

Chemical Analysis Report

SO-DIST-2016-10-06-01

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

Event Description: **SMP: Bobcat and the Ditches**
Request ID: **RQ-2016-10-03-11**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 01-NOV-2016 10:00



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: 2028 Site 3

Collection Date/Time: 10/05/2016 09:20

Field ID: G3SD080816-1

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1838883	EPA 180.1 Rev. 2.0	Turbidity	13	A	NTU	P312644	
	EPA 300.0 Rev. 2.1	Chloride	9.4		mg Cl/L	P313548	
		Sulfate	3.3		mg SO4/L	P313552	
	SM 2120 B	Color (true)	430		PCU	P312661	
	SM 2320 B-97	Total Alkalinity	6.8		mg CaCO3/L	P312813	
	SM 2540 C-97	TDS	77		mg/L	P313590	
	SM 2540 D-97	TSS	92	J	mg/L	P313402	
	SM 4500 F-C-97	Fluoride	0.10	I	mg F/L	P312815	
1838886	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P313308	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P313632	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P313216	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P313558	
	SM 5310 B-00	Organic Carbon	27		mg C/L	P313153	
1838889	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.094		mg P/L	P312637	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. Result is an estimate as the sample contains high density particulates with sandy appearance that settle out quickly.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: 2028 Site 1

Collection Date/Time: 10/05/2016 09:30

Field ID: G3SD080816-2

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1838884	EPA 180.1 Rev. 2.0	Turbidity	6.9		NTU	P312644	
	EPA 300.0 Rev. 2.1	Chloride	10	A	mg Cl/L	P313548	
		Sulfate	6.4	A	mg SO4/L	P313552	
	SM 2120 B	Color (true)	700		PCU	P312657	
	SM 2320 B-97	Total Alkalinity	12		mg CaCO3/L	P312813	
	SM 2540 C-97	TDS	104		mg/L	P313590	
	SM 2540 D-97	TSS	8	I	mg/L	P313402	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P312815	
1838887	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P313308	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P313632	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P313216	
	EPA 365.1 Rev. 2.0	Total-P	0.28		mg P/L	P313559	
	SM 5310 B-00	Organic Carbon	47		mg C/L	P313153	
1838890	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.20		mg P/L	P312638	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Bobcat Creek in Preserve East

Collection Date/Time: 10/05/2016 08:55

Field ID: G3SD080816-3

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1838885	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P312644	
	EPA 300.0 Rev. 2.1	Chloride	7.9		mg Cl/L	P313548	
		Sulfate	1.9		mg SO4/L	P313552	
	SM 2120 B	Color (true)	210	A	PCU	P312657	
	SM 2320 B-97	Total Alkalinity	10		mg CaCO3/L	P312813	
	SM 2540 C-97	TDS	53		mg/L	P313590	
	SM 2540 D-97	TSS	14		mg/L	P313402	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P312815	
1838888	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P313308	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P313632	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P313216	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P313559	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P313153	
1838891	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P312638	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P312644

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P313548

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P313552

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P313308

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P313632

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: P313216

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313558

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313559

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312637

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312638

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

Reference Method: SM 2120 B
Batch ID: P312657

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P312661

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P312813

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

Reference Method: SM 2540 C-97
Batch ID: P313590

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P313402

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P312815

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P313153

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: P313548

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313552

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	106		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313632

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313216

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313558

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313558

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: P313559

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312637

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312638

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

Reference Method: SM 2320 B-97
Batch ID: P312813

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P312815

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P313153

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838827	Chloride	102		P	90 - 110
1838884	Chloride	101		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313552

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838827	Sulfate	96.6		P	90 - 110
1838884	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838835	Ammonia-N	103	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313632

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838983	Kjeldahl Nitrogen	98.4	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313216

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838886	NO2NO3-N	99.9	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312637

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838733	O-Phosphate-P	98.9	98.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P312815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1839038	Fluoride	96.7	97.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P313153

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1838886	Organic Carbon	104		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P312644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838883	Turbidity	0.749	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838884	Chloride	0.0748	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P313552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838884	Sulfate	0.0646	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P313308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838835	Ammonia-N	5.83	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P313632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838983	Kjeldahl Nitrogen	2.10	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P313216

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838886	NO2NO3-N	0.971	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838834	Total-P	0.704	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P313559

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838984	Total-P	0.993	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312637

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838733	O-Phosphate-P	0.545	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P312638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838891	O-Phosphate-P	0.652	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P312657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838885	Color (true)	12.9	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P312661

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838978	Color (true)	10.5	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P312813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839038	Total Alkalinity	0.202	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P313590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838828	TDS	2.60	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P312815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1839038	Fluoride	0.482	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P313153

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1838886	Organic Carbon	1.90	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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A72067

