

Chemical Analysis Report

SW-DIST-2021-01-13-01

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

Event Description: **Run 8: Eygpt White Trout**
Request ID: **RQ-2021-01-11-21**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 02-FEB-2021 11:29



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 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: White Trout Lake @ Center

Collection Date/Time: 01/12/2021 12:00

Field ID: G1SW0104

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2218770	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P392384	
	EPA 300.0 Rev. 2.1	Chloride	32	A	mg Cl/L	P392555	
		Sulfate	22	A	mg SO4/L	P392560	
	SM 2120 B-2011	Color (true)	13		PCU	P392351	
	SM 2320 B-2011	Total Alkalinity	33		mg CaCO3/L	P392583	
	SM 2540 C-2011	TDS	128	A	mg/L	P392808	
	SM 2540 D-2011	TSS	2	UA	mg/L	P392891	
	SM 4500 F-C-2011	Fluoride	0.097	I	mg F/L	P392585	
2218771	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P392847	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P392831	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P392664	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P392594	
	SM 5310 B-2011	Organic Carbon	6.0		mg C/L	P392643	
2218772	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P392343	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Egypt Lake @ NE side

Collection Date/Time: 01/12/2021 14:40

Field ID: G1SW0115

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2218778	EPA 8321B	2,4-D	0.035		ug/L	P392365	
		Acesulfame K**	0.10	U	ug/L	P392366	
		AMPA**	0.10	U	ug/L	P392366	
		Sucralose**	0.50		ug/L	P392366	
		Acetaminophen**	0.0080	U	ug/L	P392365	
		Acetamiprid**	0.0020	U	ug/L	P392365	
		Endothall**	0.25	U	ug/L	P392366	
		Glufosinate**	0.10	U	ug/L	P392366	
		Glyphosate**	0.10	U	ug/L	P392366	
		Afidopyropen**	0.0020	U	ug/L	P392365	
		Bentazon	0.0050		ug/L	P392365	
		Benzovindiflupyr**	0.0020	U	ug/L	P392365	
		Carbamazepine**	8.0E-04	U	ug/L	P392365	
		Clothianidin**	0.0020	U	ug/L	P392365	RPD
		Dinotefuran**	0.0020	U	ug/L	P392365	
		Diuron	0.0020	U	ug/L	P392365	MS
		Fenuron	0.016	U	ug/L	P392365	
		Fluridone**	0.092		ug/L	P392365	
		Imazapyr**	0.0040	U	ug/L	P392365	
		Hydrocodone**	0.0020	U	ug/L	P392365	
		Ibuprofen**	0.020	U	ug/L	P392365	
		Imidacloprid	0.0020	U	ug/L	P392365	
		Linuron	0.0040	U	ug/L	P392365	
		Mandestrobin**	0.0020	U	ug/L	P392365	
		MCP	0.0020	U	ug/L	P392365	
		Naproxen**	0.0080	U	ug/L	P392365	
		Primidone**	0.0040	U	ug/L	P392365	
		Pyraclostrobin**	0.0020	U	ug/L	P392365	
		Thiamethoxam**	0.0020	U	ug/L	P392365	
		Tolfenpyrad**	0.0020	U	ug/L	P392365	
		Triclopyr**	0.0040	U	ug/L	P392365	

Ref. Method and Comment:

