time of sample collection. Analytical results can be impacted by poor sample collection technique and/or improper preservation. All sample collection completed by MJRA was performed in accordance with applicable regulatory protocols or as specified in customer specific sampling plans. Constituent content will vary over time based on the matrix of the sample and the physical and chemical changes to its environment. All sample results and laboratory reports are strictly confidential. Results will not be available to anyone except the primary client or authorized party representing the client unless MJRA receives additional permissions from the client. When necessary, MJRA will subcontract certain analyses to a third party accredited laboratory. If client prohibits subcontracting, it must be provided in writing and include instruction on how to proceed with client samples that require third party analyses.

Payment Terms

Payment Terms are Net 30 days. Prices are subject to change without notice. A standing monthly charge of 1.5% of the clients over-30-day-unpaid balance may be added to the balance after 30 days and each month thereafter (day 31, 61, 91 etc.). The laboratory accepts all major credit cards, ACH transactions, checks and cash. New clients must pay for all services rendered prior to sample collection and/or in some cases report processing. Clients must contact the MJRA accounting department to pursue a credit-based account. MJRA reserves the right to terminate the client's credit account and to refuse to perform additional services on a credit basis if any balance is outstanding for more than 60 days.

Warranty & Litigation

MJRA does not guarantee any results of its services but has agreed to use its best efforts, in accordance with the standards and practices of the industry, to cause such results to be accurate and complete. We disclaim any other warranties, expressed or implied, including a warranty of fitness for a particular purpose and warranty of merchantability. Clients agree that they shall reimburse MJRA for any and all fees, cost and litigation expenses, including reasonable attorney fees incurred by MJRA in obtaining payment for the services rendered. All costs associated with compliance with any subpoena for documents, testimony, or any other purpose relating to work performed by MJRA, for a client, shall be paid by that client. MJRA's aggregate liability for negligent acts and omissions and of an intentional breach by MJRA will not exceed the fee paid for the services. Client agrees to indemnify and hold MJRA harmless for any and all liabilities in excess of said amount. Neither MJRA nor the client shall be liable to the other for special, incidental consequential or punitive liability or damages included but not limited to those arising from delay, loss of use, loss of profits or revenues. MJRA will not be liable to the client unless the client has notified MJRA of the discovery of the alleged negligent act, error, omissions or breach within 30 days of the

Reviewed and Approved by:

Rafael A Quijada For Amy L Morriss
Project Manager107 Angelica Street • Reading, PA 19611 • www.mjreider.com • (610) 374-5129 • fax (610) 374-7234**This certificate shall not be reproduced except in full without the written approval of M.J. Reider Associates, Inc.**

NELAP accredited by PA. (PADEP #06-00003) Visit our website to view our current

NELAC accreditations for various drinking water, wastewater and solid & chemical materials analytes.

Additional accreditations by CT (PH-0210), MD (261), NY(12094)

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Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



SW

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

Page 1 of 1

FED-EX Tracking #
SGS Quote #
SGS Order Control #
SGS Job #

SW-081219-S
JC93721

Client / Reporting Information
Company Name: USACE-Phila. District
Street Address: 100 Penn Sq East
City: Phila PA 19107
Project Contact: Joe Loeper
Phone #: 215-656-0545
Email: Greg.Wacik@usace.army.mil

Project Information
Project Name: USACE Reservoirs - Prompion
Street: Prompion PA
Billing Information (if different from Report to):
Company Name: Prompion PA
Street Address: Prompion PA
City: Prompion PA
State: PA
Zip: 19107
Client Purchase Order #
Project Manager: Tommy McCloskey
Attention:

Requested Analysis
TP04 (sub to MTS Reider)
Alkalinity, Ammonia
BOD, TDS, TKN
TOC, TSS, XNO30

Matrix Codes
DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED - Sediment
OI - Oil
LLO - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB - Equipment Blank
RB - Rinse Blank
TB - Trip Blank

LAB USE ONLY
SUB
M1
L3072
1944

Turn Around Time (Business Days)
10 Business Days
5 Business Days
3 Business Days
2 Business Days
1 Business Day
Other

Approved By (SGS PM) / Date: 2A BC
Initial Assessment
Label Verification

Deliverable
Commercial "A" (Level 1)
Commercial "B" (Level 2)
NJ Reduced (Level 3)
Full Tier 1 (Level 4)
Commercial "C"
NJ DKQP
NYASP Category A
NYASP Category B
MAMCP Criteria
CT RCP Criteria
State Forms
EDD Format
DOD-QSMS

Comments / Special Instructions
TOC/FCF Samples to Eurofin Lab.
TP04 Samples to MTS Reider Lab
http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time sample changes possession, including courier delivery.

1. Received By: [Signature] Date / Time: 8/22/19 12:45
2. Received By: [Signature] Date / Time: 8/22/19 1:45
3. Received By: [Signature] Date / Time: 8/22/19 1:45
4. Received By: [Signature] Date / Time: 8/22/19 1:45
5. Received By: [Signature] Date / Time: 8/22/19 1:45

On Ice: [X] Therm. ID: [X]
Preserved when applicable: [X]
Intact: [X] Not intact: [X]
Absent: [X]

JC93721XA: Chain of Custody

Page 1 of 3



[illegible]

SGS Sample Receipt Summary

Job Number: JC93721

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 8/22/2019 4:48:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (2.1); Cooler 2: (2.6); Cooler 3: (2.8);

Cooler Temps (Corrected) °C: Cooler 1: (2.0); Cooler 2: (2.5); Cooler 3: (2.7);

Cooler Security	Y or N
1. Custody Seals Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/> <input type="checkbox"/>
3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
4. Smpl Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>

Cooler Temperature	Y or N
1. Temp criteria achieved:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Cooler temp verification:	IR Gun
3. Cooler media:	Ice (Bag)
4. No. Coolers:	3

Quality Control Preservation	Y or N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/> <input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>

Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/> <input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/> <input type="checkbox"/>

Sample Integrity - Condition	Y or N
1. Sample recvd within HT:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/> <input type="checkbox"/>
3. Condition of sample:	Intact

Sample Integrity - Instructions	Y or N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/> <input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/> <input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/> <input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>

Test Strip Lot #s:	pH 1-12: 229517	pH 12+: 208717
Other: (Specify)		

Comments

SM089-03
Rev. Date 12/7/17

JC93721XA: Chain of Custody

Page 3 of 3

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC94820

Sampling Date: 09/11/19

Report to:

Army Corps of Engineers

joseph.m.loeper@usace.army.mil

ATTN: Joseph Loeper

Total number of pages in report: 22



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "Laura Degenhardt".

Laura Degenhardt
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

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Sample Summary

USACE-Philadelphia District

Job No: JC94820

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC94820-1	09/11/19	11:50	GW	09/11/19	AQ Surface Water	PR-1S
JC94820-2	09/11/19	13:15	GW	09/11/19	AQ Surface Water	PR-2S
JC94820-3	09/11/19	13:15	GW	09/11/19	AQ Surface Water	PR-2M
JC94820-4	09/11/19	13:15	GW	09/11/19	AQ Surface Water	PR-2D
JC94820-5	09/11/19	12:40	GW	09/11/19	AQ Surface Water	PR-3S
JC94820-6	09/11/19	12:40	GW	09/11/19	AQ Surface Water	PR-3M
JC94820-7	09/11/19	12:40	GW	09/11/19	AQ Surface Water	PR-3D
JC94820-8	09/11/19	11:30	GW	09/11/19	AQ Surface Water	PR-4S

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: USACE-Philadelphia District

Job No JC94820

Site: Philadelphia District, Reservoir Sampling

Report Date 9/30/2019 9:39:26 AM

On 09/11/2019, 8 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of JC94820 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

General Chemistry By Method EPA 351.2/LACHAT

Matrix: AQ

Batch ID: GP23773

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC94761-1DUP, JC94761-1MS were used as the QC samples for Nitrogen, Total Kjeldahl.
- Matrix Spike Recovery(s) for Nitrogen, Total Kjeldahl are outside control limits. Spike recovery indicates possible matrix interference.

General Chemistry By Method EPA 353.2/LACHAT

Matrix: AQ

Batch ID: GP23807

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC94820-1DUP, JC94820-1MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Monday, September 30, 2019

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General Chemistry By Method EPA353.2/SM4500NO2B

Matrix: AQ

Batch ID: R181266

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC94820-7 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R181267

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC94820-6 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R181268

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC94820-5 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R181269

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC94820-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R181270

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC94820-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R181279

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC94820-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R181280

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC94820-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ

Batch ID: R181281

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- JC94820-8 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM2320 B-11

Matrix: AQ

Batch ID: GN185

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC94999-1DUP were used as the QC samples for Alkalinity, Total as CaCO₃.
- JC94820-3 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC94820-7 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC94820-6 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC94820-5 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC94820-4 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC94820-1 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC94820-2 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.
- JC94820-8 for Alkalinity, Total as CaCO₃: Sample was titrated to a final pH of 4.5.

General Chemistry By Method SM2540 C-11

Matrix: AQ

Batch ID: GN89

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC94820-1DUP were used as the QC samples for Solids, Total Dissolved.

General Chemistry By Method SM2540 D-11

Matrix: AQ

Batch ID: GN88

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC94820-1DUP were used as the QC samples for Solids, Total Suspended.
- JC94820-6 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 600 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.
- JC94820-2 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 550 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.
- JC94820-5 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.
- JC94820-4 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 400 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.
- JC94820-3 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 400 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.
- JC94820-7 for Solids, Total Suspended: Reported sample aliquot obtained from filtration of 100 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

General Chemistry By Method SM4500NH3 H-11LACHAT

Matrix: AQ

Batch ID: GP23786

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC94761-1DUP, JC94761-1MS, JC94761-1MSD were used as the QC samples for Nitrogen, Ammonia.

