

Chemical Analysis Report

NE-DIST-2019-12-12-02

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

Event Description: **Suwannee Central and Alacua makeup**
Request ID: **RQ-2019-12-09-20**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 06-JAN-2020 16:19

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 by the Florida Department of Health Environmental Laboratory Certification Program 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: Paroners Branch - E of CR 1491, S of NW 276th Ln **Collection Date/Time: 12/11/2019 10:20**

Field ID: G1NE0906

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143402	EPA 180.1 Rev. 2.0	Turbidity	2.2	A	NTU	P375816	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P376425	
		Sulfate	47		mg SO4/L	P376427	
	SM 2120 B	Color (true)	48	A	PCU	P375753	
	SM 2320 B-97	Total Alkalinity	39		mg CaCO3/L	P376251	
	SM 2540 C-97	TDS	140		mg/L	P376417	
	SM 2540 D-97	TSS	2	I	mg/L	P376357	
	SM 4500 F-C-97	Fluoride	0.35		mg F/L	P376254	
2143403	EPA 350.1 Rev. 2.0	Ammonia-N	0.070		mg N/L	P376275	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P376127	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P375894	
	EPA 365.1 Rev. 2.0	Total-P	0.88		mg P/L	P375924	
	SM 5310 B-00	Organic Carbon	5.9		mg C/L	P376028	
2143404	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.75		mg P/L	P375765	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample

Sample Location: Calf Creek at SE 27th st.

Collection Date/Time: 12/11/2019 11:00

Field ID: G1NE0931

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143399	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P375816	
	EPA 300.0 Rev. 2.1	Chloride	15	A	mg Cl/L	P376425	
		Sulfate	6.9	A	mg SO4/L	P376427	
	SM 2120 B	Color (true)	78		PCU	P375753	
	SM 2320 B-97	Total Alkalinity	128		mg CaCO3/L	P376251	
	SM 2540 C-97	TDS	182		mg/L	P376417	
	SM 2540 D-97	TSS	2	U	mg/L	P376357	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P376254	
2143400	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P376275	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P376127	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P375894	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P375923	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P376028	
2143401	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P375765	
2143409	EPA 8321B	2,4-D	0.0020	U	ug/L	P375695	
		Acesulfame K**	0.10	U	ug/L	P375838	
		AMPA**	0.16	I	ug/L	P375838	
		Sucralose**	0.057		ug/L	P375838	
		Acetaminophen**	0.0080	U	ug/L	P375695	
		Acetamiprid**	0.0020	U	ug/L	P375695	
		Endothall**	0.25	U	ug/L	P375838	
		Glufosinate**	0.10	U	ug/L	P375838	
		Glyphosate**	0.11	I	ug/L	P375838	
		Afidopyropen**	0.0020	UJ	ug/L	P375695	
		Bentazon	0.0013	I	ug/L	P375695	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P375695	
		Carbamazepine**	8.0E-04	U	ug/L	P375695	
		Clothianidin**	0.0020	U	ug/L	P375695	
		Dinotefuran**	0.0020	U	ug/L	P375695	
		Diuron	0.0020	U	ug/L	P375695	
		Fenuron	0.016	U	ug/L	P375695	
		Fluridone**	8.0E-04	U	ug/L	P375695	
		Imazapyr**	0.021		ug/L	P375695	
		Hydrocodone**	0.0020	U	ug/L	P375695	
		Ibuprofen**	0.020	U	ug/L	P375695	
		Imidacloprid	0.0028	I	ug/L	P375695	MS
		Linuron	0.0040	U	ug/L	P375695	
		Mandestrobin**	0.0020	UJ	ug/L	P375695	
		MCP	0.0020	U	ug/L	P375695	MS
		Naproxen**	0.0080	U	ug/L	P375695	RPD
		Primidone**	0.0040	I	ug/L	P375695	
		Pyraclostrobin**	0.0020	U	ug/L	P375695	
		Thiamethoxam**	0.0020	U	ug/L	P375695	

