

Chemical Analysis Report

NW-DIST-2018-05-11-02

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

Event Description: **Laurel Hill East**
Request ID: **RQ-2018-05-07-40**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government St
Suite 208A
Pensacola, FL 32502-5794
Attn: Michael King

For additional information please contact
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 04-JUN-2018 14:47



NON-CONFORMANCE REPORT INCLUDED

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: SHOAL RIVER ABV LAIRD ROAD

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

Field ID: G4NW0375

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992309	EPA 180.1 Rev. 2.0	Turbidity	4.8		NTU	P345148	
	EPA 300.0 Rev. 2.1	Chloride	3.9		mg Cl/L	P345433	
		Sulfate	1.1		mg SO4/L	P345435	
	SM 2120 B	Color (true)	36		PCU	P345138	
	SM 2320 B-97	Total Alkalinity	3.2		mg CaCO3/L	P345483	
	SM 2540 C-97	TDS	25		mg/L	P345721	
	SM 2540 D-97	TSS	7	I	mg/L	P345713	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P345486	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P345385	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.34		mg N/L	P345535	
1992310	EPA 353.2 Rev. 2.0	NO2NO3-N	0.56		mg N/L	P345409	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P345442	
	SM 5310 B-00	Organic Carbon	2.6		mg C/L	P345624	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P345152	
	dissolved						
1992331	EPA 8321B	2,4-D	0.0020	U	ug/L	P345194	
		Bentazon	8.0E-04	U	ug/L	P345194	
		MCP	0.0020	U	ug/L	P345194	
		Triclopyr**	0.0040	U	ug/L	P345194	
		Imidacloprid	0.0087		ug/L	P345194	
		Diuron	0.0020	U	ug/L	P345194	
		Pyraclostrobin**	0.0020	U	ug/L	P345194	
		Primidone**	0.0040	U	ug/L	P345194	
		Linuron	0.0040	U	ug/L	P345194	
		Acetaminophen**	0.0080	U	ug/L	P345194	
		Fenuron	0.016	U	ug/L	P345194	
		Imazapyr**	0.0040	U	ug/L	P345194	
		Carbamazepine**	4.0E-04	U	ug/L	P345194	
		Fluridone**	4.0E-04	U	ug/L	P345194	
		Hydrocodone**	8.0E-04	U	ug/L	P345194	
		Sucralose**	0.091		ug/L	P345005	
		Glyphosate**	0.10	U	ug/L	P345005	
		AMPA**	0.10	U	ug/L	P345005	
		Endothal**	0.10	U	ug/L	P345005	MS
		Glufosinate**	0.10	U	ug/L	P345005	

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: GUM CREEK

Collection Date/Time: 05/10/2018 11:20

Field ID: G4NW0382

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992294	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P345147	
	EPA 300.0 Rev. 2.1	Chloride	3.7		mg Cl/L	P345433	
		Sulfate	0.80		mg SO4/L	P345435	

Field ID: G4NW0382

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992294	SM 2120 B	Color (true)	59		PCU	P345137	
	SM 2320 B-97	Total Alkalinity	1.3	I	mg CaCO3/L	P345483	
	SM 2540 C-97	TDS	22	I	mg/L	P345720	
	SM 2540 D-97	TSS	2	I	mg/L	P345712	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P345486	
1992299	EPA 350.1 Rev. 2.0	Ammonia-N	0.007	Y	mg N/L	P345384	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	Y	mg N/L	P345401	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.67	Y	mg N/L	P345409	
	EPA 365.1 Rev. 2.0	Total-P	0.011	Y	mg P/L	P345442	
	SM 5310 B-00	Organic Carbon	3.7	Y	mg C/L	P345544	
1992304	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P345151	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 351.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 353.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

