

Chemical Analysis Report

NE-DIST-2018-04-27-02

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

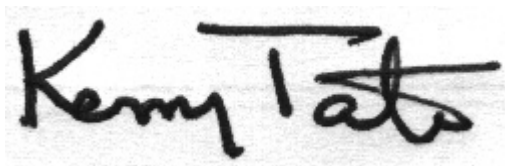
Event Description: **LSJR Coast**
Request ID: **RQ-2018-04-23-07**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 04-JUN-2018 11:23

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: Greenfield Creek @ Wonderwood Dr.

Collection Date/Time: 04/26/2018 10:00

Field ID: G2NE1137

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988308	EPA 180.1 Rev. 2.0	Turbidity	6.4		NTU	P344249	
	EPA 300.0 Rev. 2.1	Sulfate	1.8E+03		mg SO4/L	P344753	
	SM 2320 B-97	Total Alkalinity	101		mg CaCO3/L	P344833	
	SM 2540 D-97	TSS	14		mg/L	P344892	
	SM 4500 F-C-97	Fluoride	0.81		mg F/L	P344836	
1988313	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P344781	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P344367	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.071		mg N/L	P344380	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P344411	
	SM 5310 B-00	Organic Carbon	7.7		mg C/L	P344689	
1988318	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.031		mg P/L	P344391	
1988353	EPA 8321B	2,4-D	0.0034	I	ug/L	P344034	
		Bentazon	0.0059		ug/L	P344034	
		MCP	0.0020	U	ug/L	P344034	
		Triclopyr**	0.0040	U	ug/L	P344034	
		Imidacloprid	0.026		ug/L	P344034	MS
		Diuron	0.026		ug/L	P344034	
		Pyraclostrobin**	0.0020	U	ug/L	P344034	
		Primidone**	0.0040	U	ug/L	P344034	
		Linuron	0.024		ug/L	P344034	
		Acetaminophen**	0.0080	U	ug/L	P344034	
		Fenuron	0.016	U	ug/L	P344034	
		Imazapyr**	0.033		ug/L	P344034	
		Carbamazepine**	9.0E-04	I	ug/L	P344034	
		Fluridone**	0.023		ug/L	P344034	
		Hydrocodone**	8.0E-04	U	ug/L	P344034	
		Sucralose**	0.33	I	ug/L	P344212	

Ref. Method and Comment:

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

EPA 8321B: Results confirmed in re-analysis.

EPA 8321B: Results confirmed in re-extraction.

Sample Location: Greenfield Creek at Wonderwood

Collection Date/Time: 04/26/2018 10:10

Field ID: G2NE1137DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988309	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P344249	
	EPA 300.0 Rev. 2.1	Sulfate	1.8E+03		mg SO4/L	P344753	
	SM 2320 B-97	Total Alkalinity	99		mg CaCO3/L	P344833	
	SM 2540 D-97	TSS	13		mg/L	P344893	
	SM 4500 F-C-97	Fluoride	0.82		mg F/L	P344836	
1988314	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P344781	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P344367	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.067		mg N/L	P344380	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P344411	

Field ID: G2NE1137DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988314	SM 5310 B-00	Organic Carbon	8.0		mg C/L	P344774	
1988319	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.031		mg P/L	P344391	
1988354	EPA 8321B	2,4-D	0.0032	I	ug/L	P344034	
		Bentazon	0.0055		ug/L	P344034	
		MCP	0.0020	U	ug/L	P344034	
		Triclopyr**	0.0040	U	ug/L	P344034	
		Imidacloprid	0.028		ug/L	P344034	MS
		Diuron	0.032		ug/L	P344034	
		Pyraclorobin**	0.0020	U	ug/L	P344034	
		Primidone**	0.0040	U	ug/L	P344034	
		Linuron	0.025		ug/L	P344034	
		Acetaminophen**	0.0080	U	ug/L	P344034	
		Fenuron	0.016	U	ug/L	P344034	
		Imazapyr**	0.035		ug/L	P344034	
		Carbamazepine**	9.8E-04	I	ug/L	P344034	
		Fluridone**	0.033		ug/L	P344034	
		Hydrocodone**	8.0E-04	U	ug/L	P344034	
		Sucralose**	0.24	I	ug/L	P344212	

Ref. Method and Comment:

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

EPA 8321B: Results confirmed in re-analysis.