Field ID: G1NE0931

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2143409	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P375695	
		Triclopyr**	0.0040	U	ug/L	P375695	
2143410	EPA 200.7 Rev. 4.4	Barium	12.2		ug/L	P375930	
		Calcium	41.2		mg/L	P375930	
		Iron	210		ug/L	P375930	
		Magnesium	11.4		mg/L	P375930	
		Potassium	1.1	I	mg/L	P375930	
		Sodium	8.0		mg/L	P375930	
		Zinc	5.0	U	ug/L	P375930	
	EPA 200.8 Rev. 5.4	Aluminum	60		ug/L	P375930	
		Antimony	0.066	I	ug/L	P375930	
		Arsenic	1.38		ug/L	P375930	
		Boron**	31.4		ug/L	P375930	
		Cadmium	0.020	U	ug/L	P375930	
		Chromium	0.45	I	ug/L	P375930	
		Copper	0.40	U	ug/L	P375930	
		Lead	0.20	U	ug/L	P375930	
		Nickel	0.71	I	ug/L	P375930	
		Selenium	0.20	U	ug/L	P375930	
		Silver	0.010	U	ug/L	P375930	
		Thallium	0.10	U	ug/L	P375930	

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: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P375816

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P375930

Component	Result	Code	Units
Barium	1.0	U	ug/L
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: P375930

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376425

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376427

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376275

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: P376127

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375894

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375923

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375924

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375765

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

Reference Method: EPA 8321B
Batch ID: P375695

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	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
Mandestrobin	0.0020	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P375695

Component	Result	Code	Units
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P375838

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P375753

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P376251

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

Reference Method: SM 2540 C-97
Batch ID: P376417

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P376357

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P376254

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P376028

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: P375930

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	106		P	85 - 115
Iron	107		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	103		P	85 - 115
Sodium	106		P	85 - 115
Zinc	97.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375930

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	106		P	85 - 115
Antimony	110		P	85 - 115
Arsenic	108		P	85 - 115
Boron	112		P	85 - 115
Cadmium	109		P	85 - 115
Chromium	100		P	85 - 115
Copper	104		P	85 - 115
Lead	108		P	85 - 115
Nickel	105		P	85 - 115
Selenium	105		P	85 - 115
Silver	111		P	85 - 115
Thallium	107		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376425

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376427

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376275

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376127

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.0		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P375894

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P375923

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P375924

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P375765

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

Reference Method: EPA 8321B
 Batch ID: P375695

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	125		P	40 - 160
Acetaminophen	77.9		P	30 - 160
Acetamiprid	89.9		P	40 - 160
Afidopyropen	66.1		P	40 - 160
Bentazon	93.0		P	30 - 160
Benzovindiflupyr	80.8		P	40 - 160
Carbamazepine	92.1		P	40 - 160
Clothianidin	89.2		P	40 - 160
Dinotefuran	78.3		P	40 - 160
Diuron	88.1		P	40 - 160
Fenuron	93.3		P	40 - 160
Fluridone	79.6		P	40 - 160
Hydrocodone	87.9		P	40 - 160
Ibuprofen	87.7		P	30 - 160
Imazapyr	103		P	40 - 160
Imidacloprid	96.5		P	40 - 160
Linuron	77.8		P	40 - 160
Mandestrobin	83.0		P	40 - 160
MCPP	144		P	40 - 160
Naproxen	109		P	40 - 160
Primidone	87.4		P	40 - 160
Pyraclostrobin	84.2		P	30 - 160
Thiamethoxam	95.2		P	40 - 160
Tolfenpyrad	53.2		P	40 - 160
Triclopyr	59.8		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P375838

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	92.7		P	40 - 150
AMPA	85.3		P	40 - 150
Endothall	94.5		P	40 - 150
Glufosinate	87.5		P	40 - 150
Glyphosate	119		P	40 - 140
Sucralose	77.9		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P375753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.9		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P376251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P376254

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P376028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P375930

