

Chemical Analysis Report

SE-DIST-2019-07-25-01

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

Event Description: **SMP-Kevin Run**
Request ID: **RQ-2019-07-22-62**
Customer: **SE-DIST**
Project ID: **SMP**

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Date Certified: 14-AUG-2019 12:08



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: L-62 upstream of S-154C

Collection Date/Time: 07/24/2019 11:00

Field ID: G1SE0028

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106017	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P367924	
	EPA 300.0 Rev. 2.1	Chloride	210		mg Cl/L	P368186	
		Sulfate	88		mg SO4/L	P368188	
	SM 2120 B	Color (true)	330		PCU	P368024	
	SM 2320 B-97	Total Alkalinity	69		mg CaCO3/L	P368234	
	SM 2540 C-97	TDS	632		mg/L	P368266	
	SM 2540 D-97	TSS	2	U	mg/L	P368110	
	SM 4500 F-C-97	Fluoride	0.23		mg F/L	P368237	
2106023	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P368490	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P368088	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P368130	
	EPA 365.1 Rev. 2.0	Total-P	0.50		mg P/L	P368076	
	SM 5310 B-00	Organic Carbon	27		mg C/L	P368053	
2106029	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.41		mg P/L	P367946	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of analytical difficulties.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lemkin Creek @ 78

Collection Date/Time: 07/24/2019 11:20

Field ID: G1SE0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106014	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P367923	
	EPA 300.0 Rev. 2.1	Chloride	190		mg Cl/L	P368186	
		Sulfate	150		mg SO4/L	P368188	
	SM 2120 B	Color (true)	68	A	PCU	P368024	
	SM 2320 B-97	Total Alkalinity	113		mg CaCO3/L	P368234	
	SM 2540 C-97	TDS	712		mg/L	P368266	
	SM 2540 D-97	TSS	6	I	mg/L	P368110	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P368237	
2106015	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P368490	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P368088	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P368129	
	EPA 365.1 Rev. 2.0	Total-P	0.054		mg P/L	P368076	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P368053	
2106016	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P367946	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of analytical difficulties.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Taylor Creek @ 98

Collection Date/Time: 07/24/2019 12:20

Field ID: G1SE0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106018	EPA 180.1 Rev. 2.0	Turbidity	7.3	A	NTU	P367924	
	EPA 300.0 Rev. 2.1	Chloride	60		mg Cl/L	P368186	
		Sulfate	31		mg SO4/L	P368188	
	SM 2120 B	Color (true)	70	A	PCU	P368025	
	SM 2320 B-97	Total Alkalinity	142		mg CaCO3/L	P368234	
	SM 2540 C-97	TDS	337	A	mg/L	P368266	
	SM 2540 D-97	TSS	12		mg/L	P368110	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P368237	
2106024	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P368490	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P368088	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P368130	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P368076	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P368053	
2106030	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.011		mg P/L	P367946	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of analytical difficulties.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: L-63N canal @ SR 70

Collection Date/Time: 07/24/2019 13:10

Field ID: G1SE0023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106019	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P367924	
	EPA 300.0 Rev. 2.1	Chloride	88		mg Cl/L	P368186	
		Sulfate	46		mg SO4/L	P368188	
	SM 2120 B	Color (true)	170		PCU	P368023	
	SM 2320 B-97	Total Alkalinity	77		mg CaCO3/L	P368234	
	SM 2540 C-97	TDS	367	A	mg/L	P368267	
	SM 2540 D-97	TSS	11	AJ	mg/L	P368111	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P368237	
2106025	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P368490	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P368088	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P368130	
	EPA 365.1 Rev. 2.0	Total-P	0.43		mg P/L	P368076	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P368053	
2106031	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.29		mg P/L	P367946	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The result was confirmed on 07/30/2019.

SM 2540 D-97: The sample was reanalyzed on 08/09/2019. The result was 8.4 mg/L.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: L-63 @ SE 59th Blvd.

