

Chemical Analysis Report

SW-DIST-2018-09-06-01

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

Event Description: **Wares, Wares, Mill, Gap, & Nonsense**

Request ID: **RQ-2018-09-03-18**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

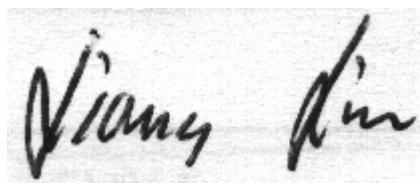
FL Dept. of Environmental Protection
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Attn: Ben Paswater

For additional information please contact

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 28-SEP-2018 15:23

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: 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: Nonsense @ Tara Preserve

Collection Date/Time: 09/05/2018 10:35

Field ID: G2SW0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2022646	EPA 8321B	2,4-D	0.012		ug/L	P351193	
		Sucralose**	0.38		ug/L	P351113	
		Bentazon	0.020		ug/L	P351193	
		MCP	0.0020	U	ug/L	P351193	
		Triclopyr**	0.0040	U	ug/L	P351193	
		Imidacloprid	0.051		ug/L	P351193	
		Diuron	0.065		ug/L	P351193	
		Pyraclostrobin**	0.0020	U	ug/L	P351193	
		Primidone**	0.0040	U	ug/L	P351193	
		Linuron	0.0040	U	ug/L	P351193	
		Acetaminophen**	0.0080	U	ug/L	P351193	
		Fenuron	0.016	U	ug/L	P351193	
		Imazapyr**	0.50		ug/L	P351193	
		Carbamazepine**	8.0E-04	U	ug/L	P351193	
		Fluridone**	0.038		ug/L	P351193	
		Hydrocodone**	8.0E-04	U	ug/L	P351193	
		Naproxen**	0.0080	U	ug/L	P351193	RPD
		Ibuprofen**	0.020	U	ug/L	P351193	
		Acesulfame K**	0.10	U	ug/L	P351113	MS

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Nonsense @ Tara Preserve

Collection Date/Time: 09/05/2018 10:40

Field ID: G2SW0015_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2022647	EPA 8321B	2,4-D	0.011		ug/L	P351193	
		Sucralose**	0.38		ug/L	P351113	
		Bentazon	0.021		ug/L	P351193	
		MCP	0.0020	U	ug/L	P351193	
		Triclopyr**	0.0040	U	ug/L	P351193	
		Imidacloprid	0.051		ug/L	P351193	
		Diuron	0.079		ug/L	P351193	
		Pyraclostrobin**	0.0020	U	ug/L	P351193	
		Primidone**	0.0040	U	ug/L	P351193	
		Linuron	0.0040	U	ug/L	P351193	
		Acetaminophen**	0.0080	U	ug/L	P351193	
		Fenuron	0.016	U	ug/L	P351193	
		Imazapyr**	0.55		ug/L	P351193	
		Carbamazepine**	8.0E-04	U	ug/L	P351193	
		Fluridone**	0.037		ug/L	P351193	
		Hydrocodone**	8.0E-04	U	ug/L	P351193	
		Naproxen**	0.0080	U	ug/L	P351193	RPD
		Ibuprofen**	0.020	U	ug/L	P351193	
		Acesulfame K**	0.10	U	ug/L	P351113	MS

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Field Blank_09/05/2018

Collection Date/Time: 09/05/2018 10:45

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2022648	EPA 8321B	2,4-D	0.0020	U	ug/L	P351193	
		Sucralose**	0.010	U	ug/L	P351113	
		Bentazon	8.0E-04	U	ug/L	P351193	
		MCP	0.0020	U	ug/L	P351193	
		Triclopyr**	0.0040	U	ug/L	P351193	
		Imidacloprid	0.0020	U	ug/L	P351193	
		Diuron	0.0020	U	ug/L	P351193	
		Pyraclostrobin**	0.0020	U	ug/L	P351193	
		Primidone**	0.0040	U	ug/L	P351193	
		Linuron	0.0040	U	ug/L	P351193	
		Acetaminophen**	0.0080	U	ug/L	P351193	
		Fenuron	0.016	U	ug/L	P351193	
		Imazapyr**	0.0040	U	ug/L	P351193	
		Carbamazepine**	8.0E-04	U	ug/L	P351193	
		Fluridone**	4.0E-04	U	ug/L	P351193	
		Hydrocodone**	8.0E-04	U	ug/L	P351193	
		Naproxen**	0.0080	U	ug/L	P351193	RPD
		Ibuprofen**	0.020	U	ug/L	P351193	
		Acesulfame K**	0.10	U	ug/L	P351113	MS