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143006	Barium	98.4		P	75 - 125
2143006	Iron	107		P	75 - 125
2143006	Magnesium	106		P	75 - 125
2143006	Potassium	105		P	75 - 125
2143006	Sodium	104		P	75 - 125
2143006	Zinc	95.5		P	75 - 125
2143131	Barium	99.5	100	P/P	80 - 120
2143131	Calcium	107	103	P/P	80 - 120
2143131	Iron	109	105	P/P	80 - 120
2143131	Magnesium	107	105	P/P	80 - 120
2143131	Potassium	103	100	P/P	80 - 120
2143131	Sodium	104	103	P/P	80 - 120
2143131	Zinc	96.3	94.9	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375930

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143006	Aluminum	109		P	75 - 125
2143006	Antimony	115		P	75 - 125
2143006	Arsenic	112		P	75 - 125
2143006	Boron	105		P	75 - 125
2143006	Cadmium	110		P	75 - 125
2143006	Chromium	103		P	75 - 125
2143006	Copper	104		P	75 - 125
2143006	Lead	110		P	75 - 125
2143006	Nickel	109		P	75 - 125
2143006	Selenium	99.2		P	75 - 125
2143006	Silver	112		P	75 - 125
2143006	Thallium	114		P	75 - 125
2143131	Aluminum	107	109	P/P	80 - 120
2143131	Antimony	113	112	P/P	80 - 120
2143131	Arsenic	99.8	101	P/P	80 - 120
2143131	Boron	110	111	P/P	80 - 120
2143131	Cadmium	112	108	P/P	80 - 120
2143131	Chromium	105	106	P/P	80 - 120
2143131	Copper	96.7	98.0	P/P	80 - 120
2143131	Lead	109	108	P/P	80 - 120
2143131	Nickel	96.8	97.8	P/P	80 - 120
2143131	Selenium	96.6	98.2	P/P	80 - 120
2143131	Silver	111	111	P/P	80 - 120
2143131	Thallium	109	111	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143399	Chloride	98.1		P	90 - 110
2143669	Chloride	98.6		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376427

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143399	Sulfate	98.6		P	90 - 110
2143669	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143352	Ammonia-N	98.6	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376127

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143454	Kjeldahl Nitrogen	114	107	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375894

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143371	NO2NO3-N	96.0	95.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375923

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143316	Total-P	108	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375765

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143319	O-Phosphate-P	94.2	96.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P375695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143334	2,4-D	143	109	P/P	40 - 160
2143334	Acetaminophen	100	103	P/P	30 - 160
2143334	Acetamiprid	94.9	92.1	P/P	40 - 160
2143334	Afidopyropen	79.8	74.6	P/P	40 - 160
2143334	Benzovindiflupyr	88.4	86.8	P/P	40 - 160
2143334	Carbamazepine	93.4	101	P/P	40 - 160
2143334	Clothianidin	117	117	P/P	40 - 160
2143334	Dinotefuran	112	125	P/P	40 - 160
2143334	Diuron	88.7	90.4	P/P	40 - 160
2143334	Fenuron	88.4	93.5	P/P	40 - 160
2143334	Hydrocodone	90.8	92.1	P/P	40 - 160
2143334	Ibuprofen	85.8	80.6	P/P	30 - 160
2143334	Imidacloprid	170	153	F/P	40 - 160
2143334	Linuron	82.6	80.0	P/P	40 - 160
2143334	Mandestrobin	85.3	87.6	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P375695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143334	MCP	187	167	F/F	40 - 160
2143334	Naproxen	54.4	113	P/P	40 - 160
2143334	Primidone	111	106	P/P	40 - 160
2143334	Pyraclostrobin	89.8	87.3	P/P	30 - 160
2143334	Thiamethoxam	147	154	P/P	40 - 160
2143334	Tolfenpyrad	61.8	53.9	P/P	40 - 160
2143334	Triclopyr	117	120	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P375838

