

Chemical Analysis Report

SE-DIST-2016-03-24-01

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

Event Description: **MOSQTUNK3/21**
Request ID: **RQ-2016-03-21-55**
Customer: **SE-DIST**
Project ID: **SCIREF**

Send Reports to:
FL Dept. of Environmental Protection
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2199 South Rock Road
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 18-APR-2016 16:06



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 groups are included in this report: Metals, Nutrients and Pesticides.

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: Mosquito Creek @ CR-710

Collection Date/Time: 03/23/2016 12:55

Field ID: 26010408_03232016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1783067	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P301011	
	EPA 300.0	Bromide**	0.64		mg Br/L	P301110	
	EPA 300.0 Rev. 2.1	Chloride	190		mg Cl/L	P301104	
		Sulfate	74		mg SO4/L	P301106	
	SM 2120 B	Color (true)	150		PCU	P300994	
	SM 2320 B-97	Total Alkalinity	93		mg CaCO3/L	P301443	
	SM 2540 C-97	TDS	609		mg/L	P301561	
	SM 2540 D-97	TSS	2	U	mg/L	P301506	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P301446	
1783068	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P301366	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P301511	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.37		mg N/L	P301490	
	EPA 365.1 Rev. 2.0	Total-P	0.40		mg P/L	P301325	
	SM 5310 B-00	Organic Carbon	29		mg C/L	P301375	
1783069	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.34		mg P/L	P300988	
1783076	EPA 200.7 Rev. 4.4	Calcium	54.0		mg/L	P301307	
		Magnesium	19.5		mg/L	P301307	
		Potassium	22.7		mg/L	P301307	
		Sodium	100		mg/L	P301307	
1783077	EPA 8321B	Sucralose**	0.11		ug/L	P300868	
		Acetaminophen**	0.0040	U	ug/L	P300868	LCS

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P301011

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P301307

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L

Reference Method: EPA 300.0

Batch ID: P301110

Component	Result	Code	Units
Bromide	0.016	U	mg Br/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301104

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301106

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P301366

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P301511

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P301490

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P301325

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300988

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

Reference Method: EPA 8321B
Batch ID: P300868

Component	Result	Code	Units
Acetaminophen	0.0040	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P300994

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P301443

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

Reference Method: SM 2540 C-97
Batch ID: P301561

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P301506

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P301446

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P301375

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P301307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	80 - 120
Magnesium	104		P	80 - 120
Potassium	101		P	80 - 120
Sodium	101		P	80 - 120

Reference Method: EPA 300.0
Batch ID: P301110

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301104

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P301106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P301366

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P301511

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P301490

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P301325

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P300988

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.2		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P300868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	24.1		F	40 - 140
Sucralose	110		P	40 - 140

Reference Method: SM 2320 B-97
 Batch ID: P301443

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 105

Reference Method: SM 4500 F-C-97
 Batch ID: P301446

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	94 - 108

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P301375

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P301307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1782193	Calcium	105	103	P/P	80 - 120
1782193	Magnesium	103	104	P/P	80 - 120
1782193	Potassium	102	103	P/P	80 - 120
1782193	Sodium	101	99.3	P/P	80 - 120
1782860	Calcium	101		P	80 - 120
1782860	Magnesium	103		P	80 - 120
1782860	Potassium	101		P	80 - 120
1782860	Sodium	98.2		P	80 - 120

Reference Method: EPA 300.0
Batch ID: P301110

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1782925	Bromide	96.8	96.7	P/P	90 - 110
1782935	Bromide	97.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301104

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1782925	Chloride	101	102	P/P	90 - 110
1782935	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1782925	Sulfate	96.1	96.3	P/P	90 - 110
1782935	Sulfate	99.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P301366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1783109	Ammonia-N	97.7	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P301511

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1783040	Kjeldahl Nitrogen	101	109	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P301490

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1783068	NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P301325

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1783054	Total-P	96.4	96.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1783041	O-Phosphate-P	97.0	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P300868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1782481	Acetaminophen	57.6	48.8	P/P	40 - 140
1782481	Sucralose	111	101	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P301446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1783051	Fluoride	96.7	97.8	P/P	94 - 107

Reference Method: SM 5310 B-00
Batch ID: P301375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1782953	Organic Carbon	92.2	92.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P301011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1782823	Turbidity	0.454	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P301307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1782193	Calcium	2.03	Spike	P	0 - 20
1782193	Magnesium	0.468	Spike	P	0 - 20
1782193	Potassium	0.836	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P301307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1782193	Sodium	1.65	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P301110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1782925	Bromide	0.0821	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301104

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1782925	Chloride	0.367	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P301106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1782925	Sulfate	0.155	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P301366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783109	Ammonia-N	1.98	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P301511

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783040	Kjeldahl Nitrogen	6.98	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P301490

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783068	NO2NO3-N	0.709	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P301325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783054	Total-P	0.531	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P300988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783041	O-Phosphate-P	3.44	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P300868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1782481	Acetaminophen	16.5	Spike	P	0 - 30
1782481	Sucralose	8.13	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P300994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783086	Color (true)	2.76	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P301443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783051	Total Alkalinity	0.519	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P301561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783049	TDS	1.93	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P301446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1783051	Fluoride	1.05	Spike	P	0 - 3.7

Reference Method: SM 5310 B-00
Batch ID: P301375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1782953	Organic Carbon	0.316	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 Surrogates