General Chemistry By Method SM4500NO2 B-11

Matrix: AQ

Batch ID: GN99859

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC94634-11DUP, JC94634-11MS were used as the QC samples for Nitrogen, Nitrite.

General Chemistry By Method SM5210 B-11

Matrix: AQ

Batch ID: GP23625

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC94820-1DUP were used as the QC samples for BOD, 5 Day.
- JC94820-8 for BOD, 5 Day: Sample set up with 3 separate dilutions, but DO difference is less than 2 on all of the dilutions. Results reported are from the lowest dilution.
- JC94820-4 for BOD, 5 Day: Sample set up with 3 separate dilutions, but DO difference is less than 2 on all of the dilutions. Results reported are from the lowest dilution.

General Chemistry By Method SM5310 B-11

Matrix: AQ

Batch ID: GP23935

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC94820-1MS, JC94820-1MSD were used as the QC samples for Total Organic Carbon.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS North America Inc indicated via signature on the report cover

Monday, September 30, 2019

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Summary of Hits

Job Number: JC94820
Account: USACE-Philadelphia District
Project: Philadelphia District, Reservoir Sampling
Collected: 09/11/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JC94820-1 PR-1S

Alkalinity, Total as CaCO ₃ ^a	45.0	10		mg/l	SM2320 B-11
Nitrogen, Total Kjeldahl	0.30	0.20		mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	49.0	10		mg/l	SM2540 C-11
Total Organic Carbon	2.1	1.0		mg/l	SM5310 B-11

JC94820-2 PR-2S

Alkalinity, Total as CaCO ₃ ^a	20.0	10		mg/l	SM2320 B-11
BOD, 5 Day	4.7	1.0		mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.42	0.20		mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	43.0	10		mg/l	SM2540 C-11
Solids, Total Suspended ^b	7.3	4.0		mg/l	SM2540 D-11
Total Organic Carbon	4.1	1.0		mg/l	SM5310 B-11

JC94820-3 PR-2M

Alkalinity, Total as CaCO ₃ ^a	30.0	10		mg/l	SM2320 B-11
BOD, 5 Day	4.2	1.0		mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	1.0	0.20		mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	49.0	10		mg/l	SM2540 C-11
Solids, Total Suspended ^c	8.3	4.0		mg/l	SM2540 D-11
Total Organic Carbon	4.0	1.0		mg/l	SM5310 B-11

JC94820-4 PR-2D

Alkalinity, Total as CaCO ₃ ^a	40.0	10		mg/l	SM2320 B-11
BOD, 5 Day ^d	1.6	1.0		mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.64	0.20		mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	43.0	10		mg/l	SM2540 C-11
Solids, Total Suspended ^c	12.5	4.0		mg/l	SM2540 D-11
Total Organic Carbon	3.5	1.0		mg/l	SM5310 B-11

JC94820-5 PR-3S

Alkalinity, Total as CaCO ₃ ^a	55.0	10		mg/l	SM2320 B-11
BOD, 5 Day	3.5	1.0		mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.58	0.20		mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	50.0	10		mg/l	SM2540 C-11
Solids, Total Suspended ^e	5.2	4.0		mg/l	SM2540 D-11
Total Organic Carbon	4.2	1.0		mg/l	SM5310 B-11

Summary of Hits

Job Number: JC94820
Account: USACE-Philadelphia District
Project: Philadelphia District, Reservoir Sampling
Collected: 09/11/19

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

JC94820-6 PR-3M

Alkalinity, Total as CaCO ₃ ^a	40.0	10		mg/l	SM2320 B-11
BOD, 5 Day	3.2	1.0		mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.43	0.20		mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	43.0	10		mg/l	SM2540 C-11
Solids, Total Suspended ^f	4.2	4.0		mg/l	SM2540 D-11
Total Organic Carbon	4.0	1.0		mg/l	SM5310 B-11

JC94820-7 PR-3D

Alkalinity, Total as CaCO ₃ ^a	50.0	10		mg/l	SM2320 B-11
BOD, 5 Day	7.3	1.0		mg/l	SM5210 B-11
Nitrogen, Ammonia	1.7	0.20		mg/l	SM4500NH3 H-11/LACHAT
Nitrogen, Total Kjeldahl	0.94	0.20		mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	72.0	10		mg/l	SM2540 C-11
Solids, Total Suspended ^g	18.0	4.0		mg/l	SM2540 D-11
Total Organic Carbon	7.5	1.0		mg/l	SM5310 B-11

JC94820-8 PR-4S

Alkalinity, Total as CaCO ₃ ^a	21.0	10		mg/l	SM2320 B-11
BOD, 5 Day ^d	1.1	1.0		mg/l	SM5210 B-11
Nitrogen, Total Kjeldahl	0.57	0.20		mg/l	EPA 351.2/LACHAT
Solids, Total Dissolved	52.0	10		mg/l	SM2540 C-11
Total Organic Carbon	3.6	1.0		mg/l	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Reported sample aliquot obtained from filtration of 550 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

(c) Reported sample aliquot obtained from filtration of 400 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

(d) Sample set up with 3 separate dilutions, but DO difference is less than 2 on all of the dilutions. Results reported are from the lowest dilution.

(e) Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

(f) Reported sample aliquot obtained from filtration of 600 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

(g) Reported sample aliquot obtained from filtration of 100 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-1S	Date Sampled:	09/11/19
Lab Sample ID:	JC94820-1	Date Received:	09/11/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	45.0	10	mg/l	1	09/19/19 11:24	MS	SM2320 B-11
BOD, 5 Day	< 1.0	1.0	mg/l	1	09/12/19 21:24	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/20/19 14:18	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/20/19 15:33	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/20/19 15:33	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	09/11/19 21:46	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.30	0.20	mg/l	1	09/23/19 10:28	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	49.0	10	mg/l	1	09/17/19 14:45	RC	SM2540 C-11
Solids, Total Suspended	< 4.0	4.0	mg/l	1	09/17/19 10:44	RC	SM2540 D-11
Total Organic Carbon	2.1	1.0	mg/l	1	09/27/19 15:16	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-2S	Date Sampled: 09/11/19
Lab Sample ID: JC94820-2	Date Received: 09/11/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	20.0	10	mg/l	1	09/19/19 11:24	MS	SM2320 B-11
BOD, 5 Day	4.7	1.0	mg/l	1	09/12/19 21:26	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/20/19 14:20	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/20/19 15:34	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/20/19 15:34	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	09/11/19 21:46	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.42	0.20	mg/l	1	09/20/19 10:10	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	43.0	10	mg/l	1	09/17/19 14:45	RC	SM2540 C-11
Solids, Total Suspended ^c	7.3	4.0	mg/l	1	09/17/19 10:44	RC	SM2540 D-11
Total Organic Carbon	4.1	1.0	mg/l	1	09/27/19 15:50	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 550 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-2M	Date Sampled: 09/11/19
Lab Sample ID: JC94820-3	Date Received: 09/11/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	30.0	10	mg/l	1	09/19/19 11:24	MS	SM2320 B-11
BOD, 5 Day	4.2	1.0	mg/l	1	09/12/19 21:28	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/20/19 14:21	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/20/19 15:35	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/20/19 15:35	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	09/11/19 21:46	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	1.0	0.20	mg/l	1	09/20/19 10:11	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	49.0	10	mg/l	1	09/17/19 14:45	RC	SM2540 C-11
Solids, Total Suspended ^c	8.3	4.0	mg/l	1	09/17/19 10:44	RC	SM2540 D-11
Total Organic Carbon	4.0	1.0	mg/l	1	09/27/19 16:01	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 400 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-2D	Date Sampled: 09/11/19
Lab Sample ID: JC94820-4	Date Received: 09/11/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	40.0	10	mg/l	1	09/19/19 11:24	MS	SM2320 B-11
BOD, 5 Day ^b	1.6	1.0	mg/l	1	09/12/19 21:30	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/20/19 14:23	KI	SM4500NH3 H-11 LACHAT
Nitrogen, Nitrate ^c	< 0.11	0.11	mg/l	1	09/20/19 15:37	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/20/19 15:37	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	09/11/19 21:46	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.64	0.20	mg/l	1	09/20/19 10:12	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	43.0	10	mg/l	1	09/17/19 14:45	RC	SM2540 C-11
Solids, Total Suspended ^d	12.5	4.0	mg/l	1	09/17/19 10:44	RC	SM2540 D-11
Total Organic Carbon	3.5	1.0	mg/l	1	09/27/19 16:47	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Sample set up with 3 separate dilutions, but DO difference is less than 2 on all of the dilutions. Results reported are from the lowest dilution.