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

Sample Location: Egypt Lake Drain behind the House

Collection Date/Time: 01/12/2021 14:30

Field ID: G1SW0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2218779	EPA 8321B	2,4-D	0.0020	U	ug/L	P392365	
		Acesulfame K**	0.10	U	ug/L	P392366	
		AMPA**	0.30	I	ug/L	P392366	
		Sucralose**	7.6		ug/L	P392366	
		Acetaminophen**	0.015	I	ug/L	P392365	
		Acetamiprid**	0.0020	U	ug/L	P392365	
		Endothall**	0.25	U	ug/L	P392366	
		Glufosinate**	0.10	U	ug/L	P392366	
		Glyphosate**	0.27	I	ug/L	P392366	
		Afidopyropen**	0.0020	U	ug/L	P392365	
		Bentazon	8.0E-04	U	ug/L	P392365	
		Benzovindiflupyr**	0.0020	U	ug/L	P392365	
		Carbamazepine**	8.0E-04	U	ug/L	P392365	
		Clothianidin**	0.0020	U	ug/L	P392365	RPD
		Dinotefuran**	0.0020	U	ug/L	P392365	
		Diuron	0.0020	U	ug/L	P392365	MS
		Fenuron	0.016	U	ug/L	P392365	
		Fluridone**	8.0E-04	U	ug/L	P392365	
		Imazapyr**	0.094		ug/L	P392365	
		Hydrocodone**	0.0020	U	ug/L	P392365	
		Ibuprofen**	0.020	U	ug/L	P392365	
		Imidacloprid	0.0020	U	ug/L	P392365	
		Linuron	0.0040	U	ug/L	P392365	
		Mandestrobin**	0.0020	U	ug/L	P392365	
		MCPP	0.0020	U	ug/L	P392365	
		Naproxen**	0.0080	U	ug/L	P392365	
		Primidone**	0.0040	U	ug/L	P392365	
		Pyraclostrobin**	0.0020	U	ug/L	P392365	
		Thiamethoxam**	0.0020	U	ug/L	P392365	
		Tolfenpyrad**	0.0020	U	ug/L	P392365	
		Triclopyr**	0.0040	U	ug/L	P392365	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392384

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392555

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392560

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392847

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392831

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392664

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392594

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392343

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

Reference Method: EPA 8321B
Batch ID: P392365

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P392365

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

Reference Method: EPA 8321B

Batch ID: P392366

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-2011

Batch ID: P392351

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P392583

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

Reference Method: SM 2540 C-2011

Batch ID: P392808

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P392891

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P392585

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P392643

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392555

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392560

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392831

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392664

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: P392594

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.1		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P392365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	124		P	30 - 160
Acetaminophen	72.4		P	30 - 160
Acetamiprid	91.4		P	30 - 160
Afidopyropen	66.7		P	30 - 160
Bentazon	101		P	30 - 160
Benzovindiflupyr	65.6		P	30 - 160
Carbamazepine	82.9		P	30 - 160
Clothianidin	104		P	30 - 160
Dinotefuran	70.7		P	30 - 160
Diuron	58.7		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P392365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	96.0		P	30 - 160
Fluridone	73.8		P	30 - 160
Hydrocodone	78.0		P	30 - 160
Ibuprofen	91.7		P	30 - 160
Imazapyr	81.1		P	30 - 160
Imidacloprid	101		P	30 - 160
Linuron	65.9		P	30 - 160
Mandestrobin	84.5		P	30 - 160
MCPP	99.5		P	30 - 160
Naproxen	84.4		P	30 - 160
Primidone	88.0		P	30 - 160
Pyraclostrobin	72.9		P	30 - 160
Thiamethoxam	92.2		P	30 - 160
Tolfenpyrad	41.1		P	30 - 160
Triclopyr	105		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P392366

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	65.7		P	40 - 150
AMPA	89.7		P	40 - 150
Endothall	95.7		P	40 - 150
Glufosinate	98.6		P	40 - 150
Glyphosate	138		P	40 - 140
Sucralose	97.4		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P392351

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.5		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P392583

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.8		P	93 - 104

Reference Method: SM 4500 F-C-2011

Batch ID: P392585

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	90 - 106

Reference Method: SM 5310 B-2011

Batch ID: P392643

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392555

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218770	Chloride	101		P	90 - 110
2219059	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218770	Sulfate	105		P	90 - 110
2219059	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218771	Ammonia-N	96.0	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218804	Kjeldahl Nitrogen	108	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218602	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392594