SM 5310 B-00: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

Sample Location: WEST SANDY CREEK

Collection Date/Time: 05/10/2018 12:20

Field ID: G3NW0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992295	EPA 180.1 Rev. 2.0	Turbidity	1.8	A	NTU	P345148	
	EPA 300.0 Rev. 2.1	Chloride	4.2		mg Cl/L	P345433	
		Sulfate	1.8		mg SO4/L	P345435	
	SM 2120 B	Color (true)	54		PCU	P345137	
	SM 2320 B-97	Total Alkalinity	6.2		mg CaCO3/L	P345483	
	SM 2540 C-97	TDS	32		mg/L	P345720	
	SM 2540 D-97	TSS	3	I	mg/L	P345712	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P345486	
1992300	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P345384	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P345535	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.62		mg N/L	P345409	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P345441	
	SM 5310 B-00	Organic Carbon	3.4		mg C/L	P345544	
1992305	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P345151	

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: HUCKLEBERRY CREEK

Collection Date/Time: 05/10/2018 12:40

Field ID: G3NW0135

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992296	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P345148	
	EPA 300.0 Rev. 2.1	Chloride	4.5		mg Cl/L	P345433	
		Sulfate	0.47	I	mg SO4/L	P345435	

Field ID: G3NW0135

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992296	SM 2120 B	Color (true)	94		PCU	P345137	
	SM 2320 B-97	Total Alkalinity	4.9		mg CaCO3/L	P345483	
	SM 2540 C-97	TDS	29		mg/L	P345721	
	SM 2540 D-97	TSS	3	I	mg/L	P345713	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P345486	
1992301	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P345384	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P345535	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.063		mg N/L	P345409	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P345442	
	SM 5310 B-00	Organic Carbon	5.3		mg C/L	P345544	
1992306	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P345151	

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: Eightmile Creek upstream of CR 181 (South of) Collection Date/Time: 05/10/2018 13:10

Field ID: G3NW0136

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992297	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P345148	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P345433	
		Sulfate	1.0		mg SO4/L	P345435	
	SM 2120 B	Color (true)	39	A	PCU	P345138	
	SM 2320 B-97	Total Alkalinity	45		mg CaCO3/L	P345483	
	SM 2540 C-97	TDS	55		mg/L	P345721	
	SM 2540 D-97	TSS	3	I	mg/L	P345713	
	SM 4500 F-C-97	Fluoride	0.035	I	mg F/L	P345486	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P345384	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P345535	
1992302	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P345409	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P345442	
	SM 5310 B-00	Organic Carbon	2.8		mg C/L	P345544	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P345152	

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: CANEY CREEK ABOVE HWY 2A

Collection Date/Time: 05/10/2018 13:30

Field ID: G4NW0397

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992298	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P345148	
	EPA 300.0 Rev. 2.1	Chloride	4.6		mg Cl/L	P345433	
		Sulfate	0.37	I	mg SO4/L	P345435	
	SM 2120 B	Color (true)	46		PCU	P345138	
	SM 2320 B-97	Total Alkalinity	5.5		mg CaCO3/L	P345483	
	SM 2540 C-97	TDS	28		mg/L	P345721	
	SM 2540 D-97	TSS	3	I	mg/L	P345713	

Field ID: G4NW0397

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1992298	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P345486	
1992303	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P345384	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P345535	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P345409	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P345442	
	SM 5310 B-00	Organic Carbon	3.2		mg C/L	P345544	
1992308	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.031		mg P/L	P345152	

Ref. Method and Comment:

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

Non-Conformance Report

NCR ID: 7026

Event(s)	Job(s)	Sample(s)	Test(s)
NW-DIST-2018-05-11-02	TLH-2018-05-11-25	1992299	
NCR Type: SHIPPING/RECEIVING		NCR Category: Preservation Not Intact	
Observation: Sample not preserved to pH < 2.			
Resolution: Sample preserved in the laboratory with sulfuric acid. H2SO4 Lot# SA 8085170 Expiration Date: 03/26/2019			

Authorized by/Date: Joshua Ayres 5/15/2018

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
 Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P345147

