

Chemical Analysis Report

SW-DIST-2018-04-03-04

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-2018-04-02-12**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

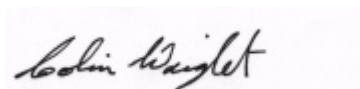
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

For additional information please contact

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Certified by: Colin Wright, Program Administrator

Date Certified: 26-APR-2018 10:39



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: MILL CREEK @ UPPER MANATEE RVR RD

Collection Date/Time: 04/02/2018 12:55

Field ID: G2SW0040

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980264	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P342712	
	SM 2320 B-97	Total Alkalinity	86		mg CaCO3/L	P343500	
	SM 2540 D-97	TSS	6	I	mg/L	P343511	
	SM 4500 F-C-97	Fluoride	0.56		mg F/L	P343954	
1980266	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P343146	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P342815	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010		mg N/L	P343136	
	EPA 365.1 Rev. 2.0	Total-P	0.35		mg P/L	P342921	MS
	SM 5310 B-00	Organic Carbon	11		mg C/L	P343193	
1980268	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.25		mg P/L	P342702	

Ref. Method and Comment:

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

Sample Location: MILL CREEK @ UPPER MANATEE RVR RD

Collection Date/Time: 04/02/2018 12:55

Field ID: G2SW0040

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980283	EPA 8321B	2,4-D	0.0020	U	ug/L	P342539	
		Sucralose**	1.1		ug/L	P342825	
		Bentazon	0.021		ug/L	P342539	
		MCP	0.0020	U	ug/L	P342539	
		Triclopyr**	0.0040	U	ug/L	P342539	
		Imidacloprid	0.023		ug/L	P342539	MS
		Diuron	0.0087		ug/L	P342539	
		Pyraclostrobin**	0.0020	U	ug/L	P342539	
		Primidone**	0.0098	I	ug/L	P342539	
		Linuron	0.0040	U	ug/L	P342539	
		Acetaminophen**	0.0080	U	ug/L	P342539	
		Fenuron	0.016	U	ug/L	P342539	
		Imazapyr**	0.074		ug/L	P342539	
		Carbamazepine**	0.0021		ug/L	P342539	
		Fluridone**	0.037		ug/L	P342539	
		Hydrocodone**	8.0E-04	U	ug/L	P342539	

Ref. Method and Comment:

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

Sample Location: NONSENSE CR @ LINGERLODGE RD

Collection Date/Time: 04/02/2018 10:10

Field ID: G2SW0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980284	EPA 8321B	2,4-D	0.0020	U	ug/L	P342539	
		Sucralose**	0.11	U	ug/L	P342825	
		Bentazon	0.27		ug/L	P342539	
		MCP	0.0020	U	ug/L	P342539	
		Triclopyr**	0.0040	U	ug/L	P342539	

Field ID: G2SW0041

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980284	EPA 8321B	Imidacloprid	0.024		ug/L	P342539	MS
		Diuron	0.019		ug/L	P342539	
		Pyraclostrobin**	0.0020	U	ug/L	P342539	
		Primidone**	0.0040	U	ug/L	P342539	
		Linuron	0.0040	U	ug/L	P342539	
		Acetaminophen**	0.0080	U	ug/L	P342539	
		Fenuron	0.016	U	ug/L	P342539	
		Imazapyr**	0.51		ug/L	P342539	
		Carbamazepine**	4.0E-04	U	ug/L	P342539	
		Fluridone**	0.85		ug/L	P342408	
		Hydrocodone**	8.0E-04	U	ug/L	P342539	

Ref. Method and Comment:

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

Sample Location: WARES CRK @ 36TH AVE

Collection Date/Time: 04/02/2018 11:25

Field ID: G2SW0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980265	EPA 180.1 Rev. 2.0	Turbidity	2.0	A	NTU	P342713	
	SM 2320 B-97	Total Alkalinity	201		mg CaCO3/L	P343370	
	SM 2540 D-97	TSS	5	I	mg/L	P343456	
	SM 4500 F-C-97	Fluoride	0.52		mg F/L	P343375	
1980267	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P343232	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P342816	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P342941	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P342809	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P343191	
1980269	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P342698	

