

Chemical Analysis Report

TLH-ROC-2018-09-12-01

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

Event Description: **G1 Run 2**
Request ID: **RQ-2018-09-10-63**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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2600 Blair Stone Rd
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 01-OCT-2018 13:52

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored 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: 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: AUCILLA RIVER @ MOUTH

Collection Date/Time: 09/12/2018 13:35

Field ID: G1TLHR0091

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2024657	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P351638	
	SM 2320 B-97	Total Alkalinity	107		mg CaCO3/L	P351904	
	SM 2540 D-97	TSS	6	I	mg/L	P351800	
	SM 4500 F-C-97	Fluoride	0.35		mg F/L	P352061	
2024658	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P351766	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P351750	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P351816	
	EPA 365.1 Rev. 2.0	Total-P	0.056		mg P/L	P351803	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P351880	
2024659	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P351563	
2024669	EPA 8321B	2,4-D	0.0020	U	ug/L	P351416	
		Bentazon	8.0E-04	U	ug/L	P351416	
		MCP	0.0020	U	ug/L	P351416	MS
		Triclopyr**	0.0040	U	ug/L	P351416	MS
		Imidacloprid	0.0020	U	ug/L	P351416	
		Diuron	0.0020	U	ug/L	P351416	
		Pyraclostrobin**	0.0020	U	ug/L	P351416	
		Primidone**	0.0040	U	ug/L	P351416	
		Linuron	0.0040	U	ug/L	P351416	
		Acetaminophen**	0.0080	U	ug/L	P351416	
		Fenuron	0.016	U	ug/L	P351416	
		Imazapyr**	0.033		ug/L	P351416	
		Carbamazepine**	8.0E-04	U	ug/L	P351416	
		Fluridone**	4.0E-04	U	ug/L	P351416	
		Hydrocodone**	8.0E-04	U	ug/L	P351416	
		Naproxen**	0.0080	U	ug/L	P351416	
		Ibuprofen**	0.020	U	ug/L	P351416	
		Sucralose**	0.019	I	ug/L	P351579	
		Acesulfame K**	0.10	U	ug/L	P351579	

Ref. Method and Comment:

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

EPA 8321B: MS accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: AUCILLA RIVER @ MOUTH

Collection Date/Time: 09/12/2018 15:15

Field ID: G1TLHR0019

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2024660	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P351638	
	EPA 300.0 Rev. 2.1	Chloride	4.3		mg Cl/L	P351986	
		Sulfate	0.27	I	mg SO4/L	P351990	
		Color (true)	440		PCU	P351736	
	SM 2120 B	Total Alkalinity	14		mg CaCO3/L	P351713	
	SM 2540 C-97	TDS	102		mg/L	P351935	
	SM 2540 D-97	TSS	3	I	mg/L	P351977	
	SM 4500 F-C-97	Fluoride	0.048	I	mg F/L	P351717	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P351768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P351806	MS
2024661	EPA 353.2 Rev. 2.0	NO2NO3-N	0.060		mg N/L	P351697	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P351670	
	SM 5310 B-00	Organic Carbon	35		mg C/L	P351879	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P351561	
	EPA 200.7 Rev. 4.4	Calcium	8.57		mg/L	P351756	
2024670	EPA 200.7 Rev. 4.4	Iron	1.45E+03		ug/L	P351756	
		Magnesium	1.90		mg/L	P351756	
		Potassium	0.98	I	mg/L	P351756	
		Sodium	2.4		mg/L	P351756	
		Zinc	5.0	U	ug/L	P351756	
		Arsenic	0.49		ug/L	P351756	
		Cadmium	0.020	U	ug/L	P351756	
		Chromium	0.71	I	ug/L	P351756	
		Copper	0.22	I	ug/L	P351756	
		Lead	0.39		ug/L	P351756	
	EPA 200.8 Rev. 5.4	Nickel	0.58	I	ug/L	P351756	
		Silver	0.010	U	ug/L	P351756	