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Nonsense Cr @ Lingerlodge Rd

Collection Date/Time: 09/05/2018 10:55

Field ID: G2SW0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2022649	EPA 8321B	2,4-D	0.0079	I	ug/L	P351193	
		Sucralose**	0.34		ug/L	P351113	
		Bentazon	0.024		ug/L	P351193	
		MCP	0.0020	U	ug/L	P351193	
		Triclopyr**	0.0040	U	ug/L	P351193	
		Imidacloprid	0.058		ug/L	P351193	
		Diuron	0.082		ug/L	P351193	
		Pyraclostrobin**	0.0028	I	ug/L	P351193	
		Primidone**	0.0040	U	ug/L	P351193	
		Linuron	0.0040	U	ug/L	P351193	
		Acetaminophen**	0.0080	U	ug/L	P351193	
		Fenuron	0.016	U	ug/L	P351193	
		Imazapyr**	0.54		ug/L	P351193	
		Carbamazepine**	8.0E-04	U	ug/L	P351193	
		Fluridone**	0.061		ug/L	P351193	
		Hydrocodone**	8.0E-04	U	ug/L	P351193	
		Naproxen**	0.0080	U	ug/L	P351193	RPD
		Ibuprofen**	0.020	U	ug/L	P351193	
		Acesulfame K**	0.10	U	ug/L	P351113	MS

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Mill Creek @ Upper Manatee Rvr Rd

Collection Date/Time: 09/05/2018 12:35

Field ID: G2SW0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2022614	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P351210	
	SM 2320 B-97	Total Alkalinity	70		mg CaCO3/L	P351533	
	SM 2540 D-97	TSS	5	IA	mg/L	P351488	
	SM 4500 F-C-97	Fluoride	0.21		mg F/L	P351536	
2022616	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P351357	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.98		mg N/L	P351385	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P351429	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P351331	
	SM 5310 B-00	Organic Carbon	20		mg C/L	P351541	
2022618	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.27		mg P/L	P351205	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Mill Creek @ Upper Manatee Rvr Rd

Collection Date/Time: 09/05/2018 12:35

Field ID: G2SW0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2022650	EPA 8321B	2,4-D	0.18		ug/L	P351193	
		Sucralose**	2.5		ug/L	P351113	
		Bentazon	0.038		ug/L	P351193	
		MCP	0.0097		ug/L	P351193	
		Triclopyr**	0.0040	U	ug/L	P351193	
		Imidacloprid	0.26		ug/L	P351193	
		Diuron	0.44		ug/L	P351193	
		Pyraclostrobin**	0.0020	U	ug/L	P351193	
		Primidone**	0.0042	I	ug/L	P351193	
		Linuron	0.0040	U	ug/L	P351193	
		Acetaminophen**	0.0080	U	ug/L	P351193	
		Fenuron	0.016	U	ug/L	P351193	
		Imazapyr**	0.52		ug/L	P351193	
		Carbamazepine**	0.0024	I	ug/L	P351193	
		Fluridone**	0.028		ug/L	P351193	
		Hydrocodone**	8.0E-04	U	ug/L	P351193	
		Naproxen**	0.0080	U	ug/L	P351193	RPD
		Ibuprofen**	0.020	U	ug/L	P351193	
		Acesulfame K**	0.10	U	ug/L	P351113	MS