EPA 8321B: Results confirmed in re-extraction.

Sample Location: Greenfield Creek @ End of Buccaneer

Collection Date/Time: 04/26/2018 10:20

Field ID: G2NE1154

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988310	EPA 180.1 Rev. 2.0	Turbidity	7.0		NTU	P344249	
	EPA 300.0 Rev. 2.1	Sulfate	1.8E+03		mg SO4/L	P344753	
	SM 2320 B-97	Total Alkalinity	98		mg CaCO3/L	P344833	
	SM 2540 D-97	TSS	14		mg/L	P344893	
	SM 4500 F-C-97	Fluoride	0.81		mg F/L	P344836	
1988315	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P344781	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P344367	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.071		mg N/L	P344381	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P344411	
	SM 5310 B-00	Organic Carbon	7.7		mg C/L	P344774	
1988320	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.031		mg P/L	P344391	
1988355	EPA 8321B	2,4-D	0.0030	I	ug/L	P344034	
		Bentazon	0.0057		ug/L	P344034	
		MCP	0.0020	U	ug/L	P344034	
		Triclopyr**	0.0040	U	ug/L	P344034	
		Imidacloprid	0.030		ug/L	P344034	MS
		Diuron	0.029		ug/L	P344034	
		Pyraclorobin**	0.0020	U	ug/L	P344034	
		Primidone**	0.0040	U	ug/L	P344034	

Field ID: G2NE1154

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988355	EPA 8321B	Linuron	0.024		ug/L	P344034	
		Acetaminophen**	0.0080	U	ug/L	P344034	
		Fenuron	0.016	U	ug/L	P344034	
		Imazapyr**	0.041		ug/L	P344034	
		Carbamazepine**	0.0010	I	ug/L	P344034	
		Fluridone**	0.029		ug/L	P344034	
		Hydrocodone**	8.0E-04	U	ug/L	P344034	
		Sucralose**	0.21	I	ug/L	P344212	

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: Sherman CR at Bridge

Collection Date/Time: 04/26/2018 09:20

Field ID: 27010002

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988311	EPA 180.1 Rev. 2.0	Turbidity	8.5		NTU	P344249	
	EPA 300.0 Rev. 2.1	Sulfate	2.0E+03		mg SO4/L	P344753	
	SM 2320 B-97	Total Alkalinity	102		mg CaCO3/L	P344833	
	SM 2540 D-97	TSS	18		mg/L	P344893	
	SM 4500 F-C-97	Fluoride	0.88		mg F/L	P344836	
1988316	EPA 350.1 Rev. 2.0	Ammonia-N	0.037		mg N/L	P344781	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P344367	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.084		mg N/L	P344381	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P344411	
	SM 5310 B-00	Organic Carbon	6.8		mg C/L	P344774	
1988321	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.037		mg P/L	P344391	
1988356	EPA 8321B	2,4-D	0.0082		ug/L	P344034	
		Bentazon	0.0030	I	ug/L	P344034	
		MCP	0.0020	U	ug/L	P344034	
		Triclopyr**	0.0040	U	ug/L	P344034	
		Imidacloprid	0.031		ug/L	P344034	MS
		Diuron	0.015		ug/L	P344034	
		Pyraclostrobin**	0.0020	U	ug/L	P344034	
		Primidone**	0.0040	U	ug/L	P344034	
		Linuron	0.037		ug/L	P344034	
		Acetaminophen**	0.0080	U	ug/L	P344034	
		Fenuron	0.016	U	ug/L	P344034	
		Imazapyr**	0.041		ug/L	P344034	
		Carbamazepine**	0.0010	I	ug/L	P344034	
		Fluridone**	0.0033		ug/L	P344034	
		Hydrocodone**	8.0E-04	U	ug/L	P344034	
		Sucralose**	0.18	I	ug/L	P344212	

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: Sherman Creek @ confl. Sanpablo