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142668	Acesulfame K	127	131	P/P	40 - 150
2142668	AMPA	69.1	83.7	P/P	40 - 150
2142668	Endothall	93.1	72.3	P/P	40 - 150
2142668	Glufosinate	99.9	84.5	P/P	40 - 150
2142668	Sucralose	79.2	79.2	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P376254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143445	Fluoride	101	100	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P376028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143400	Organic Carbon	98.0	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P375816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143402	Turbidity	1.37	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P375930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143131	Barium	0.871	Spike	P	0 - 20
2143131	Calcium	2.93	Spike	P	0 - 20
2143131	Iron	3.08	Spike	P	0 - 20
2143131	Magnesium	1.81	Spike	P	0 - 20
2143131	Potassium	2.64	Spike	P	0 - 20
2143131	Sodium	0.857	Spike	P	0 - 20
2143131	Zinc	1.48	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143131	Aluminum	1.18	Spike	P	0 - 20
2143131	Antimony	1.36	Spike	P	0 - 20
2143131	Arsenic	1.32	Spike	P	0 - 20
2143131	Boron	0.442	Spike	P	0 - 20
2143131	Cadmium	3.61	Spike	P	0 - 20
2143131	Chromium	0.794	Spike	P	0 - 20
2143131	Copper	1.26	Spike	P	0 - 20
2143131	Lead	0.712	Spike	P	0 - 20
2143131	Nickel	1.02	Spike	P	0 - 20
2143131	Selenium	1.64	Spike	P	0 - 20
2143131	Silver	0.0244	Spike	P	0 - 20
2143131	Thallium	2.15	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143399	Chloride	0.308	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376427

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143399	Sulfate	0.403	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143352	Ammonia-N	0.765	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376127

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143454	Kjeldahl Nitrogen	5.61	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375894

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143371	NO2NO3-N	0.434	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143316	Total-P	3.36	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143403	Total-P	0.735	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375765

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143319	O-Phosphate-P	2.20	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P375695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143334	2,4-D	16.5	Spike	P	0 - 30
2143334	Acetaminophen	2.53	Spike	P	0 - 30
2143334	Acetamiprid	3.06	Spike	P	0 - 30
2143334	Afidopyropen	6.71	Spike	P	0 - 30
2143334	Bentazon	11.1	Spike	P	0 - 30
2143334	Benzovindiflupyr	1.88	Spike	P	0 - 30
2143334	Carbamazepine	8.21	Spike	P	0 - 30
2143334	Clothianidin	0.159	Spike	P	0 - 30
2143334	Dinotefuran	10.2	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P375695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143334	Diuron	1.78	Spike	P	0 - 30
2143334	Fenuron	5.56	Spike	P	0 - 30
2143334	Fluridone	0.613	Spike	P	0 - 30
2143334	Hydrocodone	1.46	Spike	P	0 - 30
2143334	Ibuprofen	6.23	Spike	P	0 - 30
2143334	Imazapyr	4.71	Spike	P	0 - 30
2143334	Imidacloprid	8.85	Spike	P	0 - 30
2143334	Linuron	3.22	Spike	P	0 - 30
2143334	Mandestrobin	2.67	Spike	P	0 - 30
2143334	MCP	11.4	Spike	P	0 - 30
2143334	Naproxen	69.8	Spike	F	0 - 30
2143334	Primidone	4.81	Spike	P	0 - 30
2143334	Pyraclostrobin	2.80	Spike	P	0 - 30
2143334	Thiamethoxam	4.54	Spike	P	0 - 30
2143334	Tolfenpyrad	13.5	Spike	P	0 - 30
2143334	Triclopyr	2.52	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P375838

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142668	Acesulfame K	3.34	Spike	P	0 - 30
2142668	AMPA	9.25	Spike	P	0 - 30
2142668	Endothall	25.2	Spike	P	0 - 30
2142668	Glufosinate	16.7	Spike	P	0 - 30
2142668	Glyphosate	7.27	Spike	P	0 - 30
2142668	Sucralose	0.00455	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P375753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143402	Color (true)	1.05	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P376251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143445	Total Alkalinity	0.0509	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P376417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143349	TDS	4.20	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P376254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143445	Fluoride	0.979	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P376028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143400	Organic Carbon	0.964	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2143409
Field Sample ID: G1NE0931