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: GAP CRK @45TH ST

Collection Date/Time: 04/02/2018 09:35

Field ID: G2SW0030

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980258	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P342712	
	EPA 300.0 Rev. 2.1	Chloride	140		mg Cl/L	P342831	
		Sulfate	130		mg SO4/L	P342834	
	SM 2120 B	Color (true)	45		PCU	P342647	
	SM 2320 B-97	Total Alkalinity	170		mg CaCO3/L	P343370	
	SM 2540 C-97	TDS	594		mg/L	P343340	
	SM 2540 D-97	TSS	4	I	mg/L	P343452	
	SM 4500 F-C-97	Fluoride	0.65		mg F/L	P343375	
1980260	EPA 350.1 Rev. 2.0	Ammonia-N	0.070		mg N/L	P343232	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P342816	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.081		mg N/L	P342941	

Field ID: G2SW0030

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980260	EPA 365.1 Rev. 2.0	Total-P	0.56		mg P/L	P342809	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P343191	
1980262	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.44		mg P/L	P342697	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high 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.

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: NONSENSE @ TARA PRESERVE

Collection Date/Time: 04/02/2018 10:10

Field ID: G2SW0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980285	EPA 8321B	2,4-D	0.0020	U	ug/L	P342539	
		Sucralose**	0.11	U	ug/L	P342825	
		Bentazon	0.039		ug/L	P342539	
		MCP	0.0020	U	ug/L	P342539	
		Triclopyr**	0.0040	U	ug/L	P342539	
		Imidacloprid	0.076		ug/L	P342539	MS
		Diuron	0.016		ug/L	P342539	
		Pyraclostrobin**	0.0020	U	ug/L	P342539	
		Primidone**	0.0040	U	ug/L	P342539	
		Linuron	0.0040	U	ug/L	P342539	
		Acetaminophen**	0.0080	U	ug/L	P342539	
		Fenuron	0.017	IV	ug/L	P342539	
		Imazapyr**	0.57		ug/L	P342539	
		Carbamazepine**	4.0E-04	U	ug/L	P342539	
		Fluridone**	0.56		ug/L	P342408	
		Hydrocodone**	8.0E-04	U	ug/L	P342539	

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D and imazapyr could not be assessed due to high concentration of parameter in the spiked sample. "V" - due to a fenuron detect in the method blank slightly above the MDL.

Sample Location: WARES CRK @ 9TH AVE

Collection Date/Time: 04/02/2018 12:15

Field ID: G2SW0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980259	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P342712	
	EPA 300.0 Rev. 2.1	Chloride	1.2E+04		mg Cl/L	P342831	
		Sulfate	1.7E+03		mg SO4/L	P342834	
	SM 2120 B	Color (true)	21		PCU	P342647	
	SM 2320 B-97	Total Alkalinity	142		mg CaCO3/L	P343500	
	SM 2540 C-97	TDS	1.95E+04		mg/L	P343344	
	SM 2540 D-97	TSS	4	IA	mg/L	P343511	
	SM 4500 F-C-97	Fluoride	0.89		mg F/L	P343506	
1980261	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P343146	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P342815	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P343136	

Field ID: G2SW0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1980261	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P342920	
	SM 5310 B-00	Organic Carbon	8.9		mg C/L	P343333	
1980263	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P342702	

Ref. Method and Comment:
 EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high 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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P342712

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P342713

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P342831

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P342834

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P343146

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P343232

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P342815

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342816

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342941

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343136

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342809

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342920

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342921

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342697

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342698

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342702

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P342408

Component	Result	Code	Units
Fluridone	8.0E-04	U	ug/L

Reference Method: EPA 8321B
Batch ID: P342539

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.017	I	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	8.0E-04	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
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P342825

Component	Result	Code	Units
Sucralose	0.11	U	ug/L

Reference Method: SM 2120 B
Batch ID: P342647

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P343370

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

Reference Method: SM 2320 B-97
Batch ID: P343500

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

Reference Method: SM 2540 C-97
Batch ID: P343340

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P343344

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P343452

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P343456

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P343511

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P343375

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P343506

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P343954

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P343191

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

Reference Method: SM 5310 B-00
Batch ID: P343193

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

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P343333

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: P342831

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342834

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343146

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343232

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342815

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342816

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342941

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: P343136

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P343136

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P342809

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: P342920

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P342921

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P342697

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P342698

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P342702

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.3		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P342408

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluridone	56.1		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P342539

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	64.8		P	40 - 150
Acetaminophen	99.8		P	30 - 150
Bentazon	68.3		P	30 - 150
Carbamazepine	83.6		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P342539