(c) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(d) Reported sample aliquot obtained from filtration of 400 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	PR-3S	Date Sampled:	09/11/19
Lab Sample ID:	JC94820-5	Date Received:	09/11/19
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Philadelphia District, Reservoir Sampling		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	55.0	10	mg/l	1	09/19/19 11:24	MS	SM2320 B-11
BOD, 5 Day	3.5	1.0	mg/l	1	09/12/19 21:32	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/20/19 14:24	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/20/19 15:38	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/20/19 15:38	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	09/11/19 21:46	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.58	0.20	mg/l	1	09/20/19 10:13	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	50.0	10	mg/l	1	09/17/19 14:45	RC	SM2540 C-11
Solids, Total Suspended ^c	5.2	4.0	mg/l	1	09/17/19 10:44	RC	SM2540 D-11
Total Organic Carbon	4.2	1.0	mg/l	1	09/27/19 16:59	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 500 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-3M	Date Sampled: 09/11/19
Lab Sample ID: JC94820-6	Date Received: 09/11/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	40.0	10	mg/l	1	09/19/19 11:24	MS	SM2320 B-11
BOD, 5 Day	3.2	1.0	mg/l	1	09/12/19 21:40	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/20/19 14:25	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/20/19 15:39	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/20/19 15:39	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	09/11/19 21:46	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.43	0.20	mg/l	1	09/20/19 10:13	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	43.0	10	mg/l	1	09/17/19 14:45	RC	SM2540 C-11
Solids, Total Suspended ^c	4.2	4.0	mg/l	1	09/17/19 10:44	RC	SM2540 D-11
Total Organic Carbon	4.0	1.0	mg/l	1	09/27/19 17:10	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 600 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-3D	Date Sampled: 09/11/19
Lab Sample ID: JC94820-7	Date Received: 09/11/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	50.0	10	mg/l	1	09/19/19 11:24	MS	SM2320 B-11
BOD, 5 Day	7.3	1.0	mg/l	1	09/12/19 21:42	EB	SM5210 B-11
Nitrogen, Ammonia	1.7	0.20	mg/l	1	09/20/19 14:30	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^b	< 0.11	0.11	mg/l	1	09/20/19 15:40	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/20/19 15:40	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	09/11/19 21:46	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.94	0.20	mg/l	1	09/20/19 10:14	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	72.0	10	mg/l	1	09/17/19 14:45	RC	SM2540 C-11
Solids, Total Suspended ^c	18.0	4.0	mg/l	1	09/17/19 10:44	RC	SM2540 D-11
Total Organic Carbon	7.5	1.0	mg/l	1	09/27/19 17:21	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

(c) Reported sample aliquot obtained from filtration of 100 mL of sample. Volume was reduced from 1 liter as the sample clogged the filter at the higher volume.

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: PR-4S	Date Sampled: 09/11/19
Lab Sample ID: JC94820-8	Date Received: 09/11/19
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Philadelphia District, Reservoir Sampling	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃ ^a	21.0	10	mg/l	1	09/19/19 11:24	MS	SM2320 B-11
BOD, 5 Day ^b	1.1	1.0	mg/l	1	09/12/19 21:44	EB	SM5210 B-11
Nitrogen, Ammonia	< 0.20	0.20	mg/l	1	09/20/19 14:31	KI	SM4500NH3 H-11/LACHAT
Nitrogen, Nitrate ^c	< 0.11	0.11	mg/l	1	09/20/19 15:43	KI	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite	< 0.10	0.10	mg/l	1	09/20/19 15:43	KI	EPA 353.2/LACHAT
Nitrogen, Nitrite	< 0.010	0.010	mg/l	1	09/11/19 21:46	CM	SM4500NO2 B-11
Nitrogen, Total Kjeldahl	0.57	0.20	mg/l	1	09/20/19 10:15	KI	EPA 351.2/LACHAT
Solids, Total Dissolved	52.0	10	mg/l	1	09/17/19 14:45	RC	SM2540 C-11
Solids, Total Suspended	< 4.0	4.0	mg/l	1	09/17/19 10:44	RC	SM2540 D-11
Total Organic Carbon	3.6	1.0	mg/l	1	09/27/19 17:32	CD	SM5310 B-11

(a) Sample was titrated to a final pH of 4.5.

(b) Sample set up with 3 separate dilutions, but DO difference is less than 2 on all of the dilutions. Results reported are from the lowest dilution.

(c) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

RL = Reporting Limit

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



SW

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusa

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E

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes												
Company Name: USACE-Phila. District		Project Name: USACE Reservoirs - Prompton		Requested Analysis: TP04 (Sob to MS Reider) Alkalinity, Ammonia BOD, TDS, TKN TOC, TSS, XN030		Matrix Codes: DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipes FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank												
Street Address: 100 Penn Sq. East		Street: Prompton																
City, State, Zip: Phila PA 19107		City, State, Zip: Prompton PA																
E-mail: Joe Loeper		Project Manager: Tammy McCluskey																
Phone #: 215-656-6545		Client Purchase Order #:																
Sampler(s) Name(s): Greg Wasick 597-9780		Attention:																
SGS Sample #	Field ID / Point of Collection	MEQ/HD Val #	Date	Time	Sampled by	Grav (g) Comp (C)	Matrix	# of bottles	PC	PH	HW	H2O2	WV	DI Water	LEAD	ENFORCE	LAB USE ONLY	
1F	PR-1S		9/11/19	1150	9	G	SW	9	X			X					X	613
2F	PR-2S			1315	9	G	SW	9	X			X					X	63874
3F	PR-2M			1315	9	G	SW	9	X			X					X	19C4
4F	PR-2D			1315	9	G	SW	9	X			X					X	
5F	PR-3S			1240	9	G	SW	9	X			X					X	
6F	PR-3M			1240	9	G	SW	9	X			X					X	
7F	PR-3D			1240	9	G	SW	9	X			X					X	
8F	PR-4S			1130	9	G	SW	9	X			X					X	
Turn Around Time (Business Days)		Approved By (SGS PM): / Date:		Deliverable		Comments / Special Instructions												
<input type="checkbox"/> 10 Business Days <input type="checkbox"/> 6 Business Days <input type="checkbox"/> 3 Business Days* <input type="checkbox"/> 2 Business Days* <input type="checkbox"/> 1 Business Day* <input type="checkbox"/> Other		Approval needed for 1-3 Business Day TAT		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> NJ Reduced (Level 3) <input type="checkbox"/> Full Tier I (Level 4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ DKQP		<input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> MA MCP Criteria <input type="checkbox"/> CT RCP Criteria <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> DOD-QSMS												
All data available via Lablink		Commercial "A" = Results only; Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Partial Raw data		Sample Custody must be documented below each time samples change possession, including courier delivery.		TCF/ECF Samples to Eurofin lab. TP04 Samples to MS Reider lab http://www.sgs.com/en/terms-and-conditions												
Relinquished by:	Date / Time:	Received By:	Date / Time:	Relinquished by:	Date / Time:	Received By:	Date / Time:											
3	9/11/19 1530	3		4	9/11/19 18:40	4												
5		5																
Custody Seal #		<input type="checkbox"/> Intact <input type="checkbox"/> Not intact		<input type="checkbox"/> Preserved where applicable <input type="checkbox"/> Absent		Therm. ID: On Ice Cooler Temp. °C												

5.1, 3.4, 3.9, 3.7, 3.1, 3.4

JC94820: Chain of Custody

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SGS Sample Receipt Summary

Job Number: JC94820

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 9/11/2019 6:45:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (5.1); Cooler 2: (3.4); Cooler 3: (3.9); Cooler 4: (3.7); Cooler 5: (3.1); Cooler 6: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (5.0); Cooler 2: (3.3); Cooler 3: (3.8); Cooler 4: (3.6); Cooler 5: (3.0); Cooler 6: (3.3);

<u>Cooler Security</u>		<u>Y</u>	<u>or</u>	<u>N</u>			<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>		3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>		4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>	

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	6		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Test Strip Lot #s:	pH 1-12:	229517	pH 12+:	208717	Other: (Specify)	
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Comments