Collection Date/Time: 04/26/2018 09:35

Field ID: 20030802

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988312	EPA 180.1 Rev. 2.0	Turbidity	8.5		NTU	P344249	
	EPA 300.0 Rev. 2.1	Sulfate	2.0E+03		mg SO4/L	P344754	
	SM 2320 B-97	Total Alkalinity	102		mg CaCO3/L	P344833	
	SM 2540 D-97	TSS	19	A	mg/L	P344893	
	SM 4500 F-C-97	Fluoride	0.88		mg F/L	P344836	
1988317	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P344781	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P344367	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.084		mg N/L	P344381	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P344411	
	SM 5310 B-00	Organic Carbon	6.8		mg C/L	P344774	
1988322	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.035		mg P/L	P344391	
1988357	EPA 8321B	2,4-D	0.0072	I	ug/L	P344034	
		Bentazon	0.0028	I	ug/L	P344034	
		MCP	0.0020	U	ug/L	P344034	
		Triclopyr**	0.0040	U	ug/L	P344034	
		Imidacloprid	0.031		ug/L	P344034	MS
		Diuron	0.014		ug/L	P344034	
		Pyraclostrobin**	0.0020	U	ug/L	P344034	
		Primidone**	0.0040	U	ug/L	P344034	
		Linuron	0.032		ug/L	P344034	
		Acetaminophen**	0.0080	U	ug/L	P344034	
		Fenuron	0.016	U	ug/L	P344034	
		Imazapyr**	0.035		ug/L	P344034	
		Carbamazepine**	9.7E-04	I	ug/L	P344034	
		Fluridone**	0.0029	I	ug/L	P344034	
		Hydrocodone**	8.0E-04	U	ug/L	P344034	
		Sucralose**	0.19	I	ug/L	P344212	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: 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.

Sample Location: Sisters Creek @ Heckscher Dr.

Collection Date/Time: 04/26/2018 11:00

Field ID: 20030491

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988323	EPA 180.1 Rev. 2.0	Turbidity	7.1	A	NTU	P344249	
	SM 2320 B-97	Total Alkalinity	102		mg CaCO3/L	P344833	
	SM 2540 D-97	TSS	16		mg/L	P344893	
	SM 4500 F-C-97	Fluoride	0.93		mg F/L	P344836	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P344781	
1988324	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P344367	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.067		mg N/L	P344381	
	EPA 365.1 Rev. 2.0	Total-P	0.055		mg P/L	P344471	
	SM 5310 B-00	Organic Carbon	6.5		mg C/L	P345026	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.028		mg P/L	P344391	

Field ID: 20030491

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1988358	EPA 200.7 Rev. 4.4	Iron	340	I	ug/L	P344496	
	EPA 200.8 Rev. 5.4	Arsenic	2.79		ug/L	P344496	
		Cadmium	0.080	U	ug/L	P344496	
		Chromium	1.6	U	ug/L	P344496	
		Copper	1.3	I	ug/L	P344496	
		Lead	0.50	U	ug/L	P344496	
		Nickel	0.82	I	ug/L	P344496	
		Silver	0.040	U	ug/L	P344496	
		Zinc	4.0	U	ug/L	P344496	

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: P344249

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P344496

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P344496

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L
Zinc	1.0	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P344753

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P344754

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344781

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344367

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344380

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344381

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344411

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344471

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344391

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

Reference Method: EPA 8321B
Batch ID: P344034

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	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P344034

Component	Result	Code	Units
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: EPA 8321B
Batch ID: P344212

Component	Result	Code	Units
Sucralose	0.10	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P344833

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 D-97
Batch ID: P344892

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P344893

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P344836

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P344689

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

Reference Method: SM 5310 B-00
Batch ID: P344774

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

Reference Method: SM 5310 B-00
Batch ID: P345026

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P345026

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344496

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344496

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	99.4		P	85 - 115
Chromium	95.7		P	85 - 115
Copper	97.9		P	85 - 115
Lead	96.6		P	85 - 115
Nickel	102		P	85 - 115
Silver	100		P	85 - 115
Zinc	99.1		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344753

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344754

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344781

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344367

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344380

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344381

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344411

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344471

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: P344391

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

Reference Method: EPA 8321B
Batch ID: P344034

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
Acetaminophen	93.3		P	30 - 150
Bentazon	135		P	30 - 150
Carbamazepine	103		P	40 - 150
Diuron	91.0		P	40 - 150
Fenuron	110		P	40 - 150
Fluridone	91.5		P	40 - 150
Hydrocodone	116		P	40 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	110		P	40 - 160
Linuron	91.5		P	40 - 150
MCP	115		P	40 - 150
Primidone	88.5		P	40 - 150
Pyraclostrobin	92.4		P	40 - 150
Triclopyr	122		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P344212