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: P351638

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351756

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351756

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351986

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351990

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351766

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351768

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351750

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351806

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351697

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351816

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351670

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351803

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351561

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351563

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

Reference Method: EPA 8321B
Batch ID: P351416

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P351416

Component	Result	Code	Units
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	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
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	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: EPA 8321B
Batch ID: P351579

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P351736

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P351713

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

Reference Method: SM 2320 B-97
Batch ID: P351904

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

Reference Method: SM 2540 C-97
Batch ID: P351935

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351800

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P351977

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351717

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P352061

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P351879

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

Reference Method: SM 5310 B-00
Batch ID: P351880

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: P351756

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Iron	108		P	85 - 115
Magnesium	111		P	85 - 115
Potassium	105		P	85 - 115
Sodium	106		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351756

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.4		P	85 - 115
Cadmium	106		P	85 - 115
Chromium	109		P	85 - 115
Copper	93.5		P	85 - 115
Lead	106		P	85 - 115
Nickel	95.4		P	85 - 115
Silver	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351986

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351990

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351768

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351750

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351806

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351697

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351816

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: P351670

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351803

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351561

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351563

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

Reference Method: EPA 8321B
Batch ID: P351416

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.8		P	40 - 150
Acetaminophen	83.5		P	30 - 150
Bentazon	87.4		P	30 - 150
Carbamazepine	89.2		P	40 - 150
Diuron	79.5		P	40 - 150
Fenuron	95.9		P	40 - 150
Fluridone	79.3		P	40 - 150
Hydrocodone	105		P	40 - 150
Ibuprofen	109		P	40 - 150
Imazapyr	77.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P351416

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	85.6		P	40 - 160
Linuron	69.1		P	40 - 150
MCPP	96.5		P	40 - 150
Naproxen	102		P	40 - 150
Primidone	69.6		P	40 - 150
Pyraclostrobin	80.5		P	40 - 150
Triclopyr	95.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351579

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	125		P	40 - 150
Sucralose	112		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P351736

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	93.7		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P351713

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

Reference Method: SM 2320 B-97
Batch ID: P351904

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P351717

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.7		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P352061

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.7		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351879

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P351880

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351756

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024826	Calcium	109		P	80 - 120
2024826	Iron	106		P	80 - 120
2024826	Magnesium	108		P	80 - 120
2024826	Potassium	102		P	80 - 120
2024826	Sodium	98.6		P	80 - 120
2024826	Zinc	104		P	80 - 120
2025161	Calcium	101		P	80 - 120
2025161	Iron	106	109	P/P	80 - 120
2025161	Magnesium	109	114	P/P	80 - 120
2025161	Potassium	104	108	P/P	80 - 120
2025161	Sodium	104	110	P/P	80 - 120
2025161	Zinc	102	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351756

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024826	Arsenic	98.1		P	80 - 120
2024826	Cadmium	105		P	80 - 120
2024826	Chromium	104		P	80 - 120
2024826	Copper	91.1		P	80 - 120
2024826	Lead	103		P	80 - 120
2024826	Nickel	90.8		P	80 - 120
2024826	Silver	101		P	80 - 120
2025161	Arsenic	103	102	P/P	80 - 120
2025161	Cadmium	107	106	P/P	80 - 120
2025161	Chromium	108	109	P/P	80 - 120
2025161	Copper	92.6	93.4	P/P	80 - 120
2025161	Lead	106	107	P/P	80 - 120
2025161	Nickel	96.0	95.8	P/P	80 - 120
2025161	Silver	105	105	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351986

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024610	Chloride	101		P	90 - 110
2024660	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024610	Sulfate	99.5		P	90 - 110
2024660	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024487	Ammonia-N	95.2	98.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024640	Ammonia-N	97.4	98.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024538	Kjeldahl Nitrogen	106	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024640	Kjeldahl Nitrogen	110	113	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351697