SM089-03
Rev. Date 12/7/17

JC94820: Chain of Custody
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SGS North America Inc. - Dayton 2235 Route 130, Dayton, NJ 08810 TEL: 732-329-0200 FAX: 732-329-3499/3480 www.sgs.com/ehsus										FED-EX Tracking #		Batch Order/Convey #		SGS Date #	
Client / Reporting Information				Project Information				Requested Analysis				Matrix Codes			
Company Name: USACE - Phila. District Street Address: 100 Penn Sq. East City: Phila. State: PA Zip: 19107 Project Contact: Joe Loeper Phone #: 215-650-6545 Sample(s) Name(s): Greg Wasick 597-9780				Project Name: USACE Reservoirs - F.E. Walter/Ampro Street: White Haven PA Protect #: Client Purchase Order #: Project Manager: Tammy McCloskey				Billing Information (if different from Report to): Company Name: Street Address: City: State: Zip: Attention:				Matrix Codes: DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EP - Equipment Blank RB - Rinse Blank TB - Trip Blank			
565 Sample # Field ID / Point of Collection 1 WA-1S 2 WA-2S 5 WA-3S 10 WA-4S 7 WA-5S 8 WA-6S 11 WA-7S PR-1S J094820-1 PR-2S - 2 PR-3S - 5 PR-4S - 8				MEOH/ID Vial # 9/11/19 905 710 1000 945 930 750 830 1150 1315 1240 1130				Number of preserved Bottles G SW 2 G SW 2 G SW 2 G SW 2 G SW 2 G SW 2 G SW 2 G SW 2 G SW 2 G SW 2 G SW 2				Preserved Bottles HCl HNO ₃ H ₂ SO ₄ H ₂ O ₂ H ₂ CO ₃ H ₂ PO ₄ H ₂ PO ₃ H ₂ PO ₂ H ₂ PO ₁ H ₂ PO ₀ H ₂ PO ₋₁ H ₂ PO ₋₂ H ₂ PO ₋₃ H ₂ PO ₋₄ H ₂ PO ₋₅ H ₂ PO ₋₆ H ₂ PO ₋₇ H ₂ PO ₋₈ H ₂ PO ₋₉ H ₂ PO ₋₁₀ H ₂ PO ₋₁₁ H ₂ PO ₋₁₂ H ₂ PO ₋₁₃ H ₂ PO ₋₁₄ H ₂ PO ₋₁₅ H ₂ PO ₋₁₆ H ₂ PO ₋₁₇ H ₂ PO ₋₁₈ H ₂ PO ₋₁₉ H ₂ PO ₋₂₀ H ₂ PO ₋₂₁ H ₂ PO ₋₂₂ H ₂ PO ₋₂₃ H ₂ PO ₋₂₄ H ₂ PO ₋₂₅ H ₂ PO ₋₂₆ H ₂ PO ₋₂₇ H ₂ PO ₋₂₈ H ₂ PO ₋₂₉ H ₂ PO ₋₃₀ H ₂ PO ₋₃₁ H ₂ PO ₋₃₂ H ₂ PO ₋₃₃ H ₂ PO ₋₃₄ H ₂ PO ₋₃₅ H ₂ PO ₋₃₆ H ₂ PO ₋₃₇ H ₂ PO ₋₃₈ H ₂ PO ₋₃₉ H ₂ PO ₋₄₀ H ₂ PO ₋₄₁ H ₂ PO ₋₄₂ H ₂ PO ₋₄₃ H ₂ PO ₋₄₄ H ₂ PO ₋₄₅ H ₂ PO ₋₄₆ H ₂ PO ₋₄₇ H ₂ PO ₋₄₈ H ₂ PO ₋₄₉ H ₂ PO ₋₅₀ H ₂ PO ₋₅₁ H ₂ PO ₋₅₂ H ₂ PO ₋₅₃ H ₂ PO ₋₅₄ H ₂ PO ₋₅₅ H ₂ PO ₋₅₆ H ₂ PO ₋₅₇ H ₂ PO ₋₅₈ H ₂ PO ₋₅₉ H ₂ PO ₋₆₀ H ₂ PO ₋₆₁ H ₂ PO ₋₆₂ H ₂ PO ₋₆₃ H ₂ PO ₋₆₄ H ₂ PO ₋₆₅ H ₂ PO ₋₆₆ H ₂ PO ₋₆₇ H ₂ PO ₋₆₈ H ₂ PO ₋₆₉ H ₂ PO ₋₇₀ H ₂ PO ₋₇₁ H ₂ PO ₋₇₂ H ₂ PO ₋₇₃ H ₂ PO ₋₇₄ H ₂ PO ₋₇₅ H ₂ PO ₋₇₆ H ₂ PO ₋₇₇ H ₂ PO ₋₇₈ H ₂ PO ₋₇₉ H ₂ PO ₋₈₀ H ₂ PO ₋₈₁ H ₂ PO ₋₈₂ H ₂ PO ₋₈₃ H ₂ PO ₋₈₄ H ₂ PO ₋₈₅ H ₂ PO ₋₈₆ H ₂ PO ₋₈₇ H ₂ PO ₋₈₈ H ₂ PO ₋₈₉ H ₂ PO ₋₉₀ H ₂ PO ₋₉₁ H ₂ PO ₋₉₂ H ₂ PO ₋₉₃ H ₂ PO ₋₉₄ H ₂ PO ₋₉₅ H ₂ PO ₋₉₆ H ₂ PO ₋₉₇ H ₂ PO ₋₉₈ H ₂ PO ₋₉₉ H ₂ PO ₋₁₀₀			
Turn Around Time (Business Days) <input type="checkbox"/> 10 Business Days <input type="checkbox"/> 5 Business Days <input type="checkbox"/> 3 Business Days* <input type="checkbox"/> 2 Business Days* <input type="checkbox"/> 1 Business Day* <input type="checkbox"/> Other				Approved By (SGS PM) / Date: Approved By: [Signature] Date: 9/11/19				Deliverable <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> NJ Reduced (Level 3) <input type="checkbox"/> Full Tier I (Level 4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ DKQP <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> MA MCP Criteria <input type="checkbox"/> CT RCP Criteria <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format				Comments / Special Instructions Samples to Eurofin Lab			
Turn Around Time (Business Days) <input type="checkbox"/> 10 Business Days <input type="checkbox"/> 5 Business Days <input type="checkbox"/> 3 Business Days* <input type="checkbox"/> 2 Business Days* <input type="checkbox"/> 1 Business Day* <input type="checkbox"/> Other				Approved By (SGS PM) / Date: Approved By: [Signature] Date: 9/11/19				Deliverable <input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> NJ Reduced (Level 3) <input type="checkbox"/> Full Tier I (Level 4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ DKQP <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> MA MCP Criteria <input type="checkbox"/> CT RCP Criteria <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format				Comments / Special Instructions Samples to Eurofin Lab			

JC94820: Chain of Custody

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The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC94820X

Sampling Date: 09/11/19

Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
Joseph.M.Loeper@usace.army.mil

ATTN: Joseph Loeper

Total number of pages in report: 18



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "Laura Degenhardt".

Laura Degenhardt
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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Sample Summary

USACE-Philadelphia District

Job No: JC94820X

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC94820-1F	09/11/19	11:50	GW	09/11/19	AQ Surface Water	PR-1S
JC94820-1X	09/11/19	11:50	GW	09/11/19	AQ Surface Water	PR-1S
JC94820-2F	09/11/19	13:15	GW	09/11/19	AQ Surface Water	PR-2S
JC94820-2X	09/11/19	13:15	GW	09/11/19	AQ Surface Water	PR-2S
JC94820-3F	09/11/19	13:15	GW	09/11/19	AQ Surface Water	PR-2M
JC94820-3X	09/11/19	13:15	GW	09/11/19	AQ Surface Water	PR-2M
JC94820-4F	09/11/19	13:15	GW	09/11/19	AQ Surface Water	PR-2D
JC94820-4X	09/11/19	13:15	GW	09/11/19	AQ Surface Water	PR-2D
JC94820-5F	09/11/19	12:40	GW	09/11/19	AQ Surface Water	PR-3S
JC94820-5X	09/11/19	12:40	GW	09/11/19	AQ Surface Water	PR-3S
JC94820-6F	09/11/19	12:40	GW	09/11/19	AQ Surface Water	PR-3M
JC94820-6X	09/11/19	12:40	GW	09/11/19	AQ Surface Water	PR-3M
JC94820-7F	09/11/19	12:40	GW	09/11/19	AQ Surface Water	PR-3D



Sample Summary
(continued)

USACE-Philadelphia District

Job No: JC94820X

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected		Matrix Code	Type	Client	
	Date	Time By	Received		Sample ID	
JC94820-7X	09/11/19	12:40 GW	09/11/19	AQ	Surface Water	PR-3D
JC94820-8F	09/11/19	11:30 GW	09/11/19	AQ	Surface Water	PR-4S
JC94820-8X	09/11/19	11:30 GW	09/11/19	AQ	Surface Water	PR-4S

Subcontract Lab Data

Report of Analysis



M.J. Reider Associates, Inc.

ENVIRONMENTAL TESTING LABORATORY
U.S. EPA/PA DEP #06-00003

Certificate of Analysis

Laboratory No.: 9033111

Report: 09/23/19

Lab Contact: Amy L. Morriss

Attention: Tammy McCloskey
Reported To: SGS North America
2235 US Highway 130
Dayton, NJ 08810

Project: Army Corp Reservoirs

Lab ID: 9033111-01 **Collected By:** Client **Sampled:** 09/11/19 11:50 **Received:** 09/18/19 10:15
Sample Desc: PR-1S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	09/19/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	<0.01	mg/l	0.01	0.05	SM 4500-P E	09/19/19	U	JCL

Lab ID: 9033111-02 **Collected By:** Client **Sampled:** 09/11/19 13:15 **Received:** 09/18/19 10:15
Sample Desc: PR-2S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.008	mg/l	0.007	0.05	SM 4500-P E	09/19/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.03	mg/l	0.01	0.05	SM 4500-P E	09/19/19	J	JCL

Lab ID: 9033111-03 **Collected By:** Client **Sampled:** 09/11/19 13:15 **Received:** 09/18/19 10:15
Sample Desc: PR-2M **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.01	mg/l	0.007	0.05	SM 4500-P E	09/19/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.03	mg/l	0.01	0.05	SM 4500-P E	09/19/19	J	JCL



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Additional accreditations by CT (PH-0210), MD (261), NY(12094)

Page 1 of 9



Lab ID: 9033111-04 **Collected By:** Client **Sampled:** 09/11/19 13:15 **Received:** 09/18/19 10:15
Sample Desc: PR-2D **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.009	mg/l	0.007	0.05	SM 4500-P E	09/19/19	G-11, J	JCL
General Chemistry								
Phosphorus as P, Total	0.05	mg/l	0.01	0.05	SM 4500-P E	09/19/19	J	JCL

Lab ID: 9033111-05 **Collected By:** Client **Sampled:** 09/11/19 12:40 **Received:** 09/18/19 10:15
Sample Desc: PR-3S **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	09/19/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.05	SM 4500-P E	09/19/19	J	JCL

Lab ID: 9033111-06 **Collected By:** Client **Sampled:** 09/11/19 12:40 **Received:** 09/18/19 10:15
Sample Desc: PR-3M **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	09/19/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	0.03	mg/l	0.01	0.05	SM 4500-P E	09/19/19	J	JCL

Lab ID: 9033111-07 **Collected By:** Client **Sampled:** 09/11/19 12:40 **Received:** 09/18/19 10:15
Sample Desc: PR-3D **Sample Type:** Grab

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	0.08	mg/l	0.007	0.05	SM 4500-P E	09/19/19	G-11	JCL
General Chemistry								
Phosphorus as P, Total	0.10	mg/l	0.01	0.05	SM 4500-P E	09/19/19		JCL



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Lab ID: 9033111-08 Collected By: Client Sampled: 09/11/19 11:30 Received: 09/18/19 10:15
Sample Desc: PR-4S Sample Type: Grab

	Result	Unit	MDL	Rep. Limit	Analysis Method	Analyzed	Notes	Analyst
Dissolved General Chemistry								
Phosphorus as P, Dissolved	<0.007	mg/l	0.007	0.05	SM 4500-P E	09/19/19	G-11, U	JCL
General Chemistry								
Phosphorus as P, Total	0.02	mg/l	0.01	0.05	SM 4500-P E	09/19/19	J	JCL

Quality Control

General Chemistry

	Result	Reporting Limit	Units	%REC	%REC Limits	RPD	RPD Limit	Analyte Notes
Batch B911172								
MB (B911172-BLK1)								
Phosphorus as P, Total	<0.05	0.05	mg/l					U
MB (B911172-BLK2)								
Phosphorus as P, Total	<0.05	0.05	mg/l					U
MB (B911172-BLK3)								
Phosphorus as P, Total	<0.05	0.05	mg/l					U
LFB (B911172-BS1)								
Phosphorus as P, Total	1.02	0.05	mg/l	102	80-120			
LFM (B911172-MS1)		Source: 9033111-01						
Phosphorus as P, Total	0.98	0.05	mg/l	98.3	80-120			
LFMD (B911172-MSD1)		Source: 9033111-01						
Phosphorus as P, Total	0.97	0.05	mg/l	97.4	80-120	0.920	20	

Dissolved General Chemistry

	Result	Reporting Limit	Units	%REC	%REC Limits	RPD	RPD Limit	Analyte Notes
Batch B911173								
MB (B911173-BLK1)								
Phosphorus as P, Dissolved	<0.05	0.05	mg/l					G-11, U
LFB (B911173-BS1)								
Phosphorus as P, Dissolved	1.02	0.05	mg/l	102	80-120			G-11



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M.J. Reider Associates, Inc.