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218771	Total-P	105	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218604	O-Phosphate-P	97.2	95.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P392365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218743	2,4-D	80.9	82.5	P/P	30 - 160
2218743	Acetaminophen	54.5	47.7	P/P	30 - 160
2218743	Acetamiprid	51.1	53.5	P/P	30 - 160
2218743	Afidopyropen	53.3	55.5	P/P	30 - 160
2218743	Benzovindiflupyr	63.8	58.5	P/P	30 - 160
2218743	Carbamazepine	47.7	42.7	P/P	30 - 160
2218743	Clothianidin	59.9	39.2	P/P	30 - 160
2218743	Dinotefuran	76.8	71.8	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P392365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218743	Diuron	28.3	28.6	F/F	30 - 160
2218743	Fenuron	42.0	44.7	P/P	30 - 160
2218743	Hydrocodone	61.5	64.0	P/P	30 - 160
2218743	Ibuprofen	71.4	67.8	P/P	30 - 160
2218743	Imidacloprid	93.2	99.4	P/P	30 - 160
2218743	Linuron	46.9	46.1	P/P	30 - 160
2218743	Mandestrobin	67.3	69.3	P/P	30 - 160
2218743	MCCP	74.6	69.7	P/P	30 - 160
2218743	Naproxen	71.4	62.0	P/P	30 - 160
2218743	Primidone	72.4	64.0	P/P	30 - 160
2218743	Pyraclostrobin	77.3	65.9	P/P	30 - 160
2218743	Thiamethoxam	75.9	75.3	P/P	30 - 160
2218743	Tolfenpyrad	47.5	44.4	P/P	30 - 160
2218743	Triclopyr	75.9	77.7	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P392366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218366	Acesulfame K	60.7	59.0	P/P	40 - 150
2218366	AMPA	71.3	71.2	P/P	40 - 150
2218366	Endothall	102	97.2	P/P	40 - 150
2218366	Glufosinate	88.2	93.8	P/P	40 - 150
2218366	Glyphosate	112	119	P/P	40 - 140
2218366	Sucralose	98.4	93.6	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P392585

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218606	Fluoride	98.6	99.3	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P392643

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2218945	Organic Carbon	102	101	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P392384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218662	Turbidity	0.738	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218770	Chloride	0.357	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P392560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218770	Sulfate	0.499	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P392847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218771	Ammonia-N	3.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P392831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218804	Kjeldahl Nitrogen	0.453	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P392664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218602	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P392594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218771	Total-P	3.93	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P392343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218604	O-Phosphate-P	1.35	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P392365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218743	2,4-D	1.96	Spike	P	0 - 30
2218743	Acetaminophen	8.91	Spike	P	0 - 30
2218743	Acetamiprid	4.61	Spike	P	0 - 30
2218743	Afidopyropen	4.03	Spike	P	0 - 30
2218743	Bentazon	5.17	Spike	P	0 - 30
2218743	Benzovindiflupyr	8.68	Spike	P	0 - 30
2218743	Carbamazepine	11.1	Spike	P	0 - 30
2218743	Clothianidin	41.9	Spike	F	0 - 30
2218743	Dinotefuran	6.79	Spike	P	0 - 30
2218743	Diuron	1.12	Spike	P	0 - 30
2218743	Fenuron	6.06	Spike	P	0 - 30
2218743	Fluridone	2.75	Spike	P	0 - 30
2218743	Hydrocodone	3.89	Spike	P	0 - 30
2218743	Ibuprofen	5.15	Spike	P	0 - 30
2218743	Imazapyr	8.01	Spike	P	0 - 30
2218743	Imidacloprid	6.49	Spike	P	0 - 30
2218743	Linuron	1.74	Spike	P	0 - 30
2218743	Mandestrobin	2.86	Spike	P	0 - 30
2218743	MCPP	6.84	Spike	P	0 - 30
2218743	Naproxen	14.1	Spike	P	0 - 30
2218743	Primidone	12.3	Spike	P	0 - 30
2218743	Pyraclostrobin	15.9	Spike	P	0 - 30
2218743	Thiamethoxam	0.768	Spike	P	0 - 30
2218743	Tolfenpyrad	6.70	Spike	P	0 - 30
2218743	Triclopyr	2.23	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P392366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218366	Acesulfame K	2.81	Spike	P	0 - 30
2218366	AMPA	0.205	Spike	P	0 - 30
2218366	Endothall	4.41	Spike	P	0 - 30
2218366	Glufosinate	6.07	Spike	P	0 - 30
2218366	Glyphosate	6.62	Spike	P	0 - 30
2218366	Sucralose	4.92	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P392351

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218630	Color (true)	12.8	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P392583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218606	Total Alkalinity	2.35	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P392808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218770	TDS	5.45	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P392585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218606	Fluoride	0.467	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P392643

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2218945	Organic Carbon	0.927	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2218778

Field Sample ID: G1SW0115

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.2	P	30 - 160
EPA 8321B	Diuron-d6	46.9	P	30 - 160
EPA 8321B	Endothall-d6	97.6	P	40 - 160
EPA 8321B	Endothall-d6	97.6	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	76.5	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	76.5	P	40 - 160
EPA 8321B	Ibuprofen-d3	73.3	P	30 - 160
EPA 8321B	Primidone-d5	90.0	P	30 - 160
EPA 8321B	Sucralose-d6	99.6	P	30 - 160
EPA 8321B	Sucralose-d6	99.6	P	30 - 160