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024661	NO2NO3-N	95.2	94.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024539	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024639	Total-P	98.6	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351803

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024931	Total-P	99.6	94.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024705	O-Phosphate-P	96.9	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351563

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024659	O-Phosphate-P	95.1	97.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P351416

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023766	2,4-D	139	144	P/P	40 - 150
2023766	Acetaminophen	76.4	69.6	P/P	30 - 150
2023766	Bentazon	68.5	80.6	P/P	30 - 150
2023766	Carbamazepine	65.8	60.9	P/P	40 - 150
2023766	Diuron	57.8	51.6	P/P	40 - 150
2023766	Fenuron	53.6	52.1	P/P	40 - 150
2023766	Fluridone	83.4	77.5	P/P	40 - 150
2023766	Hydrocodone	77.8	73.3	P/P	40 - 150
2023766	Ibuprofen	102	103	P/P	40 - 150
2023766	Imazapyr	89.4	86.9	P/P	40 - 150
2023766	Imidacloprid	113	112	P/P	40 - 160
2023766	Linuron	59.2	58.8	P/P	40 - 150
2023766	MCPP	148	176	P/F	40 - 150
2023766	Naproxen	137	142	P/P	40 - 150
2023766	Primidone	62.7	61.4	P/P	40 - 150
2023766	Pyraclostrobin	81.5	80.8	P/P	40 - 150
2023766	Triclopyr	167	178	F/F	40 - 150

Reference Method: EPA 8321B
Batch ID: P351579

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024968	Acesulfame K	87.2	89.8	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P351717

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024610	Fluoride	99.9	98.5	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P352061

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024657	Fluoride	98.2	98.9	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351879

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024615	Organic Carbon	95.8	93.6	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P351880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2024489	Organic Carbon	95.9	94.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351638

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024680	Turbidity	4.44	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P351756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025161	Calcium	0.865	Spike	P	0 - 20
2025161	Iron	2.21	Spike	P	0 - 20
2025161	Magnesium	2.42	Spike	P	0 - 20
2025161	Potassium	2.50	Spike	P	0 - 20
2025161	Sodium	3.30	Spike	P	0 - 20
2025161	Zinc	0.392	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P351756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025161	Arsenic	0.339	Spike	P	0 - 20
2025161	Cadmium	0.782	Spike	P	0 - 20
2025161	Chromium	0.271	Spike	P	0 - 20
2025161	Copper	0.867	Spike	P	0 - 20
2025161	Lead	1.18	Spike	P	0 - 20
2025161	Nickel	0.159	Spike	P	0 - 20
2025161	Silver	0.227	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351986

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024610	Chloride	0.0855	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024610	Sulfate	0.134	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024487	Ammonia-N	3.23	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024640	Ammonia-N	0.696	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024538	Kjeldahl Nitrogen	1.90	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024640	Kjeldahl Nitrogen	2.23	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351697

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024661	NO2NO3-N	0.401	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024539	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024639	Total-P	2.70	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351803

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024931	Total-P	4.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024705	O-Phosphate-P	1.83	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024659	O-Phosphate-P	1.89	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P351416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023766	2,4-D	3.06	Spike	P	0 - 30
2023766	Acetaminophen	9.28	Spike	P	0 - 30
2023766	Bentazon	9.75	Spike	P	0 - 30
2023766	Carbamazepine	7.80	Spike	P	0 - 30
2023766	Diuron	11.3	Spike	P	0 - 30
2023766	Fenuron	2.94	Spike	P	0 - 30
2023766	Fluridone	7.11	Spike	P	0 - 30
2023766	Hydrocodone	5.84	Spike	P	0 - 30
2023766	Ibuprofen	1.39	Spike	P	0 - 30
2023766	Imazapyr	1.67	Spike	P	0 - 30
2023766	Imidacloprid	1.43	Spike	P	0 - 30
2023766	Linuron	0.627	Spike	P	0 - 30
2023766	MCPP	17.4	Spike	P	0 - 30
2023766	Naproxen	3.24	Spike	P	0 - 30
2023766	Primidone	2.18	Spike	P	0 - 30
2023766	Pyraclostrobin	0.821	Spike	P	0 - 30
2023766	Triclopyr	6.32	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P351579

