



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Region 4 Laboratory Services and Applied Science Division  
980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 21-0221

Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

May 4, 2021

**MEMORANDUM**

**SUBJECT:** FINAL Analytical Report  
Project: 21-0221, Piney Point - Phase 2

**FROM:** [REDACTED]  
LSB Inorganic Chemistry Section Chief

**THRU:** [REDACTED]  
Laboratory Services Branch

**TO:** [REDACTED]

Attached are the final results for the analytical groups listed below. This report shall not be reproduced except in full without approval of the Region 4 laboratory. These analyses were performed in accordance with the Laboratory Services Branch's Laboratory Operations and Quality Assurance Manual (LSB LOQAM) found at [www.epa.gov/region4/sesd/asbsop](http://www.epa.gov/region4/sesd/asbsop). Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the LSB LOQAM specifications and have been qualified by this laboratory if the applicable quality control criteria were not met. Verification is defined in Chapter 5 of the LSB LOQAM. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:

Method Used:

Accreditations:

**Classical/Nutrient Analyses (CNA)**

Ammonia as N	EPA 350.1 (Water)	ISO
Ammonia/TKN	EPA 351.2 (Water)	ISO
Classical/Nutrients	EPA 300.0 (Water)	ISO
Classical/Nutrients	EPA 300.0 (Water)	ISO/DW
Nitrate and/or Nitrite	EPA 353.2 (Water)	ISO/DW
Phosphorous	EPA 365.1 (Water)	ISO
Solids	USGS I-3765-85 (Water)	ISO

**Physical Properties (PHYSP)**

Turbidity of Preserved Metals Samples	EPA 180.1 (Water)	NR
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**Total Metals (TMTL)**

Total Metals	EPA 200.7 (Water)	ISO
Total Metals	EPA 200.7 (Water)	ISO/DW
Total Metals	EPA 200.8 (Water)	ISO/DW



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**Sample Disposal Policy**

Due to limited space for long term sample storage, LSB's policy is to dispose of samples on a periodic schedule. Air samples collected in summa canisters will be disposed of 30 days following the issuance of this report. All other sample media including original samples, sample extracts and or digestates will be disposed of, in accordance with applicable regulations, 60 days from the date of this report.

This sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time. If samples require storage beyond the 60-day period, please contact the Sample Control Coordinator by e-mail at [REDACTED]

cc: [REDACTED]



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**SAMPLES INCLUDED IN THIS REPORT**

**Project: 21-0221, Piney Point - Phase 2**

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
Piney 3	E211802-01	Saline Water	4/26/21 10:35	4/27/21 8:35
Piney 9	E211802-02	Saline Water	4/25/21 12:15	4/27/21 8:35
Piney 6	E211803-01	Saline Water	4/24/21 11:15	4/27/21 10:15



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**DATA QUALIFIER DEFINITIONS**

U	The analyte was not detected at or above the reporting limit.
B-2	Reporting level elevated due to trace amounts of analyte present in the method blank.
B-4	Level in blank impacts MRLs.
D-4	MRL elevated due to interferences.
J	The identification of the analyte is acceptable; the reported value is an estimate.
Q-2	Result greater than MDL but less than MRL.
QC-1	Analyte concentration low in continuing calibration verification standard
QC-2	Analyte concentration high in continuing calibration verification standard
QC-6	Calibration check standard greater than method control limits.
QI-1	Internal standard was outside of method control limits.
QM-1	Matrix Spike Recovery less than method control limits
QM-2	Matrix Spike Recovery greater than method control limits
QR-2	MRL verification recovery greater than upper control limits.



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## ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System ([www.epa.gov/srs](http://www.epa.gov/srs)), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.

MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.

TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

### ACCREDITATIONS:

ISO Accredited to ISO/IEC 17025:2017 and accreditation requirements for Forensic Science Testing Laboratories.

Refer to the certificate and scope of accreditation FT-0330 at:  
<http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd>

NR Not accredited for this test.

DW Accredited for conformance with ISO/IEC 17025:2017 and testing elements in the Fifth Edition of the Manual for the Certification of Laboratories Analyzing Drinking Water, EPA 815-R-05-004, 2005.

Refer to the certificate and scope of accreditation AT-2628 at:  
<http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd>

ISO/DW Accredited to ISO/IEC 17025:2017 and accreditation requirements for Forensic Science Testing Labs, and conformance with ISO/IEC 17025:2017 and testing elements in the Manual for the Certification of Laboratories Analyzing Drinking Water.



