

Chemical Analysis Report

NE-DIST-2021-10-07-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **GTMNERR - Guana River SMP**
Request ID: **RQ-2021-10-04-46**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 01-NOV-2021 14:17

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: DEPGR3

Collection Date/Time: 10/06/2021 10:19

Field ID: GTMGR3NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2281350	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P404813	
	SM 2320 B-2011	Total Alkalinity	115		mg CaCO3/L	P405136	
	SM 2540 D-2011	TSS	7	IA	mg/L	P405250	
	SM 4500 F-C-2011	Fluoride	1.2		mg F/L	P405137	
2281357	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P404984	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P404993	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P404912	
	EPA 365.1 Rev. 2.0	Total-P	0.047		mg P/L	P405107	
	SM 5310 B-2011	Organic Carbon	4.7		mg C/L	P405622	
2281364	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P404737	
2281371	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.41		mg N/L	P404993	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: DEPGR2

Collection Date/Time: 10/06/2021 10:34

Field ID: GTMGRNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2281351	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P404813	
	SM 2320 B-2011	Total Alkalinity	112		mg CaCO3/L	P405136	
	SM 2540 D-2011	TSS	7	IA	mg/L	P405251	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P405137	
2281358	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P404984	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P404993	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P404912	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P405107	
	SM 5310 B-2011	Organic Carbon	6.8		mg C/L	P405622	
2281365	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.033		mg P/L	P404737	
2281372	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.58		mg N/L	P404993	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: DEPGR1

Collection Date/Time: 10/06/2021 10:51

Field ID: GTMGR1NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2281352	EPA 180.1 Rev. 2.0	Turbidity	6.3		NTU	P404813	
	SM 2320 B-2011	Total Alkalinity	110		mg CaCO3/L	P405136	
	SM 2540 D-2011	TSS	12		mg/L	P405251	
	SM 4500 F-C-2011	Fluoride	0.92		mg F/L	P405137	
2281359	EPA 350.1 Rev. 2.0	Ammonia-N	0.049		mg N/L	P404984	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P404993	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P404912	
	EPA 365.1 Rev. 2.0	Total-P	0.072		mg P/L	P405107	
	SM 5310 B-2011	Organic Carbon	9.0		mg C/L	P405725	
2281366	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.044		mg P/L	P404737	
2281373	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.49		mg N/L	P404993	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: DEPG4

Collection Date/Time: 10/06/2021 12:05

Field ID: GTMGL4NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2281353	EPA 180.1 Rev. 2.0	Turbidity	22		NTU	P404813	
	SM 2320 B-2011	Total Alkalinity	130		mg CaCO3/L	P405136	
	SM 2540 D-2011	TSS	34		mg/L	P405251	
	SM 4500 F-C-2011	Fluoride	0.69		mg F/L	P405137	
2281360	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P405073	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P404993	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P404912	
	EPA 365.1 Rev. 2.0	Total-P	0.088		mg P/L	P405107	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P405725	
2281367	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P404737	
2281374	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.0		mg N/L	P404993	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: DEPGL3

Collection Date/Time: 10/06/2021 12:22

Field ID: GTMLMNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2281354	EPA 180.1 Rev. 2.0	Turbidity	33		NTU	P404813	
	SM 2320 B-2011	Total Alkalinity	143		mg CaCO3/L	P405084	
	SM 2540 D-2011	TSS	68		mg/L	P405248	
	SM 4500 F-C-2011	Fluoride	0.44		mg F/L	P405086	
2281361	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P405074	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.3		mg N/L	P404993	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P404912	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P404951	
	SM 5310 B-2011	Organic Carbon	23		mg C/L	P405149	
2281368	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P404737	
2281375	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.5		mg N/L	P404993	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: DEPLL2

Collection Date/Time: 10/06/2021 12:40

Field ID: GTMGL2NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2281355	EPA 180.1 Rev. 2.0	Turbidity	27		NTU	P404813	
	SM 2320 B-2011	Total Alkalinity	134		mg CaCO3/L	P405084	
	SM 2540 D-2011	TSS	49		mg/L	P405248	
	SM 4500 F-C-2011	Fluoride	0.28		mg F/L	P405086	
2281362	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P405072	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P405039	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P404850	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P404950	
	SM 5310 B-2011	Organic Carbon	25		mg C/L	P405020	
2281369	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.040		mg P/L	P404736	
2281376	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.7		mg N/L	P405039	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: DEPGL1