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	66.7		P	40 - 150
Fenuron	114		P	40 - 150
Fluridone	62.2		P	40 - 150
Hydrocodone	118		P	40 - 150
Imazapyr	73.4		P	40 - 150
Imidacloprid	106		P	40 - 160
Linuron	79.8		P	40 - 150
MCPP	61.0		P	40 - 150
Primidone	110		P	40 - 150
Pyraclostrobin	66.6		P	40 - 150
Triclopyr	56.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P342825

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	117		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P343370

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

Reference Method: SM 2320 B-97
Batch ID: P343500

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P343375

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.6		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P343506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.1		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P343954

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.4		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343191

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

Reference Method: SM 5310 B-00
Batch ID: P343191

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	104		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P343193

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

Reference Method: SM 5310 B-00
Batch ID: P343333

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980171	Chloride	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979904	Sulfate	96.9		P	90 - 110
1980171	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343146

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979443	Ammonia-N	97.5	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979968	Ammonia-N	97.2	97.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980163	Kjeldahl Nitrogen	94.3	93.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980267	Kjeldahl Nitrogen	102	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980176	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1981772	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342920

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980157	Total-P	96.4	94.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342921

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980613	Total-P	92.0	89.6	P/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342697

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979933	O-Phosphate-P	94.6	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342698

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980247	O-Phosphate-P	95.4	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979706	O-Phosphate-P	96.4	97.2	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P342408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1978945	Fluridone	53.5	63.3	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P342539

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979892	Acetaminophen	127	125	P/P	30 - 150
1979892	Bentazon	37.7	33.9	P/P	30 - 150
1979892	Carbamazepine	94.2	92.9	P/P	40 - 150
1979892	Diuron	72.4	79.4	P/P	40 - 150
1979892	Fenuron	101	106	P/P	40 - 150
1979892	Fluridone	65.1	62.8	P/P	40 - 150
1979892	Hydrocodone	139	140	P/P	40 - 150
1979892	Imidacloprid	185	197	F/F	40 - 160
1979892	Linuron	82.6	91.5	P/P	40 - 150
1979892	MCPP	55.2	56.7	P/P	40 - 150
1979892	Primidone	132	132	P/P	40 - 150
1979892	Pyraclostrobin	75.7	73.6	P/P	40 - 150
1979892	Triclopyr	59.3	54.8	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P342825

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979892	Sucralose	69.9	75.2	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P343375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980245	Fluoride	96.9	98.6	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P343506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979698	Fluoride	93.2	94.0	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P343954

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980264	Fluoride	93.3	94.9	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1979921	Organic Carbon	97.6	95.8	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P343193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1980613	Organic Carbon	92.7	95.9	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P343333

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1981293	Organic Carbon	91.3	94.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P342712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980130	Turbidity	0.837	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P342713

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980265	Turbidity	3.44	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979904	Chloride	0.304	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979904	Sulfate	0.243	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343146

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979443	Ammonia-N	0.769	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P343232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979968	Ammonia-N	0.204	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980163	Kjeldahl Nitrogen	0.950	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980267	Kjeldahl Nitrogen	4.06	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980176	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1981772	NO2NO3-N	0.868	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980260	Total-P	0.241	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342920

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980157	Total-P	1.91	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980613	Total-P	2.38	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342697

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979933	O-Phosphate-P	0.318	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980247	O-Phosphate-P	0.487	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979706	O-Phosphate-P	0.661	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P342408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1978945	Fluridone	16.4	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P342539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979892	2,4-D	3.02	Spike	P	0 - 30
1979892	Acetaminophen	1.33	Spike	P	0 - 30
1979892	Bentazon	9.31	Spike	P	0 - 30
1979892	Carbamazepine	1.36	Spike	P	0 - 30
1979892	Diuron	9.25	Spike	P	0 - 30
1979892	Fenuron	5.30	Spike	P	0 - 30
1979892	Fluridone	3.64	Spike	P	0 - 30
1979892	Hydrocodone	0.429	Spike	P	0 - 30
1979892	Imazapyr	7.98	Spike	P	0 - 30
1979892	Imidacloprid	5.04	Spike	P	0 - 30
1979892	Linuron	10.2	Spike	P	0 - 30
1979892	MCP	2.68	Spike	P	0 - 30
1979892	Primidone	0.439	Spike	P	0 - 30
1979892	Pyraclostrobin	2.75	Spike	P	0 - 30
1979892	Triclopyr	7.82	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P342825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979892	Sucralose	4.85	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P342647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980172	Color (true)	1.71	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P343370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980245	Total Alkalinity	0.247	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P343500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979698	Total Alkalinity	0.0803	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P343340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980232	TDS	6.10	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P343344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980999	TDS	3.81	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P343375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980245	Fluoride	1.49	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P343506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979698	Fluoride	0.480	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P343954

