

Chemical Analysis Report

NW-DIST-2016-02-24-01

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

Event Description: **WBID 468A 495 786A 874**

Request ID: **RQ-2016-02-15-12**

Customer: **NW-DIST**

Project ID: **SMP**

Send Reports to:
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160 W Government St
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 11-MAR-2016 14:04



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 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: TURKEY CREEK ABV. EGLIN RD 232

Collection Date/Time: 02/23/2016 10:55

Field ID: G3NW0093

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1774101	EPA 180.1 Rev. 2.0	Turbidity	1.3	A	NTU	P299186	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P299333	
		Sulfate	0.56		mg SO4/L	P299336	
	SM 2120 B	Color (true)	12		PCU	P299206	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P299662	
	SM 2540 C-97	TDS	20	I	mg/L	P299757	
	SM 2540 D-97	TSS	2	I	mg/L	P299680	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P299391	
1774105	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P299978	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P299573	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P299500	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P299567	
	SM 5310 B-00	Organic Carbon	1.2		mg C/L	P299435	
1774109	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P299178	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: JUNIPER CREEK @ HWY 85

Collection Date/Time: 02/23/2016 11:45

Field ID: G3NW0095

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1774102	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P299186	
	EPA 300.0 Rev. 2.1	Chloride	2.5		mg Cl/L	P299333	
		Sulfate	0.72		mg SO4/L	P299336	
	SM 2120 B	Color (true)	23		PCU	P299206	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P299662	
	SM 2540 C-97	TDS	16	I	mg/L	P299757	
	SM 2540 D-97	TSS	3	I	mg/L	P299680	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P299391	
1774106	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P299978	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.091	I	mg N/L	P299573	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.081		mg N/L	P299500	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P299567	
	SM 5310 B-00	Organic Carbon	1.9		mg C/L	P299435	
1774110	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P299178	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: BASS LK DRAINAGE MOONEY DR HEAD

Collection Date/Time: 02/23/2016 13:00

Field ID: G3NW0097

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1774103	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P299186	

Field ID: G3NW0097

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1774103	EPA 300.0 Rev. 2.1	Chloride	23	A	mg Cl/L	P299333	
		Sulfate	14	A	mg SO4/L	P299336	
	SM 2120 B	Color (true)	34		PCU	P299206	
	SM 2320 B-97	Total Alkalinity	32		mg CaCO3/L	P299662	
	SM 2540 C-97	TDS	105		mg/L	P299757	
	SM 2540 D-97	TSS	2	I	mg/L	P299680	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P299391	
1774107	EPA 350.1 Rev. 2.0	Ammonia-N	0.089		mg N/L	P299978	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P299573	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.4		mg N/L	P299500	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P299567	
	SM 5310 B-00	Organic Carbon	4.9		mg C/L	P299435	
1774111	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P299178	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: DIRECT RUNOFF BELOW OREGON DRIVE

Collection Date/Time: 02/23/2016 14:15

Field ID: G3NW0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1774104	EPA 180.1 Rev. 2.0	Turbidity	9.2		NTU	P299186	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P299333	
		Sulfate	9.0		mg SO4/L	P299336	
	SM 2120 B	Color (true)	84	A	PCU	P299206	
	SM 2320 B-97	Total Alkalinity	61		mg CaCO3/L	P299662	
	SM 2540 C-97	TDS	114	A	mg/L	P299757	
	SM 2540 D-97	TSS	2	I	mg/L	P299680	
1774108	SM 4500 F-C-97	Fluoride	0.076	I	mg F/L	P299391	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P299979	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P299573	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P299500	
	EPA 365.1 Rev. 2.0	Total-P	0.041		mg P/L	P299567	
1774112	SM 5310 B-00	Organic Carbon	9.4		mg C/L	P299435	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.017		mg P/L	P299178	

Ref. Method and Comment:

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P299186

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P299333

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P299336

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P299978

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P299979

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P299573

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P299500

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P299567

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P299178

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

Reference Method: SM 2120 B
Batch ID: P299206

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P299662

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

Reference Method: SM 2540 C-97
Batch ID: P299757

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P299680

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P299391

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P299435

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: P299333

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P299336

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P299978

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P299979

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P299979

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P299573

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P299500

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: P299567

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P299178

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

Reference Method: SM 2320 B-97
Batch ID: P299662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	95 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P299391

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.8		P	94 - 108

Reference Method: SM 5310 B-00
Batch ID: P299435

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P299333

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P299333

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1774103	Chloride	103		P	90 - 110
1774104	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P299336

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1774103	Sulfate	100		P	90 - 110
1774104	Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P299978

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1774015	Ammonia-N	96.8	97.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P299979

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1774142	Ammonia-N	101	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P299573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1774105	Kjeldahl Nitrogen	105	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P299500

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1774106	NO2NO3-N	107	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P299178

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1774109	O-Phosphate-P	102	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P299391

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1774012	Fluoride	96.0	96.7	P/P	94 - 107

Reference Method: SM 5310 B-00
Batch ID: P299435

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1774105	Organic Carbon	90.0	91.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P299186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774101	Turbidity	10.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P299333

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774103	Chloride	0.107	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P299336

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774103	Sulfate	0.0601	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P299978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774015	Ammonia-N	0.528	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P299979

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774142	Ammonia-N	2.74	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P299573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774105	Kjeldahl Nitrogen	2.41	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P299500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774106	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P299567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774033	Total-P	0.492	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P299178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774109	O-Phosphate-P	0.588	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P299206