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	141	P	30 - 160
EPA 8321B	Acetaminophen-d4	111	P	30 - 160
EPA 8321B	Carbamazepine-d10	107	P	30 - 160
EPA 8321B	Diuron-d6	85.6	P	30 - 160
EPA 8321B	Endothall-d6	64.1	P	30 - 160
EPA 8321B	Endothall-d6	64.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	91.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	91.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.8	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	94.0	P	30 - 160
EPA 8321B	Sucralose-d6	94.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A96307

Included Lab Sample IDs: 2143399, 2143402

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.0	100	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A96310

Included Lab Sample IDs: 2143401, 2143404

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	95.2	94.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A96325

Included Lab Sample IDs: 2143399, 2143402

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96357

Included Lab Sample IDs: 2143400, 2143403

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

Reference Method: EPA 8321B

Run ID: A96386

Included Lab Sample IDs: 2143409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	85.0	79.2	P/P	60 - 160
Glufosinate	104	92.5	P/P	60 - 160
Glyphosate	126	103	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A96400

Included Lab Sample IDs: 2143410

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.0	98.8	P/P	90 - 110
Calcium	99.6	100	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Zinc	98.1	97.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A96415

Included Lab Sample IDs: 2143400, 2143403

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	98.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96431

Included Lab Sample IDs: 2143400, 2143403

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

Reference Method: EPA 8321B

Run ID: A96468

Included Lab Sample IDs: 2143409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	140	139	P/P	60 - 160
Endothall	77.9	88.9	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96505

Included Lab Sample IDs: 2143400, 2143403

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.7	97.9	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A96509

Included Lab Sample IDs: 2143399, 2143402

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

Reference Method: SM 4500 F-C-97

Run ID: A96509

Included Lab Sample IDs: 2143399, 2143402

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96515

Included Lab Sample IDs: 2143400, 2143403

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96520

Included Lab Sample IDs: 2143410

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	107	108	P/P	90 - 110
Thallium	99.9	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96525

Included Lab Sample IDs: 2143410

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96525

Included Lab Sample IDs: 2143410

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	108	107	P/P	90 - 110
Boron	107	108	P/P	90 - 110
Cadmium	109	108	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A96534

Included Lab Sample IDs: 2143409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	96.1	96.4	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96565

Included Lab Sample IDs: 2143410

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.7	99.4	P/P	90 - 110
Chromium	104	104	P/P	90 - 110
Copper	96.1	96.8	P/P	90 - 110
Lead	103	105	P/P	90 - 110
Nickel	95.9	96.7	P/P	90 - 110
Selenium	99.6	98.6	P/P	90 - 110
Silver	109	110	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A96574

Included Lab Sample IDs: 2143399, 2143402

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.9	99.5	P/P	90 - 110
Chloride	99.5	99.8	P/P	90 - 110
Sulfate	99.2	99.9	P/P	90 - 110
Sulfate	99.9	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A96588

Included Lab Sample IDs: 2143409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	104	P/P	50 - 150
Acetaminophen	107	108	P/P	60 - 160
Acetamiprid	114	118	P/P	50 - 150
Afidopyropen	136	128	P/P	50 - 150
Bentazon	85.1	97.4	P/P	50 - 160
Benzovindiflupyr	110	110	P/P	50 - 150
Carbamazepine	117	114	P/P	60 - 150
Clothianidin	107	97.5	P/P	60 - 150
Dinotefuran	105	100	P/P	50 - 150
Diuron	119	122	P/P	60 - 150
Fenuron	120	110	P/P	60 - 150
Fluridone	115	118	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A96588