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024968	Acesulfame K	2.88	Spike	P	0 - 30
2024968	Sucralose	21.3	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P351736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024680	Color (true)	0.477	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P351713

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024610	Total Alkalinity	0.329	Sample	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
 Batch ID: P351904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024923	Total Alkalinity	0.155	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
 Batch ID: P351935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024610	TDS	3.71	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P351717

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024610	Fluoride	0.986	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
 Batch ID: P352061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024657	Fluoride	0.473	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
 Batch ID: P351879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024615	Organic Carbon	2.30	Spike	P	0 - 20

Reference Method: SM 5310 B-00
 Batch ID: P351880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2024489	Organic Carbon	1.09	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: 2024669

Field Sample ID: G1TLHR0091

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	121	P	30 - 160
EPA 8321B	Acetaminophen-d4	91.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	69.6	P	30 - 160
EPA 8321B	Diuron-d6	68.9	P	30 - 160
EPA 8321B	Endothall-d6	154	P	40 - 160
EPA 8321B	Ibuprofen-d3	111	P	30 - 160
EPA 8321B	Primidone-d5	69.4	P	30 - 160
EPA 8321B	Sucralose-d6	123	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A86453
Included Lab Sample IDs: 2024660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.5	99.1	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A86457
Included Lab Sample IDs: 2024659, 2024662

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	99.2	P/P	90 - 110
O-Phosphate-P	99.3	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A86474
Included Lab Sample IDs: 2024657, 2024660

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

Reference Method: EPA 8321B
Run ID: A86482
Included Lab Sample IDs: 2024669

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	94.8	107	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A86506
Included Lab Sample IDs: 2024661

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: A86512
Included Lab Sample IDs: 2024660

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: A86512
Included Lab Sample IDs: 2024660

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A86514
Included Lab Sample IDs: 2024661

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A86520
Included Lab Sample IDs: 2024669

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	91.5	108	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A86528
Included Lab Sample IDs: 2024669

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.2	91.9	P/P	50 - 150
Bentazon	92.0	149	P/P	50 - 160
Ibuprofen	125	110	P/P	50 - 160
MCPD	83.0	91.4	P/P	50 - 150
Naproxen	73.2	125	P/P	50 - 160
Triclopyr	90.5	81.7	P/P	50 - 160

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A86531
Included Lab Sample IDs: 2024658, 2024661

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	97.5	P/P	90 - 110
Ammonia-N	101	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A86551
Included Lab Sample IDs: 2024658

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.4	95.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A86553
Included Lab Sample IDs: 2024658

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO ₂ NO ₃ -N	100	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A86565
Included Lab Sample IDs: 2024670

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	105	99.3	P/P	90 - 110
Iron	103	98.8	P/P	90 - 110
Magnesium	103	98.5	P/P	90 - 110
Potassium	101	97.2	P/P	90 - 110
Sodium	99.5	96.4	P/P	90 - 110
Zinc	102	99.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86566

Included Lab Sample IDs: 2024660

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86570

Included Lab Sample IDs: 2024661

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

Reference Method: SM 5310 B-00

Run ID: A86574

Included Lab Sample IDs: 2024658, 2024661

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	94.6	P/P	90 - 110
Organic Carbon	95.2	94.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86578

Included Lab Sample IDs: 2024658

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

Reference Method: SM 2320 B-97

Run ID: A86586

Included Lab Sample IDs: 2024657

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

Reference Method: SM 4500 F-C-97

Run ID: A86635

Included Lab Sample IDs: 2024657

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86668

Included Lab Sample IDs: 2024670

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	93.6	94.6	P/P	90 - 110
Cadmium	97.9	97.3	P/P	90 - 110
Chromium	103	103	P/P	90 - 110
Copper	90.7	91.3	P/P	90 - 110
Lead	105	105	P/P	90 - 110
Silver	101	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A86696