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## Total Metals

Project: 21-0221, Piney Point - Phase 2

Sample ID: Piney 3

Lab ID: E211802-01

Station ID: PINEY 3

Matrix: Saline Water

Date Collected: 4/26/21 10:35

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
7429-90-5	Aluminum	63	J, B-2, Q-2	ug/L	14 68	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7440-36-0	Antimony	2.0	U, J, QI-1	ug/L	0 48 2 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7440-38-2	Arsenic	5.8		ug/L	3 2 5 0	4/27/21 11:16	4/28/21 17:28	EPA 200 8
7440-41-7	Beryllium	1.0	U	ug/L	0 33 1 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7440-42-8	Boron	3200	J, QM-1	ug/L	120 1200	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7440-43-9	Cadmium	1.0	U, J, QI-1	ug/L	0 37 1 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7440-70-2	Calcium	290000		ug/L	2100 6200	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7440-47-3	Chromium	9.3	J, QR-2	ug/L	2 4 4 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7440-48-4	Cobalt	2.0	U, J, QI-1	ug/L	0 65 2 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7440-50-8	Copper	2.3	J, QI-1	ug/L	0 95 2 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7439-89-6	Iron	2500	U	ug/L	970 2500	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7439-92-1	Lead	2.0	U	ug/L	0 25 2 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7439-95-4	Magnesium	890000		ug/L	1500 6200	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7439-96-5	Manganese	120	U	ug/L	22 120	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7439-98-7	Molybdenum	12		ug/L	2 2 5 0	4/27/21 11:16	4/28/21 17:28	EPA 200 8
7440-02-0	Nickel	2.0	U, J, QI-1	ug/L	1 3 2 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7440-09-7	Potassium	260000		ug/L	2100 25000	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7782-49-2	Selenium	10		ug/L	8 0 10	4/27/21 11:16	4/28/21 17:28	EPA 200 8
7440-22-4	Silver	1.0	U, J, QI-1	ug/L	0 20 1 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7440-23-5	Sodium	7300000		ug/L	2600 25000	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7440-24-6	Strontium	5200		ug/L	41 120	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7440-28-0	Thallium	2.0	U	ug/L	0 24 2 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7440-31-5	Tin	380	U, J, QC-1	ug/L	38 380	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7440-32-6	Titanium	120	U, J, QM-1	ug/L	15 120	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7440-61-1	Uranium	3.2		ug/L	0 42 2 0	4/27/21 11:16	4/28/21 17:20	EPA 200 8
7440-62-2	Vanadium	120	U, J, QM-1	ug/L	47 120	4/27/21 11:11	4/28/21 11:24	EPA 200 7
7440-66-6	Zinc	250	U, J, QM-1	ug/L	26 250	4/27/21 11:11	4/28/21 11:24	EPA 200 7



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Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

## Classical/Nutrient Analyses

Project: 21-0221, Piney Point - Phase 2

Sample ID: Piney 3

Lab ID: E211802-01

Station ID: PINEY 3

Matrix: Saline Water

Date Collected: 4/26/21 10:35

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7664-41-7	Ammonia as N	0.050	U	mg/L	0.012 0.050	4/28/21 13:58	4/28/21 18:56	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.26		mg/L	0.043 0.050	5/03/21 9:22	5/04/21 11:21	EPA 351.2
16887-00-6	Chloride	20000	J, QC-6	mg/L	0.32 2.5	4/28/21 11:14	4/28/21 18:45	EPA 300.0
16984-48-8	Fluoride	0.69	U, D-4	mg/L	0.69 0.69	4/29/21 10:35	4/29/21 14:42	EPA 300.0
14808-79-8	Sulfate as SO <sub>4</sub>	2500	J, QC-6	mg/L	0.48 2.5	4/28/21 11:14	4/28/21 18:45	EPA 300.0
E701177	Nitrate/Nitrite as N	0.020	U, B-4	mg/L	0.020 0.020	4/28/21 8:55	4/28/21 12:53	EPA 353.2
14265-44-2	Orthophosphate as P	0.081		mg/L	0.0038 0.010	4/27/21 10:15	4/27/21 11:12	EPA 365.1
7723-14-0	Total Phosphorus	0.11		mg/L	0.0041 0.010	4/28/21 15:16	4/28/21 15:58	EPA 365.1
E1642818	Total Suspended Solids	96		mg/L	5.0	4/27/21 12:13	4/27/21 12:13	USGS 1-3765-85



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## Physical Properties

Project: 21-0221, Piney Point - Phase 2

Sample ID: Piney 3

Lab ID: E211802-01

Station ID: PINEY 3

Matrix: Saline Water

Date Collected: 4/26/21 10:35

CAS Number	Analyte	Results	Qualifiers	Units	MDL			
					MRL	Prepared	Analyzed	Method
E1640507	Turbidity	2.1		NTU	1.0	4/27/21 11:03	4/27/21 11:30	EPA 180.1





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## Total Metals

Project: 21-0221, Piney Point - Phase 2

Sample ID: Piney 9

Lab ID: E211802-02

Station ID: PINEY 9

Matrix: Saline Water

Date Collected: 4/25/21 12:15

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
7429-90-5	Aluminum	77	J, B-2, Q-2	ug/L	14 80	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7440-36-0	Antimony	2.0	U, J, QI-1	ug/L	0.48 2.0	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7440-38-2	Arsenic	7.0		ug/L	3.2 5.0	4/27/21 11:16	4/28/21 18:31	EPA 200 8
7440-41-7	Beryllium	1.0	U	ug/L	0.33 1.0	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7440-42-8	Boron	3300		ug/L	120 1200	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7440-43-9	Cadmium	1.0	U, J, QI-1	ug/L	0.37 1.0	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7440-70-2	Calcium	300000		ug/L	2100 6200	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7440-47-3	Chromium	6.3	J, B-2, Q-2	ug/L	2.4 6.8	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7440-48-4	Cobalt	2.0	U, J, QI-1	ug/L	0.65 2.0	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7440-50-8	Copper	2.1	J, QI-1	ug/L	0.95 2.0	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7439-89-6	Iron	2500	U	ug/L	970 2500	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7439-92-1	Lead	2.0	U	ug/L	0.25 2.0	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7439-95-4	Magnesium	940000		ug/L	1500 6200	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7439-96-5	Manganese	120	U	ug/L	22 120	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7439-98-7	Molybdenum	11		ug/L	2.2 5.0	4/27/21 11:16	4/28/21 18:31	EPA 200 8
7440-02-0	Nickel	2.0	U, J, QI-1	ug/L	1.3 2.0	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7440-09-7	Potassium	280000		ug/L	2100 25000	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7782-49-2	Selenium	12	J, QC-2	ug/L	8.0 10	4/27/21 11:16	4/28/21 18:31	EPA 200 8
7440-22-4	Silver	1.0	U, J, QI-1	ug/L	0.20 1.0	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7440-23-5	Sodium	7600000		ug/L	2600 25000	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7440-24-6	Strontium	5500		ug/L	41 120	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7440-28-0	Thallium	2.0	U	ug/L	0.24 2.0	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7440-31-5	Tin	380	U, J, QC-1	ug/L	38 380	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7440-32-6	Titanium	120	U	ug/L	15 120	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7440-61-1	Uranium	3.2		ug/L	0.42 2.0	4/27/21 11:16	4/28/21 18:23	EPA 200 8
7440-62-2	Vanadium	120	U	ug/L	47 120	4/27/21 11:11	4/28/21 11:35	EPA 200 7
7440-66-6	Zinc	250	U	ug/L	26 250	4/27/21 11:11	4/28/21 11:35	EPA 200 7