Lab Sample ID: 2218779

Field Sample ID: G1SW0116

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	110	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.4	P	30 - 160
EPA 8321B	Diuron-d6	42.7	P	30 - 160
EPA 8321B	Endothall-d6	94.3	P	40 - 160
EPA 8321B	Endothall-d6	94.3	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	81.7	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	81.7	P	40 - 160
EPA 8321B	Ibuprofen-d3	71.3	P	30 - 160
EPA 8321B	Primidone-d5	89.7	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A103033

Included Lab Sample IDs: 2218772

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.0	98.4	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A103037

Included Lab Sample IDs: 2218770

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A103056

Included Lab Sample IDs: 2218770

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

Reference Method: EPA 8321B

Run ID: A103123

Included Lab Sample IDs: 2218778, 2218779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	74.1	P/P	60 - 160
AMPA	102	111	P/P	60 - 160
Endothall	97.2	95.8	P/P	60 - 160
Glufosinate	88.7	93.0	P/P	60 - 160
Glyphosate	81.0	84.8	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A103125

Included Lab Sample IDs: 2218770

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

Reference Method: SM 2320 B-2011

Run ID: A103129

Included Lab Sample IDs: 2218770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.4	97.9	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A103129

Included Lab Sample IDs: 2218770

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A103136

Included Lab Sample IDs: 2218778, 2218779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	101	P/P	50 - 150
Acetaminophen	65.3	88.8	P/P	60 - 160
Acetamiprid	99.5	95.2	P/P	50 - 150
Afidopyropen	89.1	105	P/P	50 - 150
Bentazon	127	126	P/P	50 - 160
Benzovindiflupyr	108	110	P/P	50 - 160
Carbamazepine	104	113	P/P	60 - 150
Clothianidin	104	114	P/P	60 - 150
Dinotefuran	95.7	92.5	P/P	50 - 150
Diuron	105	106	P/P	60 - 160
Fenuron	98.7	107	P/P	60 - 150
Fluridone	105	99.2	P/P	60 - 160
Hydrocodone	74.6	97.5	P/P	60 - 150
Ibuprofen	115	104	P/P	50 - 160
Imazapyr	104	90.2	P/P	50 - 160
Imidacloprid	99.2	99.7	P/P	60 - 150
Linuron	97.2	105	P/P	60 - 150
Mandestrobin	117	116	P/P	50 - 150
MCPP	104	104	P/P	50 - 150
Naproxen	85.0	77.4	P/P	50 - 160
Primidone	93.0	92.1	P/P	60 - 150
Pyraclostrobin	112	108	P/P	60 - 150
Thiamethoxam	87.1	97.9	P/P	50 - 150
Tolfenpyrad	113	104	P/P	60 - 150
Triclopyr	108	110	P/P	50 - 150

Reference Method: SM 5310 B-2011

Run ID: A103143

Included Lab Sample IDs: 2218771

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.4	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A103152

Included Lab Sample IDs: 2218771

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A103189

Included Lab Sample IDs: 2218778, 2218779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	91.3	92.0	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103197

Included Lab Sample IDs: 2218771

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	97.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A103199