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980264	Fluoride	0.946	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P343191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1979921	Organic Carbon	1.16	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P343193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1980613	Organic Carbon	3.10	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P343333

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1981293	Organic Carbon	2.53	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: 1980283
Field Sample ID: G2SW0040

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	39.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	143	P	30 - 160
EPA 8321B	Carbamazepine-d10	111	P	30 - 160
EPA 8321B	Diuron-d6	93.5	P	30 - 160
EPA 8321B	Primidone-d5	135	P	30 - 160
EPA 8321B	Sucralose-d6	74.1	P	40 - 160

Lab Sample ID: 1980284
Field Sample ID: G2SW0041

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	83.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	138	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Diuron-d6	96.6	P	30 - 160
EPA 8321B	Primidone-d5	132	P	30 - 160
EPA 8321B	Sucralose-d6	62.0	P	40 - 160

Lab Sample ID: 1980285
Field Sample ID: G2SW0015

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	66.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	145	P	30 - 160
EPA 8321B	Carbamazepine-d10	113	P	30 - 160
EPA 8321B	Diuron-d6	93.6	P	30 - 160
EPA 8321B	Primidone-d5	141	P	30 - 160
EPA 8321B	Sucralose-d6	58.8	P	40 - 160

Quality Assurance Report Calibration Verification

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A83001

Included Lab Sample IDs: 1980258, 1980259

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

Reference Method: SM 2120 B

Run ID: A83011

Included Lab Sample IDs: 1980258, 1980259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	99.9	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A83021

Included Lab Sample IDs: 1980262, 1980263, 1980268

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	98.7	P/P	90 - 110
O-Phosphate-P	98.7	98.1	P/P	90 - 110
O-Phosphate-P	98.7	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A83022

Included Lab Sample IDs: 1980258, 1980259, 1980264, 1980265

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105
Turbidity	98.5	99.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A83024

Included Lab Sample IDs: 1980269

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83073

Included Lab Sample IDs: 1980260, 1980267

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83084

Included Lab Sample IDs: 1980260, 1980267

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83107

Included Lab Sample IDs: 1980261, 1980266

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83109

Included Lab Sample IDs: 1980260, 1980261, 1980266, 1980267

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.8	97.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A83110

Included Lab Sample IDs: 1980283, 1980284, 1980285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.1	89.9	P/P	50 - 150
Acetaminophen	114	103	P/P	60 - 150
Bentazon	104	96.6	P/P	50 - 150
Carbamazepine	108	106	P/P	60 - 150
Diuron	121	122	P/P	60 - 150
Fenuron	108	103	P/P	60 - 150
Fluridone	119	112	P/P	60 - 160
Fluridone	120	119	P/P	60 - 160
Hydrocodone	120	104	P/P	60 - 150
Imazapyr	90.5	85.0	P/P	50 - 150
Imidacloprid	107	103	P/P	60 - 150
Linuron	118	129	P/P	60 - 150
MCPP	100	97.4	P/P	50 - 150
Primidone	118	106	P/P	60 - 150
Pyraclostrobin	117	111	P/P	60 - 150
Triclopyr	95.1	83.5	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83149

Included Lab Sample IDs: 1980261, 1980266

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83153

Included Lab Sample IDs: 1980261, 1980266

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

Reference Method: SM 5310 B-00

Run ID: A83162

Included Lab Sample IDs: 1980260, 1980266, 1980267

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	95.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A83162

Included Lab Sample IDs: 1980260, 1980266, 1980267

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	92.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83174

Included Lab Sample IDs: 1980260, 1980267

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

Reference Method: EPA 8321B

Run ID: A83192

Included Lab Sample IDs: 1980283, 1980284, 1980285

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	101	96.0	P/P	60 - 130
Sucralose	108	101	P/P	60 - 130

Reference Method: SM 5310 B-00

Run ID: A83211

Included Lab Sample IDs: 1980261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	96.7	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A83225

Included Lab Sample IDs: 1980258, 1980265

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: A83225

Included Lab Sample IDs: 1980258, 1980265

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

Reference Method: SM 2320 B-97

Run ID: A83264

Included Lab Sample IDs: 1980259, 1980264

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.6	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A83264

Included Lab Sample IDs: 1980259

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	97.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A83420

