

Chemical Analysis Report

TLH-ROC-2018-08-30-01

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

Event Description: **kit B-b/t/m (WBID 3310A)**

Request ID: **RQ-2018-07-09-61**

Customer: **TLH-ROC**

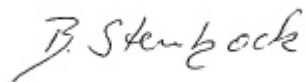
Project ID: **SMP**

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Date Certified: 14-SEP-2018 17:46



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: AUCILLA RIVER @ MOUTH

Collection Date/Time: 08/30/2018 12:10

Field ID: G1TLHR0091

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2021153	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P351091	
	SM 2320 B-97	Total Alkalinity	97		mg CaCO3/L	P351369	
	SM 2540 D-97	TSS	6	I	mg/L	P351094	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P351373	
2021154	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P351213	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P351045	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.066		mg N/L	P351314	
	EPA 365.1 Rev. 2.0	Total-P	0.070		mg P/L	P351065	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P351132	
2021155	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.039		mg P/L	P350975	
2021159	EPA 8321B	2,4-D	0.0021	I	ug/L	P350923	
		Bentazon	8.0E-04	U	ug/L	P350923	MS
		MCP	0.0020	U	ug/L	P350923	
		Triclopyr**	0.0040	U	ug/L	P350923	
		Imidacloprid	0.0020	U	ug/L	P350923	
		Diuron	0.0020	U	ug/L	P350923	
		Pyraclostrobin**	0.0020	U	ug/L	P350923	
		Primidone**	0.0040	U	ug/L	P350923	
		Linuron	0.0040	U	ug/L	P350923	
		Acetaminophen**	0.0080	U	ug/L	P350923	
		Fenuron	0.016	U	ug/L	P350923	
		Imazapyr**	0.012	I	ug/L	P350923	
		Carbamazepine**	8.0E-04	U	ug/L	P350923	
		Fluridone**	4.0E-04	U	ug/L	P350923	
		Hydrocodone**	8.0E-04	U	ug/L	P350923	
		Naproxen**	0.0080	U	ug/L	P350923	
		Ibuprofen**	0.020	U	ug/L	P350923	
		Sucralose**	0.010	U	ug/L	P350895	

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: P351091

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351213

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351045

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351314

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351065

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350975

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

Reference Method: EPA 8321B
Batch ID: P350895

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P350923

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	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.017	I	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P350923

Component	Result	Code	Units
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P351369

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

Reference Method: SM 2540 D-97
Batch ID: P351094

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351373

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P351132

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P351213

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	93.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P351045

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: P351314

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P351065

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P350975

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

Reference Method: EPA 8321B
 Batch ID: P350895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	92.8		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P350923

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	67.7		P	40 - 150
Acetaminophen	113		P	30 - 150
Bentazon	59.1		P	30 - 150
Carbamazepine	70.4		P	40 - 150
Diuron	65.8		P	40 - 150
Fenuron	93.5		P	40 - 150
Fluridone	86.7		P	40 - 150
Hydrocodone	110		P	40 - 150
Ibuprofen	72.9		P	40 - 150
Imazapyr	91.0		P	40 - 150
Imidacloprid	105		P	40 - 160
Linuron	60.5		P	40 - 150
MCPP	73.5		P	40 - 150
Naproxen	94.1		P	40 - 150
Primidone	105		P	40 - 150
Pyraclostrobin	72.9		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P350923

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Triclopyr	49.2		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P351369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P351373

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351132

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021066	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351045

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021177	Kjeldahl Nitrogen	98.9	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022025	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351065

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021177	Total-P	101	95.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021078	O-Phosphate-P	92.8	93.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P350895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2020679	Sucralose	91.4	93.1	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P350923