Included Lab Sample IDs: 2024669

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	71.1	76.9	P/P	60 - 160
Carbamazepine	110	101	P/P	60 - 160
Diuron	107	105	P/P	60 - 150
Fenuron	99.3	94.6	P/P	60 - 150
Fluridone	104	103	P/P	60 - 160
Hydrocodone	91.4	95.9	P/P	60 - 150
Imazapyr	82.9	77.4	P/P	50 - 150
Imidacloprid	80.7	82.8	P/P	60 - 150
Linuron	96.2	100	P/P	60 - 150
Primidone	86.3	80.2	P/P	60 - 150
Pyraclostrobin	103	105	P/P	60 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86743

Included Lab Sample IDs: 2024670

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	92.8	94.0	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						4.44	
EPA 200.7 Rev. 4.4	Calcium	106	109	101				0.865
	Iron	108	106	106	109			2.21
	Magnesium	111	108	109	114			2.42
	Potassium	105	102	104	108			2.50
	Sodium	106	98.6	104	110			3.30
	Zinc	101	104	102	101			0.392
EPA 200.8 Rev. 5.4	Arsenic	99.4	98.1	103	102			0.339
	Cadmium	106	105	107	106			0.782
	Chromium	109	104	108	109			0.271
	Copper	93.5	92.6	93.4	91.1			0.867
	Lead	106	103	106	107			1.18
	Nickel	95.4	90.8	96.0	95.8			0.159
	Silver	104	101	105	105			0.227
EPA 300.0 Rev. 2.1	Chloride	101	101	102			0.0855	
	Sulfate	99.9	99.5	101			0.134	
EPA 350.1 Rev. 2.0	Ammonia-N	94.9	95.2	98.5				3.23
	Ammonia-N	96.1	97.4	98.1				0.696
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	106	108				1.90
	Kjeldahl Nitrogen	100	110	113				2.23
EPA 353.2 Rev. 2.0	NO2NO3-N	101	95.2	94.6				0.401
	NO2NO3-N	101	100	100				0.499
EPA 365.1 Rev. 2.0	Total-P	101	98.6	101				2.70
	Total-P	98.2	99.6	94.8				4.44
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	96.9	99.4				1.83
	O-Phosphate-P	98.6	95.1	97.3				1.89
EPA 8321B	2,4-D	95.8	139	144				3.06
	Acesulfame K	125	87.2	89.8				2.88
	Acetaminophen	83.5	76.4	69.6				9.28
	Bentazon	87.4	68.5	80.6				9.75
	Carbamazepine	89.2	65.8	60.9				7.80
	Diuron	79.5	57.8	51.6				11.3
	Fenuron	95.9	53.6	52.1				2.94
	Fluridone	79.3	83.4	77.5				7.11
	Hydrocodone	105	77.8	73.3				5.84
	Ibuprofen	109	102	103				1.39
	Imazapyr	77.5	89.4	86.9				1.67
	Imidacloprid	85.6	113	112				1.43
	Linuron	69.1	59.2	58.8				0.627
	MCPP	96.5	148	176				17.4
	Naproxen	102	137	142				3.24
	Primidone	69.6	62.7	61.4				2.18
	Pyraclostrobin	80.5	81.5	80.8				0.821
	Sucralose	112						21.3
	Triclopyr	95.0	167	178				6.32
SM 2120 B	Color (true)	93.7					0.477	
SM 2320 B-97	Total Alkalinity	102					0.329	
	Total Alkalinity	101					0.155	
SM 2540 C-97	TDS						3.71	
SM 4500 F-C-97	Fluoride	97.7	99.9	98.5				0.986
	Fluoride	99.7	98.2	98.9				0.473
SM 5310 B-00	Organic Carbon	96.6	95.8	93.6				2.30
	Organic Carbon	96.6	95.9	94.8				1.09