Collection Date/Time: 07/24/2019 13:45

Field ID: G1SE0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106020	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P367924	
	EPA 300.0 Rev. 2.1	Chloride	100		mg Cl/L	P368186	
		Sulfate	50		mg SO4/L	P368188	
	SM 2120 B	Color (true)	170		PCU	P368024	
	SM 2320 B-97	Total Alkalinity	78		mg CaCO3/L	P368234	
	SM 2540 C-97	TDS	395		mg/L	P368267	
	SM 2540 D-97	TSS	3	I	mg/L	P368111	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P368237	
2106026	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P368490	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P368088	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P368130	
	EPA 365.1 Rev. 2.0	Total-P	0.42		mg P/L	P368076	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P368053	
2106032	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.32		mg P/L	P367947	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: L-63 canal @ SE 86th Blvd

Collection Date/Time: 07/24/2019 14:05

Field ID: G1SE0022

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106021	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P367924	
	EPA 300.0 Rev. 2.1	Chloride	84	A	mg Cl/L	P368186	
		Sulfate	23	A	mg SO4/L	P368188	
	SM 2120 B	Color (true)	420		PCU	P368024	
	SM 2320 B-97	Total Alkalinity	51		mg CaCO3/L	P368234	
	SM 2540 C-97	TDS	323		mg/L	P368267	
	SM 2540 D-97	TSS	2	U	mg/L	P368111	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P368237	
2106027	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P368490	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P368088	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P368130	
	EPA 365.1 Rev. 2.0	Total-P	0.61		mg P/L	P368076	
	SM 5310 B-00	Organic Carbon	35		mg C/L	P368053	
2106033	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.48		mg P/L	P367947	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: L-65 Upstream of S-153

Collection Date/Time: 07/24/2019 14:35

Field ID: G1SE0050

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106022	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P367924	
	EPA 300.0 Rev. 2.1	Chloride	120		mg Cl/L	P368186	
		Sulfate	24		mg SO4/L	P368188	
	SM 2120 B	Color (true)	96	A	PCU	P368023	
	SM 2320 B-97	Total Alkalinity	174		mg CaCO3/L	P368234	
	SM 2540 C-97	TDS	481		mg/L	P368267	
	SM 2540 D-97	TSS	2	U	mg/L	P368111	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P368237	
2106028	EPA 350.1 Rev. 2.0	Ammonia-N	0.17		mg N/L	P368490	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P368088	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.035		mg N/L	P368130	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P368077	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P368053	
2106034	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.094		mg P/L	P367947	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: L-63N canal @ SR 70

Collection Date/Time: 07/24/2019 13:15

Field ID: G1SE0023_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106079	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P367924	
	EPA 300.0 Rev. 2.1	Chloride	88		mg Cl/L	P368187	
		Sulfate	46		mg SO4/L	P368189	
	SM 2120 B	Color (true)	170		PCU	P368023	
	SM 2320 B-97	Total Alkalinity	76		mg CaCO3/L	P368234	
	SM 2540 C-97	TDS	373		mg/L	P368267	
	SM 2540 D-97	TSS	14		mg/L	P368111	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P368237	
2106080	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P368535	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P368089	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P368130	
	EPA 365.1 Rev. 2.0	Total-P	0.47		mg P/L	P368077	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P368053	
2106081	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.28		mg P/L	P367946	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The result was confirmed on 07/30/2019.

SM 2540 D-97: The result was confirmed on 08/09/2019.

Sample Location: EB_24072019

Collection Date/Time: 07/24/2019 13:20

Field ID: EB_24072019

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2106082	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P367924	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P368187	
		Sulfate	0.20	U	mg SO4/L	P368189	
	SM 2120 B	Color (true)	2.5	U	PCU	P368023	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P368234	
	SM 2540 C-97	TDS	15	U	mg/L	P368267	
	SM 2540 D-97	TSS	2	U	mg/L	P368111	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P368237	
2106083	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P368535	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P368089	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P368130	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P368077	
	SM 5310 B-00	Organic Carbon	1.5		mg C/L	P368053	
2106084	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P367947	

Ref. Method and Comment:

SM 5310 B-00: The result was confirmed on 07/29/2019.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367923