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## Classical/Nutrient Analyses

Project: 21-0221, Piney Point - Phase 2

Sample ID: Piney 9

Lab ID: E211802-02

Station ID: PINEY 9

Matrix: Saline Water

Date Collected: 4/25/21 12:15

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
7664-41-7	Ammonia as N	0.050	U	mg/L	0.012 0.050	4/28/21 13:58	4/28/21 18:56	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.24		mg/L	0.043 0.050	5/03/21 9:22	5/04/21 11:21	EPA 351.2
16887-00-6	Chloride	20000	J, QC-6	mg/L	0.32 2.5	4/28/21 11:14	4/28/21 19:18	EPA 300.0
16984-48-8	Fluoride	0.69	U, D-4	mg/L	0.69 0.69	4/29/21 10:35	4/29/21 14:59	EPA 300.0
14808-79-8	Sulfate as SO <sub>4</sub>	2600	J, QC-6	mg/L	0.48 2.5	4/28/21 11:14	4/28/21 19:18	EPA 300.0
E701177	Nitrate/Nitrite as N	0.020	U, B-4	mg/L	0.020 0.020	4/28/21 8:55	4/28/21 12:53	EPA 353.2
14265-44-2	Orthophosphate as P	0.088		mg/L	0.0038 0.010	4/27/21 10:15	4/27/21 11:12	EPA 365.1
7723-14-0	Total Phosphorus	0.12		mg/L	0.0041 0.010	4/28/21 15:16	4/28/21 15:58	EPA 365.1
E1642818	Total Suspended Solids	100		mg/L	5.0	4/27/21 12:13	4/27/21 12:13	USGS 1-3765-85



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Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

## Physical Properties

Project: 21-0221, Piney Point - Phase 2

Sample ID: Piney 9

Lab ID: E211802-02

Station ID: PINEY 9

Matrix: Saline Water

Date Collected: 4/25/21 12:15

CAS Number	Analyte	Results	Qualifiers	Units	MDL			
					MRL	Prepared	Analyzed	Method
E1640507	Turbidity	2.8		NTU	1.0	4/27/21 11:03	4/27/21 11:34	EPA 180.1



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## Total Metals

Project: 21-0221, Piney Point - Phase 2

Sample ID: Piney 6

Lab ID: E211803-01

Station ID: PINEY 6

Matrix: Saline Water

Date Collected: 4/24/21 11:15

CAS Number	Analyte	Results	Qualifiers	Units	MDL MRL	Prepared	Analyzed	Method
7429-90-5	Aluminum	26	J, Q-2	ug/L	14 40	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7440-36-0	Antimony	2.0	U, J, QI-1	ug/L	0 48 2 0	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7440-38-2	Arsenic	7.4		ug/L	3 2 5 0	4/27/21 11:16	4/28/21 19:11	EPA 200 8
7440-41-7	Beryllium	1.0	U	ug/L	0 33 1 0	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7440-42-8	Boron	3200		ug/L	120 1200	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7440-43-9	Cadmium	1.0	U, J, QI-1	ug/L	0 37 1 0	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7440-70-2	Calcium	290000		ug/L	2100 6200	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7440-47-3	Chromium	6.6	J, B-2, Q-2	ug/L	2 4 6 8	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7440-48-4	Cobalt	2.0	U, J, QI-1	ug/L	0 65 2 0	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7440-50-8	Copper	1.8	J, Q-2, QI-1	ug/L	0 95 2 0	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7439-89-6	Iron	2500	U	ug/L	970 2500	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7439-92-1	Lead	2.0	U	ug/L	0 25 2 0	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7439-95-4	Magnesium	900000		ug/L	1500 6200	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7439-96-5	Manganese	120	U	ug/L	22 120	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7439-98-7	Molybdenum	12		ug/L	2 2 5 0	4/27/21 11:16	4/28/21 19:11	EPA 200 8
7440-02-0	Nickel	2.0	U, J, QI-1	ug/L	1 3 2 0	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7440-09-7	Potassium	270000		ug/L	2100 25000	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7782-49-2	Selenium	14	J, QC-2	ug/L	8 0 10	4/27/21 11:16	4/28/21 19:11	EPA 200 8
7440-22-4	Silver	1.0	U, J, QI-1	ug/L	0 20 1 0	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7440-23-5	Sodium	7300000		ug/L	2600 25000	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7440-24-6	Strontium	5300		ug/L	41 120	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7440-28-0	Thallium	2.0	U	ug/L	0 24 2 0	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7440-31-5	Tin	380	U, J, QC-1	ug/L	38 380	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7440-32-6	Titanium	120	U	ug/L	15 120	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7440-61-1	Uranium	3.2		ug/L	0 42 2 0	4/27/21 11:16	4/28/21 19:03	EPA 200 8
7440-62-2	Vanadium	120	U	ug/L	47 120	4/27/21 11:11	4/28/21 11:39	EPA 200 7
7440-66-6	Zinc	250	U	ug/L	26 250	4/27/21 11:11	4/28/21 11:39	EPA 200 7



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Laboratory Services and Applied Science Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 21-0221

Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

## Classical/Nutrient Analyses

Project: 21-0221, Piney Point - Phase 2

Sample ID: Piney 6

Lab ID: E211803-01

Station ID: PINEY 6

Matrix: Saline Water

Date Collected: 4/24/21 11:15

<i>CAS Number</i>	<i>Analyte</i>	<i>Results</i>	<i>Qualifiers</i>	<i>Units</i>	<i>MDL MRL</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Method</i>
7664-41-7	Ammonia as N	0.050	U	mg/L	0.012 0.050	4/28/21 13:58	4/28/21 18:56	EPA 350.1
E17148461	Total Kjeldahl Nitrogen	0.18		mg/L	0.043 0.050	5/03/21 9:22	5/04/21 11:21	EPA 351.2
16887-00-6	Chloride	21000	J, QC-6, QM-2	mg/L	0.32 2.5	4/28/21 11:14	4/28/21 19:51	EPA 300.0
16984-48-8	Fluoride	0.69	U, J, D-4, QM-1	mg/L	0.69 0.69	4/29/21 10:35	4/29/21 15:16	EPA 300.0
14808-79-8	Sulfate as SO <sub>4</sub>	2800	J, QC-6, QM-2	mg/L	0.48 2.5	4/28/21 11:14	4/28/21 19:51	EPA 300.0
E701177	Nitrate/Nitrite as N	0.020	U, B-4	mg/L	0.020 0.020	4/28/21 8:55	4/28/21 12:53	EPA 353.2
7723-14-0	Total Phosphorus	0.067		mg/L	0.0041 0.010	4/28/21 15:16	4/28/21 15:58	EPA 365.1
E1642818	Total Suspended Solids	56		mg/L	5.0	4/27/21 12:13	4/27/21 12:13	USGS I-3765-85



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4 Laboratory Services and Applied Science Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 21-0221

Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104141 - M 200.2 Metals Water**

**Blank (2104141-BLK1)**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.7**

Boron	U	50	ug/L							U
Calcium	U	250	"							U
Iron	U	100	"							U
Magnesium	U	250	"							U
Manganese	U	50	"							U
Potassium	U	1000	"							U
Sodium	U	1000	"							U
Strontium	U	50	"							U
Tin	U	15	"							U
Titanium	U	50	"							U
Vanadium	U	50	"							U
Zinc	U	10	"							U

**LCS (2104141-BS1)**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.7**

Boron	473.73	50	ug/L	500.00		94.7	85-115		
Calcium	4887.6	250	"	5000.0		97.8	85-115		
Iron	4989.3	100	"	5000.0		99.8	85-115		
Magnesium	5003.2	250	"	5000.0		100	85-115		
Manganese	489.12	50	"	500.00		97.8	85-115		
Potassium	9352.4	1000	"	10000		93.5	85-115		
Sodium	9770.8	1000	"	10000		97.7	85-115		
Strontium	96.814	50	"	100.00		96.8	85-115		
Tin	93.121	15	"	100.00		93.1	85-115		
Titanium	92.583	50	"	100.00		92.6	85-115		
Vanadium	90.425	50	"	100.00		90.4	85-115		
Zinc	190.27	10	"	200.00		95.1	85-115		

**Matrix Spike (2104141-MS1)**

**Source: E211802-01**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.7**

Boron	3640.4	1200	ug/L	500.00	3165.4	95.0	70-130		
Calcium	298960	6200	"	5000.0	286650	246	70-130		XM-1
Iron	4070.6	2500	"	5000.0	U	81.4	70-130		
Magnesium	920380	6200	"	5000.0	894390	520	70-130		XM-1
Manganese	388.21	120	"	500.00	U	77.6	70-130		
Potassium	280970	25000	"	10000	263340	176	70-130		XM-1
Sodium	7406500	25000	"	10000	7292300	1140	70-130		XM-1
Strontium	5420.4	120	"	100.00	5203.0	217	70-130		XM-1



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Region 4 Laboratory Services and Applied Science Division

980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 21-0221

Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104141 - M 200.2 Metals Water**

**Matrix Spike (2104141-MS1)**

**Source: E211802-01**

Prepared: 04/27/21 Analyzed: 04/28/21

Tin	75 713	380	ug/L	100 00	U	75 7	70-130			J
Titanium	69 740	120	"	100 00	U	69 7	70-130			QM-1, J
Vanadium	U	120	"	100 00	U		70-130			QM-1, U
Zinc	108 15	250	"	200 00	U	54 1	70-130			QM-1, J

**Matrix Spike Dup (2104141-MSD1)**

**Source: E211802-01**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.7**

Boron	3495 0	1200	ug/L	500 00	3165 4	65 9	70-130	4 07	20	QM-1
Calcium	282800	6200	"	5000 0	286650	-77 0	70-130	5 56	20	XM-1
Iron	3771 5	2500	"	5000 0	U	75 4	70-130	7 63	20	
Magnesium	870580	6200	"	5000 0	894390	-476	70-130	5 56	20	XM-1
Manganese	365 11	120	"	500 00	U	73 0	70-130	6 13	20	
Potassium	264850	25000	"	10000	263340	15 1	70-130	5 91	20	XM-1
Sodium	6961600	25000	"	10000	7292300	-3310	70-130	6 19	20	XM-1
Strontium	5135 9	120	"	100 00	5203 0	-67 2	70-130	5 39	20	XM-1
Tin	81 452	380	"	100 00	U	81 5	70-130	7 30	20	J
Titanium	67 402	120	"	100 00	U	67 4	70-130	3 41	20	QM-1, J
Vanadium	68 829	120	"	100 00	U	68 8	70-130		20	QM-1, J
Zinc	89 929	250	"	200 00	U	45 0	70-130	18 4	20	QM-1, J