2

Preparation Methods

Specific Method	Preparation Method	Prepared Date	Prepared By
9033111-01			
SM 4500-P E	SM 4500-P B	09/19/2019	JCL
9033111-02			
SM 4500-P E	SM 4500-P B	09/19/2019	JCL
9033111-03			
SM 4500-P E	SM 4500-P B	09/19/2019	JCL
9033111-04			
SM 4500-P E	SM 4500-P B	09/19/2019	JCL
9033111-05			
SM 4500-P E	SM 4500-P B	09/19/2019	JCL
9033111-06			
SM 4500-P E	SM 4500-P B	09/19/2019	JCL
9033111-07			
SM 4500-P E	SM 4500-P B	09/19/2019	JCL
9033111-08			
SM 4500-P E	SM 4500-P B	09/19/2019	JCL

Notes and Definitions

- G-11 The sample was filtered after it was received at the laboratory.
J Estimated value
U Analyte was not detected above the indicated value.



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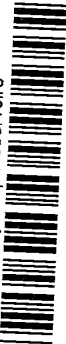
SGS North America
Army Corp Reservoirs

PM: ALM

CUSTODY

rica Inc. • Dayton
Dayton, NJ 08810
FAX: 732-329-3499/34
com/ehsusa

tion. . . .



Page 1 of 2

FED-EX Tracking #	Bottle Order Control #	Matrix Codes
SGS Quote #	SGS Job # JC94820X	

tion.

Philadelphia District, Reservoir Sampling									
Sheet	City	State	Zip	Billing Information (if different from Report to)	City	State	Zip	TP04	LAB USE ONLY
Project Contact	Project #	Client Purchase Order #	Project Manager	Attention:	City	State	Zip	TP04	LAB USE ONLY
Sample(s)	Field ID / Point of Collection	MEQ/DV Unit #	Collection	Sampled By	Matrix	# of bottles	Number of preserved bottles	TP04	LAB USE ONLY
Size Sample	Field ID / Point of Collection	MEQ/DV Unit #	Date	Time	Matrix	# of bottles	Number of preserved bottles	TP04	LAB USE ONLY
1F	PR-1S		9/11/19	11:50:00 AM	GW	AQ	1	X	
1X	PR-1S		9/11/19	11:50:00 AM	GW	AQ	1	X	
2F	PR-2S		9/11/19	1:15:00 PM	GW	AQ	1	X	
2X	PR-2S		9/11/19	1:15:00 PM	GW	AQ	1	X	
3F	PR-2M		9/11/19	1:15:00 PM	GW	AQ	1	X	
3X	PR-2M		9/11/19	1:15:00 PM	GW	AQ	1	X	
4F	PR-2D		9/11/19	1:15:00 PM	GW	AQ	1	X	
4X	PR-2D		9/11/19	1:15:00 PM	GW	AQ	1	X	
5F	PR-3S		9/11/19	12:40:00 PM	GW	AQ	1	X	
5X	PR-3S		9/11/19	12:40:00 PM	GW	AQ	1	X	
6F	PR-3M		9/11/19	12:40:00 PM	GW	AQ	1	X	
6X	PR-3M		9/11/19	12:40:00 PM	GW	AQ	1	X	

Approved By (SGS PM) / Date: <input type="checkbox"/> Standard 10 Business Days <input type="checkbox"/> 5 Business Days RUSH <input type="checkbox"/> 3 Business Days RUSH <input type="checkbox"/> 2 Business Days RUSH <input checked="" type="checkbox"/> Other Due 10/27/2019	Sample Custody must be documented below each time samples change possession, including courier delivery. Received By: <u>10/27/2019</u> Date / Time: <u>9:59</u> Relinquished By: <u>10/27/2019</u> Date / Time: <u>9:59</u>	Commercial "A" (Level 1) <input type="checkbox"/> Commercial "A" (Level 2) <input type="checkbox"/> FULLT1 (Level 3+4) <input type="checkbox"/> NJ Reduced <input type="checkbox"/> Commercial "C" Commercial "A" + Results Only Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Partial Raw data	Comments / Special Instructions
---	--	--	---------------------------------

Project Contact: <u>Sammy Irindeskey@sgs.com</u> Phone #: <u>215-610-1000</u> Project # <u>100</u> Client Purchase Order # <u>105</u> Project Manager <u>Sammy Irindeskey</u>	Date Rec'd: <u>9/11/19</u> Date / Time: <u>9:59</u> Relinquished By: <u>10/27/2019</u> Date / Time: <u>9:59</u>	Relinquished By: <u>10/27/2019</u> Date / Time: <u>9:59</u>	Relinquished By: <u>10/27/2019</u> Date / Time: <u>9:59</u>
---	--	--	--

all containers = 250 ml. pl.
500 09.18.19
6/18/19

[illegible]

9033111

Date / Time: 9/17/2019 10:33:15 AM

CSR: TAMMY

Job #: JC94820X

Client Project: Philadelphia District Reservoir Sampling

Deliverable: REDT2

TAT: Due 10/2/2019

Sub Lab: MJ Reider Associates Inc, Env. Testing Laboratories

Address: 107 Angelica Street

City: Reading

State: PA Zip: 19611

Contact: Sample Receiving / Rich Wheeler

Phone: 610-374-5129

SGS Sample #	Client Sample Description	Analysis	Location	Sampled By	Date Sampled	Time Sampled	Aliquot
JC94820-1F	PR-1S -01	FILTERGN,TPO4	SUB	GW	9/11/2019	11:50:00 AM	
JC94820-1X	PR-1S	TPO4		GW	9/11/2019	11:50:00 AM	
JC94820-2F	PR-2S -02	FILTERGN,TPO4	SUB	GW	9/11/2019	1:15:00 PM	
JC94820-2X	PR-2S	TPO4		GW	9/11/2019	1:15:00 PM	
JC94820-3F	PR-2M -03	FILTERGN,TPO4	SUB	GW	9/11/2019	1:15:00 PM	
JC94820-3X	PR-2M	TPO4		GW	9/11/2019	1:15:00 PM	
JC94820-4F	PR-2D -04	FILTERGN,TPO4	SUB	GW	9/11/2019	1:15:00 PM	
JC94820-4X	PR-2D	TPO4		GW	9/11/2019	1:15:00 PM	
JC94820-5F	PR-3S -05	FILTERGN,TPO4	SUB	GW	9/11/2019	12:40:00 PM	
JC94820-5X	PR-3S	TPO4		GW	9/11/2019	12:40:00 PM	
JC94820-6F	PR-3M -06	FILTERGN,TPO4	SUB	GW	9/11/2019	12:40:00 PM	
JC94820-6X	PR-3M	TPO4		GW	9/11/2019	12:40:00 PM	
JC94820-7F	PR-3D -07	FILTERGN,TPO4	SUB	GW	9/11/2019	12:40:00 PM	
JC94820-7X	PR-3D	TPO4		GW	9/11/2019	12:40:00 PM	
JC94820-8F	PR-4S -08	FILTERGN,TPO4	SUB	GW	9/11/2019	11:30:00 AM	
JC94820-8X	PR-4S	TPO4		GW	9/11/2019	11:30:00 AM	

Comments:

9033111

Sample Management Receipt:

Date:

MJRA Terms & Conditions

All samples submitted must be accompanied by signed documentation representing a Chain of Custody (COC). The COC Record acts as a contract between the client and MJRA. Signing the COC form gives approval for MJRA to perform the requested analyses and is an agreement to pay for the cost of such analyses. COC Records must be completed in black or blue indelible ink (must not run when wet). COC documentation begins at the time of sample collection. Client is required to document all sample details prior to releasing samples to MJRA. All samples must be placed on ice immediately after sampling and shipped or delivered to the laboratory in a manner that will maintain the sample temperature above freezing and below 6C (loose ice is preferred).

Sample Submission, Sample Acceptance & Sampling Containers

Included on the COC must be the sample description, date and time of collection (including start and stop for composites), container size and type, preservative information, sample matrix, indication of whether the sample is a grab or composite, number of containers & a list of the tests to be performed. Poor sample collection technique, inappropriate sampling containers and/or improper sample preservation may lead to sample rejection. Suitable sample containers, labels, and preservatives (as applicable), along with blank COCs are provided at no additional cost.