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367924

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368186

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368187

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368188

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368189

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368490

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368535

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368088

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368089

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368129

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368130

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368076

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368077

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367946

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367947

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

Reference Method: SM 2120 B
Batch ID: P368023

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P368024

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P368025

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P368234

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-97
Batch ID: P368266

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P368267

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368110

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368111

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P368237

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P368053

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368188

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368189

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368490

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368535

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368088

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368089

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368129

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368130

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368076

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368077

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367946

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367947

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

Reference Method: SM 2120 B
Batch ID: P368023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P368024

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P368025

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P368234

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P368237

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P368053

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2105895	Chloride	97.9		P	90 - 110
2106021	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106075	Chloride	96.7		P	90 - 110
2106164	Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2105895	Sulfate	100		P	90 - 110
2106021	Sulfate	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106075	Sulfate	101		P	90 - 110
2106164	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368490

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106015	Ammonia-N	93.4	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368535

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106080	Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368089

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106100	Kjeldahl Nitrogen	108	110	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368129

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2105946	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368130

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106023	NO2NO3-N	96.0	95.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368076

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2105999	Total-P	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368077

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106102	Total-P	99.0	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106103	O-Phosphate-P	95.0	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106105	O-Phosphate-P	95.6	96.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P368237

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2105867	Fluoride	96.4	97.0	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P368053

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2106024	Organic Carbon	95.4	97.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2105998	Turbidity	2.56	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P367924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106018	Turbidity	5.32	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106021	Chloride	1.05	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106164	Chloride	0.869	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106021	Sulfate	0.912	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106164	Sulfate	1.46	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106015	Ammonia-N	9.38	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106080	Ammonia-N	0.561	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106015	Kjeldahl Nitrogen	3.23	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368089

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106100	Kjeldahl Nitrogen	1.67	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2105946	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106023	NO2NO3-N	0.332	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368076

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2105999	Total-P	0.637	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368077

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106102	Total-P	0.443	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367946

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106103	O-Phosphate-P	1.26	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106105	O-Phosphate-P	0.626	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P368023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106022	Color (true)	0.765	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P368024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106014	Color (true)	2.47	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P368025

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106018	Color (true)	0.680	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P368234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2105867	Total Alkalinity	0.337	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P368266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106018	TDS	5.34	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P368267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106019	TDS	2.72	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P368111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106019	TSS	3.64	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P368237

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2105867	Fluoride	0.473	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P368053

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106024	Organic Carbon	0.904	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93031

Included Lab Sample IDs: 2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105
Turbidity	101	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93035

Included Lab Sample IDs: 2106016, 2106029, 2106030, 2106031, 2106032, 2106033, 2106034, 2106081, 2106084

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.2	96.8	P/P	90 - 110
O-Phosphate-P	96.8	96.0	P/P	90 - 110
O-Phosphate-P	98.4	96.2	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A93064

Included Lab Sample IDs: 2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 115
Color (true)	102	104	P/P	90 - 115
Color (true)	102	103	P/P	90 - 115
Color (true)	103	102	P/P	90 - 115
Color (true)	103	102	P/P	90 - 115

Reference Method: SM 5310 B-00

Run ID: A93079

Included Lab Sample IDs: 2106015, 2106023, 2106024, 2106025, 2106026, 2106027, 2106028, 2106080, 2106083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.8	94.7	P/P	90 - 110
Organic Carbon	95.8	95.8	P/P	90 - 110
Organic Carbon	98.6	95.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93120

Included Lab Sample IDs: 2106023, 2106024, 2106025, 2106026, 2106027, 2106028, 2106080

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	100	P/P	90 - 110
Total-P	101	102	P/P	90 - 110
Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93124

Included Lab Sample IDs: 2106015, 2106083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	98.5	P/P	90 - 110
Total-P	99.0	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93125

Included Lab Sample IDs: 2106015, 2106023, 2106024, 2106025, 2106026, 2106027, 2106028, 2106080, 2106083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.8	95.0	P/P	90 - 110
Kjeldahl Nitrogen	95.0	97.0	P/P	90 - 110
Kjeldahl Nitrogen	97.0	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93127