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774104	Color (true)	0.0596	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P299662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774196	Total Alkalinity	0.424	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P299757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774104	TDS	3.51	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P299391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774012	Fluoride	0.473	Spike	P	0 - 3.7

Reference Method: SM 5310 B-00
Batch ID: P299435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1774105	Organic Carbon	1.04	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 300.0 Rev. 2.1
Run ID: A67740
Included Lab Sample IDs: 1774101, 1774102, 1774103, 1774104

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A67740

Included Lab Sample IDs: 1774101, 1774102, 1774103, 1774104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	94.7	99.5	P/P	90 - 110
Sulfate	98.7	94.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A67800

Included Lab Sample IDs: 1774109, 1774110, 1774111, 1774112

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	99.5	P/P	90 - 110
O-Phosphate-P	99.2	99.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A67802

Included Lab Sample IDs: 1774101, 1774102, 1774103, 1774104

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

Reference Method: SM 2120 B

Run ID: A67814

Included Lab Sample IDs: 1774101, 1774102, 1774103, 1774104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.8	103	P/P	85 - 115

Reference Method: SM 4500 F-C-97

Run ID: A67872

Included Lab Sample IDs: 1774101, 1774102, 1774103, 1774104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A67885

Included Lab Sample IDs: 1774105, 1774106, 1774107, 1774108

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.2	94.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A67914

Included Lab Sample IDs: 1774105, 1774106, 1774107, 1774108

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A67973

Included Lab Sample IDs: 1774101, 1774102, 1774103, 1774104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A68003

Included Lab Sample IDs: 1774105, 1774106, 1774107, 1774108

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A68013

Included Lab Sample IDs: 1774105, 1774106, 1774107, 1774108

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A68091

Included Lab Sample IDs: 1774105, 1774106, 1774107, 1774108

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	100	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	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				10.0	
EPA 300.0 Rev. 2.1	Chloride	103	103 104		0.107	
	Sulfate	99.6	100 99.4		0.0601	
EPA 350.1 Rev. 2.0	Ammonia-N	96.4	96.8 97.5			0.528
	Ammonia-N	96.8	101 104			2.74
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	105 102			2.41
EPA 353.2 Rev. 2.0	NO2NO3-N	102	107 107			0.0
EPA 365.1 Rev. 2.0	Total-P	100				0.492
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	102 102			0.588
SM 2120 B	Color (true)				0.0596	
SM 2320 B-97	Total Alkalinity	105			0.424	
SM 2540 C-97	TDS				3.51	
SM 4500 F-C-97	Fluoride	96.8	96.0 96.7			0.473
SM 5310 B-00	Organic Carbon	94.4	90.0 91.0			1.04

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1774101, 1774102, 1774103, 1774104
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1774101, 1774102, 1774103, 1774104
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1774101, 1774102, 1774103, 1774104
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1774105, 1774106, 1774107, 1774108
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1774105, 1774106, 1774107, 1774108
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1774105, 1774106, 1774107, 1774108
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1774105, 1774106, 1774107, 1774108
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1774109, 1774110, 1774111, 1774112
SM 2120 B / E31780	True Color measured at 450 nm	1774101, 1774102, 1774103, 1774104
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1774101, 1774102, 1774103, 1774104
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1774101, 1774102, 1774103, 1774104
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1774101, 1774102, 1774103, 1774104
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1774101, 1774102, 1774103, 1774104
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1774105, 1774106, 1774107, 1774108

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	02/24/2016			02/24/2016 15:24	Sima Feizi	1774101, 1774102, 1774103, 1774104
EPA 300.0 Rev. 2.1	02/24/2016			02/25/2016	Ping Hua	1774101, 1774102, 1774103, 1774104
EPA 350.1 Rev. 2.0	02/24/2016			03/08/2016	Diana M. Turner	1774105, 1774106, 1774107, 1774108
EPA 351.2 Rev. 2.0	02/24/2016	03/02/2016	Christopher Armour	03/04/2016	Rochelle Y Jackson	1774105, 1774106, 1774107, 1774108
EPA 353.2 Rev. 2.0	02/24/2016			03/01/2016	Peter D. Kaus	1774105, 1774106, 1774107, 1774108
EPA 365.1 Rev. 2.0	02/24/2016	03/02/2016	Christopher Armour	03/03/2016	Lipi Saha	1774105, 1774106, 1774107, 1774108
EPA 365.1 Rev. 2.0 dissolved	02/24/2016			02/24/2016 14:51	Bryan A. Werth	1774109
	02/24/2016			02/24/2016 15:07	Bryan A. Werth	1774110
	02/24/2016			02/24/2016 15:08	Bryan A. Werth	1774111, 1774112
	02/24/2016			02/24/2016 16:13	Blanca Fach	1774101, 1774104
SM 2120 B	02/24/2016			02/24/2016 16:14	Blanca Fach	1774102
	02/24/2016			02/24/2016 16:15	Blanca Fach	1774103
	02/24/2016			03/03/2016	Dale L. Simmons	1774101, 1774102, 1774103, 1774104
SM 2320 B-97	02/24/2016			02/26/2016	Yijie Li	1774101, 1774102, 1774103, 1774104
SM 2540 C-97	02/24/2016			02/26/2016	Yijie Li	1774101, 1774102, 1774103, 1774104
SM 2540 D-97	02/24/2016			02/26/2016	Dale L. Simmons	1774101, 1774102, 1774103, 1774104
SM 4500 F-C-97	02/24/2016			02/26/2016	Sofia Elnemr	1774105, 1774106, 1774107, 1774108
SM 5310 B-00	02/24/2016					