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2020945	2,4-D	99.8	107	P/P	40 - 150
2020945	Acetaminophen	127	126	P/P	30 - 150
2020945	Bentazon	20.8	18.4	F/F	30 - 150
2020945	Carbamazepine	56.4	48.5	P/P	40 - 150
2020945	Diuron	46.5	45.9	P/P	40 - 150
2020945	Fenuron	44.4	40.2	P/P	40 - 150
2020945	Fluridone	60.6	59.1	P/P	40 - 150
2020945	Hydrocodone	95.7	89.5	P/P	40 - 150
2020945	Ibuprofen	77.2	84.0	P/P	40 - 150
2020945	Imazapyr	88.1	81.6	P/P	40 - 150
2020945	Imidacloprid	96.2	84.6	P/P	40 - 160
2020945	Linuron	55.3	53.4	P/P	40 - 150
2020945	MCP	109	114	P/P	40 - 150
2020945	Naproxen	119	107	P/P	40 - 150
2020945	Primidone	62.1	61.0	P/P	40 - 150
2020945	Pyraclostrobin	79.4	73.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P350923

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2020945	Triclopyr	118	124	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P351373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2021242	Fluoride	100	99.1	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351132

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2020931	Organic Carbon	94.6	95.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020925	Turbidity	2.96	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021066	Ammonia-N	0.484	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021177	Kjeldahl Nitrogen	1.20	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022025	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351065

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021177	Total-P	5.11	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021078	O-Phosphate-P	0.965	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P350895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020679	Sucralose	1.58	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P350923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020945	2,4-D	6.51	Spike	P	0 - 30
2020945	Acetaminophen	0.965	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P350923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020945	Bentazon	12.5	Spike	P	0 - 30
2020945	Carbamazepine	15.0	Spike	P	0 - 30
2020945	Diuron	1.47	Spike	P	0 - 30
2020945	Fenuron	9.95	Spike	P	0 - 30
2020945	Fluridone	2.48	Spike	P	0 - 30
2020945	Hydrocodone	6.75	Spike	P	0 - 30
2020945	Ibuprofen	8.41	Spike	P	0 - 30
2020945	Imazapyr	6.95	Spike	P	0 - 30
2020945	Imidacloprid	12.8	Spike	P	0 - 30
2020945	Linuron	3.57	Spike	P	0 - 30
2020945	MCP	3.79	Spike	P	0 - 30
2020945	Naproxen	10.8	Spike	P	0 - 30
2020945	Primidone	1.79	Spike	P	0 - 30
2020945	Pyraclostrobin	7.90	Spike	P	0 - 30
2020945	Triclopyr	4.43	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P351369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021242	Total Alkalinity	0.607	Sample	P	0 - 1.6

Reference Method: SM 4500 F-C-97
Batch ID: P351373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2021242	Fluoride	0.979	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P351132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020931	Organic Carbon	0.724	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: 2021159
Field Sample ID: G1TLHR0091

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	130	P	30 - 160
EPA 8321B	Carbamazepine-d10	58.0	P	30 - 160
EPA 8321B	Diuron-d6	51.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	82.1	P	30 - 160
EPA 8321B	Primidone-d5	56.7	P	30 - 160
EPA 8321B	Sucralose-d6	133	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86214

Included Lab Sample IDs: 2021155

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

Reference Method: EPA 8321B

Run ID: A86218

Included Lab Sample IDs: 2021159

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	94.1	85.3	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A86253

Included Lab Sample IDs: 2021159

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	69.0	68.2	P/P	50 - 150
Acetaminophen	114	111	P/P	60 - 160
Bentazon	65.6	62.4	P/P	50 - 160
Carbamazepine	75.6	71.8	P/P	60 - 160
Diuron	78.2	63.2	P/P	60 - 150
Fenuron	94.1	97.0	P/P	60 - 150
Fluridone	72.5	72.9	P/P	60 - 160
Hydrocodone	108	99.0	P/P	60 - 150
Ibuprofen	125	138	P/P	50 - 160
Imazapyr	87.9	78.5	P/P	50 - 150
Imidacloprid	78.8	75.4	P/P	60 - 150
Linuron	82.4	83.9	P/P	60 - 150
MCP	68.8	72.5	P/P	50 - 150
Naproxen	69.7	75.0	P/P	50 - 160
Primidone	94.4	92.9	P/P	60 - 150
Pyraclostrobin	97.7	93.3	P/P	60 - 150
Triclopyr	83.9	84.3	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86278