Collection Date/Time: 10/06/2021 12:59

Field ID: GTMGL1NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2281356	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P404813	
	SM 2320 B-2011	Total Alkalinity	139		mg CaCO3/L	P405084	
	SM 2540 D-2011	TSS	4	I	mg/L	P405248	
	SM 4500 F-C-2011	Fluoride	0.21		mg F/L	P405086	
2281363	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P405072	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P405039	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P404850	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P404950	
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P405020	
2281370	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P404736	
2281377	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.99		mg N/L	P405039	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P404813

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404984

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405072

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405073

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405074

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404993

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405039

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P404993

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P405039

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404850

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404912

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404950

Component	Result	Code	Units
Total-P	0.005	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404951

Component	Result	Code	Units
Total-P	0.005	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405107

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404736

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404737

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2320 B-2011
Batch ID: P405084

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2320 B-2011
Batch ID: P405136

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P405248

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P405250

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P405251

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P405086

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P405137

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P405020

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P405149

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P405622

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-2011
Batch ID: P405725

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404984

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405072

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405074

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	101		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405039

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P404993

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P405039

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404850

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404912

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404950

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404951

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404737

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.4		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P405084

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.7		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P405136

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.3		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P405086

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	93 - 104

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P405137

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P405020

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P405149

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P405622

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P405725

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404984

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2280788	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405072

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281363	Ammonia-N	96.6	97.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282978	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2280852	Ammonia-N	107	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281357	Kjeldahl Nitrogen	94.1	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281377	Kjeldahl Nitrogen	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P404993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281357	Kjeldahl Nitrogen	94.1	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P405039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281377	Kjeldahl Nitrogen	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404850

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281362	NO2NO3-N	99.5	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281339	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404950

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2279749	Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404951

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281441	Total-P	102	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282576	Total-P	108	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281481	O-Phosphate-P	97.2	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404737

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281365	O-Phosphate-P	97.8	98.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Batch ID: P405086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282203	Fluoride	102	103	P/P	92 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P405137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281619	Fluoride	99.8	99.8	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P405020

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281539	Organic Carbon	95.0	96.6	P/P	85 - 115

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P405149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282115	Organic Carbon	92.8	94.2	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P405622

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2281358	Organic Carbon	97.5	97.3	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P405725

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284503	Organic Carbon	93.2	93.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P404813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281248	Turbidity	2.82	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P404984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280788	Ammonia-N	0.508	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281363	Ammonia-N	0.638	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282978	Ammonia-N	0.745	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2280852	Ammonia-N	0.889	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P404993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281357	Kjeldahl Nitrogen	2.71	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281377	Kjeldahl Nitrogen	0.441	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P404993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281357	Kjeldahl Nitrogen	2.71	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P405039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281377	Kjeldahl Nitrogen	0.441	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404850

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281362	NO2NO3-N	0.501	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P404912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281339	NO2NO3-N	0.340	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404950

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2279749	Total-P	1.70	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P404951

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281441	Total-P	3.73	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282576	Total-P	0.333	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281481	O-Phosphate-P	0.516	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P404737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281365	O-Phosphate-P	0.608	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P405084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282203	Total Alkalinity	0.952	Sample	P	0 - 5.2

Reference Method: SM 2320 B-2011
Batch ID: P405136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281619	Total Alkalinity	1.69	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
Batch ID: P405086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282203	Fluoride	0.953	Spike	P	0 - 2.1

Reference Method: SM 4500 F-C-2011
Batch ID: P405137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281619	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P405020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281539	Organic Carbon	0.779	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P405149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282115	Organic Carbon	1.28	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P405622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2281358	Organic Carbon	0.131	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P405725

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284503	Organic Carbon	0.220	Spike	P	0 - 20