**MRL Verification (2104141-PS1)**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.7**

Boron	48 946	50	ug/L	50 000		97 9	70-130			MRL-2, J
Calcium	256 13	250	"	250 00		102	70-130			MRL-2
Iron	98 515	100	"	100 00		98 5	70-130			MRL-2, J
Magnesium	240 36	250	"	250 00		96 1	70-130			MRL-2, J
Manganese	4 8999	5 0	"	5 0000		98 0	70-130			MRL-2, J
Potassium	948 07	1000	"	1000 0		94 8	70-130			MRL-2, J
Sodium	950 04	1000	"	1000 0		95 0	70-130			MRL-2, J
Strontium	5 1712	5 0	"	5 0000		103	70-130			MRL-2
Tin	13 684	15	"	15 000		91 2	70-130			MRL-2, J
Titanium	4 9644	5 0	"	5 0000		99 3	70-130			MRL-2, J
Vanadium	3 9819	5 0	"	5 0000		79 6	70-130			MRL-2, J
Zinc	9 7620	10	"	10 000		97 6	70-130			MRL-2, J



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Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104142 - M 200.2 Metals Water**

**Blank (2104142-BLK1)**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.8**

Aluminum	19 273	10	ug/L							B-4
Antimony	U	0 50	"							U
Arsenic	U	0 50	"							U
Beryllium	U	0 25	"							U
Cadmium	U	0 25	"							U
Chromium	1 5965	1 0	"							B-4
Cobalt	U	0 50	"							U
Copper	U	0 50	"							U
Lead	U	0 50	"							U
Molybdenum	U	0 50	"							U
Nickel	U	0 50	"							U
Selenium	U	1 0	"							U
Silver	U	0 25	"							U
Thallium	U	0 50	"							U
Uranium	U	0 50	"							U

**LCS (2104142-BS1)**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.8**

Aluminum	5367 7	40	ug/L	5000 0	107	85-115
Antimony	194 37	2 0	"	200 00	97 2	85-115
Arsenic	209 62	2 0	"	200 00	105	85-115
Beryllium	51 970	1 0	"	50 000	104	85-115
Cadmium	48 915	1 0	"	50 000	97 8	85-115
Chromium	204 46	4 0	"	200 00	102	85-115
Cobalt	101 22	2 0	"	100 00	101	85-115
Copper	106 54	2 0	"	100 00	107	85-115
Lead	208 46	2 0	"	200 00	104	85-115
Molybdenum	102 10	2 0	"	100 00	102	85-115
Nickel	205 48	2 0	"	200 00	103	85-115
Selenium	198 45	4 0	"	200 00	99 2	85-115
Silver	107 53	1 0	"	100 00	108	85-115
Thallium	202 25	2 0	"	200 00	101	85-115
Uranium	202 72	2 0	"	200 00	101	85-115





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Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104142 - M 200.2 Metals Water**

**LCS (2104142-BS2)**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.8**

Aluminum	5361.3	100	ug/L	5000.0		107	85-115			
Antimony	194.24	5.0	"	200.00		97.1	85-115			
Arsenic	213.95	5.0	"	200.00		107	85-115			
Beryllium	50.761	2.5	"	50.000		102	85-115			
Cadmium	49.580	2.5	"	50.000		99.2	85-115			
Chromium	205.30	10	"	200.00		103	85-115			
Cobalt	102.23	5.0	"	100.00		102	85-115			
Copper	106.17	5.0	"	100.00		106	85-115			
Lead	208.00	5.0	"	200.00		104	85-115			
Molybdenum	100.03	5.0	"	100.00		100	85-115			
Nickel	203.45	5.0	"	200.00		102	85-115			
Selenium	202.21	10	"	200.00		101	85-115			
Silver	106.96	2.5	"	100.00		107	85-115			
Thallium	203.35	5.0	"	200.00		102	85-115			
Uranium	201.09	5.0	"	200.00		101	85-115			

**Matrix Spike (2104142-MS1)**

Source: E211802-01

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.8**

Aluminum	5271.0	40	ug/L	5000.0	63.373	104	70-130			
Antimony	187.86	2.0	"	200.00	U	93.9	70-130			QI-1
Arsenic	193.13	2.0	"	200.00	5.4012	93.9	70-130			QI-1
Beryllium	47.342	1.0	"	50.000	U	94.7	70-130			
Cadmium	40.258	1.0	"	50.000	U	80.5	70-130			QI-1
Chromium	198.32	4.0	"	200.00	9.3497	94.5	70-130			
Cobalt	99.149	2.0	"	100.00	U	99.1	70-130			QI-1
Copper	90.814	2.0	"	100.00	2.3054	88.5	70-130			QI-1
Lead	175.40	2.0	"	200.00	U	87.7	70-130			
Molybdenum	119.06	2.0	"	100.00	11.065	108	70-130			QI-1
Nickel	180.38	2.0	"	200.00	U	90.2	70-130			QI-1
Selenium	185.59	4.0	"	200.00	11.443	87.1	70-130			QI-1
Silver	78.454	1.0	"	100.00	U	78.5	70-130			QI-1
Thallium	180.43	2.0	"	200.00	U	90.2	70-130			
Uranium	196.20	2.0	"	200.00	3.2445	96.5	70-130			



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**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104142 - M 200.2 Metals Water**

**Matrix Spike (2104142-MS2)**

**Source: E211802-01**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.8**

Aluminum	5372.1	100	ug/L	5000.0	63.373	106	70-130			
Antimony	187.92	5.0	"	200.00	U	94.0	70-130			
Arsenic	207.65	5.0	"	200.00	5.4012	101	70-130			
Beryllium	48.431	2.5	"	50.000	U	96.9	70-130			
Cadmium	41.445	2.5	"	50.000	U	82.9	70-130			
Chromium	196.57	10	"	200.00	9.3497	93.6	70-130			
Cobalt	100.52	5.0	"	100.00	U	101	70-130			
Copper	94.891	5.0	"	100.00	U	94.9	70-130			
Lead	178.92	5.0	"	200.00	U	89.5	70-130			
Molybdenum	117.58	5.0	"	100.00	11.065	107	70-130			
Nickel	189.81	5.0	"	200.00	U	94.9	70-130			
Selenium	204.08	10	"	200.00	11.443	96.3	70-130			
Silver	86.380	2.5	"	100.00	U	86.4	70-130			
Thallium	180.65	5.0	"	200.00	U	90.3	70-130			
Uranium	196.92	5.0	"	200.00	3.2445	96.8	70-130			