Included Lab Sample IDs: 2021154

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86280

Included Lab Sample IDs: 2021153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86290

Included Lab Sample IDs: 2021154

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86290

Included Lab Sample IDs: 2021154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	103	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A86299

Included Lab Sample IDs: 2021154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.0	95.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86328

Included Lab Sample IDs: 2021154

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86354

Included Lab Sample IDs: 2021154

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

Reference Method: SM 2320 B-97

Run ID: A86387

Included Lab Sample IDs: 2021153

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

Reference Method: SM 4500 F-C-97

Run ID: A86387

Included Lab Sample IDs: 2021153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	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					2.96	
EPA 350.1 Rev. 2.0	Ammonia-N	93.8	103	104			0.484
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	98.9	100			1.20
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	104	104			0.0
EPA 365.1 Rev. 2.0	Total-P	99.2	101	95.4			5.11
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	92.8	93.7			0.965
EPA 8321B	2,4-D	67.7	99.8	107			6.51
	Acetaminophen	113	127	126			0.965
	Bentazon	59.1	20.8	18.4			12.5
	Carbamazepine	70.4	56.4	48.5			15.0
	Diuron	65.8	46.5	45.9			1.47
	Fenuron	93.5	44.4	40.2			9.95
	Fluridone	86.7	60.6	59.1			2.48
	Hydrocodone	110	95.7	89.5			6.75
	Ibuprofen	72.9	84.0	77.2			8.41
	Imazapyr	91.0	88.1	81.6			6.95
	Imidacloprid	105	96.2	84.6			12.8
	Linuron	60.5	55.3	53.4			3.57
	MCPP	73.5	114	109			3.79
	Naproxen	94.1	119	107			10.8
	Primidone	105	62.1	61.0			1.79
	Pyraclostrobin	72.9	79.4	73.4			7.90
	Sucralose	92.8	91.4	93.1			1.58
	Triclopyr	49.2	118	124			4.43
SM 2320 B-97	Total Alkalinity	103				0.607	
SM 4500 F-C-97	Fluoride	101	100	99.1			0.979
SM 5310 B-00	Organic Carbon	95.5	94.6	95.6			0.724

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2021153
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2021154
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2021154
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2021154
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2021154
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2021155
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2021159
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2021153
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2021153
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2021153
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2021154

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	08/30/2018			08/30/2018 16:04	Megan Treadwell	2021153
EPA 350.1 Rev. 2.0	08/30/2018			09/05/2018 13:25	Ping Hua	2021154
EPA 351.2 Rev. 2.0	08/30/2018	09/04/2018 12:00	Adrian Shelby	09/05/2018 11:38	Joseph Suarez	2021154
EPA 353.2 Rev. 2.0	08/30/2018			09/07/2018 15:56	Lauren Bottorf	2021154
EPA 365.1 Rev. 2.0	08/30/2018	09/04/2018 14:44	Sima Feizi	09/05/2018 08:08	Beverly Y. Sanders	2021154
EPA 365.1 Rev. 2.0 dissolved	08/30/2018			08/30/2018 16:10	Julia Storbeck	2021155
EPA 8321B	08/30/2018	08/30/2018 15:00	Mohammad Ghaffari	08/30/2018 23:16	Mohammad Ghaffari	2021159
	08/30/2018	08/31/2018 13:30	Hoor Shaik	09/01/2018 14:18	Juyoung Kim	2021159
	08/30/2018	08/31/2018 13:30	Hoor Shaik	09/02/2018 03:00	Juyoung Kim	2021159
SM 2320 B-97	08/30/2018			09/07/2018 10:18	Dale L. Simmons	2021153
SM 2540 D-97	08/30/2018			08/31/2018 09:00	DeAsia Armster	2021153
SM 4500 F-C-97	08/30/2018			09/07/2018 10:18	Dale L. Simmons	2021153
SM 5310 B-00	08/30/2018			09/05/2018 00:47	Megan Treadwell	2021154