Quality Assurance Report Precision

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108211

Included Lab Sample IDs: 2281364, 2281365, 2281366, 2281367, 2281368, 2281369, 2281370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	98.7	P/P	90 - 110
O-Phosphate-P	98.7	99.4	P/P	90 - 110
O-Phosphate-P	99.4	99.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A108242

Included Lab Sample IDs: 2281350, 2281351, 2281352, 2281353, 2281354, 2281355, 2281356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108264

Included Lab Sample IDs: 2281362, 2281363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108278

Included Lab Sample IDs: 2281357, 2281358, 2281359, 2281360, 2281361

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108304

Included Lab Sample IDs: 2281361, 2281362, 2281363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	104	P/P	90 - 110
Total-P	105	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108307

Included Lab Sample IDs: 2281357, 2281358, 2281359

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.2	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A108321

Included Lab Sample IDs: 2281362, 2281363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	96.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108332

Included Lab Sample IDs: 2281357, 2281358, 2281359, 2281360, 2281361

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.8	P/P	90 - 110
Kjeldahl Nitrogen	98.4	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A108332

Included Lab Sample IDs: 2281371, 2281372, 2281373, 2281374, 2281375

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.8	P/P	90 - 110
Kjeldahl Nitrogen	98.4	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108343

Included Lab Sample IDs: 2281360, 2281361, 2281362, 2281363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	108	P/P	90 - 110
Ammonia-N	99.0	97.8	P/P	90 - 110
Ammonia-N	99.9	99.0	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A108344

Included Lab Sample IDs: 2281354, 2281355, 2281356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.6	99.9	P/P	90 - 110
Total Alkalinity	97.8	96.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A108344

Included Lab Sample IDs: 2281354, 2281355, 2281356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	104	P/P	90 - 110
Fluoride	104	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108354

Included Lab Sample IDs: 2281362, 2281363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A108354

Included Lab Sample IDs: 2281376, 2281377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	102	P/P	90 - 110
Kjeldahl Nitrogen	105	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A108367

Included Lab Sample IDs: 2281350, 2281351, 2281352, 2281353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.8	95.2	P/P	90 - 110
Total Alkalinity	99.4	97.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A108367

Included Lab Sample IDs: 2281350, 2281351, 2281352, 2281353

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	102	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A108370

Included Lab Sample IDs: 2281361

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.2	94.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108400

Included Lab Sample IDs: 2281357, 2281358, 2281359, 2281360

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	99.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A108545

Included Lab Sample IDs: 2281357, 2281358

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	96.5	P/P	90 - 110
Organic Carbon	96.4	96.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A108594

Included Lab Sample IDs: 2281359, 2281360

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.6	94.4	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				2.82	
EPA 350.1 Rev. 2.0	Ammonia-N	101	102	103		0.508
	Ammonia-N	98.4	96.6	97.4		0.638
	Ammonia-N	98.0	100	101		0.745
	Ammonia-N	101	107	108		0.889
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.2	97.2	94.1		2.71
	Kjeldahl Nitrogen	99.8	101	101		0.441
EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	95.2	97.2	94.1		2.71
	Kjeldahl Nitrogen	99.8	101	101		0.441
EPA 353.2 Rev. 2.0	NO2NO3-N	102	99.5	100		0.501
	NO2NO3-N	102	102	101		0.340
EPA 365.1 Rev. 2.0	Total-P	104	105	103		1.70
	Total-P	104	102	98.2		3.73
	Total-P	105	108	108		0.333
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.7	97.2	97.8		0.516
	O-Phosphate-P	98.4	97.8	98.6		0.608
SM 2320 B-2011	Total Alkalinity	97.7			0.952	
	Total Alkalinity	98.3			1.69	
SM 4500 F-C-2011	Fluoride	102	102	103		0.953
	Fluoride	101	99.8	99.8		0.0
SM 5310 B-2011	Organic Carbon	95.2	95.0	96.6		0.779
	Organic Carbon	97.6	92.8	94.2		1.28
	Organic Carbon	98.6	97.5	97.3		0.131
	Organic Carbon	96.4	93.2	93.0		0.220