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Gap Creek @ 45th St

Collection Date/Time: 09/05/2018 10:15

Field ID: G2SW0030

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2022608	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P351210	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P351787	
		Sulfate	51		mg SO4/L	P351789	
	SM 2120 B	Color (true)	92	A	PCU	P351236	
	SM 2320 B-97	Total Alkalinity	101		mg CaCO3/L	P351533	
	SM 2540 C-97	TDS	270		mg/L	P351872	
	SM 2540 D-97	TSS	12		mg/L	P351488	
	SM 4500 F-C-97	Fluoride	0.39		mg F/L	P351536	
2022610	EPA 350.1 Rev. 2.0	Ammonia-N	0.048		mg N/L	P351357	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P351385	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P351428	
	EPA 365.1 Rev. 2.0	Total-P	0.44		mg P/L	P351331	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P351541	
2022612	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.29		mg P/L	P351205	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Wares Crk @ 36th Ave

Collection Date/Time: 09/05/2018 11:40

Field ID: G2SW0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2022609	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P351210	
	EPA 300.0 Rev. 2.1	Chloride	44		mg Cl/L	P351859	
		Sulfate	86		mg SO4/L	P351862	
		Color (true)	31		PCU	P351235	
	SM 2320 B-97	Total Alkalinity	160		mg CaCO3/L	P351533	
	SM 2540 C-97	TDS	367		mg/L	P351872	
	SM 2540 D-97	TSS	4	I	mg/L	P351488	
	SM 4500 F-C-97	Fluoride	0.44		mg F/L	P351536	
2022611	EPA 350.1 Rev. 2.0	Ammonia-N	0.065		mg N/L	P351357	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P351385	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P351428	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P351331	
	SM 5310 B-00	Organic Carbon	7.9		mg C/L	P351541	
2022613	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P351205	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Wares Crk @ 9th Ave

Collection Date/Time: 09/05/2018 12:00

Field ID: G2SW0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2022615	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P351210	
	SM 2320 B-97	Total Alkalinity	138		mg CaCO3/L	P351406	
	SM 2540 D-97	TSS	3	U	mg/L	P351492	
	SM 4500 F-C-97	Fluoride	0.39		mg F/L	P351537	
2022617	EPA 350.1 Rev. 2.0	Ammonia-N	0.093		mg N/L	P351575	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P351384	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.23		mg N/L	P351504	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P351329	
	SM 5310 B-00	Organic Carbon	8.3		mg C/L	P352044	
2022619	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P351207	

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: P351210

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351787

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351789

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351859

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351862

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351357

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351575

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351384

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351385

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351428

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351429

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351504

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351329

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351331

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351205

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351207

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

Reference Method: EPA 8321B
Batch ID: P351113

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

Reference Method: EPA 8321B
Batch ID: P351193

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P351193

Component	Result	Code	Units
Carbamazepine	8.0E-04	U	ug/L
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: SM 2120 B
Batch ID: P351235

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P351236

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P351406

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

Reference Method: SM 2320 B-97
Batch ID: P351533

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

Reference Method: SM 2540 C-97
Batch ID: P351872

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351488

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P351492

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351536

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P351537

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P351541

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

Reference Method: SM 5310 B-00
Batch ID: P352044

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: P351787

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351859

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351862

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351357

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351575

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351384

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351385

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: P351428

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351429

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351504

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: P351329

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351331

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351205

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351207

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

Reference Method: EPA 8321B
Batch ID: P351113

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	87.1		P	40 - 150
Sucralose	93.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351193

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	102		P	40 - 150
Acetaminophen	92.7		P	30 - 150
Bentazon	110		P	30 - 150
Carbamazepine	118		P	40 - 150
Diuron	116		P	40 - 150
Fenuron	108		P	40 - 150
Fluridone	107		P	40 - 150
Hydrocodone	88.7		P	40 - 150
Ibuprofen	90.8		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P351193

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imazapyr	107		P	40 - 150
Imidacloprid	109		P	40 - 160
Linuron	86.3		P	40 - 150
MCPP	113		P	40 - 150
Naproxen	137		P	40 - 150
Primidone	107		P	40 - 150
Pyraclostrobin	77.1		P	40 - 150
Triclopyr	136		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P351235