Included Lab Sample IDs: 2218771

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A103247

Included Lab Sample IDs: 2218771

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	106	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.738	
EPA 300.0 Rev. 2.1	Chloride	103	101	103		0.357	
	Sulfate	104	105	104		0.499	
EPA 350.1 Rev. 2.0	Ammonia-N	97.2	96.0	99.6			3.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	108	108			0.453
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	101	101			0.0
EPA 365.1 Rev. 2.0	Total-P	103	105	109			3.93
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.1	97.2	95.9			1.35
EPA 8321B	2,4-D	124	80.9	82.5			1.96
	Acesulfame K	65.7	60.7	59.0			2.81
	Acetaminophen	72.4	54.5	47.7			8.91
	Acetamiprid	91.4	51.1	53.5			4.61
	Afidopyropen	66.7	53.3	55.5			4.03
	AMPA	89.7	71.3	71.2			0.205
	Bentazon	101					5.17
	Benzovindiflupyr	65.6	63.8	58.5			8.68
	Carbamazepine	82.9	47.7	42.7			11.1
	Clothianidin	104	59.9	39.2			41.9
	Dinotefuran	70.7	76.8	71.8			6.79
	Diuron	58.7	28.3	28.6			1.12
	Endothall	95.7	102	97.2			4.41
	Fenuron	96.0	42.0	44.7			6.06
	Fluridone	73.8					2.75
	Glufosinate	98.6	88.2	93.8			6.07
	Glyphosate	138	112	119			6.62
	Hydrocodone	78.0	61.5	64.0			3.89
	Ibuprofen	91.7	71.4	67.8			5.15
	Imazapyr	81.1					8.01
	Imidacloprid	101	93.2	99.4			6.49
	Linuron	65.9	46.9	46.1			1.74
	Mandestrobin	84.5	67.3	69.3			2.86
	MCPP	99.5	74.6	69.7			6.84
	Naproxen	84.4	71.4	62.0			14.1
	Primidone	88.0	72.4	64.0			12.3
	Pyraclostrobin	72.9	77.3	65.9			15.9
	Sucralose	97.4	98.4	93.6			4.92
	Thiamethoxam	92.2	75.9	75.3			0.768
	Tolfenpyrad	41.1	47.5	44.4			6.70
	Triclopyr	105	75.9	77.7			2.23
SM 2120 B-2011	Color (true)	99.5				12.8	
SM 2320 B-2011	Total Alkalinity	97.8				2.35	
SM 2540 C-2011	TDS					5.45	
SM 4500 F-C-2011	Fluoride	98.8	98.6	99.3			0.467
SM 5310 B-2011	Organic Carbon	98.8	102	101			0.927

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2218770
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2218770
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2218770
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2218771
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2218771

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2218771
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2218771
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2218772
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2218778, 2218779
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2218778, 2218779
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2218770
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2218770
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2218770
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2218770
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2218770
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2218771

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	01/13/2021			01/13/2021 15:34	Yen Ta	2218770
EPA 300.0 Rev. 2.1	01/13/2021			01/16/2021 07:13	Julia Storbeck	2218770
EPA 350.1 Rev. 2.0	01/13/2021			01/23/2021 14:34	Ping Hua	2218771
EPA 351.2 Rev. 2.0	01/13/2021	01/25/2021 12:37	Yen Ta	01/26/2021 15:00	Julia Storbeck	2218771
EPA 353.2 Rev. 2.0	01/13/2021			01/21/2021 09:03	Beverly Y. Sanders	2218771
EPA 365.1 Rev. 2.0	01/13/2021	01/20/2021 18:21	Madeline Gruver	01/22/2021 16:03	Shengyu Wang	2218771
EPA 365.1 Rev. 2.0 dissolved	01/13/2021			01/13/2021 14:35	Blanca Fach	2218772
EPA 8321B	01/13/2021	01/14/2021 10:30	Rebecca Ware	01/15/2021 16:50	Rebecca Ware	2218778
	01/13/2021	01/14/2021 10:30	Rebecca Ware	01/15/2021 17:04	Rebecca Ware	2218779
	01/13/2021	01/14/2021 10:30	Rebecca Ware	01/21/2021 03:09	Rebecca Ware	2218778
	01/13/2021	01/14/2021 10:30	Rebecca Ware	01/21/2021 03:21	Rebecca Ware	2218779
	01/13/2021	01/19/2021 09:00	Hoor Shaik	01/19/2021 21:33	Juyoung Kim	2218778
	01/13/2021	01/19/2021 09:00	Hoor Shaik	01/19/2021 22:08	Juyoung Kim	2218779
SM 2120 B-2011	01/13/2021			01/13/2021 16:04	Benjamin T. Nordmann	2218770
SM 2320 B-2011	01/13/2021			01/15/2021 20:10	Dale L. Simmons	2218770
SM 2540 C-2011	01/13/2021			01/15/2021 15:02	Yijie Li	2218770
SM 2540 D-2011	01/13/2021			01/15/2021 15:02	Yijie Li	2218770
SM 4500 F-C-2011	01/13/2021			01/15/2021 20:10	Dale L. Simmons	2218770
SM 5310 B-2011	01/13/2021			01/19/2021 21:33	Touraj Touran	2218771