Included Lab Sample IDs: 1838889, 1838890, 1838891

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.8	99.8	P/P	90 - 110
O-Phosphate-P	97.6	96.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A72068

Included Lab Sample IDs: 1838883, 1838884, 1838885

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

Reference Method: SM 2120 B

Run ID: A72073

Included Lab Sample IDs: 1838884, 1838885

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	102	P/P	85 - 115

Reference Method: SM 2120 B

Run ID: A72074

Included Lab Sample IDs: 1838883

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	104	P/P	85 - 115

Reference Method: SM 2320 B-97

Run ID: A72127

Included Lab Sample IDs: 1838883, 1838884, 1838885

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A72127

Included Lab Sample IDs: 1838883, 1838884, 1838885

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A72223

Included Lab Sample IDs: 1838886, 1838887, 1838888

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A72235

Included Lab Sample IDs: 1838886, 1838887, 1838888

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A72255

Included Lab Sample IDs: 1838886, 1838887, 1838888

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.8	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A72305

Included Lab Sample IDs: 1838883, 1838884, 1838885

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Chloride	102	103	P/P	90 - 110
Sulfate	98.8	98.8	P/P	90 - 110
Sulfate	99.3	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A72353

Included Lab Sample IDs: 1838886, 1838887, 1838888

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	101	P/P	90 - 110
Total-P	104	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A72456

Included Lab Sample IDs: 1838886, 1838887, 1838888

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.9	101	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				0.749	
EPA 300.0 Rev. 2.1	Chloride	101	101 102		0.0748	
	Sulfate	97.6	98.2 96.6		0.0646	
EPA 350.1 Rev. 2.0	Ammonia-N	106	103 95.8			5.83
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	98.4 101			2.10
EPA 353.2 Rev. 2.0	NO2NO3-N	104	99.9 98.9			0.971
EPA 365.1 Rev. 2.0	Total-P	101				0.704
	Total-P	98.8				0.993
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	107	98.9 98.1			0.545
	O-Phosphate-P	100				0.652
SM 2120 B	Color (true)				12.9	
	Color (true)				10.5	
SM 2320 B-97	Total Alkalinity	103			0.202	
SM 2540 C-97	TDS				2.60	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-97	Fluoride	97.4	96.7	97.2		0.482
SM 5310 B-00	Organic Carbon	92.0	104			1.90

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1838883, 1838884, 1838885
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1838883, 1838884, 1838885
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1838883, 1838884, 1838885
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1838886, 1838887, 1838888
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1838886, 1838887, 1838888
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1838886, 1838887, 1838888
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1838886, 1838887, 1838888
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1838889, 1838890, 1838891
SM 2120 B / E31780	True Color measured at 450 nm	1838883, 1838884, 1838885
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1838883, 1838884, 1838885
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1838883, 1838884, 1838885
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1838883, 1838884, 1838885
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1838883, 1838884, 1838885
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1838886, 1838887, 1838888

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	10/06/2016			10/06/2016 15:53	Sima Feizi	1838883, 1838884, 1838885
EPA 300.0 Rev. 2.1	10/06/2016			10/20/2016	Ping Hua	1838883, 1838884, 1838885
EPA 350.1 Rev. 2.0	10/06/2016			10/14/2016	Sofia Elnemr	1838886, 1838887, 1838888
EPA 351.2 Rev. 2.0	10/06/2016	10/21/2016	Adrian Shelby	10/27/2016	Christopher Armour	1838886, 1838887, 1838888
EPA 353.2 Rev. 2.0	10/06/2016			10/14/2016	Beverly Y. Sanders	1838886, 1838887, 1838888
EPA 365.1 Rev. 2.0	10/06/2016	10/20/2016	Vijayalakshmi Reddy	10/20/2016	Lipi Saha	1838886, 1838887, 1838888
EPA 365.1 Rev. 2.0 dissolved	10/06/2016			10/06/2016 15:04	Julia Storbeck	1838891
	10/06/2016			10/06/2016 15:31	Julia Storbeck	1838889, 1838890
SM 2120 B	10/06/2016			10/06/2016 15:47	Julie Michelle Frank	1838885
	10/06/2016			10/06/2016 15:48	Julie Michelle Frank	1838884
	10/06/2016			10/06/2016 18:01	Julie Michelle Frank	1838883
SM 2320 B-97	10/06/2016			10/10/2016	Dale L. Simmons	1838883, 1838884, 1838885
SM 2540 C-97	10/06/2016			10/11/2016	Sima Feizi	1838883, 1838884, 1838885
SM 2540 D-97	10/06/2016			10/11/2016	Sima Feizi	1838883, 1838884, 1838885
SM 4500 F-C-97	10/06/2016			10/10/2016	Dale L. Simmons	1838883, 1838884, 1838885
SM 5310 B-00	10/06/2016			10/13/2016	Julie Michelle Frank	1838886, 1838887, 1838888