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	93.3		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P344833

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	106		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P344836

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.5		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P344689

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

Reference Method: SM 5310 B-00
Batch ID: P344774

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

Reference Method: SM 5310 B-00
Batch ID: P345026

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344496

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987134	Iron	101	99.6	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344496

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987134	Arsenic	110	113	P/P	70 - 130
1987134	Cadmium	91.9	95.4	P/P	70 - 130
1987134	Chromium	89.8	91.2	P/P	70 - 130
1987134	Copper	95.6	93.7	P/P	70 - 130
1987134	Lead	102	101	P/P	70 - 130
1987134	Nickel	105	108	P/P	70 - 130
1987134	Silver	92.7	94.1	P/P	70 - 130
1987134	Zinc	93.5	95.4	P/P	70 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987917	Sulfate	99.8		P	90 - 110
1988072	Sulfate	106		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988728	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344781

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988295	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988295	Kjeldahl Nitrogen	92.1	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344380

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988170	NO2NO3-N	98.4	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988299	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988288	Total-P	96.0	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344471

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988324	Total-P	101	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344391

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988297	O-Phosphate-P	97.3	98.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P344034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987389	2,4-D	99.8	89.8	P/P	40 - 150
1987389	Acetaminophen	126	115	P/P	30 - 150
1987389	Bentazon	68.4	62.8	P/P	30 - 150
1987389	Carbamazepine	118	109	P/P	40 - 150
1987389	Diuron	96.8	88.3	P/P	40 - 150
1987389	Fenuron	114	104	P/P	40 - 150
1987389	Fluridone	94.9	88.0	P/P	40 - 150
1987389	Hydrocodone	149	134	P/P	40 - 150
1987389	Imazapyr	133	117	P/P	40 - 150
1987389	Imidacloprid	229	198	F/F	40 - 160
1987389	Linuron	104	95.7	P/P	40 - 150
1987389	MCPP	78.3	80.0	P/P	40 - 150
1987389	Primidone	119	112	P/P	40 - 150
1987389	Pyraclostrobin	108	99.4	P/P	40 - 150
1987389	Triclopyr	87.0	86.4	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P344212

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988195	Sucralose	85.3	92.9	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P344836

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988252	Fluoride	94.9	96.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P344689

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988158	Organic Carbon	101	99.5	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P344774

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988315	Organic Carbon	94.0	96.2	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P345026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988324	Organic Carbon	94.2	92.9	P/P	85 - 115

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P344249

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988323	Turbidity	0.702	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987134	Iron	1.14	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987134	Arsenic	2.46	Spike	P	0 - 20
1987134	Cadmium	3.74	Spike	P	0 - 20
1987134	Chromium	1.48	Spike	P	0 - 20
1987134	Copper	1.84	Spike	P	0 - 20
1987134	Lead	1.50	Spike	P	0 - 20
1987134	Nickel	2.72	Spike	P	0 - 20
1987134	Silver	1.43	Spike	P	0 - 20
1987134	Zinc	2.04	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987917	Sulfate	0.656	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P344754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988403	Sulfate	0.0259	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344781

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988295	Ammonia-N	0.730	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988295	Kjeldahl Nitrogen	6.92	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344380

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988170	NO2NO3-N	0.507	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988299	NO2NO3-N	0.980	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988288	Total-P	3.55	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344471

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988324	Total-P	6.84	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988297	O-Phosphate-P	1.02	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P344034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987389	2,4-D	10.6	Spike	P	0 - 30
1987389	Acetaminophen	8.88	Spike	P	0 - 30
1987389	Bentazon	6.96	Spike	P	0 - 30
1987389	Carbamazepine	7.79	Spike	P	0 - 30
1987389	Diuron	9.17	Spike	P	0 - 30
1987389	Fenuron	9.62	Spike	P	0 - 30
1987389	Fluridone	7.59	Spike	P	0 - 30
1987389	Hydrocodone	10.9	Spike	P	0 - 30
1987389	Imazapyr	13.4	Spike	P	0 - 30
1987389	Imidacloprid	14.2	Spike	P	0 - 30
1987389	Linuron	8.47	Spike	P	0 - 30
1987389	MCP	2.08	Spike	P	0 - 30
1987389	Primidone	5.96	Spike	P	0 - 30
1987389	Pyraclostrobin	7.86	Spike	P	0 - 30
1987389	Triclopyr	0.626	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P344212

