

Chemical Analysis Report

TLH-ROC-2018-04-17-02

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

Event Description: **A-b/t/m**
Request ID: **RQ-2018-04-09-55**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 04-MAY-2018 13:35



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: 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: TENMILE CREEK @ CR274

Collection Date/Time: 04/17/2018 10:55

Field ID: G2TLHR0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985259	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P343612	
	EPA 300.0 Rev. 2.1	Chloride	3.5		mg Cl/L	P343705	
		Sulfate	0.89		mg SO4/L	P343707	
	SM 2120 B	Color (true)	250		PCU	P343588	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P344071	
	SM 2540 C-97	TDS	47		mg/L	P344112	
	SM 2540 D-97	TSS	3	I	mg/L	P344056	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P344073	
1985260	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P344160	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P343725	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P343749	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P343830	
	SM 5310 B-00	Organic Carbon	21		mg C/L	P343984	
1985261	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P343674	
1985265	EPA 8321B	2,4-D	0.0020	U	ug/L	P343642	
		Bentazon	8.0E-04	U	ug/L	P343642	
		MCP	0.0020	U	ug/L	P343642	
		Triclopyr**	0.0040	U	ug/L	P343642	
		Imidacloprid	0.0020	U	ug/L	P343642	
		Diuron	0.0020	U	ug/L	P343642	
		Pyraclostrobin**	0.0020	U	ug/L	P343642	
		Primidone**	0.0040	U	ug/L	P343642	
		Linuron	0.0040	U	ug/L	P343642	
		Acetaminophen**	0.0080	U	ug/L	P343642	
		Fenuron	0.016	U	ug/L	P343642	
		Imazapyr**	0.0040	U	ug/L	P343642	
		Carbamazepine**	4.0E-04	U	ug/L	P343642	
		Fluridone**	8.0E-04	U	ug/L	P343642	
		Hydrocodone**	8.0E-04	U	ug/L	P343642	
		Sucralose**	0.10	U	ug/L	P343548	

Ref. Method and Comment:

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P343612

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P343705

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343705

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343707

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344160

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343725

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343749

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343830

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343674

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

Reference Method: EPA 8321B
Batch ID: P343548

Component	Result	Code	Units
Sucralose	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P343642

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P343642

Component	Result	Code	Units
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P343588

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P344071

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

Reference Method: SM 2540 C-97
Batch ID: P344112

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P344056

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P344073

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P343984

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: P343705

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	93.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343707

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344160

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343725

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: P343749

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: P343830

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: P343674

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.9		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P343548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	118		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P343642

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	40 - 150
Acetaminophen	122		P	30 - 150
Bentazon	134		P	30 - 150
Carbamazepine	116		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P343642

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	80.7		P	40 - 150
Fenuron	134		P	40 - 150
Fluridone	58.8		P	40 - 150
Hydrocodone	115		P	40 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	129		P	40 - 160
Linuron	81.4		P	40 - 150
MCPP	105		P	40 - 150
Primidone	139		P	40 - 150
Pyraclostrobin	59.7		P	40 - 150
Triclopyr	105		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P344071

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P344073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343984

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343705

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985032	Chloride	98.0		P	90 - 110
1985083	Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985032	Sulfate	92.8		P	90 - 110
1985083	Sulfate	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344160

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985238	Ammonia-N	102	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343725

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985240	Kjeldahl Nitrogen	104	112	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985239	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343830

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985238	Total-P	106	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343674

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985241	O-Phosphate-P	97.6	97.4	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P343548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984992	Sucralose	51.9	48.9	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P343642

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985615	2,4-D	68.9	71.4	P/P	40 - 150
1985615	Acetaminophen	116	120	P/P	30 - 150
1985615	Bentazon	70.5	89.7	P/P	30 - 150
1985615	Carbamazepine	106	110	P/P	40 - 150
1985615	Diuron	73.3	71.4	P/P	40 - 150
1985615	Fenuron	116	125	P/P	40 - 150
1985615	Fluridone	47.0	47.4	P/P	40 - 150
1985615	Hydrocodone	118	115	P/P	40 - 150
1985615	Imazapyr	78.0	82.2	P/P	40 - 150
1985615	Imidacloprid	128	136	P/P	40 - 160
1985615	Linuron	67.8	71.1	P/P	40 - 150
1985615	MCPP	74.6	66.9	P/P	40 - 150
1985615	Primidone	112	122	P/P	40 - 150
1985615	Pyraclostrobin	60.3	53.3	P/P	40 - 150
1985615	Triclopyr	70.9	70.3	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
 Batch ID: P344073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984926	Fluoride	94.9	96.6	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P343984