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P345148

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P345433

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345435

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345384

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345385

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345401

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345535

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P345409

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345441

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345442

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345151

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345152

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

Reference Method: EPA 8321B
Batch ID: P345005

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

Reference Method: EPA 8321B
Batch ID: P345194

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	0.030	I	ug/L
Fluridone	4.0E-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
MCP	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: SM 2120 B
Batch ID: P345137

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P345138

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P345483

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P345720

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P345721

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P345712

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P345713

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P345486

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P345544

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

Reference Method: SM 5310 B-00
Batch ID: P345624

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: P345433

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345435

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P345435

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	95.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345384

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345385

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345401

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345535

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P345409

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345441

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345442

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345151

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345152

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

Reference Method: EPA 8321B
Batch ID: P345005

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	76.4		P	40 - 140
Endothall	136		P	40 - 140
Glufosinate	92.6		P	40 - 140
Glyphosate	99.9		P	40 - 140
Sucralose	109		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P345194

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.0		P	40 - 150
Acetaminophen	98.3		P	30 - 150
Bentazon	79.5		P	30 - 150
Carbamazepine	61.5		P	40 - 150
Diuron	62.2		P	40 - 150
Fenuron	96.2		P	40 - 150
Fluridone	83.0		P	40 - 150
Hydrocodone	98.8		P	40 - 150
Imazapyr	85.6		P	40 - 150
Imidacloprid	102		P	40 - 160
Linuron	97.2		P	40 - 150
MCPP	96.7		P	40 - 150
Primidone	98.1		P	40 - 150
Pyraclostrobin	66.3		P	40 - 150
Triclopyr	94.9		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P345483

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

Reference Method: SM 4500 F-C-97
Batch ID: P345486

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

Reference Method: SM 5310 B-00
Batch ID: P345544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P345624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P345433

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992246	Chloride	96.9		P	90 - 110
1992309	Chloride	98.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P345435

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992246	Sulfate	93.8		P	90 - 110
1992309	Sulfate	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P345384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992254	Ammonia-N	97.4	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P345385

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992310	Ammonia-N	97.5	99.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P345401

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992253	Kjeldahl Nitrogen	96.5	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P345535

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992301	Kjeldahl Nitrogen	100	90.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P345409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992301	NO2NO3-N	99.9	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P345441

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992300	Total-P	100	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P345442

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992342	Total-P	103	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P345151

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992260	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P345152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992307	O-Phosphate-P	101	100	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P345005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991713	AMPA	61.2	61.9	P/P	40 - 140
1991713	Endothall	152	142	F/F	40 - 140
1991713	Glufosinate	98.9	96.7	P/P	40 - 140
1991713	Glyphosate	103	97.9	P/P	40 - 140
1991713	Sucralose	97.2	99.2	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P345194

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992331	2,4-D	76.0	72.8	P/P	40 - 150
1992331	Acetaminophen	95.0	92.5	P/P	30 - 150
1992331	Bentazon	45.6	44.3	P/P	30 - 150
1992331	Carbamazepine	53.4	56.7	P/P	40 - 150
1992331	Diuron	52.4	55.3	P/P	40 - 150
1992331	Fenuron	85.2	91.1	P/P	40 - 150
1992331	Fluridone	75.3	77.3	P/P	40 - 150
1992331	Hydrocodone	106	109	P/P	40 - 150
1992331	Imazapyr	100	99.6	P/P	40 - 150
1992331	Imidacloprid	152	159	P/P	40 - 160
1992331	Linuron	92.3	91.6	P/P	40 - 150
1992331	MCP	74.5	71.5	P/P	40 - 150
1992331	Primidone	103	111	P/P	40 - 150
1992331	Pyraclostrobin	72.0	71.6	P/P	40 - 150
1992331	Triclopyr	81.1	73.8	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
 Batch ID: P345486

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992225	Fluoride	94.9	93.8	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P345544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1992177	Organic Carbon	96.0	96.0	P/P	85 - 115