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.0		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P351236

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P351406

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

Reference Method: SM 2320 B-97
Batch ID: P351533

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

Reference Method: SM 4500 F-C-97
Batch ID: P351536

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

Reference Method: SM 4500 F-C-97
Batch ID: P351537

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351541

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P352044

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351787

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022197	Chloride	99.3		P	90 - 110
2022280	Chloride	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022197	Sulfate	98.5		P	90 - 110
2022280	Sulfate	96.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351859

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022843	Chloride	98.4		P	90 - 110
2022844	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022843	Sulfate	96.8		P	90 - 110
2022844	Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022567	Ammonia-N	98.5	95.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351575

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022522	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022498	Kjeldahl Nitrogen	101	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351385

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022611	Kjeldahl Nitrogen	107	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022561	NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022616	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022617	NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022617	Total-P	97.3	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022560	Total-P	92.8	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351205

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022569	O-Phosphate-P	96.3	97.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351207

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022382	O-Phosphate-P	96.5	96.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P351113

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022149	Acesulfame K	23.2	27.8	F/F	40 - 150
2022149	Sucralose	102	97.4	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022300	Acetaminophen	103	107	P/P	30 - 150
2022300	Bentazon	106	121	P/P	30 - 150
2022300	Carbamazepine	93.9	97.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P351193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022300	Diuron	54.3	60.8	P/P	40 - 150
2022300	Fenuron	43.5	45.8	P/P	40 - 150
2022300	Fluridone	77.3	116	P/P	40 - 150
2022300	Hydrocodone	66.4	76.8	P/P	40 - 150
2022300	Ibuprofen	91.3	93.1	P/P	40 - 150
2022300	Imazapyr	92.8	106	P/P	40 - 150
2022300	Imidacloprid	95.0	96.7	P/P	40 - 160
2022300	Linuron	57.3	65.1	P/P	40 - 150
2022300	MCP	108	127	P/P	40 - 150
2022300	Naproxen	69.0	103	P/P	40 - 150
2022300	Primidone	55.3	62.3	P/P	40 - 150
2022300	Pyraclostrobin	77.9	92.7	P/P	40 - 150
2022300	Triclopyr	127	129	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P351537

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023223	Fluoride	98.2	98.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351541

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022567	Organic Carbon	93.6	93.7	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P352044

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022478	Organic Carbon	98.5	98.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022559	Turbidity	3.52	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022197	Chloride	0.214	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022843	Chloride	0.215	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P351862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022843	Sulfate	0.553	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022567	Ammonia-N	1.93	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351575

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022522	Ammonia-N	0.523	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022498	Kjeldahl Nitrogen	2.18	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022611	Kjeldahl Nitrogen	1.19	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022561	NO2NO3-N	0.585	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022616	NO2NO3-N	0.282	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022617	NO2NO3-N	0.229	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022617	Total-P	0.962	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022560	Total-P	5.61	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351205

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022569	O-Phosphate-P	0.858	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022382	O-Phosphate-P	0.238	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P351113

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022149	Acesulfame K	18.3	Spike	P	0 - 30
2022149	Sucralose	4.29	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P351193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022300	2,4-D	18.1	Spike	P	0 - 30
2022300	Acetaminophen	3.91	Spike	P	0 - 30
2022300	Bentazon	9.94	Spike	P	0 - 30
2022300	Carbamazepine	3.68	Spike	P	0 - 30
2022300	Diuron	7.86	Spike	P	0 - 30
2022300	Fenuron	5.12	Spike	P	0 - 30
2022300	Fluridone	26.1	Spike	P	0 - 30
2022300	Hydrocodone	14.6	Spike	P	0 - 30
2022300	Ibuprofen	2.03	Spike	P	0 - 30
2022300	Imazapyr	1.87	Spike	P	0 - 30
2022300	Imidacloprid	1.27	Spike	P	0 - 30
2022300	Linuron	12.8	Spike	P	0 - 30
2022300	MCP	15.3	Spike	P	0 - 30
2022300	Naproxen	39.7	Spike	F	0 - 30
2022300	Primidone	11.9	Spike	P	0 - 30
2022300	Pyraclostrobin	17.4	Spike	P	0 - 30
2022300	Triclopyr	1.57	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P351235