Turnaround Times (TAT)

Average TAT for test results range from 5 to 15 working days depending on the specific analyses and time of year submitted. Faster turnaround times (*RUSH TAT) may be available depending on the current workload in a particular department and the nature of the analyses requested. We encourage you to verify requests for expedited sample results with one of our Technical Directors prior to sample submittal. Without confirmation from a Technical Director, your results may not be completed by your deadline. *RUSH TAT Surcharges are applied for expedited turnaround times.

Analytical Results, Sample Collection Integrity & Subcontracting

Analytical values are for the sample as submitted and relate only to the item tested. The value indicates a snapshot of the constituent content of the sample at the time of sample collection. Analytical results can be impacted by poor sample collection technique and/or improper preservation. All sample collection completed by MJRA was performed in accordance with applicable regulatory protocols or as specified in customer specific sampling plans. Constituent content will vary over time based on the matrix of the sample and the physical and chemical changes to its environment. All sample results and laboratory reports are strictly confidential. Results will not be available to anyone except the primary client or authorized party representing the client unless MJRA receives additional permissions from the client. When necessary, MJRA will subcontract certain analyses to a third party accredited laboratory. If client prohibits subcontracting, it must be provided in writing and include instruction on how to proceed with client samples that require third party analyses.

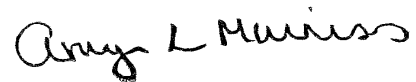
Payment Terms

Payment Terms are Net 30 days. Prices are subject to change without notice. A standing monthly charge of 1.5% of the clients over-30-day-unpaid balance may be added to the balance after 30 days and each month thereafter (day 31, 61, 91 etc.). The laboratory accepts all major credit cards, ACH transactions, checks and cash. New clients must pay for all services rendered prior to sample collection and/or in some cases report processing. Clients must contact the MJRA accounting department to pursue a credit-based account. MJRA reserves the right to terminate the client's credit account and to refuse to perform additional services on a credit basis if any balance is outstanding for more than 60 days.

Warranty & Litigation

MJRA does not guarantee any results of its services but has agreed to use its best efforts, in accordance with the standards and practices of the industry, to cause such results to be accurate and complete. We disclaim any other warranties, expressed or implied, including a warranty of fitness for a particular purpose and warranty of merchantability. Clients agree that they shall reimburse MJRA for any and all fees, cost and litigation expenses, including reasonable attorney fees incurred by MJRA in obtaining payment for the services rendered. All costs associated with compliance with any subpoena for documents, testimony, or any other purpose relating to work performed by MJRA, for a client, shall be paid by that client. MJRA's aggregate liability for negligent acts and omissions and of an intentional breach by MJRA will not exceed the fee paid for the services. Client agrees to indemnify and hold MJRA harmless for any and all liabilities in excess of said amount. Neither MJRA nor the client shall be liable to the other for special, incidental consequential or punitive liability or damages included but not limited to those arising from delay, loss of use, loss of profits or revenues. MJRA will not be liable to the client unless the client has notified MJRA of the discovery of the alleged negligent act, error, omissions or breach within 30 days of the

Reviewed and Approved by:

Amy L. Morriss
Project Manager107 Angelica Street • Reading, PA 19611 • www.mjreider.com • (610) 374-5129 • fax (610) 374-7234**This certificate shall not be reproduced except in full without the written approval of M.J. Reider Associates, Inc.**

NELAP accredited by PA. (PADEP #06-00003) Visit our website to view our current

NELAC accreditations for various drinking water, wastewater and solid & chemical materials analytes.

Additional accreditations by CT (PH-0210), MD (261), NY(12094)

Page 9 of 9

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



Page 1 of 1

FED-EX Tracking #	Bottle Order Count #	
SGS Quote #	SGS Job # JC94820	
Requested Analysis		Matrix Codes
TP04 (sob to MJS Reider)		DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank
Alkalinity, Ammonia		
BOD, TDS, TKN		
TOT, TSS, XN030		
X X X X		LAB USE ONLY
X X X X		913
X X X X		G3874
X X X X		19C4
X X X X		
X X X X		
X X X X		
X X X X		
X X X X		
X X X X		
		INITIAL ASSESSMENT
		LAB VERIFICATION
Comments / Special Instructions		
<input type="checkbox"/> DGD-QSMS TCE/PCF Samples TO Eurofin Lab. TP04 samples to MJS Reider Lab http://www.sgs.com/en/terms-and-conditions		
Results + QC Summary		Date / Time:
Raw Data		Received By:
including courier delivery		2
Date / Time:		Received By:
9/16/19 18:40		4
Initail	Preserved where applicable	On Ice
N/A	Absent <input type="checkbox"/>	Cooler Temp. °C

51, 34, 39, 37, 31, 34.

Page 1 of 3



SGS Sample Receipt Summary

Job Number: JC94820

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 9/11/2019 6:45:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (5.1); Cooler 2: (3.4); Cooler 3: (3.9); Cooler 4: (3.7); Cooler 5: (3.1); Cooler 6: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (5.0); Cooler 2: (3.3); Cooler 3: (3.8); Cooler 4: (3.6); Cooler 5: (3.0); Cooler 6: (3.3);

<u>Cooler Security</u>		<u>Y</u>	<u>or</u>	<u>N</u>			<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>		3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>		4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>	

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	6		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Test Strip Lot #s:	pH 1-12:	229517	pH 12+:	208717	Other: (Specify)	
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Comments

SM089-03
Rev. Date 12/7/17

JC94820X: Chain of Custody
Page 2 of 3

CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusaPage 1 of 1 JC94820
SC94821

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes																		
Company Name: USACE - Phila. District Street Address: 100 Penn Sq. East City: Phila. PA. 19107 Project Contact: Joe Loeper Phone #: 215-654-6545 Sample(s) Name(s): Greg Wacik 597-9780		Project Name: USACE Reservoirs - F.E. Walter / Pump Street: White Haven PA City: State: Zip: Billing Information (If different from Report to): Company Name: Project #: Client Purchase Order #: City: State: Zip: Attention:		FED-EX Tracking #: SGS Order #: SGS Job #:		Matrix Codes: DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinsate Blank TB - Trip Blank																		
SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Date	Time	Sampled	Due ID	Matrix	# of bottles	ICP	PH	DO	EC	ORP	TEMP	TOC	TSS	NO ₃ -N	NO ₂ -N	NH ₄ -N	PO ₄ -P	CO ₂	CHL	TR	LAB USE ONLY
1	WA-1S		9/11/19	905	G	SW	2	2																
2	WA-2S			710	G	SW	2	2																
3	WA-3S			1000	G	SW	2	2																
4	WA-4S			945	G	SW	2	2																
7	WA-5S			930	G	SW	2	2																
8	WA-6S			750	G	SW	2	2																
11	WA-7S			830	G	SW	2	2																
	PR-1S JC94820-1			150	G	SW	2	2																
	PR-2S - 2			1315	G	SW	2	2																
	PR-3S - 5			1240	G	SW	2	2																
	PR-4S - 8			1130	G	SW	2	2																
Turn Around Time (Business Days)		Approved By (SGS PM): / Date:		Deliverable		Comments / Special Instructions																		
<input type="checkbox"/> 10 Business Days <input type="checkbox"/> 5 Business Days <input type="checkbox"/> 3 Business Days* <input type="checkbox"/> 2 Business Days* <input type="checkbox"/> 1 Business Day* <input type="checkbox"/> Other		<input type="checkbox"/> Commercial "A" (Level 1) <input type="checkbox"/> Commercial "B" (Level 2) <input type="checkbox"/> NJ Reduced (Level 3) <input type="checkbox"/> Full Tier I (Level 4) <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NJ DKQP		<input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> MA MCP Criteria <input type="checkbox"/> CT RCP Criteria <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format		Samples to EuroSins Lab																		
All data available via Labfax		* Approval needed for 1-3 Business Day TAT		Commercial "A" = Results only; Commercial "B" = Results + QC Summary Commercial "C" = Results + QC Summary + Partial Raw data		http://www.sgs.com/en/terms-and-conditions																		
Relinquished by: [Signature]		Date / Time: 9/11/19 1530		Received By: [Signature]		Date / Time: 9/11/19 1750																		
Relinquished by: 3		Date / Time:		Received By: 3		Date / Time:																		
Relinquished by: 5		Date / Time:		Received By: 5		Date / Time:																		
Custody Seal #		<input type="checkbox"/> Intact <input type="checkbox"/> Not intact		Preserved where applicable <input type="checkbox"/> Absent		On Ice <input type="checkbox"/> Cooler Temp. °C																		

JC94820X: Chain of Custody

Page 3 of 3

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

USACE-Philadelphia District

Philadelphia District, Reservoir Sampling

CONTRACT#W912BU18D0003/TO#W912BU19F0065

SGS Job Number: JC94820XA

Sampling Date: 09/11/19

Report to:

USACE-Philadelphia District
100 Penn Square East
Philadelphia, PA 19107
Joseph.M.Looper@usace.army.mil

ATTN: Joseph Looper

Total number of pages in report: **16**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



Mike Earp
General Manager

Client Service contact: Tammy McCloskey 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (ANAB L2248)

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Test results relate only to samples analyzed.