Reference Method: SM 5310 B-00
 Batch ID: P345624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1991039	Organic Carbon	98.0	97.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P345147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992242	Turbidity	2.50	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P345148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992295	Turbidity	3.43	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P345433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992246	Chloride	0.405	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P345435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992246	Sulfate	2.03	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P345384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992254	Ammonia-N	1.24	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P345385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992310	Ammonia-N	1.48	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345401

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992253	Kjeldahl Nitrogen	1.84	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P345535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992301	Kjeldahl Nitrogen	7.45	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P345409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992301	NO2NO3-N	0.380	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345441

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992300	Total-P	4.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P345442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992342	Total-P	4.01	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345151

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992260	O-Phosphate-P	0.396	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P345152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992307	O-Phosphate-P	0.298	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P345005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991713	AMPA	1.15	Spike	P	0 - 30
1991713	Endothall	6.62	Spike	P	0 - 30
1991713	Glufosinate	2.29	Spike	P	0 - 30
1991713	Glyphosate	5.50	Spike	P	0 - 30
1991713	Sucralose	1.94	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P345194

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992331	2,4-D	4.28	Spike	P	0 - 30
1992331	Acetaminophen	2.60	Spike	P	0 - 30
1992331	Bentazon	3.03	Spike	P	0 - 30
1992331	Carbamazepine	5.92	Spike	P	0 - 30
1992331	Diuron	5.45	Spike	P	0 - 30
1992331	Fenuron	6.70	Spike	P	0 - 30
1992331	Fluridone	2.63	Spike	P	0 - 30
1992331	Hydrocodone	2.28	Spike	P	0 - 30
1992331	Imazapyr	0.862	Spike	P	0 - 30
1992331	Imidacloprid	4.18	Spike	P	0 - 30
1992331	Linuron	0.702	Spike	P	0 - 30
1992331	MCP	4.22	Spike	P	0 - 30
1992331	Primidone	7.32	Spike	P	0 - 30
1992331	Pyraclostrobin	0.568	Spike	P	0 - 30
1992331	Triclopyr	9.45	Spike	P	0 - 30

Reference Method: SM 2120 B
 Batch ID: P345137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992244	Color (true)	8.14	Sample	P	0 - 20

Reference Method: SM 2120 B
 Batch ID: P345138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992297	Color (true)	4.75	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P345483

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992225	Total Alkalinity	0.607	Sample	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P345720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992225	TDS	0.678	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P345721

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992341	TDS	9.42	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P345486

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992225	Fluoride	0.943	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P345544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1992177	Organic Carbon	0.0	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P345624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1991039	Organic Carbon	0.0808	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: 1992331
Field Sample ID: G4NW0375

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	41.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	46.3	P	30 - 160
EPA 8321B	Diuron-d6	47.9	P	30 - 160
EPA 8321B	Endothall-d6	74.1	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	108	P	40 - 160
EPA 8321B	Primidone-d5	93.8	P	30 - 160
EPA 8321B	Sucralose-d6	122	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A83828

Included Lab Sample IDs: 1992294, 1992295, 1992296, 1992297, 1992298, 1992309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.9	99.4	P/P	90 - 115
Color (true)	99.4	99.3	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A83829

Included Lab Sample IDs: 1992294, 1992295, 1992296, 1992297, 1992298, 1992309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	102	P/P	95 - 105
Turbidity	102	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A83830

Included Lab Sample IDs: 1992304, 1992305, 1992306, 1992307, 1992308, 1992311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	101	P/P	90 - 110
O-Phosphate-P	99.5	99.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A83885

Included Lab Sample IDs: 1992294, 1992295, 1992296, 1992297, 1992298, 1992309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	102	101	P/P	90 - 110
Sulfate	103	99.4	P/P	90 - 110
Sulfate	99.4	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83925