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988195	Sucralose	8.16	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P344833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988252	Total Alkalinity	0.187	Sample	P	0 - 1.6

Reference Method: SM 4500 F-C-97
Batch ID: P344836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988252	Fluoride	1.46	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P344689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988158	Organic Carbon	1.03	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P344774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988315	Organic Carbon	1.88	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P345026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988324	Organic Carbon	1.18	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: 1988353
Field Sample ID: G2NE1137

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.4	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1988353
Field Sample ID: G2NE1137

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	73.5	P	30 - 160
EPA 8321B	Primidone-d5	93.7	P	30 - 160
EPA 8321B	Sucralose-d6	92.8	P	40 - 160

Lab Sample ID: 1988354
Field Sample ID: G2NE1137DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	115	P	30 - 160
EPA 8321B	Carbamazepine-d10	110	P	30 - 160
EPA 8321B	Diuron-d6	87.8	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	96.1	P	40 - 160

Lab Sample ID: 1988355
Field Sample ID: G2NE1154

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	87.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	108	P	30 - 160
EPA 8321B	Diuron-d6	86.4	P	30 - 160
EPA 8321B	Primidone-d5	114	P	30 - 160
EPA 8321B	Sucralose-d6	79.3	P	40 - 160

Lab Sample ID: 1988356
Field Sample ID: 27010002

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	74.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Diuron-d6	86.6	P	30 - 160
EPA 8321B	Primidone-d5	113	P	30 - 160
EPA 8321B	Sucralose-d6	85.1	P	40 - 160

Lab Sample ID: 1988357
Field Sample ID: 20030802

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	78.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	111	P	30 - 160
EPA 8321B	Carbamazepine-d10	109	P	30 - 160
EPA 8321B	Diuron-d6	89.1	P	30 - 160
EPA 8321B	Primidone-d5	105	P	30 - 160
EPA 8321B	Sucralose-d6	86.4	P	40 - 160

Quality Assurance Report Calibration Verification

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A83521

Included Lab Sample IDs: 1988308, 1988309, 1988310, 1988311, 1988312, 1988323

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

Reference Method: EPA 8321B

Run ID: A83560

Included Lab Sample IDs: 1988353, 1988354, 1988355, 1988356, 1988357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	109	85.5	P/P	60 - 150
Sucralose	85.5	65.8	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83568

Included Lab Sample IDs: 1988313, 1988314, 1988315, 1988316, 1988317, 1988324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A83572

Included Lab Sample IDs: 1988318, 1988319, 1988320, 1988321, 1988322, 1988325

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.0	96.0	P/P	90 - 110
O-Phosphate-P	98.0	98.1	P/P	90 - 110
O-Phosphate-P	98.1	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83611

Included Lab Sample IDs: 1988313, 1988314, 1988315, 1988316, 1988317, 1988324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.0	97.9	P/P	90 - 110
Kjeldahl Nitrogen	98.9	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83630

Included Lab Sample IDs: 1988313, 1988314, 1988315, 1988316, 1988317

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83643

Included Lab Sample IDs: 1988358

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	102	P/P	90 - 110
Cadmium	96.5	97.9	P/P	90 - 110
Chromium	93.9	94.9	P/P	90 - 110
Lead	96.5	96.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83643

Included Lab Sample IDs: 1988358

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	99.0	99.8	P/P	90 - 110
Silver	97.4	98.8	P/P	90 - 110
Zinc	98.0	98.3	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A83649

Included Lab Sample IDs: 1988358

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	98.6	99.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A83651

Included Lab Sample IDs: 1988308, 1988309, 1988310, 1988311, 1988312

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83666

Included Lab Sample IDs: 1988324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A83673