Included Lab Sample IDs: 1980264

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	98.6	P/P	90 - 110

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

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				0.837	
	Turbidity				3.44	
EPA 300.0 Rev. 2.1	Chloride	99.7	98.1		0.304	
	Sulfate	99.1	96.9 100		0.243	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	97.5 98.8			0.769
	Ammonia-N	97.3	97.2 97.4			0.204
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.0	93.2 94.3			0.950
	Kjeldahl Nitrogen	95.8	102 108			4.06
EPA 353.2 Rev. 2.0	NO2NO3-N	102	103 103			0.0
	NO2NO3-N	104	104 105			0.868
EPA 365.1 Rev. 2.0	Total-P	104				0.241
	Total-P	100	96.4 94.4			1.91
	Total-P	104	92.0 89.6			2.38
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.2	94.6 94.3			0.318
	O-Phosphate-P	103	95.4 96.0			0.487
	O-Phosphate-P	98.3	96.4 97.2			0.661
EPA 8321B	2,4-D	64.8				3.02
	Acetaminophen	99.8	127 125			1.33
	Bentazon	68.3	37.7 33.9			9.31
	Carbamazepine	83.6	94.2 92.9			1.36
	Diuron	66.7	72.4 79.4			9.25
	Fenuron	114	101 106			5.30
	Fluridone	56.1	53.5 63.3			16.4
	Fluridone	62.2	65.1 62.8			3.64
	Hydrocodone	118	139 140			0.429
	Imazapyr	73.4				7.98
	Imidacloprid	106	185 197			5.04
	Linuron	79.8	82.6 91.5			10.2
	MCP	61.0	55.2 56.7			2.68
	Primidone	110	132 132			0.439
	Pyraclostrobin	66.6	75.7 73.6			2.75
	Sucralose	117	69.9 75.2			4.85
	Triclopyr	56.8	59.3 54.8			7.82
SM 2120 B	Color (true)				1.71	
SM 2320 B-97	Total Alkalinity	102			0.247	
	Total Alkalinity	100			0.0803	
SM 2540 C-97	TDS				6.10	
	TDS				3.81	
SM 4500 F-C-97	Fluoride	95.6	96.9 98.6			1.49

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-97	Fluoride	94.1	93.2	94.0		0.480
	Fluoride	95.4	93.3	94.9		0.946
SM 5310 B-00	Organic Carbon	104	97.6	95.8		1.16
	Organic Carbon	95.8	92.7	95.9		3.10
	Organic Carbon	97.6	91.3	94.5		2.53

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1980258, 1980259, 1980264, 1980265
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1980258, 1980259
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1980258, 1980259
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1980260, 1980261, 1980266, 1980267
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1980260, 1980261, 1980266, 1980267
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1980260, 1980261, 1980266, 1980267
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1980260, 1980261, 1980266, 1980267
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1980262, 1980263, 1980268, 1980269
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1980283, 1980284, 1980285
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1980283, 1980284, 1980285
SM 2120 B / E31780	True Color measured at 450 nm	1980258, 1980259
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1980258, 1980259, 1980264, 1980265
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1980258, 1980259
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1980258, 1980259, 1980264, 1980265
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1980258, 1980259, 1980264, 1980265
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1980260, 1980261, 1980266, 1980267