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985171	Organic Carbon	103		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P343612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985170	Turbidity	2.68	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P343705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985032	Chloride	0.246	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P343707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985032	Sulfate	0.742	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P344160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985238	Ammonia-N	1.52	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P343725

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985240	Kjeldahl Nitrogen	5.71	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P343749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985239	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343830

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985238	Total-P	0.462	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985241	O-Phosphate-P	0.188	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P343548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984992	Sucralose	5.19	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P343642

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985615	2,4-D	3.61	Spike	P	0 - 30
1985615	Acetaminophen	3.23	Spike	P	0 - 30
1985615	Bentazon	24.0	Spike	P	0 - 30
1985615	Carbamazepine	3.79	Spike	P	0 - 30
1985615	Diuron	2.69	Spike	P	0 - 30
1985615	Fenuron	7.51	Spike	P	0 - 30
1985615	Fluridone	0.994	Spike	P	0 - 30
1985615	Hydrocodone	2.47	Spike	P	0 - 30
1985615	Imazapyr	5.21	Spike	P	0 - 30
1985615	Imidacloprid	5.51	Spike	P	0 - 30
1985615	Linuron	4.75	Spike	P	0 - 30
1985615	MCP	10.8	Spike	P	0 - 30
1985615	Primidone	9.12	Spike	P	0 - 30
1985615	Pyraclostrobin	12.3	Spike	P	0 - 30
1985615	Triclopyr	0.844	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P343588

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985235	Color (true)	1.42	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P344071

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984926	Total Alkalinity	0.0685	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P344112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985235	TDS	4.65	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P344073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984926	Fluoride	0.986	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P343984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985171	Organic Carbon	0.0	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

Lab Sample ID: 1985265
Field Sample ID: G2TLHR0001

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	110	P	30 - 160
EPA 8321B	2,4-D-d3	110	P	30 - 160
EPA 8321B	Acetaminophen-d4	124	P	30 - 160
EPA 8321B	Acetaminophen-d4	124	P	30 - 160
EPA 8321B	Carbamazepine-d10	127	P	30 - 160
EPA 8321B	Carbamazepine-d10	127	P	30 - 160
EPA 8321B	Diuron-d6	83.0	P	30 - 160
EPA 8321B	Diuron-d6	83.0	P	30 - 160
EPA 8321B	Primidone-d5	109	P	30 - 160
EPA 8321B	Primidone-d5	109	P	30 - 160
EPA 8321B	Sucralose-d6	58.7	P	40 - 160
EPA 8321B	Sucralose-d6	58.7	P	40 - 160

Quality Assurance Report Calibration Verification

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A83267

Included Lab Sample IDs: 1985259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.3	96.7	P/P	90 - 110
Sulfate	97.9	96.9	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A83292

Included Lab Sample IDs: 1985259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A83304

Included Lab Sample IDs: 1985259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A83323

Included Lab Sample IDs: 1985261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A83333

Included Lab Sample IDs: 1985265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	96.2	94.5	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83348

Included Lab Sample IDs: 1985260

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83386

Included Lab Sample IDs: 1985260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83416

Included Lab Sample IDs: 1985260

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00
 Run ID: A83431
 Included Lab Sample IDs: 1985260

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

Reference Method: SM 2320 B-97
 Run ID: A83462
 Included Lab Sample IDs: 1985259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.2	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Run ID: A83462
 Included Lab Sample IDs: 1985259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	99.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Run ID: A83491
 Included Lab Sample IDs: 1985260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	95.9	102	P/P	90 - 110