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022558	Color (true)	0.500	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P351236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022608	Color (true)	1.55	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P351406

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022182	Total Alkalinity	1.39	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P351533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022887	Total Alkalinity	0.0958	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P351872

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P351872

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022330	TDS	0.905	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P351536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022887	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P351537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023223	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P351541

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022567	Organic Carbon	0.0338	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P352044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022478	Organic Carbon	0.161	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: 2022646
Field Sample ID: G2SW0015

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	150	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.9	P	30 - 160
EPA 8321B	Diuron-d6	69.4	P	30 - 160
EPA 8321B	Endothall-d6	132	P	40 - 160
EPA 8321B	Endothall-d6	132	P	40 - 160
EPA 8321B	Ibuprofen-d3	82.5	P	30 - 160
EPA 8321B	Primidone-d5	46.3	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	40 - 160
EPA 8321B	Sucralose-d6	111	P	40 - 160

Lab Sample ID: 2022647
Field Sample ID: G2SW0015_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	133	P	30 - 160
EPA 8321B	Acetaminophen-d4	91.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.0	P	30 - 160
EPA 8321B	Diuron-d6	89.3	P	30 - 160
EPA 8321B	Endothall-d6	131	P	40 - 160
EPA 8321B	Endothall-d6	131	P	40 - 160
EPA 8321B	Ibuprofen-d3	94.8	P	30 - 160
EPA 8321B	Primidone-d5	48.5	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	40 - 160
EPA 8321B	Sucralose-d6	128	P	40 - 160

Lab Sample ID: 2022648
Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	102	P	30 - 160
EPA 8321B	Diuron-d6	92.3	P	30 - 160
EPA 8321B	Endothall-d6	104	P	40 - 160
EPA 8321B	Endothall-d6	104	P	40 - 160
EPA 8321B	Ibuprofen-d3	84.9	P	30 - 160
EPA 8321B	Primidone-d5	98.5	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	40 - 160
EPA 8321B	Sucralose-d6	101	P	40 - 160

Lab Sample ID: 2022649
Field Sample ID: G2SW0041

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	117	P	30 - 160
EPA 8321B	Acetaminophen-d4	97.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.0	P	30 - 160
EPA 8321B	Diuron-d6	94.0	P	30 - 160
EPA 8321B	Endothall-d6	142	P	40 - 160
EPA 8321B	Endothall-d6	142	P	40 - 160
EPA 8321B	Ibuprofen-d3	80.6	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2022649

Field Sample ID: G2SW0041

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Primidone-d5	47.9	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	40 - 160
EPA 8321B	Sucralose-d6	104	P	40 - 160

Lab Sample ID: 2022650

Field Sample ID: G2SW0040

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	140	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.6	P	30 - 160
EPA 8321B	Diuron-d6	83.7	P	30 - 160
EPA 8321B	Endothall-d6	129	P	40 - 160
EPA 8321B	Endothall-d6	129	P	40 - 160
EPA 8321B	Ibuprofen-d3	81.2	P	30 - 160
EPA 8321B	Primidone-d5	48.3	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	40 - 160
EPA 8321B	Sucralose-d6	107	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86326

Included Lab Sample IDs: 2022612, 2022613, 2022618, 2022619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86327

Included Lab Sample IDs: 2022608, 2022609, 2022614, 2022615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	103	102	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A86332

Included Lab Sample IDs: 2022608, 2022609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.6	99.0	P/P	90 - 115
Color (true)	99.0	98.5	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A86357

Included Lab Sample IDs: 2022646, 2022647, 2022648, 2022649, 2022650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	84.6	84.5	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A86372