Included Lab Sample IDs: 2106015, 2106023, 2106024, 2106025, 2106026, 2106027, 2106028, 2106080, 2106083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A93147

Included Lab Sample IDs: 2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.2	98.2	P/P	90 - 110
Chloride	97.6	97.8	P/P	90 - 110
Chloride	97.7	97.6	P/P	90 - 110
Chloride	97.8	97.2	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A93171

Included Lab Sample IDs: 2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082

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

Reference Method: SM 4500 F-C-97

Run ID: A93171

Included Lab Sample IDs: 2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	97.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93281

Included Lab Sample IDs: 2106015, 2106023, 2106024, 2106025, 2106026, 2106027, 2106028

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	108	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93303

Included Lab Sample IDs: 2106080, 2106083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	106	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				2.56	
	Turbidity				5.32	
EPA 300.0 Rev. 2.1	Chloride	96.8	104	97.9	1.05	
	Chloride	98.8	98.2	96.7	0.869	
	Sulfate	100	98.4	100	0.912	
	Sulfate	102	103	101	1.46	
EPA 350.1 Rev. 2.0	Ammonia-N	107	93.4	105		9.38
	Ammonia-N	103	103	103		0.561
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102				3.23
	Kjeldahl Nitrogen	107	108	110		1.67
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	102	101		0.494
	NO2NO3-N	98.5	96.0	95.5		0.332
EPA 365.1 Rev. 2.0	Total-P	101	101	102		0.637
	Total-P	102	99.0	98.6		0.443
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.7	95.0	96.2		1.26
	O-Phosphate-P	99.4	95.6	96.2		0.626
SM 2120 B	Color (true)	103			0.765	
	Color (true)	103			2.47	
	Color (true)	102			0.680	
SM 2320 B-97	Total Alkalinity	103			0.337	
SM 2540 C-97	TDS				5.34	
	TDS				2.72	
SM 2540 D-97	TSS				3.64	
SM 4500 F-C-97	Fluoride	95.5	96.4	97.0		0.473
SM 5310 B-00	Organic Carbon	99.0	95.4	97.2		0.904

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2106015, 2106023, 2106024, 2106025, 2106026, 2106027, 2106028, 2106080, 2106083
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2106015, 2106023, 2106024, 2106025, 2106026, 2106027, 2106028, 2106080, 2106083
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2106015, 2106023, 2106024, 2106025, 2106026, 2106027, 2106028, 2106080, 2106083
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2106015, 2106023, 2106024, 2106025, 2106026, 2106027, 2106028, 2106080, 2106083
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2106016, 2106029, 2106030, 2106031, 2106032, 2106033, 2106034, 2106081, 2106084
SM 2120 B / E31780	True Color measured at 450 nm	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2106015, 2106023, 2106024, 2106025, 2106026, 2106027, 2106028, 2106080, 2106083

