

Chemical Analysis Report

TLH-ROC-2018-01-11-02

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

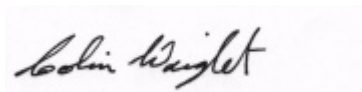
Event Description: **A-b/t/m**
Request ID: **RQ-2018-01-08-21**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd
Tallahassee, FL 32399
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Certified by: Colin Wright, Program Administrator

Date Certified: 01-FEB-2018 11:34

A handwritten signature in black ink, appearing to read "Colin Wright", is written on a light-colored rectangular background.

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: Spring Crk @ US 98

Collection Date/Time: 01/11/2018 11:00

Field ID: G1TLHR0084

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1958892	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P338122	
	EPA 300.0 Rev. 2.1	Chloride	6.1		mg Cl/L	P338416	
	SM 2120 B	Color (true)	34		PCU	P338109	
	SM 2320 B-97	Total Alkalinity	218	A	mg CaCO3/L	P338317	
	SM 2540 C-97	TDS	206		mg/L	P338391	
	SM 2540 D-97	TSS	3	I	mg/L	P338550	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P338319	
1958893	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P338537	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21		mg N/L	P338263	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P338334	
	EPA 365.1 Rev. 2.0	Total-P	0.084		mg P/L	P338265	
	SM 5310 B-00	Organic Carbon	4.7		mg C/L	P338324	
1958894	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.035		mg P/L	P338142	
1958899	EPA 8321B	Sucralose**	0.032	I	ug/L	P338238	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P338081	
		Diuron	0.0020	U	ug/L	P338081	
		Fenuron	0.0080	U	ug/L	P338081	
		Imidacloprid	0.0020	UJ	ug/L	P338081	MS
		Bentazon	8.0E-04	UJ	ug/L	P338081	MS
		Linuron	0.0040	U	ug/L	P338081	
		Acetaminophen**	0.0080	U	ug/L	P338081	
		MCP	0.0020	U	ug/L	P338081	
		Carbamazepine**	4.4E-04	I	ug/L	P338081	
		Triclopyr**	0.0040	U	ug/L	P338081	
		Primidone**	0.0040	U	ug/L	P338081	
		Fluridone**	4.0E-04	U	ug/L	P338081	

Ref. Method and Comment:

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

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes.

USGS O-2060-01: Fluridone was detected in the method blank slightly above the MDL. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P338122

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P338416

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338537

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338263

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338334

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338265

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338142

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

Reference Method: EPA 8321B
Batch ID: P338238

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P338109

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P338317

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

Reference Method: SM 2540 C-97
Batch ID: P338391

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
 Batch ID: P338550

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P338319

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P338324

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

Reference Method: USGS O-2060-01
 Batch ID: P338081

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
Diuron	0.0020	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	6.8E-04	I	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
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P338416

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P338537

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: P338263

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P338334

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: P338265

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P338142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	95.9		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P338238

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	86.4		P	40 - 150

Reference Method: SM 2320 B-97
 Batch ID: P338317

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
 Batch ID: P338319

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.0		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P338324

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.9		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P338081

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	94.4		P	40 - 150
Acetaminophen	99.3		P	30 - 150
Bentazon	95.3		P	30 - 150
Carbamazepine	120		P	40 - 150
Diuron	106		P	40 - 150
Fenuron	113		P	40 - 150
Fluridone	134		P	40 - 150
Imidacloprid	115		P	40 - 160
Linuron	108		P	40 - 150
MCP	92.3		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P338081

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Primidone	103		P	40 - 150
Triclopyr	90.9		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P338416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958884	Chloride	92.4		P	90 - 110
1959125	Chloride	95.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P338537

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958885	Ammonia-N	98.1	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P338263

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958893	Kjeldahl Nitrogen	103	91.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P338334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958893	NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P338265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958885	Total-P	99.0	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P338142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958886	O-Phosphate-P	95.7	96.8	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P338238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958065	Sucralose	96.1	93.6	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P338319

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958892	Fluoride	93.6	92.9	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P338324

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958648	Organic Carbon	94.2	94.1	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P338081

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958899	2,4-D	105	118	P/P	40 - 150
1958899	Acetaminophen	93.0	84.6	P/P	30 - 150
1958899	Bentazon	145	155	P/F	30 - 150
1958899	Carbamazepine	129	120	P/P	40 - 150
1958899	Diuron	116	105	P/P	40 - 150
1958899	Fenuron	116	105	P/P	40 - 150
1958899	Fluridone	137	128	P/P	40 - 150
1958899	Imidacloprid	164	148	F/P	40 - 160
1958899	Linuron	126	107	P/P	40 - 150
1958899	MCP	85.2	91.6	P/P	40 - 150
1958899	Primidone	126	113	P/P	40 - 150
1958899	Triclopyr	84.3	90.7	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P338122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958698	Turbidity	2.47	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P338416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959125	Chloride	0.847	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958885	Ammonia-N	1.13	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338263

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958893	Kjeldahl Nitrogen	9.68	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958893	NO2NO3-N	0.870	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958885	Total-P	0.138	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958886	O-Phosphate-P	0.999	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P338238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958065	Sucralose	2.51	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P338109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958722	Color (true)	6.61	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P338317

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958892	Total Alkalinity	0.130	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P338391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958699	TDS	3.19	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P338319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958892	Fluoride	0.490	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P338324

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958648	Organic Carbon	0.101	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P338081