Included Lab Sample IDs: 2143409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hydrocodone	118	103	P/P	60 - 150
Ibuprofen	111	118	P/P	50 - 160
Imazapyr	112	99.8	P/P	50 - 150
Imidacloprid	96.6	100	P/P	60 - 150
Linuron	110	114	P/P	60 - 150
Mandestrobin	118	120	P/P	50 - 150
MCPP	122	121	P/P	50 - 150
Naproxen	77.8	97.0	P/P	50 - 160
Primidone	113	97.8	P/P	60 - 150
Pyraclostrobin	127	127	P/P	60 - 150
Thiamethoxam	106	120	P/P	50 - 150
Tolfenpyrad	116	119	P/P	60 - 150
Triclopyr	102	121	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity								1.37	
EPA 200.7 Rev. 4.4	Barium	102			99.5	100	98.4			0.871
	Calcium	106			107	103				2.93
	Iron	107			109	105	107			3.08
	Magnesium	106			107	105	106			1.81
	Potassium	103			103	100	105			2.64
	Sodium	106			104	103	104			0.857
	Zinc	97.0			96.3	94.9	95.5			1.48
EPA 200.8 Rev. 5.4	Aluminum	106			109	107	109			1.18
	Antimony	110			115	113	112			1.36
	Arsenic	108			99.8	101	112			1.32
	Boron	112			105	110	111			0.442
	Cadmium	109			110	112	108			3.61
	Chromium	100			103	105	106			0.794
	Copper	104			96.7	98.0	104			1.26
	Lead	108			110	109	108			0.712
	Nickel	105			96.8	97.8	109			1.02
	Selenium	105			96.6	98.2	99.2			1.64
	Silver	111			112	111	111			0.0244
	Thallium	107			114	109	111			2.15
EPA 300.0 Rev. 2.1	Chloride	97.7			98.1	98.6			0.308	
	Sulfate	97.8			98.6	98.2			0.403	
EPA 350.1 Rev. 2.0	Ammonia-N	97.7			98.6	99.4				0.765
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.0			114	107				5.61
EPA 353.2 Rev. 2.0	NO2NO3-N	100			96.0	95.6				0.434
EPA 365.1 Rev. 2.0	Total-P	104			108	105				3.36
	Total-P	106								0.735
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.6			94.2	96.3				2.20
EPA 8321B	2,4-D	125			143	109				16.5
	Acesulfame K	92.7			127	131				3.34
	Acetaminophen	77.9			100	103				2.53
	Acetamiprid	89.9			94.9	92.1				3.06
	Afidopyropen	66.1			79.8	74.6				6.71
	AMPA	85.3			69.1	83.7				9.25
	Bentazon	93.0								11.1
	Benzovindiflupyr	80.8			88.4	86.8				1.88
	Carbamazepine	92.1			93.4	101				8.21
	Clothianidin	89.2			117	117				0.159
	Dinotefuran	78.3			112	125				10.2
	Diuron	88.1			88.7	90.4				1.78
	Endothall	94.5			93.1	72.3				25.2
	Fenuron	93.3			88.4	93.5				5.56
	Fluridone	79.6								0.613
	Glufosinate	87.5			99.9	84.5				16.7
	Glyphosate	119								7.27
	Hydrocodone	87.9			90.8	92.1				1.46
	Ibuprofen	87.7			85.8	80.6				6.23
	Imazapyr	103								4.71
	Imidacloprid	96.5			170	153				8.85
	Linuron	77.8			82.6	80.0				3.22
	Mandestrobin	83.0			85.3	87.6				2.67
	MCPP	144			187	167				11.4
	Naproxen	109			54.4	113				69.8
	Primidone	87.4			111	106				4.81

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 8321B	Pyraclostrobin	84.2	89.8 87.3			2.80
	Sucralose	77.9	79.2 79.2			0.0045
	Thiamethoxam	95.2	147 154			4.54
	Tolfenpyrad	53.2	61.8 53.9			13.5
	Triclopyr	59.8	117 120			2.52
SM 2120 B	Color (true)	97.9			1.05	
SM 2320 B-97	Total Alkalinity	103			0.0509	
SM 2540 C-97	TDS				4.20	
SM 4500 F-C-97	Fluoride	97.5	101 100			0.979
SM 5310 B-00	Organic Carbon	98.4	98.0 96.4			0.964