Included Lab Sample IDs: 1988313

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

Reference Method: SM 5310 B-00

Run ID: A83699

Included Lab Sample IDs: 1988314, 1988315, 1988316, 1988317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.7	94.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83700

Included Lab Sample IDs: 1988313, 1988314, 1988315, 1988316, 1988317, 1988324

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83713

Included Lab Sample IDs: 1988358

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	99.5	97.4	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A83721

Included Lab Sample IDs: 1988308, 1988309, 1988310, 1988311, 1988312, 1988323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.1	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A83721

Included Lab Sample IDs: 1988308, 1988309, 1988310, 1988311, 1988312, 1988323

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	96.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A83753

Included Lab Sample IDs: 1988353, 1988354, 1988355, 1988356, 1988357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	109	107	P/P	50 - 150
Bentazon	138	144	P/P	50 - 150
MCPP	99.0	99.2	P/P	50 - 150
Triclopyr	109	101	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A83769

Included Lab Sample IDs: 1988353, 1988354, 1988355, 1988356, 1988357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	109	107	P/P	60 - 150
Carbamazepine	107	105	P/P	60 - 150
Diuron	115	113	P/P	60 - 150
Fenuron	114	114	P/P	60 - 150
Fluridone	107	108	P/P	60 - 160
Hydrocodone	116	118	P/P	60 - 150
Imazapyr	112	103	P/P	50 - 150
Imidacloprid	107	106	P/P	60 - 150
Linuron	120	114	P/P	60 - 150
Primidone	96.7	100	P/P	60 - 150
Pyraclostrobin	113	114	P/P	60 - 150

Reference Method: SM 5310 B-00

Run ID: A83798

Included Lab Sample IDs: 1988324

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	95.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.702	
EPA 200.7 Rev. 4.4	Iron	103	101	99.6			1.14
EPA 200.8 Rev. 5.4	Arsenic	103	110	113			2.46
	Cadmium	99.4	91.9	95.4			3.74
	Chromium	95.7	89.8	91.2			1.48
	Copper	97.9	95.6	93.7			1.84
	Lead	96.6	102	101			1.50
	Nickel	102	105	108			2.72
	Silver	100	92.7	94.1			1.43
	Zinc	99.1	93.5	95.4			2.04
EPA 300.0 Rev. 2.1	Sulfate	104	99.8	106		0.656	
	Sulfate	104	105			0.0259	
EPA 350.1 Rev. 2.0	Ammonia-N	104	102	103			0.730
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	92.1	100			6.92
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	98.4	98.8			0.507
	NO2NO3-N	99.5	102	102			0.980
EPA 365.1 Rev. 2.0	Total-P	99.5	96.0	99.5			3.55
	Total-P	104	101	94.3			6.84
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.7	97.3	98.3			1.02
EPA 8321B	2,4-D	109	99.8	89.8			10.6
	Acetaminophen	93.3	126	115			8.88
	Bentazon	135	68.4	62.8			6.96
	Carbamazepine	103	118	109			7.79
	Diuron	91.0	96.8	88.3			9.17
	Fenuron	110	114	104			9.62
	Fluridone	91.5	94.9	88.0			7.59
	Hydrocodone	116	149	134			10.9
	Imazapyr	107	133	117			13.4
	Imidacloprid	110	229	198			14.2
	Linuron	91.5	104	95.7			8.47
	MCP	115	78.3	80.0			2.08
	Primidone	88.5	119	112			5.96
	Pyraclostrobin	92.4	108	99.4			7.86
	Sucralose	93.3	85.3	92.9			8.16
	Triclopyr	122	87.0	86.4			0.626
SM 2320 B-97	Total Alkalinity	106				0.187	
SM 4500 F-C-97	Fluoride	94.5	94.9	96.8			1.46
SM 5310 B-00	Organic Carbon	102	101	99.5			1.03
	Organic Carbon	101	94.0	96.2			1.88
	Organic Carbon	100	94.2	92.9			1.18