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2281350, 2281351, 2281352, 2281353, 2281354, 2281355, 2281356
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2281357, 2281358, 2281359, 2281360, 2281361, 2281362, 2281363
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2281357, 2281358, 2281359, 2281360, 2281361, 2281362, 2281363
EPA 351.2 Rev. 2.0 dissolved	Total Kjeldahl Nitrogen, dissolved, in filtered, aqueous matrices	2281371, 2281372, 2281373, 2281374, 2281375, 2281376, 2281377
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2281357, 2281358, 2281359, 2281360, 2281361, 2281362, 2281363
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2281357, 2281358, 2281359, 2281360, 2281361, 2281362, 2281363
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2281364, 2281365, 2281366, 2281367, 2281368, 2281369, 2281370
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2281350, 2281351, 2281352, 2281353, 2281354, 2281355, 2281356
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2281350, 2281351, 2281352, 2281353, 2281354, 2281355, 2281356
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2281350, 2281351, 2281352, 2281353, 2281354, 2281355, 2281356
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2281357, 2281358, 2281359, 2281360, 2281361, 2281362, 2281363

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	10/07/2021			10/07/2021 16:30	Khloe J Berg	2281350, 2281351, 2281352, 2281353, 2281354, 2281355, 2281356
EPA 350.1 Rev. 2.0	10/07/2021			10/12/2021 12:45	Ping Hua	2281357
	10/07/2021			10/12/2021 12:47	Ping Hua	2281358
	10/07/2021			10/12/2021 12:48	Ping Hua	2281359
	10/07/2021			10/14/2021 12:29	Ping Hua	2281363
	10/07/2021			10/14/2021 12:36	Ping Hua	2281362
	10/07/2021			10/14/2021 13:00	Ping Hua	2281360
	10/07/2021			10/14/2021 13:36	Ping Hua	2281361
EPA 351.2 Rev. 2.0	10/07/2021	10/13/2021 10:35	Benjamin T. Nordmann	10/14/2021 11:05	Alexandra J Mattheus	2281358
	10/07/2021	10/13/2021 10:35	Benjamin T. Nordmann	10/14/2021 11:07	Alexandra J Mattheus	2281359
	10/07/2021	10/13/2021 10:35	Benjamin T. Nordmann	10/14/2021 11:09	Alexandra J Mattheus	2281360
	10/07/2021	10/13/2021 10:35	Benjamin T. Nordmann	10/14/2021 11:10	Alexandra J Mattheus	2281361
	10/07/2021	10/13/2021 10:35	Benjamin T. Nordmann	10/14/2021 11:27	Alexandra J Mattheus	2281357
	10/07/2021	10/14/2021 12:45	Benjamin T. Nordmann	10/15/2021 11:31	Alexandra J Mattheus	2281362
	10/07/2021	10/14/2021 12:45	Benjamin T. Nordmann	10/15/2021 11:32	Alexandra J Mattheus	2281363
EPA 351.2 Rev. 2.0 dissolved	10/07/2021	10/13/2021 10:35	Benjamin T. Nordmann	10/14/2021 11:12	Alexandra J Mattheus	2281371
	10/07/2021	10/13/2021 10:35	Benjamin T. Nordmann	10/14/2021 11:14	Alexandra J Mattheus	2281372
	10/07/2021	10/13/2021 10:35	Benjamin T. Nordmann	10/14/2021 11:15	Alexandra J Mattheus	2281373
	10/07/2021	10/13/2021 10:35	Benjamin T. Nordmann	10/14/2021 11:17	Alexandra J Mattheus	2281374
	10/07/2021	10/13/2021 10:35	Benjamin T. Nordmann	10/14/2021 11:22	Alexandra J Mattheus	2281375
	10/07/2021	10/14/2021 12:45	Benjamin T. Nordmann	10/15/2021 11:34	Alexandra J Mattheus	2281376
	10/07/2021	10/14/2021 12:45	Benjamin T. Nordmann	10/15/2021 11:39	Alexandra J Mattheus	2281377
EPA 353.2 Rev. 2.0	10/07/2021			10/11/2021 11:13	Beverly Y. Sanders	2281362
	10/07/2021			10/11/2021 11:22	Beverly Y. Sanders	2281363
	10/07/2021			10/12/2021 09:45	Beverly Y. Sanders	2281357
	10/07/2021			10/12/2021 09:46	Beverly Y. Sanders	2281358
	10/07/2021			10/12/2021 09:48	Beverly Y. Sanders	2281359
	10/07/2021			10/12/2021 09:49	Beverly Y. Sanders	2281360
	10/07/2021			10/12/2021 09:50	Beverly Y. Sanders	2281361
EPA 365.1 Rev. 2.0	10/07/2021	10/12/2021 18:10	Simonne.V. Calhoun	10/13/2021 11:17	Lipi Saha	2281362
	10/07/2021	10/12/2021 18:10	Simonne.V. Calhoun	10/13/2021 11:18	Lipi Saha	2281363
	10/07/2021	10/12/2021 18:10	Simonne.V. Calhoun	10/13/2021 11:33	Lipi Saha	2281361
	10/07/2021	10/15/2021 15:22	Simonne.V. Calhoun	10/19/2021 10:54	Lipi Saha	2281357
	10/07/2021	10/15/2021 15:22	Simonne.V. Calhoun	10/19/2021 10:55	Lipi Saha	2281358
	10/07/2021	10/15/2021 15:22	Simonne.V. Calhoun	10/19/2021 10:56	Lipi Saha	2281359
	10/07/2021	10/15/2021 15:22	Simonne.V. Calhoun	10/19/2021 10:57	Lipi Saha	2281360
EPA 365.1 Rev. 2.0 dissolved	10/07/2021			10/07/2021 14:29	James L Waggeberby	2281369
	10/07/2021			10/07/2021 14:30	James L Waggeberby	2281370
	10/07/2021			10/07/2021 14:44	James L Waggeberby	2281365