Included Lab Sample IDs: 1992299, 1992300, 1992301, 1992302, 1992303, 1992310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.4	P/P	90 - 110
Ammonia-N	100	100	P/P	90 - 110
Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83934

Included Lab Sample IDs: 1992299, 1992300, 1992301, 1992302, 1992303, 1992310

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

Reference Method: SM 2320 B-97

Run ID: A83969

Included Lab Sample IDs: 1992294, 1992295, 1992296, 1992297, 1992298, 1992309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A83969

Included Lab Sample IDs: 1992294, 1992295, 1992296, 1992297, 1992298, 1992309

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

Reference Method: EPA 8321B

Run ID: A83978

Included Lab Sample IDs: 1992331

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	94.3	99.0	P/P	60 - 160
Endothall	106	92.8	P/P	60 - 160
Glufosinate	97.5	99.2	P/P	60 - 160
Glyphosate	97.6	108	P/P	60 - 160
Sucralose	109	109	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A83989

Included Lab Sample IDs: 1992299, 1992300, 1992301, 1992302, 1992303

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.8	96.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A84025

Included Lab Sample IDs: 1992299

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.2	92.3	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A84034

Included Lab Sample IDs: 1992310

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A84044

Included Lab Sample IDs: 1992300, 1992301, 1992302, 1992303, 1992310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.9	98.8	P/P	90 - 110
Kjeldahl Nitrogen	98.8	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A84048

Included Lab Sample IDs: 1992299, 1992300, 1992301, 1992302, 1992303, 1992310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	101	P/P	90 - 110
Total-P	102	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
 Run ID: A84229
 Included Lab Sample IDs: 1992331

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	87.9	80.4	P/P	50 - 150
Acetaminophen	108	81.4	P/P	60 - 150
Bentazon	101	92.0	P/P	50 - 150
Carbamazepine	91.8	73.1	P/P	60 - 150
Diuron	96.2	80.2	P/P	60 - 150
Fenuron	99.1	89.9	P/P	60 - 150
Fluridone	97.4	92.4	P/P	60 - 160
Hydrocodone	106	91.0	P/P	60 - 150
Imazapyr	108	105	P/P	50 - 150
Imidacloprid	97.7	79.3	P/P	60 - 150
Linuron	112	112	P/P	60 - 150
MCPP	92.1	81.0	P/P	50 - 150
Primidone	107	89.3	P/P	60 - 150
Pyraclostrobin	91.7	101	P/P	60 - 150
Triclopyr	89.0	74.1	P/P	50 - 160

* 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				2.50	
	Turbidity				3.43	
EPA 300.0 Rev. 2.1	Chloride	98.5	96.9 98.5		0.405	
	Sulfate	95.7	93.8 96.8		2.03	
EPA 350.1 Rev. 2.0	Ammonia-N	103	97.4 98.8			1.24
	Ammonia-N	101	97.5 99.3			1.48
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.7	96.5 99.0			1.84
	Kjeldahl Nitrogen	103	100 90.7			7.45
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.9 100			0.380
EPA 365.1 Rev. 2.0	Total-P	102	100 105			4.37
	Total-P	98.3	103 98.6			4.01
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	101 101			0.396
	O-Phosphate-P	98.3	101 100			0.298
EPA 8321B	2,4-D	90.0	76.0 72.8			4.28
	Acetaminophen	98.3	95.0 92.5			2.60
	AMPA	76.4	61.2 61.9			1.15
	Bentazon	79.5	45.6 44.3			3.03
	Carbamazepine	61.5	53.4 56.7			5.92
	Diuron	62.2	52.4 55.3			5.45
	Endothall	136	152 142			6.62
	Fenuron	96.2	85.2 91.1			6.70
	Fluridone	83.0	75.3 77.3			2.63
	Glufosinate	92.6	98.9 96.7			2.29
	Glyphosate	99.9	103 97.9			5.50
	Hydrocodone	98.8	106 109			2.28