Quality Assurance Report Surrogates

Lab Sample ID: 1783077
Field Sample ID: 26010408_03232016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	36.2	P	30 - 150
EPA 8321B	Acetaminophen-d4	36.2	P	30 - 150
EPA 8321B	Sucralose-d6	63.5	P	40 - 150
EPA 8321B	Sucralose-d6	63.5	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0
Run ID: A68401
Included Lab Sample IDs: 1783067

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A68401
Included Lab Sample IDs: 1783067

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	101	P/P	90 - 110
Sulfate	96.5	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A68425
Included Lab Sample IDs: 1783069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.6	98.6	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A68426
Included Lab Sample IDs: 1783067

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	98.2	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A68427
Included Lab Sample IDs: 1783067

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105

Reference Method: EPA 8321B
Run ID: A68501
Included Lab Sample IDs: 1783077

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	125	P/P	70 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A68544
Included Lab Sample IDs: 1783077

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	116	125	P/P	60 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A68562
Included Lab Sample IDs: 1783068

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	100	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A68565
Included Lab Sample IDs: 1783068

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.8	92.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A68588
Included Lab Sample IDs: 1783068

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

Reference Method: SM 2320 B-97
Run ID: A68600
Included Lab Sample IDs: 1783067

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A68600
Included Lab Sample IDs: 1783067

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	98.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A68601
Included Lab Sample IDs: 1783076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	101	P/P	90 - 110
Magnesium	103	101	P/P	90 - 110
Sodium	99.2	97.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A68614
Included Lab Sample IDs: 1783068

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A68614

Included Lab Sample IDs: 1783068

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A68636

Included Lab Sample IDs: 1783076

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A68715

Included Lab Sample IDs: 1783068

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	97.0	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				0.454	
EPA 200.7 Rev. 4.4	Calcium	103	105	103		2.03
	Magnesium	104	103	104		0.468
	Potassium	101	102	103		0.836
	Sodium	101	101	99.3		1.65
EPA 300.0	Bromide	99.8	96.8	96.7		0.0821
EPA 300.0 Rev. 2.1	Chloride	102	101	102		0.367
	Sulfate	99.2	96.1	96.3		0.155
EPA 350.1 Rev. 2.0	Ammonia-N	97.5	97.7	99.7		1.98
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	101	109		6.98
EPA 353.2 Rev. 2.0	NO2NO3-N	100	97.5			0.709
EPA 365.1 Rev. 2.0	Total-P	96.0	96.4	96.9		0.531
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2	97.0	100		3.44
EPA 8321B	Acetaminophen	24.1	57.6	48.8		16.5
	Sucralose	110	111	101		8.13
SM 2120 B	Color (true)				2.76	
SM 2320 B-97	Total Alkalinity	103			0.519	
SM 2540 C-97	TDS				1.93	
SM 4500 F-C-97	Fluoride	97.8	96.7	97.8		1.05
SM 5310 B-00	Organic Carbon	93.8	92.2	92.5		0.316

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
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Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1783067
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1783076
EPA 300.0 / E31780	Bromide in aqueous matrices	1783067
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1783067
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1783067
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1783068
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1783068
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1783068
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1783068
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1783069
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1783077
EPA 8321B / E31780	Personal Care Products and pesticides in water matrices by HPLC/MS/MS	1783077
SM 2120 B / E31780	True Color measured at 450 nm	1783067
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1783067
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1783067
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1783067
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1783067
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1783068

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	03/24/2016			03/24/2016 13:23	Sima Feizi	1783067
EPA 200.7 Rev. 4.4	03/24/2016	03/30/2016	Elliott D. Healy	04/01/2016	Joshua Ayres	1783076
	03/24/2016	03/30/2016	Elliott D. Healy	04/04/2016	Joshua Ayres	1783076
EPA 300.0	03/24/2016			03/25/2016	Julia Storbeck	1783067
EPA 300.0 Rev. 2.1	03/24/2016			03/25/2016	Julia Storbeck	1783067
EPA 350.1 Rev. 2.0	03/24/2016			03/31/2016	Diana M. Turner	1783068
EPA 351.2 Rev. 2.0	03/24/2016			04/06/2016	Christopher Armour	1783068
EPA 353.2 Rev. 2.0	03/24/2016	04/04/2016	Sofia Elhemr	04/01/2016	Diana M. Turner	1783068
EPA 365.1 Rev. 2.0	03/24/2016	03/31/2016	Christopher Armour	04/01/2016	Lipi Saha	1783068
EPA 365.1 Rev. 2.0 dissolved	03/24/2016			03/24/2016 12:02	Ping Hua	1783069
EPA 8321B	03/24/2016	03/28/2016	Hoor Shaik	03/29/2016	Mohammad Ghaffari	1783077
	03/24/2016	03/28/2016	Hoor Shaik	03/30/2016	Juyoung Kim	1783077
SM 2120 B	03/24/2016			03/24/2016 13:08	Rochelle Y Jackson	1783067
SM 2320 B-97	03/24/2016			03/30/2016	Dale L. Simmons	1783067
SM 2540 C-97	03/24/2016			03/28/2016	Sima Feizi	1783067
SM 2540 D-97	03/24/2016			03/28/2016	Sima Feizi	1783067
SM 4500 F-C-97	03/24/2016			03/30/2016	Dale L. Simmons	1783067
SM 5310 B-00	03/24/2016			03/30/2016	Sofia Elhemr	1783068