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Sample Summary

USACE-Philadelphia District

Job No: JC94820XA

Philadelphia District, Reservoir Sampling
Project No: CONTRACT#W912BU18D0003/TO#W912BU19F0065

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
JC94820-1XA	09/11/19	11:50	GW	09/11/19	AQ Surface Water	PR-1S
JC94820-2XA	09/11/19	13:15	GW	09/11/19	AQ Surface Water	PR-2S
JC94820-5XA	09/11/19	12:40	GW	09/11/19	AQ Surface Water	PR-3S
JC94820-8XA	09/11/19	11:30	GW	09/11/19	AQ Surface Water	PR-4S



Dayton, NJ

Section 2

Subcontract Lab Data

Report of Analysis

Serialized: 09/16/2019 11:07am QC35

KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Regarding:

SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

PROJECT ID:

W09769 USACE

LABORATORY REPORT NUMBER:

L7160946



Authorized by: Douglas J. Gump
Client Services Manager

KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Regarding:
KRISTIN DEGRAW
SGS NORTH AMERICA, INC.
2235 ROUTE 130
DAYTON, NJ 08810

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: 1991795 PI
PWSID No:

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7160946-1	WA-1S	09/11/19 09:05am NA C	Customer
Received Date/Time/Temp 09/11/19 05:50pm 4.8 C		Iced (Y/N): Y	

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- WA-1S

Total Coliform, MF	>20000 Q		cfu/100ml	SM 9222B	1	100	09/11/19 07:10PM KC2
Fecal Coliform, MF	>600 Q		cfu/100ml	SM 9222D	10	10	09/11/19 10:21PM KC2

Sample ID	Sample Description	Samp. Date/Time/Temp	Sampled by
L7160946-2	WA-2S	09/11/19 07:10am NA C	Customer
Received Date/Time/Temp 09/11/19 05:50pm 4.8 C		Iced (Y/N): Y	

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- WA-2S

Total Coliform, MF	709 Q		cfu/100ml	SM 9222B	10	10	09/11/19 06:53PM KC2
Fecal Coliform, MF	22 Q		cfu/100ml	SM 9222D	100	1	09/11/19 10:21PM KC2

PIN: 28748

Serial Number: 6544422

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: 1991795 PI
PWSID No:

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7160946-3 WA-3S 09/11/19 10:00am NA C Customer
Received Date/Time/Temp 09/11/19 05:50pm 4.8 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
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ENVIRONMENTAL MICROBIOLOGY -- WA-3S

Total Coliform, MF	7100 Q		cfu/100ml	SM 9222B	1	100	09/11/19 07:10PM KC2
Fecal Coliform, MF	20 Q		cfu/100ml	SM 9222D	100	1	09/11/19 10:21PM KC2

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7160946-4 WA-4S 09/11/19 09:45am NA C Customer
Received Date/Time/Temp 09/11/19 05:50pm 4.8 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- WA-4S

Total Coliform, MF	10000 E, Q		cfu/100ml	SM 9222B	1	100	09/11/19 07:10PM KC2
Fecal Coliform, MF	26 Q		cfu/100ml	SM 9222D	100	1	09/11/19 10:21PM KC2

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7160946-6 WA-6S 09/11/19 07:50am NA C Customer
Received Date/Time/Temp 09/11/19 05:50pm 4.8 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

ENVIRONMENTAL MICROBIOLOGY -- WA-6S

Total Coliform, MF	510 Q		cfu/100ml	SM 9222B	10	10	09/11/19 07:10PM KC2
Fecal Coliform, MF	<1 Q		cfu/100ml	SM 9222D	100	1	09/11/19 10:21PM KC2

Sample ID Sample Description Samp. Date/Time/Temp Sampled by
L7160946-7 WA-7S 09/11/19 08:30am NA C Customer
Received Date/Time/Temp 09/11/19 05:50pm 4.8 C Iced (Y/N): Y

Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
-----------	--------	------	-------	--------	----	----	--------------------------

PIN: 28748

Serial Number: 6544422

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: 1991795 PI
PWSID No:

Sample ID	Sample Description	Samp. Date/Time/Temp				Sampled by	
L7160946-7	WA-7S	09/11/19 08:30am NA C				Customer	
Received Date/Time/Temp		09/11/19 05:50pm 4.8 C		Iced (Y/N): Y			
Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
ENVIRONMENTAL MICROBIOLOGY -- WA-7S							
Total Coliform, MF	670 Q		cfu/100ml	SM 9222B	10	10	09/11/19 07:10PM KC2
Fecal Coliform, MF	18 Q		cfu/100ml	SM 9222D	100	1	09/11/19 10:21PM KC2

Sample ID	Sample Description					Samp. Date/Time/Temp	Sampled by
L7160946-8	PR-1S					09/11/19 11:50am NA C	Customer
Received Date/Time/Temp		09/11/19 05:50pm	4.8 C	Iced (Y/N):		Y	
Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
ENVIRONMENTAL MICROBIOLOGY -- PR-1S							
Total Coliform, MF	>2000		cfu/100ml	SM 9222B	10	10	09/11/19 06:53PM KC2
Fecal Coliform, MF	22 Q		cfu/100ml	SM 9222D	100	1	09/11/19 10:21PM KC2

Sample ID	Sample Description	Samp. Date/Time/Temp			Sampled by		
L7160946-9	PR-2S	09/11/19 01:15pm NA C			Customer		
Received Date/Time/Temp		09/11/19 05:50pm	4.8 C	Iced (Y/N): Y			
Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
ENVIRONMENTAL MICROBIOLOGY -- PR-2S							
Total Coliform, MF	4200		cfu/100ml	SM 9222B	1	100	09/11/19 06:53PM KC2
Fecal Coliform, MF	13 Q		cfu/100ml	SM 9222D	100	1	09/11/19 10:21PM KC2

Sample ID	Sample Description					Samp. Date/Time/Temp	Sampled by
L7160946-10	PR-3S					09/11/19 12:40pm NA C	Customer
Received Date/Time/Temp		09/11/19 05:50pm	4.8 C	Iced (Y/N):	Y		
Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst

PIN: 28748

Serial Number: 6544422

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: 1991795 PI
PWSID No:

Sample ID	Sample Description	Samp. Date/Time/Temp				Sampled by	
L7160946-10	PR-3S	09/11/19 12:40pm NA C				Customer	
Received Date/Time/Temp		09/11/19 05:50pm 4.8 C		Iced (Y/N): Y			
Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
ENVIRONMENTAL MICROBIOLOGY -- PR-3S							
Total Coliform, MF	5700		cfu/100ml	SM 9222B	1	100	09/11/19 06:53PM KC2
Fecal Coliform, MF	<1 Q		cfu/100ml	SM 9222D	100	1	09/11/19 10:21PM KC2

Sample ID	Sample Description					Samp. Date/Time/Temp	Sampled by
L7160946-11	PR-4S					09/11/19 11:30am NA C	Customer
Received Date/Time/Temp		09/11/19 05:50pm 4.8 C		Iced (Y/N): Y			
Parameter	Result	Qual	Units	Method	DF	RL	Test Date, Time, Analyst
ENVIRONMENTAL MICROBIOLOGY -- PR-4S							
Total Coliform, MF	41000		cfu/100ml	SM 9222B	.1	1000	09/11/19 06:53PM KC2
Fecal Coliform, MF	5 Q		cfu/100ml	SM 9222D	100	1	09/11/19 10:21PM KC2

Sample Comments | Result Qualifiers:

L7160946-1 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

L7160946-2 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

L7160946-3 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

L7160946-4 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

E: For microbiology testing by membrane filtration, the reported result was based on a colony count outside the recommended range of the test. The reported result may be considered an estimate.

L7160946-6 :

PIN: 28748

Serial Number: 6544422

Account No: W09769, SGS NORTH AMERICA, INC.
Project No: W09769 USACE, USACE

P.O. No:

Inv. No: 1991795 PI
PWSID No:

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

L7160946-7 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

L7160946-8 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

L7160946-9 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

L7160946-10 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.

L7160946-11 :

Q: Microbiological testing was conducted outside of the recommended holding time of 8 hours. Results may not be acceptable for regulatory purposes.



PIN: 28748

Serial Number: 6544422

DEFINITIONS

The following terms or abbreviations are used in this report:

Eurofins QC, LLC (EQC)

<	Less than: In conjunction with a numerical value, indicates a concentration less than RL / MDL
>	Greater than: In conjunction with a numerical value, indicates a concentration greater than RL / MDL
CFU	Colony Forming Unit
DF	Dilution Factor (For Microbiology, DF = volume of sample tested)
DRY	Result was reported on a dry weight basis
MCL	EPA recommended "Maximum Contaminant Level"
MDL	Method Detection Limit
MF	Membrane Filtration
MPN	Most Probable Number
ND	For odor test: No Odor Observed
ND	For all other tests: Analyte concentration Not Detected greater than the RL / MDL

NEG	Negative / Absent
NTU	Nephelometric Turbidity Units
POS	Positive / Present
PPB (µg/L)	Parts per billion: equivalent to 1 microgram per kilogram (µg/Kg) for solids or one microgram per liter (µg/L) for aqueous samples
PPM (mg/L)	Parts per million: equivalent to 1 milligram per kilogram (mg/Kg) for solids or one milligram per liter (mg/L) for aqueous samples
PRES	Presumptive
QUAL	Qualifier (Q)
RL	Laboratory Reporting Limit or Limit of Quantitation (LOQ)
TNTC	Too Numerous To Count
TON	Threshold Odor Number

Data Qualifiers

J	Estimated value ≥ MDL, but < RL
T	Temperature exceedance at receipt, refer to Sample Comments / Results Qualifiers section
E	Estimated CFU count (Microbiology)
Q	Qualifier defined in Sample Comment section on report

Warranties, Terms, and Conditions

- Unless otherwise indicated in the Parameter field, analyses for environmental microbiology, odor, and pharmaceutical microbiology are performed at the EQC Horsham Facility (702 Electronic Dr. Horsham, PA 19044).
- Analyses for Field Parameters are performed by EQC Field staff. Locations and certifications are identified on the Chain of Custody as follows:
 - "ERF" = field staff performs tests under NJ State certification # 02015.
 - "VL" = field staff performs tests under NJ State certification # 06005.
 - "WG" = field staff performs tests under NJ State certification # PA001.
- Test results meet all TNI or other applicable regulatory agency requirements, including holding times and preservation, unless otherwise indicated.
- The report shall not be reproduced, except in full, without the written consent of the laboratory.
- All samples are collected as "grab" samples unless otherwise identified.
- Reported results relate only to the sample as tested. EQC is not responsible for sample integrity unless sampling has been performed by a member of our staff.
- EQC is not responsible for sampling and/or testing omissions. Note that regulatory authorities may assess substantial fines for testing omissions. Please track your sample collection schedules and results on a regular basis (e.g. weekly, monthly, or quarterly) to ensure compliance. EQC's internet program "LIVE ACCESS" will provide you with real-time access to collection dates and testing results. Please contact Client Services for further information.
- The following personnel or their deputies have approved the results of the tests performed by EQC: Nicki Smith (Environmental Chemistry), Amanda Berd (Pharmaceutical Microbiology), and Zachary Smith (Water Microbiology).