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Imazapyr	85.6	100	99.6		0.862
	Imidacloprid	102	152	159		4.18
	Linuron	97.2	92.3	91.6		0.702
	MCPP	96.7	74.5	71.5		4.22
	Primidone	98.1	103	111		7.32
	Pyraclostrobin	66.3	72.0	71.6		0.568
	Sucralose	109	97.2	99.2		1.94
	Triclopyr	94.9	81.1	73.8		9.45
SM 2120 B	Color (true)				8.14	
	Color (true)				4.75	
SM 2320 B-97	Total Alkalinity	102			0.607	
SM 2540 C-97	TDS				0.678	
	TDS				9.42	
SM 4500 F-C-97	Fluoride	95.6	94.9	93.8		0.943
SM 5310 B-00	Organic Carbon	95.0	96.0	96.0		0.0
	Organic Carbon	99.4	98.0	97.9		0.0808

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1992299, 1992300, 1992301, 1992302, 1992303, 1992310
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1992299, 1992300, 1992301, 1992302, 1992303, 1992310
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1992299, 1992300, 1992301, 1992302, 1992303, 1992310
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1992299, 1992300, 1992301, 1992302, 1992303, 1992310
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1992304, 1992305, 1992306, 1992307, 1992308, 1992311
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1992331
SM 2120 B / E31780	True Color measured at 450 nm	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1992299, 1992300, 1992301, 1992302, 1992303, 1992310

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	05/11/2018			05/11/2018 14:35	Tanya Welborn	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
EPA 300.0 Rev. 2.1	05/11/2018			05/15/2018 15:41	Lipi Saha	1992309
	05/11/2018			05/15/2018 17:17	Lipi Saha	1992294
	05/11/2018			05/15/2018 17:29	Lipi Saha	1992295
	05/11/2018			05/15/2018 17:41	Lipi Saha	1992296
	05/11/2018			05/15/2018 17:53	Lipi Saha	1992297
	05/11/2018			05/15/2018 18:05	Lipi Saha	1992298
EPA 350.1 Rev. 2.0	05/11/2018			05/15/2018 10:59	Ping Hua	1992300
	05/11/2018			05/15/2018 11:06	Ping Hua	1992301
	05/11/2018			05/15/2018 11:08	Ping Hua	1992302
	05/11/2018			05/15/2018 11:09	Ping Hua	1992303
	05/11/2018			05/15/2018 11:14	Ping Hua	1992310
	05/11/2018			05/15/2018 13:08	Ping Hua	1992299
EPA 351.2 Rev. 2.0	05/11/2018	05/16/2018 11:00	Adrian Shelby	05/18/2018 17:57	Joseph Suarez	1992299
	05/11/2018	05/17/2018 15:45	Adrian Shelby	05/18/2018 20:31	Joseph Suarez	1992300
	05/11/2018	05/17/2018 15:45	Adrian Shelby	05/18/2018 20:33	Joseph Suarez	1992301
	05/11/2018	05/17/2018 15:45	Adrian Shelby	05/18/2018 20:40	Joseph Suarez	1992302
	05/11/2018	05/17/2018 15:45	Adrian Shelby	05/18/2018 20:41	Joseph Suarez	1992303
	05/11/2018	05/17/2018 15:45	Adrian Shelby	05/18/2018 20:43	Joseph Suarez	1992310
EPA 353.2 Rev. 2.0	05/11/2018			05/16/2018 12:14	Lauren Bottorf	1992301
	05/11/2018			05/16/2018 12:20	Lauren Bottorf	1992299
	05/11/2018			05/16/2018 12:21	Lauren Bottorf	1992300
	05/11/2018			05/16/2018 12:22	Lauren Bottorf	1992302
	05/11/2018			05/16/2018 12:23	Lauren Bottorf	1992303
	05/11/2018			05/16/2018 12:25	Lauren Bottorf	1992310
EPA 365.1 Rev. 2.0	05/11/2018	05/16/2018 08:57	Sima Feizi	05/21/2018 12:44	Beverly Y. Sanders	1992300
	05/11/2018	05/16/2018 08:57	Sima Feizi	05/21/2018 12:47	Beverly Y. Sanders	1992299
	05/11/2018	05/16/2018 08:57	Sima Feizi	05/21/2018 12:54	Beverly Y. Sanders	1992301
	05/11/2018	05/16/2018 08:57	Sima Feizi	05/21/2018 12:55	Beverly Y. Sanders	1992302
	05/11/2018	05/16/2018 08:57	Sima Feizi	05/21/2018 12:56	Beverly Y. Sanders	1992303
	05/11/2018	05/16/2018 08:57	Sima Feizi	05/21/2018 12:57	Beverly Y. Sanders	1992310
EPA 365.1 Rev. 2.0 dissolved	05/11/2018			05/11/2018 14:22	Julia Storbeck	1992307
	05/11/2018			05/11/2018 15:14	Julia Storbeck	1992304
	05/11/2018			05/11/2018 15:15	Julia Storbeck	1992305
	05/11/2018			05/11/2018 15:16	Julia Storbeck	1992306, 1992308
	05/11/2018			05/11/2018 15:17	Julia Storbeck	1992311
EPA 8321B	05/11/2018	05/15/2018 16:00	Hoor Shaik	05/15/2018 21:55	Juyoung Kim	1992331
	05/11/2018	05/16/2018 10:00	Hoor Shaik	05/16/2018 19:38	Juyoung Kim	1992331
	05/11/2018	05/16/2018 10:00	Hoor Shaik	05/17/2018 11:12	Juyoung Kim	1992331