**Matrix Spike Dup (2104142-MSD1)**

**Source: E211802-01**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.8**

Aluminum	5088.9	40	ug/L	5000.0	63.373	101	70-130	3.52	20	
Antimony	182.25	2.0	"	200.00	U	91.1	70-130	3.03	20	QI-1
Arsenic	184.38	2.0	"	200.00	5.4012	89.5	70-130	4.63	20	QI-1
Beryllium	45.815	1.0	"	50.000	U	91.6	70-130	3.28	20	
Cadmium	38.247	1.0	"	50.000	U	76.5	70-130	5.12	20	QI-1
Chromium	193.26	4.0	"	200.00	9.3497	92.0	70-130	2.58	20	
Cobalt	97.836	2.0	"	100.00	U	97.8	70-130	1.33	20	QI-1
Copper	90.149	2.0	"	100.00	2.3054	87.8	70-130	0.735	20	QI-1
Lead	172.12	2.0	"	200.00	U	86.1	70-130	1.89	20	
Molybdenum	113.27	2.0	"	100.00	11.065	102	70-130	4.99	20	QI-1
Nickel	179.34	2.0	"	200.00	U	89.7	70-130	0.578	20	QI-1
Selenium	184.41	4.0	"	200.00	11.443	86.5	70-130	0.642	20	QI-1
Silver	75.029	1.0	"	100.00	U	75.0	70-130	4.46	20	QI-1
Thallium	175.55	2.0	"	200.00	U	87.8	70-130	2.74	20	
Uranium	195.46	2.0	"	200.00	3.2445	96.1	70-130	0.379	20	



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 Region 4 Laboratory Services and Applied Science Division  
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D.A.R.T. Id: 21-0221

Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

**Total Metals (TMTL) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104142 - M 200.2 Metals Water**

**Matrix Spike Dup (2104142-MSD2)**

**Source: E211802-01**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.8**

Aluminum	5146.5	100	ug/L	5000.0	63.373	102	70-130	4.29	20	
Antimony	187.35	5.0	"	200.00	U	93.7	70-130	0.303	20	
Arsenic	206.72	5.0	"	200.00	5.4012	101	70-130	0.449	20	
Beryllium	46.997	2.5	"	50.000	U	94.0	70-130	3.01	20	
Cadmium	44.871	2.5	"	50.000	U	89.7	70-130	7.94	20	
Chromium	197.32	10	"	200.00	9.3497	94.0	70-130	0.383	20	
Cobalt	99.837	5.0	"	100.00	U	99.8	70-130	0.684	20	
Copper	93.854	5.0	"	100.00	U	93.9	70-130	1.10	20	
Lead	178.52	5.0	"	200.00	U	89.3	70-130	0.224	20	
Molybdenum	115.62	5.0	"	100.00	11.065	105	70-130	1.68	20	
Nickel	188.41	5.0	"	200.00	U	94.2	70-130	0.740	20	
Selenium	201.88	10	"	200.00	11.443	95.2	70-130	1.08	20	
Silver	84.891	2.5	"	100.00	U	84.9	70-130	1.74	20	
Thallium	179.43	5.0	"	200.00	U	89.7	70-130	0.677	20	
Uranium	194.46	5.0	"	200.00	3.2445	95.6	70-130	1.26	20	

**MRL Verification (2104142-PS1)**

Prepared: 04/27/21 Analyzed: 04/28/21

**EPA 200.8**

Aluminum	29.363	10	ug/L	20.000		147	65-135			MRL-2, QR-2
Antimony	0.50568	0.50	"	0.50000		101	65-135			MRL-2
Arsenic	1.0407	0.50	"	1.0000		104	65-135			MRL-2
Beryllium	0.52008	0.25	"	0.50000		104	65-135			MRL-2
Cadmium	0.54675	0.25	"	0.50000		109	65-135			MRL-2
Chromium	3.6795	1.0	"	2.0000		184	65-135			MRL-2, QR-2
Cobalt	1.0317	0.50	"	1.0000		103	65-135			MRL-2
Copper	1.1574	0.50	"	1.0000		116	65-135			MRL-2
Lead	0.98616	0.50	"	1.0000		98.6	65-135			MRL-2
Molybdenum	0.55788	0.50	"	0.50000		112	65-135			MRL-2
Nickel	1.0941	0.50	"	1.0000		109	65-135			MRL-2
Selenium	1.6887	1.0	"	2.0000		84.4	65-135			MRL-2
Silver	0.57439	0.25	"	0.50000		115	65-135			MRL-2
Thallium	0.51061	0.50	"	0.50000		102	65-135			MRL-2
Uranium	1.0310	0.50	"	1.0000		103	65-135			MRL-2



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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D.A.R.T. Id: 21-0221

Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

**Classical/Nutrient Analyses (CNA) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104122 - C 365.1 TPhos**

**Blank (2104122-BLK1)**

Prepared & Analyzed: 04/28/21

**EPA 365.1**

Total Phosphorus

U

0 010

mg/L

U

**LCS (2104122-BS1)**

Prepared & Analyzed: 04/28/21

**EPA 365.1**

Total Phosphorus

0 37800

0 010

mg/L

0 37800

100

90-110

**Matrix Spike (2104122-MS1)**

Source: E211710-01

Prepared & Analyzed: 04/28/21

**EPA 365.1**

Total Phosphorus

0 62500

0 010

mg/L

0 50050

0 10900

103

90-110

**Matrix Spike Dup (2104122-MSD1)**

Source: E211710-01

Prepared & Analyzed: 04/28/21

**EPA 365.1**

Total Phosphorus

0 62400

0 010

mg/L

0 50050

0 10900

103

90-110

0 160

10

**MRL Verification (2104122-PS1)**

Prepared & Analyzed: 04/28/21

**EPA 365.1**

Total Phosphorus

0 0090000

0 010

mg/L

0 010000

90 0

70-130

MRL-2, J

**Batch 2104139 - C 365.1 Ortho Phos**

**Blank (2104139-BLK1)**

Prepared & Analyzed: 04/27/21

**EPA 365.1**

Orthophosphate as P

U

0 010

mg/L

U

**LCS (2104139-BS1)**

Prepared & Analyzed: 04/27/21

**EPA 365.1**

Orthophosphate as P

0 51200

0 010

mg/L

0 50050

102

90-110

**Matrix Spike (2104139-MS1)**

Source: E211802-02

Prepared & Analyzed: 04/27/21

**EPA 365.1**

Orthophosphate as P

0 59100

0 010

mg/L

0 50050

0 088000

100

90-110

**Matrix Spike Dup (2104139-MSD1)**

Source: E211802-02

Prepared & Analyzed: 04/27/21

**EPA 365.1**

Orthophosphate as P

0 59800

0 010

mg/L

0 50050

0 088000

102

90-110

1 18

10



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D.A.R.T. Id: 21-0221

Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

**Classical/Nutrient Analyses (CNA) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104139 - C 365.1 Ortho Phos**

**MRL Verification (2104139-PS1)**

Prepared & Analyzed: 04/27/21

**EPA 365.1**

Orthophosphate as P	0 011000	0 010	mg/L	0 010000	110	70-130				MRL-2
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**Batch 2104143 - C 2540 Solids**

**Blank (2104143-BLK1)**

Prepared & Analyzed: 04/27/21

**USGS I-3765-85**

Total Suspended Solids	U	5 0	mg/L							U
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**LCS (2104143-BS1)**

Prepared & Analyzed: 04/27/21

**USGS I-3765-85**

Total Suspended Solids	100 50	5 0	mg/L	100 00	100	77 1-110				
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**LCS Dup (2104143-BSD1)**

Prepared & Analyzed: 04/27/21

**USGS I-3765-85**

Total Suspended Solids	99 800	5 0	mg/L	100 00	99 8	77 1-110	0 699	10		
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**Duplicate (2104143-DUP1)**

Source: E211802-01

Prepared & Analyzed: 04/27/21

**USGS I-3765-85**

Total Suspended Solids	101 40	5 0	mg/L		96 200		5 26	10		
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**MRL Verification (2104143-PS1)**

Prepared & Analyzed: 04/27/21

**USGS I-3765-85**

Total Suspended Solids	3 3000	5 0	mg/L	5 0000	66 0	57 1-130				MRL-2, U
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**Batch 2104144 - C 351.2 TKN**

**Blank (2104144-BLK1)**

Prepared: 05/03/21 Analyzed: 05/04/21

**EPA 351.2**

Total Kjeldahl Nitrogen	U	0 050	mg/L							U
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**LCS (2104144-BS1)**

Prepared: 05/03/21 Analyzed: 05/04/21

**EPA 351.2**

Total Kjeldahl Nitrogen	1 8490	0 050	mg/L	1 7500	106	90-110				
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Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

**Classical/Nutrient Analyses (CNA) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104144 - C 351.2 TKN**

**Matrix Spike (2104144-MS1)**

**Source: E211808-01**

Prepared: 05/03/21 Analyzed: 05/04/21

**EPA 351.2**

Total Kjeldahl Nitrogen

1 1710 0 050 mg/L 1 0000 0 18400 98 7 90-110

**Matrix Spike Dup (2104144-MSD1)**

**Source: E211808-01**

Prepared: 05/03/21 Analyzed: 05/04/21

**EPA 351.2**

Total Kjeldahl Nitrogen

1 0810 0 050 mg/L 1 0000 0 18400 89 7 90-110 7 99 20 QM-1

**MRL Verification (2104144-PS1)**

Prepared: 05/03/21 Analyzed: 05/04/21

**EPA 351.2**

Total Kjeldahl Nitrogen

0 063000 0 050 mg/L 0 050000 126 70-130 MRL-2

**Batch 2104145 - C 350.1 Ammonia**

**Blank (2104145-BLK1)**

Prepared & Analyzed: 04/28/21

**EPA 350.1**

Ammonia as N

U 0 050 mg/L U

**LCS (2104145-BS1)**

Prepared & Analyzed: 04/28/21

**EPA 350.1**

Ammonia as N

1 0140 0 050 mg/L 1 0000 101 90-110

**Matrix Spike (2104145-MS1)**

**Source: E211806-01**

Prepared & Analyzed: 04/28/21

**EPA 350.1**

Ammonia as N

1 0740 0 050 mg/L 1 0000 U 107 90-110

**Matrix Spike Dup (2104145-MSD1)**

**Source: E211806-01**

Prepared & Analyzed: 04/28/21

**EPA 350.1**

Ammonia as N

1 0570 0 050 mg/L 1 0000 U 106 90-110 1 60 10

**MRL Verification (2104145-PS1)**

Prepared & Analyzed: 04/28/21

**EPA 350.1**

Ammonia as N

0 035000 0 050 mg/L 0 050000 70 0 70-130 MRL-2, J

**Batch 2104149 - C 353.2 NO3-NO2**

**Blank (2104149-BLK1)**

Prepared & Analyzed: 04/28/21

**EPA 353.2**

Nitrate/Nitrite as N

0 015500 0 050 mg/L J



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**Classical/Nutrient Analyses (CNA) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104149 - C 353.2 NO3-NO2**