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
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Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1988308, 1988309, 1988310, 1988311, 1988312, 1988323
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1988358
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1988358
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1988308, 1988309, 1988310, 1988311, 1988312
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1988313, 1988314, 1988315, 1988316, 1988317, 1988324
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1988313, 1988314, 1988315, 1988316, 1988317, 1988324
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1988313, 1988314, 1988315, 1988316, 1988317, 1988324
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1988313, 1988314, 1988315, 1988316, 1988317, 1988324
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1988318, 1988319, 1988320, 1988321, 1988322, 1988325
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1988353, 1988354, 1988355, 1988356, 1988357
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1988308, 1988309, 1988310, 1988311, 1988312, 1988323
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1988308, 1988309, 1988310, 1988311, 1988312, 1988323
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1988308, 1988309, 1988310, 1988311, 1988312, 1988323
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1988313, 1988314, 1988315, 1988316, 1988317, 1988324

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	04/27/2018			04/27/2018 15:46	William L. Brown IV	1988308, 1988309, 1988310, 1988311, 1988312, 1988323
EPA 200.7 Rev. 4.4	04/27/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 18:17	Betina Topolski	1988358
EPA 200.8 Rev. 5.4	04/27/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 20:16	Nadine Brooks	1988358
	04/27/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 23:00	Nadine Brooks	1988358
	04/27/2018	05/02/2018 17:25	Elliott D. Healy	05/08/2018 02:27	Nadine Brooks	1988358
EPA 300.0 Rev. 2.1	04/27/2018			05/05/2018 03:59	Lipi Saha	1988308
	04/27/2018			05/05/2018 04:47	Lipi Saha	1988309
	04/27/2018			05/05/2018 04:59	Lipi Saha	1988310
	04/27/2018			05/05/2018 05:11	Lipi Saha	1988311
	04/27/2018			05/05/2018 08:47	Lipi Saha	1988312
EPA 350.1 Rev. 2.0	04/27/2018			05/04/2018 13:24	Ping Hua	1988313
	04/27/2018			05/04/2018 13:25	Ping Hua	1988314
	04/27/2018			05/04/2018 13:27	Ping Hua	1988315
	04/27/2018			05/04/2018 13:28	Ping Hua	1988316
	04/27/2018			05/04/2018 13:36	Ping Hua	1988317
	04/27/2018			05/04/2018 13:37	Ping Hua	1988324
EPA 351.2 Rev. 2.0	04/27/2018	05/01/2018 15:30	Adrian Shelby	05/02/2018 13:56	Joseph Suarez	1988313
	04/27/2018	05/01/2018 15:30	Adrian Shelby	05/02/2018 13:58	Joseph Suarez	1988314
	04/27/2018	05/01/2018 15:30	Adrian Shelby	05/02/2018 13:59	Joseph Suarez	1988315
	04/27/2018	05/01/2018 15:30	Adrian Shelby	05/02/2018 14:01	Joseph Suarez	1988316
	04/27/2018	05/01/2018 15:30	Adrian Shelby	05/02/2018 14:05	Joseph Suarez	1988317
	04/27/2018	05/01/2018 15:30	Adrian Shelby	05/02/2018 14:07	Joseph Suarez	1988324
EPA 353.2 Rev. 2.0	04/27/2018			05/01/2018 11:47	Lauren Bottorf	1988313
	04/27/2018			05/01/2018 11:49	Lauren Bottorf	1988314
	04/27/2018			05/01/2018 12:02	Lauren Bottorf	1988315
	04/27/2018			05/01/2018 12:03	Lauren Bottorf	1988316
	04/27/2018			05/01/2018 12:04	Lauren Bottorf	1988317
	04/27/2018			05/01/2018 12:05	Lauren Bottorf	1988324
EPA 365.1 Rev. 2.0	04/27/2018	05/01/2018 14:01	Sima Feizi	05/03/2018 13:01	Beverly Y. Sanders	1988313
	04/27/2018	05/01/2018 14:01	Sima Feizi	05/03/2018 13:02	Beverly Y. Sanders	1988314
	04/27/2018	05/01/2018 14:01	Sima Feizi	05/03/2018 13:03	Beverly Y. Sanders	1988315
	04/27/2018	05/01/2018 14:01	Sima Feizi	05/03/2018 13:04	Beverly Y. Sanders	1988316
	04/27/2018	05/01/2018 14:01	Sima Feizi	05/03/2018 13:12	Beverly Y. Sanders	1988317
	04/27/2018	05/02/2018 13:00	Sima Feizi	05/04/2018 11:22	Beverly Y. Sanders	1988324
EPA 365.1 Rev. 2.0 dissolved	04/27/2018			04/27/2018 17:17	Megan Treadwell	1988322
	04/27/2018			04/27/2018 17:22	Megan Treadwell	1988325
	04/27/2018			04/27/2018 17:36	Megan Treadwell	1988318
	04/27/2018			04/27/2018 17:37	Megan Treadwell	1988319
	04/27/2018			04/27/2018 17:38	Megan Treadwell	1988320