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	07/25/2019			07/25/2019 15:23	Samantha Davila	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082
EPA 300.0 Rev. 2.1	07/25/2019			07/30/2019 16:19	Jhamieka S. Greenwood	2106021
	07/25/2019			07/30/2019 19:57	Jhamieka S. Greenwood	2106014
	07/25/2019			07/30/2019 20:09	Jhamieka S. Greenwood	2106017
	07/25/2019			07/30/2019 20:46	Jhamieka S. Greenwood	2106018
	07/25/2019			07/30/2019 20:58	Jhamieka S. Greenwood	2106019
	07/25/2019			07/30/2019 21:10	Jhamieka S. Greenwood	2106020
	07/25/2019			07/30/2019 21:22	Jhamieka S. Greenwood	2106022
	07/25/2019			07/30/2019 23:36	Jhamieka S. Greenwood	2106079
	07/25/2019			07/30/2019 23:48	Jhamieka S. Greenwood	2106082
EPA 350.1 Rev. 2.0	07/25/2019			08/05/2019 17:40	Virginia P. Brown	2106015
	07/25/2019			08/05/2019 17:42	Virginia P. Brown	2106023
	07/25/2019			08/05/2019 17:43	Virginia P. Brown	2106024
	07/25/2019			08/05/2019 17:45	Virginia P. Brown	2106025
	07/25/2019			08/05/2019 17:46	Virginia P. Brown	2106026
	07/25/2019			08/05/2019 17:48	Virginia P. Brown	2106027
	07/25/2019			08/05/2019 17:49	Virginia P. Brown	2106028
	07/25/2019			08/06/2019 18:21	Virginia P. Brown	2106080
	07/25/2019			08/06/2019 18:28	Virginia P. Brown	2106083
EPA 351.2 Rev. 2.0	07/25/2019	07/29/2019 13:00	Adrian Shelby	07/30/2019 11:39	Joseph Suarez	2106015
	07/25/2019	07/29/2019 13:00	Adrian Shelby	07/30/2019 11:47	Joseph Suarez	2106023
	07/25/2019	07/29/2019 13:00	Adrian Shelby	07/30/2019 11:49	Joseph Suarez	2106024
	07/25/2019	07/29/2019 13:00	Adrian Shelby	07/30/2019 11:50	Joseph Suarez	2106025
	07/25/2019	07/29/2019 13:00	Adrian Shelby	07/30/2019 11:52	Joseph Suarez	2106026
	07/25/2019	07/29/2019 13:00	Adrian Shelby	07/30/2019 11:53	Joseph Suarez	2106027
	07/25/2019	07/29/2019 13:00	Adrian Shelby	07/30/2019 11:55	Joseph Suarez	2106028
	07/25/2019	07/29/2019 13:00	Adrian Shelby	07/30/2019 12:06	Joseph Suarez	2106080
	07/25/2019	07/29/2019 13:00	Adrian Shelby	07/30/2019 12:07	Joseph Suarez	2106083
EPA 353.2 Rev. 2.0	07/25/2019			07/30/2019 09:59	Beverly Y. Sanders	2106015
	07/25/2019			07/30/2019 10:06	Beverly Y. Sanders	2106023
	07/25/2019			07/30/2019 10:12	Beverly Y. Sanders	2106024
	07/25/2019			07/30/2019 10:13	Beverly Y. Sanders	2106025
	07/25/2019			07/30/2019 10:15	Beverly Y. Sanders	2106080
	07/25/2019			07/30/2019 10:16	Beverly Y. Sanders	2106026
	07/25/2019			07/30/2019 10:17	Beverly Y. Sanders	2106027
	07/25/2019			07/30/2019 10:18	Beverly Y. Sanders	2106028
	07/25/2019			07/30/2019 10:22	Beverly Y. Sanders	2106083
EPA 365.1 Rev. 2.0	07/25/2019	07/29/2019 11:58	Vijayalakshmi Reddy	07/30/2019 10:27	Lipi Saha	2106023