Reference Method: EPA 8321B
 Run ID: A83600
 Included Lab Sample IDs: 1985265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	123	119	P/P	50 - 150
Acetaminophen	124	137	P/P	60 - 150
Bentazon	142	141	P/P	50 - 150
Carbamazepine	136	127	P/P	60 - 150
Diuron	133	127	P/P	60 - 150
Fenuron	131	126	P/P	60 - 150
Fluridone	111	112	P/P	60 - 160
Hydrocodone	118	120	P/P	60 - 150
Imazapyr	96.8	109	P/P	50 - 150
Imidacloprid	126	122	P/P	60 - 150
Linuron	125	129	P/P	60 - 150
MCP	128	124	P/P	50 - 150
Primidone	110	135	P/P	60 - 150
Pyraclostrobin	95.1	106	P/P	60 - 150
Triclopyr	131	127	P/P	50 - 150

* 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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					2.68	
EPA 300.0 Rev. 2.1	Chloride	93.9	98.0	98.2		0.246	
	Sulfate	95.7	92.8	96.3		0.742	
EPA 350.1 Rev. 2.0	Ammonia-N	101	102	99.7			1.52
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	104	112			5.71
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104	102	102			0.0
EPA 365.1 Rev. 2.0	Total-P	102	106	105			0.462
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9	97.6	97.4			0.188
EPA 8321B	2,4-D	111	68.9	71.4			3.61
	Acetaminophen	122	116	120			3.23
	Bentazon	134	70.5	89.7			24.0
	Carbamazepine	116	106	110			3.79
	Diuron	80.7	73.3	71.4			2.69
	Fenuron	134	116	125			7.51
	Fluridone	58.8	47.0	47.4			0.994
	Hydrocodone	115	118	115			2.47
	Imazapyr	107	78.0	82.2			5.21
	Imidacloprid	129	128	136			5.51
	Linuron	81.4	67.8	71.1			4.75
	MCPP	105	74.6	66.9			10.8
	Primidone	139	112	122			9.12
	Pyraclostrobin	59.7	60.3	53.3			12.3
	Sucralose	118	51.9	48.9			5.19
	Triclopyr	105	70.9	70.3			0.844
SM 2120 B	Color (true)					1.42	
SM 2320 B-97	Total Alkalinity	102				0.0685	
SM 2540 C-97	TDS					4.65	
SM 4500 F-C-97	Fluoride	95.8	94.9	96.6			0.986
SM 5310 B-00	Organic Carbon	98.5	103				0.0

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1985259
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1985259
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1985259
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1985260
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1985260
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1985260
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1985260
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1985261
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1985265
SM 2120 B / E31780	True Color measured at 450 nm	1985259
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1985259
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1985259
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1985259
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1985259

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1985260

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	04/17/2018			04/17/2018 17:41	William L. Brown IV	1985259
EPA 300.0 Rev. 2.1	04/17/2018			04/19/2018 01:34	Lipi Saha	1985259
EPA 350.1 Rev. 2.0	04/17/2018			04/24/2018 09:38	Ping Hua	1985260
EPA 351.2 Rev. 2.0	04/17/2018	04/19/2018 11:30	Adrian Shelby	04/20/2018 13:35	Joseph Suarez	1985260
EPA 353.2 Rev. 2.0	04/17/2018			04/19/2018 13:01	Lauren Bottorf	1985260
EPA 365.1 Rev. 2.0	04/17/2018	04/20/2018 12:57	Sima Feizi	04/24/2018 11:38	Beverly Y. Sanders	1985260
EPA 365.1 Rev. 2.0 dissolved	04/17/2018			04/18/2018 15:40	Megan Treadwell	1985261
EPA 8321B	04/17/2018	04/18/2018 12:00	Hoor Shaik	04/18/2018 18:34	S. M. Reddy	1985265
	04/17/2018	04/20/2018 10:00	Hoor Shaik	04/22/2018 10:50	Julie Michelle Frank	1985265
	04/17/2018	04/20/2018 10:00	Hoor Shaik	04/23/2018 01:51	Julie Michelle Frank	1985265
SM 2120 B	04/17/2018			04/17/2018 18:47	Tanya Welborn	1985259
SM 2320 B-97	04/17/2018			04/26/2018 02:29	Dale L. Simmons	1985259
SM 2540 C-97	04/17/2018			04/21/2018 23:36	Yijie Li	1985259
SM 2540 D-97	04/17/2018			04/21/2018 23:06	Yijie Li	1985259
SM 4500 F-C-97	04/17/2018			04/26/2018 02:29	Dale L. Simmons	1985259
SM 5310 B-00	04/17/2018			04/23/2018 23:50	Megan Treadwell	1985260