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	04/27/2018			04/27/2018 17:39	Megan Treadwell	1988321
EPA 8321B	04/27/2018	04/27/2018 14:00	Juyoung Kim	04/28/2018 10:08	Juyoung Kim	1988353
	04/27/2018	04/27/2018 14:00	Juyoung Kim	04/28/2018 11:04	Juyoung Kim	1988354
	04/27/2018	04/27/2018 14:00	Juyoung Kim	04/28/2018 11:41	Juyoung Kim	1988355
	04/27/2018	04/27/2018 14:00	Juyoung Kim	04/28/2018 12:18	Juyoung Kim	1988356
	04/27/2018	04/27/2018 14:00	Juyoung Kim	04/28/2018 12:55	Juyoung Kim	1988357
	04/27/2018	04/30/2018 10:00	Hoor Shaik	05/05/2018 12:13	Juyoung Kim	1988353
	04/27/2018	04/30/2018 10:00	Hoor Shaik	05/05/2018 12:48	Juyoung Kim	1988354
	04/27/2018	04/30/2018 10:00	Hoor Shaik	05/05/2018 13:22	Juyoung Kim	1988355
	04/27/2018	04/30/2018 10:00	Hoor Shaik	05/05/2018 13:57	Juyoung Kim	1988356
	04/27/2018	04/30/2018 10:00	Hoor Shaik	05/05/2018 14:32	Juyoung Kim	1988357
	04/27/2018	04/30/2018 10:00	Hoor Shaik	05/06/2018 12:01	Juyoung Kim	1988353
	04/27/2018	04/30/2018 10:00	Hoor Shaik	05/06/2018 12:36	Juyoung Kim	1988354
	04/27/2018	04/30/2018 10:00	Hoor Shaik	05/06/2018 13:10	Juyoung Kim	1988355
	04/27/2018	04/30/2018 10:00	Hoor Shaik	05/06/2018 13:45	Juyoung Kim	1988356
	04/27/2018	04/30/2018 10:00	Hoor Shaik	05/06/2018 14:19	Juyoung Kim	1988357
SM 2320 B-97	04/27/2018			05/08/2018 03:51	Dale L. Simmons	1988308
	04/27/2018			05/08/2018 04:01	Dale L. Simmons	1988309
	04/27/2018			05/08/2018 04:11	Dale L. Simmons	1988310
	04/27/2018			05/08/2018 04:20	Dale L. Simmons	1988311
	04/27/2018			05/08/2018 04:30	Dale L. Simmons	1988312
	04/27/2018			05/08/2018 04:39	Dale L. Simmons	1988323
SM 2540 D-97	04/27/2018			05/02/2018 15:06	Yijie Li	1988308, 1988309, 1988310, 1988311, 1988312, 1988323
SM 4500 F-C-97	04/27/2018			05/08/2018 00:33	Dale L. Simmons	1988308
	04/27/2018			05/08/2018 00:37	Dale L. Simmons	1988309
	04/27/2018			05/08/2018 00:41	Dale L. Simmons	1988310
	04/27/2018			05/08/2018 00:44	Dale L. Simmons	1988311
	04/27/2018			05/08/2018 00:48	Dale L. Simmons	1988312
	04/27/2018			05/08/2018 00:52	Dale L. Simmons	1988323
SM 5310 B-00	04/27/2018			05/04/2018 07:25	Megan Treadwell	1988313
	04/27/2018			05/05/2018 08:54	Julia Storbeck	1988315
	04/27/2018			05/05/2018 09:34	Julia Storbeck	1988314
	04/27/2018			05/05/2018 09:48	Julia Storbeck	1988316
	04/27/2018			05/05/2018 10:13	Julia Storbeck	1988317
	04/27/2018			05/10/2018 06:02	Megan Treadwell	1988324