EQC Accreditations

Horsham Facility	NELAP/State IDs-	PA: 46-05499	NJ: PA093	NY: 12080	MD: 357
East Rutherford Facility	State ID-	NJ: 02015			
Vineland Facility	State ID-	NJ: 06005			
Wind Gap Facility	State ID-	NJ: PA001			

Farro

SGS

W09709

USACHAIN OF CUSTODY
SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3489/3480
www.sgs.com/ehsusa

Client / Reporting Information				Project Information				Matrix Codes											
Company Name: USACE - Phila. District				Project Name: USACE Reservoirs - F.E. Walter/Amey				DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SCD - Sediment OI - Oil LIQ - Other Liquid SOL - Other Solid AIR - Air WP - Waste FB - Field Blank EB - Equipment Blank RB - Release Blank TB - Trip Blank											
Street Address: 100 Penn Sq. East				Billing Information (if different from Report to):				LAB USE ONLY											
City: Phila. PA. 19107				Company Name: White Haven PA															
State: PA.				City: White Haven PA															
Project Contact: Joe Loeper				Project #:															
Phone #				Client Purchase Order #															
815-656-6545																			
Sanctioned Name(s): Greg Wacik				Project Manager: Tammy McCloskey															
Phone #				Attention:															
617-9780																			
SGS Sample #	Field ID / Point of Collection	MECH/Val #	Date	Time	Sampled by	Core ID	Matrix	# of bottles	H ₂ O	NO ₃	HNO ₃	H ₂ SO ₄	NO ₂	DI Water	MEOH	EtOH	ENCORE	Number of preserved bottles	
1	WA-1S		9/11/19	905	TR	G	SW	2	X	X	X	X	X	X	X	X	X	X	
2	WA-2S		710		G	SW	2	X	X	X	X	X	X	X	X	X	X	X	
3	WA-3S		1000		G	SW	2	X	X	X	X	X	X	X	X	X	X	X	
4	WA-4S		945		G	SW	2	X	X	X	X	X	X	X	X	X	X	X	
5	WA-5S		930		G	SW	2	X	X	X	X	X	X	X	X	X	X	X	
6	WA-6S		750		G	SW	2	X	X	X	X	X	X	X	X	X	X	X	
7	WA-7S		830		G	SW	2	X	X	X	X	X	X	X	X	X	X	X	
8	PR-1S		1350		G	SW	2	X	X	X	X	X	X	X	X	X	X	X	
9	PR-2S		1315		G	SW	2	X	X	X	X	X	X	X	X	X	X	X	
10	PR-3S		1240		G	SW	2	X	X	X	X	X	X	X	X	X	X	X	
11	PR-4S		1130		G	SW	2	X	X	X	X	X	X	X	X	X	X	X	

DELIVERED BY CUSTOMER

Comments / Special Instructions: Samples to Eurofin Lab. Coli: -8
10,100: -8-9-10
-1-2-3-4-6
1,10,100: -11
1,10,100: -9-10-1-2-3-4-6
D.1,1,10,100: -11

Approved By (SGS PM): Date:	Approved By (SGS PM): Date:
10 Business Days	10 Business Days
5 Business Days	5 Business Days
3 Business Days	3 Business Days
2 Business Days	2 Business Days
1 Business Day	1 Business Day
Other	Other

Approval needed for 13 Business Days TAT

Sample Custody must be documented below each time sample change possession, including courier delivery.

Received by:	Received by:
9/11/19 1330	9/11/19 1750
Received by:	Received by:
9/11/19 1750	9/11/19 1750
Received by:	Received by:
9/11/19 1750	9/11/19 1750

Therm. ID: 4.8

-1 trash -7 record
Page 8 of 8 out of hold.
SGR 9-11-19
+ NO WA-5S bottles received;
unable to analyze. J02 9-11-19

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



Page 1 of 1

FED-EX Tracking #	Bottle Order Content #						
SGS Quote #	SGS Job # JC94820						
Requested Analysis							Matrix Codes
TPO4 (sob to MJS Reider)	Alkalinity, Ammonia	BOD, TDS, TKN	TOC, TSS, XN030				DW - Drinking Water GW - Ground Water WW - Wastewater SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Waste FB - Field Blank EB-Equipment Blank RB - Rinse Blank TB - Trip Blank
X	X	X	X				LAB USE ONLY
X	X	X	X				g13
X	X	X	X				G38T4
X	X	X	X				19CY
X	X	X	X				
X	X	X	X				
X	X	X	X				DATE
X	X	X	X				
						INITIAL ASSESSMENT	
						LAB VERIFICATION	
Comments / Special Instructions							
<input type="checkbox"/> DGD-QSMS							
TCF/PCF Samples TO Eurofin lab.							
TPO4 samples TO MJS Reider Lab							
http://www.sgs.com/en/terms-and-conditions							
Results + QC Summary							
Raw Data							
including courier delivery:							
Date / Time:	2/18/19 18:40			Received By:	[Signature]		
Date / Time:				Received By:	[Signature]		
Instrat	Preserved where applicable			On Ice	Cooler Temp: °C		
NL serial I	Alerted <input type="checkbox"/>			Therm ID:			

51, 34, 39, 37, 31, 34.

SGS Sample Receipt Summary

Job Number: JC94820

Client: USACE-PHILADELPHIA DISTRICT

Project: PHILADELPHIA DISTRICT, RESERVOIR SAMPL

Date / Time Received: 9/11/2019 6:45:00 PM

Delivery Method:
Airbill #s:
Cooler Temps (Raw Measured) °C: Cooler 1: (5.1); Cooler 2: (3.4); Cooler 3: (3.9); Cooler 4: (3.7); Cooler 5: (3.1); Cooler 6: (3.4);

Cooler Temps (Corrected) °C: Cooler 1: (5.0); Cooler 2: (3.3); Cooler 3: (3.8); Cooler 4: (3.6); Cooler 5: (3.0); Cooler 6: (3.3);

<u>Cooler Security</u>	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	6		

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Test Strip Lot #s:	pH 1-12:	229517	pH 12+:	208717	Other: (Specify)	
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Comments

SM089-03
Rev. Date 12/7/17

JC94820XA: Chain of Custody

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CHAIN OF CUSTODY

SGS North America Inc. - Dayton
2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.sgs.com/ehsusaPage 1 of 1 JC94820
SC94821

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes	
Company Name: USACE - Phila. District		Project Name: USACE Reservoirs - F.E. Walter / Pump					
Street Address: 100 Penn Sq. East		Street: White Haven PA					
City: Phila. PA		City: White Haven PA					
State: PA		State: PA					
Zip: 19107		Zip: 19107					
Project Contact: Joe Loeper		Project #					
E-mail		Client Purchase Order #					
Phone #		City					
215-654-6545		State					
Sample(s) Name(s): Greg Wacik 597-9780		Attention:					
Lab #		Lab #					
Field ID / Point of Collection		MEOH/DI Vial #					
1 WA-1S		9/11/905					
2 WA-2S		710					
3 WA-3S		1000					
4 WA-4S		945					
5 WA-5S		930					
6 WA-6S		750					
7 WA-7S		830					
PR-1S JC94820-1		150					
PR-2S - 2		1315					
PR-3S - 5		1240					
PR-4S - 8		1130					
Turn Around Time (Business Days)		Deliverable					
<input type="checkbox"/> 10 Business Days		<input type="checkbox"/> Commercial "A" (Level 1)		<input type="checkbox"/> NYASP Category A		<input type="checkbox"/> DOD-QSIS	
<input type="checkbox"/> 5 Business Days		<input type="checkbox"/> Commercial "B" (Level 2)		<input type="checkbox"/> NYASP Category B			
<input type="checkbox"/> 3 Business Days*		<input type="checkbox"/> NJ Reduced (Level 3)		<input type="checkbox"/> MA MCP Criteria			
<input type="checkbox"/> 2 Business Days*		<input type="checkbox"/> Full Tier I (Level 4)		<input type="checkbox"/> CT RCP Criteria			
<input type="checkbox"/> 1 Business Day*		<input type="checkbox"/> Commercial "C"		<input type="checkbox"/> State Forms			
<input type="checkbox"/> Other		<input type="checkbox"/> NJ DKQP		<input type="checkbox"/> EDD Format			
All data available via Labfax		Approval needed for 1-3 Business Day TAT					
Sample Custody must be documented below each time sample change possession, including courier delivery.							
Relinquished By: [Signature]		Received By: [Signature]		Relinquished By: [Signature]		Received By: [Signature]	
Date / Time: 9/11/19 1330		Date / Time: 9/11/19 1750		Date / Time: 9/11/19 1750		Date / Time: 9/11/19 1750	
Relinquished By: 3		Received By: 3		Relinquished By: 4		Received By: 4	
Relinquished By: 5		Received By: 5		Relinquished By: 5		Received By: 5	
Date / Time:		Date / Time:		Date / Time:		Date / Time:	
Custody Seal #		Intact		Preserved where applicable		On Ice	
		Not intact		Absent		Cooler Temp. °C	

JC94820XA: Chain of Custody

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