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	07/25/2019	07/29/2019 11:58	Vijayalakshmi Reddy	07/30/2019 10:28	Lipi Saha	2106024
	07/25/2019	07/29/2019 11:58	Vijayalakshmi Reddy	07/30/2019 10:29	Lipi Saha	2106025
	07/25/2019	07/29/2019 11:58	Vijayalakshmi Reddy	07/30/2019 10:33	Lipi Saha	2106026
	07/25/2019	07/29/2019 11:58	Vijayalakshmi Reddy	07/30/2019 10:34	Lipi Saha	2106027
	07/25/2019	07/29/2019 11:58	Vijayalakshmi Reddy	07/30/2019 10:40	Lipi Saha	2106028
	07/25/2019	07/29/2019 11:58	Vijayalakshmi Reddy	07/30/2019 10:45	Lipi Saha	2106080
	07/25/2019	07/29/2019 11:58	Vijayalakshmi Reddy	07/30/2019 11:14	Lipi Saha	2106015
	07/25/2019	07/29/2019 11:58	Vijayalakshmi Reddy	07/30/2019 11:25	Lipi Saha	2106083
EPA 365.1 Rev. 2.0 dissolved	07/25/2019			07/25/2019 17:01	Jhamieka S. Greenwood	2106031
	07/25/2019			07/25/2019 17:03	Jhamieka S. Greenwood	2106016
	07/25/2019			07/25/2019 17:04	Jhamieka S. Greenwood	2106030
	07/25/2019			07/25/2019 17:09	Jhamieka S. Greenwood	2106084
	07/25/2019			07/25/2019 17:11	Jhamieka S. Greenwood	2106081
	07/25/2019			07/25/2019 17:17	Jhamieka S. Greenwood	2106029
	07/25/2019			07/25/2019 17:22	Jhamieka S. Greenwood	2106032
	07/25/2019			07/25/2019 17:24	Jhamieka S. Greenwood	2106033
SM 2120 B	07/25/2019			07/25/2019 17:26	Jhamieka S. Greenwood	2106034
	07/25/2019			07/25/2019 16:30	Madeline Funaro	2106018
	07/25/2019			07/25/2019 16:41	Madeline Funaro	2106014
	07/25/2019			07/25/2019 16:49	Madeline Funaro	2106022
	07/25/2019			07/25/2019 16:52	Madeline Funaro	2106082
	07/25/2019			07/25/2019 17:04	Madeline Funaro	2106017
	07/25/2019			07/25/2019 17:14	Madeline Funaro	2106020, 2106021
	07/25/2019			07/25/2019 17:15	Madeline Funaro	2106019
SM 2320 B-97	07/25/2019			07/25/2019 17:17	Madeline Funaro	2106079
	07/25/2019			07/31/2019 04:57	Dale L. Simmons	2106014
	07/25/2019			07/31/2019 05:10	Dale L. Simmons	2106017
	07/25/2019			07/31/2019 05:37	Dale L. Simmons	2106018
	07/25/2019			07/31/2019 05:50	Dale L. Simmons	2106019
	07/25/2019			07/31/2019 06:03	Dale L. Simmons	2106020
	07/25/2019			07/31/2019 06:15	Dale L. Simmons	2106021
	07/25/2019			07/31/2019 06:28	Dale L. Simmons	2106022
SM 2540 C-97	07/25/2019			07/31/2019 06:39	Dale L. Simmons	2106079
	07/25/2019			07/31/2019 06:52	Dale L. Simmons	2106082
	07/25/2019			07/26/2019 16:00	Blanca Fach	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082
	07/25/2019			07/26/2019 16:00	Blanca Fach	2106014, 2106017, 2106018, 2106019, 2106020, 2106021, 2106022, 2106079, 2106082
SM 4500 F-C-97	07/25/2019			07/31/2019 04:57	Dale L. Simmons	2106014

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	07/25/2019			07/31/2019 05:10	Dale L. Simmons	2106017
	07/25/2019			07/31/2019 05:37	Dale L. Simmons	2106018
	07/25/2019			07/31/2019 05:50	Dale L. Simmons	2106019
	07/25/2019			07/31/2019 06:03	Dale L. Simmons	2106020
	07/25/2019			07/31/2019 06:15	Dale L. Simmons	2106021
	07/25/2019			07/31/2019 06:28	Dale L. Simmons	2106022
	07/25/2019			07/31/2019 06:39	Dale L. Simmons	2106079
	07/25/2019			07/31/2019 06:52	Dale L. Simmons	2106082
SM 5310 B-00	07/25/2019			07/26/2019 22:02	Madeline Funaro	2106024
	07/25/2019			07/27/2019 00:37	Madeline Funaro	2106015
	07/25/2019			07/27/2019 00:51	Madeline Funaro	2106023
	07/25/2019			07/27/2019 01:30	Madeline Funaro	2106025
	07/25/2019			07/27/2019 01:42	Madeline Funaro	2106026
	07/25/2019			07/27/2019 01:54	Madeline Funaro	2106027
	07/25/2019			07/27/2019 02:06	Madeline Funaro	2106028
	07/25/2019			07/27/2019 02:45	Madeline Funaro	2106080
	07/25/2019			07/27/2019 02:59	Madeline Funaro	2106083