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	10/07/2021			10/07/2021 14:54	James L Waggeberby	2281364, 2281366
	10/07/2021			10/07/2021 14:55	James L Waggeberby	2281367
	10/07/2021			10/07/2021 14:56	James L Waggeberby	2281368
SM 2320 B-2011	10/07/2021			10/14/2021 03:59	Sarah A Nixon	2281354
	10/07/2021			10/14/2021 04:57	Sarah A Nixon	2281356
	10/07/2021			10/14/2021 05:25	Sarah A Nixon	2281355
	10/07/2021			10/14/2021 16:49	Dale L. Simmons	2281350
	10/07/2021			10/14/2021 17:03	Dale L. Simmons	2281351
	10/07/2021			10/14/2021 17:17	Dale L. Simmons	2281352
	10/07/2021			10/14/2021 18:13	Dale L. Simmons	2281353
SM 2540 D-2011	10/07/2021			10/11/2021 15:05	Yijie Li	2281350, 2281351, 2281352, 2281353, 2281354, 2281355, 2281356
SM 4500 F-C-2011	10/07/2021			10/14/2021 03:59	Sarah A Nixon	2281354
	10/07/2021			10/14/2021 04:57	Sarah A Nixon	2281356
	10/07/2021			10/14/2021 05:25	Sarah A Nixon	2281355
	10/07/2021			10/14/2021 15:47	Dale L. Simmons	2281350
	10/07/2021			10/14/2021 15:52	Dale L. Simmons	2281351
	10/07/2021			10/14/2021 15:57	Dale L. Simmons	2281352
	10/07/2021			10/14/2021 16:03	Dale L. Simmons	2281353
SM 5310 B-2011	10/07/2021			10/11/2021 22:03	Khloe J Berg	2281362
	10/07/2021			10/11/2021 22:15	Khloe J Berg	2281363
	10/07/2021			10/13/2021 18:57	Khloe J Berg	2281361
	10/07/2021			10/26/2021 08:39	Khloe J Berg	2281359
	10/07/2021			10/26/2021 09:24	Khloe J Berg	2281358
	10/07/2021			10/26/2021 09:26	Khloe J Berg	2281360
	10/07/2021			10/26/2021 14:22	Khloe J Berg	2281357