Included Lab Sample IDs: 2022646, 2022647, 2022648, 2022649, 2022650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	103	P/P	50 - 150
Acetaminophen	81.3	81.8	P/P	60 - 160
Bentazon	127	118	P/P	50 - 160
Carbamazepine	110	102	P/P	60 - 160
Diuron	125	118	P/P	60 - 150
Fenuron	106	106	P/P	60 - 150
Fluridone	123	117	P/P	60 - 160
Hydrocodone	96.3	92.3	P/P	60 - 150
Ibuprofen	147	135	P/P	50 - 160
Imazapyr	104	104	P/P	50 - 150
Imidacloprid	93.6	86.6	P/P	60 - 150
Linuron	106	110	P/P	60 - 150
MCP	97.4	99.1	P/P	50 - 150
Naproxen	111	120	P/P	50 - 160
Primidone	90.1	97.2	P/P	60 - 150
Pyraclostrobin	87.2	92.2	P/P	60 - 150
Triclopyr	98.8	91.9	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86384

Included Lab Sample IDs: 2022610, 2022611, 2022616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	99.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86393

Included Lab Sample IDs: 2022646, 2022647

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	109	113	P/P	60 - 160
Pyraclostrobin	100	105	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86395

Included Lab Sample IDs: 2022610, 2022611, 2022616, 2022617

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

Reference Method: SM 2320 B-97

Run ID: A86400

Included Lab Sample IDs: 2022615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86403

Included Lab Sample IDs: 2022610, 2022611, 2022616

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

Reference Method: EPA 8321B

Run ID: A86410

Included Lab Sample IDs: 2022646, 2022647, 2022648, 2022649, 2022650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	105	81.2	P/P	60 - 160
Sucralose	81.2	95.3	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86434

Included Lab Sample IDs: 2022617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86436

Included Lab Sample IDs: 2022617

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86438

Included Lab Sample IDs: 2022610, 2022611, 2022616

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

Reference Method: SM 2320 B-97

Run ID: A86448

Included Lab Sample IDs: 2022608, 2022609, 2022614

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

Reference Method: SM 4500 F-C-97

Run ID: A86448

Included Lab Sample IDs: 2022608, 2022609, 2022614, 2022615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	99.5	P/P	90 - 110
Fluoride	99.5	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A86450

Included Lab Sample IDs: 2022610, 2022611, 2022616

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.2	94.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86458

Included Lab Sample IDs: 2022617

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86543

Included Lab Sample IDs: 2022608

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86566

Included Lab Sample IDs: 2022609

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86566

Included Lab Sample IDs: 2022609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	103	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A86629

Included Lab Sample IDs: 2022617

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	99.9	P/P	90 - 110

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

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				3.52	
EPA 300.0 Rev. 2.1	Chloride	99.4	96.8	99.3	0.214	
	Chloride	99.1	98.4	98.6	0.215	
	Sulfate	98.4	98.5	96.4		
	Sulfate	99.8	96.8	99.4	0.553	
	Ammonia-N	97.9	98.5	95.3		1.93
EPA 350.1 Rev. 2.0	Ammonia-N	102	102	102		0.523
	Kjeldahl Nitrogen	104	101	104		2.18
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	107	105		1.19
	NO2NO3-N	102	100	102		0.585
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	101		0.282
	NO2NO3-N	100	102			0.229
	Total-P	97.4	97.3	98.4		0.962
EPA 365.1 Rev. 2.0	Total-P	102	92.8	100		5.61
	O-Phosphate-P	102	96.3	97.3		0.858
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	96.5	96.8		0.238
	2,4-D	102				18.1
EPA 8321B	Acesulfame K	87.1	23.2	27.8		18.3
	Acetaminophen	92.7	107	103		3.91
	Bentazon	110	106	121		9.94
	Carbamazepine	118	97.4	93.9		3.68
	Diuron	116	54.3	60.8		7.86
	Fenuron	108	45.8	43.5		5.12
	Fluridone	107	77.3	116		26.1
	Hydrocodone	88.7	76.8	66.4		14.6
	Ibuprofen	90.8	91.3	93.1		2.03
	Imazapyr	107	92.8	106		1.87
	Imidacloprid	109	96.7	95.0		1.27
	Linuron	86.3	57.3	65.1		12.8
	MCP	113	108	127		15.3
	Naproxen	137	69.0	103		39.7
	Primidone	107	62.3	55.3		11.9
	Pyraclostrobin	77.1	77.9	92.7		17.4
	Sucralose	93.8	102	97.4		4.29
	Triclopyr	136	127	129		1.57
SM 2120 B	Color (true)	98.0			0.500	
	Color (true)	100			1.55	
SM 2320 B-97	Total Alkalinity	103			1.39	
	Total Alkalinity	103			0.0958	
SM 2540 C-97	TDS				0.905	
SM 4500 F-C-97	Fluoride	97.7				0.0
	Fluoride	99.2	98.2	98.2		0.0
SM 5310 B-00	Organic Carbon	93.6	93.6	93.7		0.0338
	Organic Carbon	102	98.5	98.3		0.161