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	04/03/2018			04/03/2018 16:07	DeAsia Armster	1980258, 1980259, 1980264, 1980265
EPA 300.0 Rev. 2.1	04/03/2018			04/05/2018 06:18	Lipi Saha	1980258
	04/03/2018			04/05/2018 06:30	Lipi Saha	1980259
EPA 350.1 Rev. 2.0	04/03/2018			04/10/2018 11:12	Ping Hua	1980261
	04/03/2018			04/10/2018 11:13	Ping Hua	1980266
	04/03/2018			04/11/2018 12:34	Ping Hua	1980260
	04/03/2018			04/11/2018 12:36	Ping Hua	1980267
EPA 351.2 Rev. 2.0	04/03/2018	04/05/2018 13:30	Adrian Shelby	04/09/2018 09:22	Joseph Suarez	1980261
	04/03/2018	04/05/2018 13:30	Adrian Shelby	04/09/2018 09:23	Joseph Suarez	1980266
	04/03/2018	04/05/2018 13:30	Adrian Shelby	04/09/2018 09:30	Joseph Suarez	1980260
	04/03/2018	04/05/2018 13:30	Adrian Shelby	04/09/2018 09:31	Joseph Suarez	1980267
EPA 353.2 Rev. 2.0	04/03/2018			04/06/2018 13:12	Lauren Bottorf	1980260
	04/03/2018			04/06/2018 13:13	Lauren Bottorf	1980267
	04/03/2018			04/10/2018 16:45	Lauren Bottorf	1980261
	04/03/2018			04/10/2018 16:46	Lauren Bottorf	1980266
EPA 365.1 Rev. 2.0	04/03/2018	04/05/2018 11:16	Sima Feizi	04/06/2018 09:56	Beverly Y. Sanders	1980260
	04/03/2018	04/05/2018 11:16	Sima Feizi	04/06/2018 10:07	Beverly Y. Sanders	1980267
	04/03/2018	04/06/2018 13:01	Sima Feizi	04/09/2018 10:36	Beverly Y. Sanders	1980261
	04/03/2018	04/06/2018 13:01	Sima Feizi	04/09/2018 10:43	Beverly Y. Sanders	1980266
EPA 365.1 Rev. 2.0 dissolved	04/03/2018			04/03/2018 16:08	Megan Treadwell	1980268
	04/03/2018			04/03/2018 16:21	Megan Treadwell	1980263
	04/03/2018			04/03/2018 16:31	Megan Treadwell	1980262
	04/03/2018			04/04/2018 11:16	Megan Treadwell	1980269
EPA 8321B	04/03/2018	04/04/2018 12:00	Hoor Shaik	04/05/2018 08:26	Julie Michelle Frank	1980283
	04/03/2018	04/04/2018 12:00	Hoor Shaik	04/05/2018 09:00	Julie Michelle Frank	1980284
	04/03/2018	04/04/2018 12:00	Hoor Shaik	04/05/2018 09:35	Julie Michelle Frank	1980285
	04/03/2018	04/04/2018 12:00	Hoor Shaik	04/05/2018 11:19	Julie Michelle Frank	1980284
	04/03/2018	04/04/2018 12:00	Hoor Shaik	04/06/2018 00:00	Julie Michelle Frank	1980283
	04/03/2018	04/04/2018 12:00	Hoor Shaik	04/06/2018 00:35	Julie Michelle Frank	1980284
	04/03/2018	04/04/2018 12:00	Hoor Shaik	04/06/2018 01:10	Julie Michelle Frank	1980285
	04/03/2018	04/04/2018 12:00	Hoor Shaik	04/06/2018 22:31	Julie Michelle Frank	1980284
	04/03/2018	04/04/2018 12:00	Hoor Shaik	04/06/2018 23:40	Julie Michelle Frank	1980285
	04/03/2018	04/05/2018 14:30	Julie Michelle Frank	04/10/2018 21:00	Julie Michelle Frank	1980283
	04/03/2018	04/05/2018 14:30	Julie Michelle Frank	04/10/2018 21:16	Julie Michelle Frank	1980284
	04/03/2018	04/05/2018 14:30	Julie Michelle Frank	04/10/2018 21:48	Julie Michelle Frank	1980285
SM 2120 B	04/03/2018			04/03/2018 16:06	Tanya Welborn	1980258
	04/03/2018			04/03/2018 16:07	Tanya Welborn	1980259
SM 2320 B-97	04/03/2018			04/13/2018 10:44	Dale L. Simmons	1980258
	04/03/2018			04/13/2018 10:55	Dale L. Simmons	1980265
	04/03/2018			04/15/2018 20:06	Dale L. Simmons	1980259

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-97	04/03/2018			04/15/2018 20:16	Dale L. Simmons	1980264
SM 2540 C-97	04/03/2018			04/06/2018 16:01	Yijie Li	1980258, 1980259
SM 2540 D-97	04/03/2018			04/06/2018 16:01	Yijie Li	1980258, 1980259, 1980264, 1980265
SM 4500 F-C-97	04/03/2018			04/13/2018 10:44	Dale L. Simmons	1980258
	04/03/2018			04/13/2018 10:55	Dale L. Simmons	1980265
	04/03/2018			04/15/2018 17:05	Dale L. Simmons	1980259
	04/03/2018			04/24/2018 02:26	Dale L. Simmons	1980264
	04/03/2018			04/10/2018 19:27	Julia Storbeck	1980260
SM 5310 B-00	04/03/2018			04/10/2018 19:42	Julia Storbeck	1980267
	04/03/2018			04/11/2018 09:38	Julia Storbeck	1980266
	04/03/2018			04/12/2018 10:43	Julia Storbeck	1980261