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2143399, 2143402
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2143410
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2143410
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2143399, 2143402
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2143399, 2143402
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2143400, 2143403
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2143400, 2143403
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2143400, 2143403
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2143400, 2143403
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2143401, 2143404
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2143409
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2143409
SM 2120 B / E31780	True Color measured at 450 nm	2143399, 2143402
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2143399, 2143402
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2143399, 2143402
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2143399, 2143402
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2143399, 2143402
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2143400, 2143403

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	12/12/2019			12/12/2019 17:19	Yen Ta	2143399, 2143402
EPA 200.7 Rev. 4.4	12/12/2019	12/16/2019 14:40	Elliott D. Healy	12/17/2019 14:13	Betina Topolski	2143410
EPA 200.8 Rev. 5.4	12/12/2019	12/16/2019 14:40	Elliott D. Healy	12/21/2019 06:11	Justin Cutchin	2143410
	12/12/2019	12/16/2019 14:40	Elliott D. Healy	12/22/2019 05:59	Justin Cutchin	2143410
	12/12/2019	12/16/2019 14:40	Elliott D. Healy	12/23/2019 22:14	Justin Cutchin	2143410
EPA 300.0 Rev. 2.1	12/12/2019			12/23/2019 23:56	Jhamieka S. Greenwood	2143399
	12/12/2019			12/24/2019 02:32	Jhamieka S. Greenwood	2143402
EPA 350.1 Rev. 2.0	12/12/2019			12/18/2019 11:24	Ping Hua	2143400
	12/12/2019			12/18/2019 11:25	Ping Hua	2143403
EPA 351.2 Rev. 2.0	12/12/2019	12/19/2019 12:05	Sima Feizi	12/20/2019 12:58	Jhamieka S. Greenwood	2143400
	12/12/2019	12/19/2019 12:05	Sima Feizi	12/20/2019 12:59	Jhamieka S. Greenwood	2143403
EPA 353.2 Rev. 2.0	12/12/2019			12/13/2019 11:26	Beverly Y. Sanders	2143400
	12/12/2019			12/13/2019 11:28	Beverly Y. Sanders	2143403
EPA 365.1 Rev. 2.0	12/12/2019	12/16/2019 14:17	Yen Ta	12/17/2019 14:08	Benjamin T. Nordmann	2143400
	12/12/2019	12/16/2019 14:17	Yen Ta	12/17/2019 14:12	Benjamin T. Nordmann	2143403
EPA 365.1 Rev. 2.0 dissolved	12/12/2019			12/12/2019 17:24	Samantha Davila	2143401
	12/12/2019			12/12/2019 17:25	Samantha Davila	2143404
EPA 8321B	12/12/2019	12/16/2019 10:00	Rebecca Ware	12/16/2019 19:03	Rebecca Ware	2143409
	12/12/2019	12/16/2019 10:00	Rebecca Ware	12/17/2019 16:52	Rebecca Ware	2143409
	12/12/2019	12/16/2019 10:00	Rebecca Ware	12/23/2019 17:59	Mohammad Ghaffari	2143409
	12/12/2019	12/18/2019 09:00	Hoor Shaik	12/26/2019 13:36	Juyoung Kim	2143409
SM 2120 B	12/12/2019			12/12/2019 16:55	Madeline Funaro	2143399
	12/12/2019			12/12/2019 16:56	Madeline Funaro	2143402
SM 2320 B-97	12/12/2019			12/17/2019 20:06	Dale L. Simmons	2143399
	12/12/2019			12/17/2019 20:18	Dale L. Simmons	2143402
SM 2540 C-97	12/12/2019			12/17/2019 16:36	Yijie Li	2143399, 2143402
SM 2540 D-97	12/12/2019			12/17/2019 16:36	Yijie Li	2143399, 2143402
SM 4500 F-C-97	12/12/2019			12/17/2019 20:06	Dale L. Simmons	2143399
	12/12/2019			12/17/2019 20:18	Dale L. Simmons	2143402
SM 5310 B-00	12/12/2019			12/17/2019 16:28	Madeline Funaro	2143400
	12/12/2019			12/17/2019 17:24	Madeline Funaro	2143403