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2022608, 2022609, 2022614, 2022615
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2022608, 2022609

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2022608, 2022609
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2022610, 2022611, 2022616, 2022617
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2022610, 2022611, 2022616, 2022617
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2022610, 2022611, 2022616, 2022617
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2022610, 2022611, 2022616, 2022617
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2022612, 2022613, 2022618, 2022619
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2022646, 2022647, 2022648, 2022649, 2022650
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2022646, 2022647, 2022648, 2022649, 2022650
SM 2120 B / E31780	True Color measured at 450 nm	2022608, 2022609
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2022608, 2022609, 2022614, 2022615
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2022608, 2022609
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2022608, 2022609, 2022614, 2022615
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2022608, 2022609, 2022614, 2022615
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2022610, 2022611, 2022616, 2022617

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	09/06/2018			09/06/2018 16:48	Megan Treadwell	2022608, 2022609, 2022614, 2022615
EPA 300.0 Rev. 2.1	09/06/2018			09/14/2018 01:14	Lipi Saha	2022608
	09/06/2018			09/17/2018 19:39	Lipi Saha	2022609
EPA 350.1 Rev. 2.0	09/06/2018			09/10/2018 12:40	Ping Hua	2022610
	09/06/2018			09/10/2018 12:42	Ping Hua	2022611
	09/06/2018			09/10/2018 12:43	Ping Hua	2022616
	09/06/2018			09/11/2018 13:18	Ping Hua	2022617
EPA 351.2 Rev. 2.0	09/06/2018	09/11/2018 10:45	Adrian Shelby	09/12/2018 09:27	Joseph Suarez	2022617
	09/06/2018	09/11/2018 10:45	Adrian Shelby	09/12/2018 12:41	Joseph Suarez	2022610
	09/06/2018	09/11/2018 10:45	Adrian Shelby	09/12/2018 12:43	Joseph Suarez	2022611
	09/06/2018	09/11/2018 10:45	Adrian Shelby	09/12/2018 12:47	Joseph Suarez	2022616
EPA 353.2 Rev. 2.0	09/06/2018			09/11/2018 13:56	Lauren Bottorf	2022610
	09/06/2018			09/11/2018 13:57	Lauren Bottorf	2022611
	09/06/2018			09/11/2018 14:10	Lauren Bottorf	2022616
	09/06/2018			09/12/2018 10:55	Lauren Bottorf	2022617
EPA 365.1 Rev. 2.0	09/06/2018	09/10/2018 13:47	Sima Feizi	09/11/2018 08:29	Beverly Y. Sanders	2022617
	09/06/2018	09/10/2018 13:47	Sima Feizi	09/11/2018 09:16	Beverly Y. Sanders	2022610
	09/06/2018	09/10/2018 13:47	Sima Feizi	09/11/2018 09:17	Beverly Y. Sanders	2022611
	09/06/2018	09/10/2018 13:47	Sima Feizi	09/11/2018 09:18	Beverly Y. Sanders	2022616
EPA 365.1 Rev. 2.0 dissolved	09/06/2018			09/06/2018 16:37	Julia Storbeck	2022619
	09/06/2018			09/06/2018 16:40	Julia Storbeck	2022613
	09/06/2018			09/06/2018 16:41	Julia Storbeck	2022618
	09/06/2018			09/06/2018 16:42	Julia Storbeck	2022612
EPA 8321B	09/06/2018	09/06/2018 15:00	Mohammad Ghaffari	09/09/2018 22:12	Mohammad Ghaffari	2022646
	09/06/2018	09/06/2018 15:00	Mohammad Ghaffari	09/09/2018 22:27	Mohammad Ghaffari	2022647
	09/06/2018	09/06/2018 15:00	Mohammad Ghaffari	09/09/2018 22:42	Mohammad Ghaffari	2022648
	09/06/2018	09/06/2018 15:00	Mohammad Ghaffari	09/09/2018 22:56	Mohammad Ghaffari	2022649
	09/06/2018	09/06/2018 15:00	Mohammad Ghaffari	09/09/2018 23:11	Mohammad Ghaffari	2022650
	09/06/2018	09/06/2018 15:00	Mohammad Ghaffari	09/10/2018 23:45	Mohammad Ghaffari	2022646
	09/06/2018	09/06/2018 15:00	Mohammad Ghaffari	09/11/2018 10:10	Mohammad Ghaffari	2022647
	09/06/2018	09/06/2018 15:00	Mohammad Ghaffari	09/11/2018 10:25	Mohammad Ghaffari	2022648
	09/06/2018	09/06/2018 15:00	Mohammad Ghaffari	09/11/2018 10:40	Mohammad Ghaffari	2022649
	09/06/2018	09/06/2018 15:00	Mohammad Ghaffari	09/11/2018 10:54	Mohammad Ghaffari	2022650
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/08/2018 10:31	Juyoung Kim	2022646
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/08/2018 11:05	Juyoung Kim	2022647
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/08/2018 11:40	Juyoung Kim	2022648
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/08/2018 12:15	Juyoung Kim	2022649
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/08/2018 12:49	Juyoung Kim	2022650
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/09/2018 07:50	Juyoung Kim	2022646
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/09/2018 08:25	Juyoung Kim	2022647