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1958899	2,4-D	11.3	Spike	P	0 - 30
1958899	Acetaminophen	9.49	Spike	P	0 - 30
1958899	Bentazon	6.68	Spike	P	0 - 30
1958899	Carbamazepine	6.73	Spike	P	0 - 30
1958899	Diuron	9.51	Spike	P	0 - 30
1958899	Fenuron	10.1	Spike	P	0 - 30
1958899	Fluridone	7.32	Spike	P	0 - 30
1958899	Imidacloprid	10.2	Spike	P	0 - 30
1958899	Linuron	16.3	Spike	P	0 - 30
1958899	MCP	7.30	Spike	P	0 - 30
1958899	Primidone	11.3	Spike	P	0 - 30
1958899	Triclopyr	7.25	Spike	P	0 - 30

* 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: 1958899
Field Sample ID: G1TLHR0084

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	84.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	122	P	30 - 160
EPA 8321B	Diuron-d6	107	P	30 - 160
EPA 8321B	Primidone-d5	124	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	40 - 160
USGS O-2060-01	2,4-D-d3	97.4	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	84.6	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	122	P	30 - 160
USGS O-2060-01	Diuron-d6	107	P	30 - 160
USGS O-2060-01	Primidone-d5	124	P	30 - 160
USGS O-2060-01	Sucralose-d6	102	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A81418
Included Lab Sample IDs: 1958892

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A81425
Included Lab Sample IDs: 1958892

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A81429
Included Lab Sample IDs: 1958894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	98.3	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A81475
Included Lab Sample IDs: 1958892

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.1	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A81475
Included Lab Sample IDs: 1958892

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	97.2	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A81480
Included Lab Sample IDs: 1958893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.6	94.4	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A81482
Included Lab Sample IDs: 1958899

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	88.4	87.4	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A81486
Included Lab Sample IDs: 1958893

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A81519

Included Lab Sample IDs: 1958893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A81520

Included Lab Sample IDs: 1958893

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A81524

Included Lab Sample IDs: 1958892

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	105	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A81531

Included Lab Sample IDs: 1958899

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.0	88.8	P/P	50 - 150
Acetaminophen	105	108	P/P	60 - 150
Bentazon	92.6	94.3	P/P	50 - 150
Carbamazepine	109	110	P/P	60 - 150
Diuron	95.9	102	P/P	60 - 150
Fenuron	104	103	P/P	60 - 150
Fluridone	115	112	P/P	60 - 160
Imidacloprid	107	98.8	P/P	60 - 150
Linuron	105	110	P/P	60 - 150
MCP	88.0	88.7	P/P	50 - 150
Primidone	96.8	103	P/P	60 - 150
Triclopyr	95.4	87.9	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A81570

Included Lab Sample IDs: 1958893

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

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision	MS
				LCS	SMP

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					2.47	
EPA 300.0 Rev. 2.1	Chloride	96.7	95.0	92.4		0.847	
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.1	99.5			1.13
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	103	91.7			9.68
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104	103	104			0.870
EPA 365.1 Rev. 2.0	Total-P	98.1	99.0	98.8			0.138
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	95.9	95.7	96.8			0.999
EPA 8321B	Sucralose	86.4	96.1	93.6			2.51
SM 2120 B	Color (true)					6.61	
SM 2320 B-97	Total Alkalinity	101				0.130	
SM 2540 C-97	TDS					3.19	
SM 4500 F-C-97	Fluoride	96.0	93.6	92.9			0.490
SM 5310 B-00	Organic Carbon	94.9	94.2	94.1			0.101
USGS O-2060-01	2,4-D	94.4	105	118			11.3
	Acetaminophen	99.3	84.6	93.0			9.49
	Bentazon	95.3	145	155			6.68
	Carbamazepine	120	120	129			6.73
	Diuron	106	105	116			9.51
	Fenuron	113	105	116			10.1
	Fluridone	134	128	137			7.32
	Imidacloprid	115	148	164			10.2
	Linuron	108	107	126			16.3
	MCP	92.3	85.2	91.6			7.30
	Primidone	103	113	126			11.3
	Triclopyr	90.9	84.3	90.7			7.25

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1958892
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1958892
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1958893
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1958893
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1958893
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1958893
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1958894
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1958899
SM 2120 B / E31780	True Color measured at 450 nm	1958892
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1958892
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1958892
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1958892
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1958892
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1958893
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1958899
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1958899

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	01/11/2018			01/11/2018 14:38	DeAsia Armster	1958892
EPA 300.0 Rev. 2.1	01/11/2018			01/17/2018	Julia Storbeck	1958892
EPA 350.1 Rev. 2.0	01/11/2018			01/19/2018	Sofia Elnemr	1958893
EPA 351.2 Rev. 2.0	01/11/2018	01/16/2018	Adrian Shelby	01/18/2018	Joseph Suarez	1958893
EPA 353.2 Rev. 2.0	01/11/2018			01/17/2018	Beverly Y. Sanders	1958893
EPA 365.1 Rev. 2.0	01/11/2018	01/16/2018	Sima Feizi	01/18/2018	Lipi Saha	1958893
EPA 365.1 Rev. 2.0 dissolved	01/11/2018			01/11/2018 16:46	Megan Treadwell	1958894
EPA 8321B	01/11/2018	01/16/2018	Juyoung Kim	01/17/2018	Juyoung Kim	1958899
SM 2120 B	01/11/2018			01/11/2018 15:40	Tanya Welborn	1958892
SM 2320 B-97	01/11/2018			01/17/2018	Dale L. Simmons	1958892
SM 2540 C-97	01/11/2018			01/13/2018	Yijie Li	1958892
SM 2540 D-97	01/11/2018			01/13/2018	Yijie Li	1958892
SM 4500 F-C-97	01/11/2018			01/17/2018	Dale L. Simmons	1958892
SM 5310 B-00	01/11/2018			01/17/2018	Megan Treadwell	1958893
USGS O-2060-01	01/11/2018	01/16/2018	Hoor Shaik	01/17/2018	Julie Michelle Frank	1958899