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B	05/11/2018			05/11/2018 14:47	Tanya Welborn	1992294
	05/11/2018			05/11/2018 14:48	Tanya Welborn	1992295, 1992296
	05/11/2018			05/11/2018 14:52	Tanya Welborn	1992297
	05/11/2018			05/11/2018 14:53	Tanya Welborn	1992298
	05/11/2018			05/11/2018 14:54	Tanya Welborn	1992309
SM 2320 B-97	05/11/2018			05/16/2018 04:28	Dale L. Simmons	1992294
	05/11/2018			05/16/2018 04:40	Dale L. Simmons	1992295
	05/11/2018			05/16/2018 04:50	Dale L. Simmons	1992296
	05/11/2018			05/16/2018 05:01	Dale L. Simmons	1992297
	05/11/2018			05/16/2018 05:11	Dale L. Simmons	1992298
SM 2540 C-97	05/11/2018			05/16/2018 05:23	Dale L. Simmons	1992309
	05/11/2018			05/16/2018 15:26	Yijie Li	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
SM 2540 D-97	05/11/2018			05/16/2018 15:26	Yijie Li	1992294, 1992295, 1992296, 1992297, 1992298, 1992309
SM 4500 F-C-97	05/11/2018			05/16/2018 04:28	Dale L. Simmons	1992294
	05/11/2018			05/16/2018 04:40	Dale L. Simmons	1992295
	05/11/2018			05/16/2018 04:50	Dale L. Simmons	1992296
	05/11/2018			05/16/2018 05:01	Dale L. Simmons	1992297
	05/11/2018			05/16/2018 05:11	Dale L. Simmons	1992298
SM 5310 B-00	05/11/2018			05/16/2018 05:23	Dale L. Simmons	1992309
	05/11/2018			05/16/2018 21:18	Megan Treadwell	1992299
	05/11/2018			05/16/2018 21:37	Megan Treadwell	1992300
	05/11/2018			05/16/2018 21:54	Megan Treadwell	1992301
	05/11/2018			05/16/2018 22:08	Megan Treadwell	1992302
	05/11/2018			05/16/2018 22:22	Megan Treadwell	1992303
	05/11/2018			05/18/2018 17:56	Julia Storbeck	1992310