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/09/2018 09:00	Juyoung Kim	2022648
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/09/2018 09:34	Juyoung Kim	2022649
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/09/2018 10:09	Juyoung Kim	2022650
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/11/2018 00:16	Juyoung Kim	2022646
	09/06/2018	09/07/2018 09:00	Hoor Shaik	09/11/2018 00:50	Juyoung Kim	2022647
SM 2120 B	09/06/2018			09/06/2018 15:47	DeAsia Armster	2022609
	09/06/2018			09/06/2018 15:57	DeAsia Armster	2022608
SM 2320 B-97	09/06/2018			09/11/2018 11:01	Dale L. Simmons	2022615
	09/06/2018			09/12/2018 22:39	Dale L. Simmons	2022608
	09/06/2018			09/12/2018 22:50	Dale L. Simmons	2022609
	09/06/2018			09/12/2018 23:01	Dale L. Simmons	2022614
SM 2540 C-97	09/06/2018			09/10/2018 13:20	DeAsia Armster	2022608, 2022609
SM 2540 D-97	09/06/2018			09/10/2018 13:20	DeAsia Armster	2022608, 2022609, 2022614, 2022615
SM 4500 F-C-97	09/06/2018			09/12/2018 22:39	Dale L. Simmons	2022608
	09/06/2018			09/12/2018 22:50	Dale L. Simmons	2022609
	09/06/2018			09/12/2018 23:01	Dale L. Simmons	2022614
	09/06/2018			09/13/2018 06:18	Dale L. Simmons	2022615
SM 5310 B-00	09/06/2018			09/12/2018 04:34	Megan Treadwell	2022610
	09/06/2018			09/12/2018 04:49	Megan Treadwell	2022611
	09/06/2018			09/12/2018 05:03	Megan Treadwell	2022616
	09/06/2018			09/20/2018 11:01	Megan Treadwell	2022617