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2024657, 2024660
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2024670
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2024670
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2024660
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2024660
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2024658, 2024661
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2024658, 2024661
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2024658, 2024661
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2024658, 2024661
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2024659, 2024662
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2024669
SM 2120 B / E31780	True Color measured at 450 nm	2024660
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2024657, 2024660
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2024660
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2024657, 2024660
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2024657, 2024660
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2024658, 2024661

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	09/12/2018			09/12/2018 17:42	Megan Treadwell	2024657, 2024660
EPA 200.7 Rev. 4.4	09/12/2018	09/17/2018 15:55	Elliott D. Healy	09/18/2018 14:43	Betina Topolski	2024670
EPA 200.8 Rev. 5.4	09/12/2018	09/17/2018 15:55	Elliott D. Healy	09/21/2018 22:22	Allison Taylor	2024670
	09/12/2018	09/17/2018 15:55	Elliott D. Healy	09/25/2018 18:16	Allison Taylor	2024670
EPA 300.0 Rev. 2.1	09/12/2018			09/19/2018 04:59	Lipi Saha	2024660
EPA 350.1 Rev. 2.0	09/12/2018			09/17/2018 15:07	Ping Hua	2024658
	09/12/2018			09/17/2018 16:00	Ping Hua	2024661
EPA 351.2 Rev. 2.0	09/12/2018	09/17/2018 15:30	Adrian Shelby	09/18/2018 13:37	Joseph Suarez	2024658
	09/12/2018	09/18/2018 12:10	Adrian Shelby	09/19/2018 09:12	Joseph Suarez	2024661
EPA 353.2 Rev. 2.0	09/12/2018			09/14/2018 14:22	Lauren Bottorf	2024661
	09/12/2018			09/18/2018 15:00	Lauren Bottorf	2024658
EPA 365.1 Rev. 2.0	09/12/2018	09/14/2018 11:50	Sima Feizi	09/17/2018 10:15	Beverly Y. Sanders	2024661
	09/12/2018	09/18/2018 12:30	Sima Feizi	09/19/2018 11:17	Beverly Y. Sanders	2024658
EPA 365.1 Rev. 2.0 dissolved	09/12/2018			09/13/2018 11:01	Julia Storbeck	2024659
	09/12/2018			09/13/2018 11:12	Julia Storbeck	2024662
EPA 8321B	09/12/2018	09/13/2018 14:00	Hoor Shaik	09/16/2018 02:13	Juyoung Kim	2024669
	09/12/2018	09/13/2018 14:00	Hoor Shaik	09/23/2018 05:17	Mohammad Ghaffari	2024669
	09/12/2018	09/13/2018 15:30	Mohammad Ghaffari	09/14/2018 08:19	Mohammad Ghaffari	2024669
	09/12/2018	09/13/2018 15:30	Mohammad Ghaffari	09/14/2018 23:08	Mohammad Ghaffari	2024669
SM 2120 B	09/12/2018			09/13/2018 09:46	DeAsia Armster	2024660
SM 2320 B-97	09/12/2018			09/14/2018 22:51	Dale L. Simmons	2024660
	09/12/2018			09/19/2018 08:57	Dale L. Simmons	2024657
SM 2540 C-97	09/12/2018			09/14/2018 15:32	Yijie Li	2024660
SM 2540 D-97	09/12/2018			09/14/2018 15:32	Yijie Li	2024657, 2024660
SM 4500 F-C-97	09/12/2018			09/14/2018 22:51	Dale L. Simmons	2024660
	09/12/2018			09/21/2018 02:00	Dale L. Simmons	2024657
SM 5310 B-00	09/12/2018			09/18/2018 03:07	Megan Treadwell	2024661
	09/12/2018			09/18/2018 09:51	Megan Treadwell	2024658