**Blank (2104149-BLK1)**

Prepared & Analyzed: 04/28/21

**LCS (2104149-BS1)**

Prepared & Analyzed: 04/28/21

**EPA 353.2**

Nitrate/Nitrite as N	0 50000	0 050	mg/L	0 50150		99 7	90-110			
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**Matrix Spike (2104149-MS1)**

**Source: E211806-01**

Prepared & Analyzed: 04/28/21

**EPA 353.2**

Nitrate/Nitrite as N	0 50160	0 050	mg/L	0 50150	0 017200	96 6	90-110			
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**Matrix Spike Dup (2104149-MSD1)**

**Source: E211806-01**

Prepared & Analyzed: 04/28/21

**EPA 353.2**

Nitrate/Nitrite as N	0 50280	0 050	mg/L	0 50150	0 017200	96 8	90-110	0 239	10	
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**MRL Verification (2104149-PS1)**

Prepared & Analyzed: 04/28/21

**EPA 353.2**

Nitrate/Nitrite as N	0 059800	0 050	mg/L	0 050000		120	70-130			MRL-2
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**Batch 2104155 - C 300.0 Ion Chromat**

**Blank (2104155-BLK1)**

Prepared & Analyzed: 04/28/21

**EPA 300.0**

Chloride	U	0 10	mg/L							U
Sulfate as SO4	U	0 10	"							U

**LCS (2104155-BS1)**

Prepared & Analyzed: 04/28/21

**EPA 300.0**

Chloride	259 97	0 10	mg/L	250 00		104	90-110			
Sulfate as SO4	255 86	0 10	"	250 00		102	90-110			

**Matrix Spike (2104155-MS1)**

**Source: E211803-01**

Prepared & Analyzed: 04/28/21

**EPA 300.0**

Chloride	1085 4		mg/L	200 00	855 42	115	90-110			QM-2
Sulfate as SO4	346 60		"	200 00	110 70	118	90-110			QM-2



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**Classical/Nutrient Analyses (CNA) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104155 - C 300.0 Ion Chromat**

**Matrix Spike Dup (2104155-MSD1)**

**Source: E211803-01**

Prepared & Analyzed: 04/28/21

**EPA 300.0**

Chloride	1105.7		mg/L	200.00	855.42	125	90-110	1.85	10	QM-2
Sulfate as SO <sub>4</sub>	354.39		"	200.00	110.70	122	90-110	2.22	10	QM-2

**MRL Verification (2104155-PS1)**

Prepared & Analyzed: 04/28/21

**EPA 300.0**

Chloride	48.269	0.10	mg/L	50.000		96.5	70-130			MRL-2
Sulfate as SO <sub>4</sub>	45.565	0.10	"	50.000		91.1	70-130			MRL-2

**Batch 2104161 - C 300.0 Ion Chromat**

**Blank (2104161-BLK1)**

Prepared & Analyzed: 04/29/21

**EPA 300.0**

Fluoride	U	0.050	mg/L							U
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**LCS (2104161-BS1)**

Prepared & Analyzed: 04/29/21

**EPA 300.0**

Fluoride	4.9270	0.050	mg/L	5.0000		98.5	90-110			
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**Matrix Spike (2104161-MS1)**

**Source: E211803-01**

Prepared & Analyzed: 04/29/21

**EPA 300.0**

Fluoride	0.79500		mg/L	1.0000	0.068000	72.7	90-110			D-4, QM-1, XM-1
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**Matrix Spike Dup (2104161-MSD1)**

**Source: E211803-01**

Prepared & Analyzed: 04/29/21

**EPA 300.0**

Fluoride	0.80000		mg/L	1.0000	0.068000	73.2	90-110	0.627	10	D-4, QM-1, XM-1
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**MRL Verification (2104161-PS1)**

Prepared & Analyzed: 04/29/21

**EPA 300.0**

Fluoride	0.040000	0.050	mg/L	0.050000		80.0	70-130			MRL-2, J
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Project: 21-0221, Piney Point - Phase 2 - [REDACTED]

**Physical Properties (PHYSP) - Quality Control**

**US-EPA, Region 4, LSASD**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 2104140 - M Turbidity**

**Blank (2104140-BLK1)**

Prepared & Analyzed: 04/27/21

**EPA 180.1**

Turbidity	U	1.0	NTU							U
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**Blank (2104140-BLK2)**

Prepared & Analyzed: 04/27/21

**EPA 180.1**

Turbidity	U	1.0	NTU							U
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**Reference (2104140-SRM1)**

Prepared & Analyzed: 04/27/21

**EPA 180.1**

Turbidity	1.4200	1.0	NTU	1.4800		95.9	0-200			
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**Reference (2104140-SRM2)**

Prepared & Analyzed: 04/27/21

**EPA 180.1**

Turbidity	15.200	1.0	NTU	16.100		94.4	0-200			
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**Reference (2104140-SRM3)**

Prepared & Analyzed: 04/27/21

**EPA 180.1**

Turbidity	1.4200	1.0	NTU	1.4800		95.9	0-200			
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**Reference (2104140-SRM4)**

Prepared & Analyzed: 04/27/21

**EPA 180.1**

Turbidity	15.300	1.0	NTU	16.100		95.0	0-200			
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**Notes and Definitions for QC Samples**

U	The analyte was not detected at or above the reporting limit.
B-4	Level in blank impacts MRLs.
D-4	MRL elevated due to interferences.
J	The identification of the analyte is acceptable; the reported value is an estimate.
MRL-2	MRL verification for Non-Potable Water matrix
QI-1	Internal standard was outside of method control limits.
QM-1	Matrix Spike Recovery less than method control limits
QM-2	Matrix Spike Recovery greater than method control limits
QR-2	MRL verification recovery greater than upper control limits.
XM-1	Sample background/spike ratio higher than method evaluation criteria