

Chemical Analysis Report

NE-DIST-2018-08-02-01

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

Event Description: **LSJR Downtown Fresh**
Request ID: **RQ-2018-07-30-20**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 27-AUG-2018 10:57

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: Trout River at Ramallah Rd

Collection Date/Time: 08/01/2018 09:30

Field ID: 20030752

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012579	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P349585	
	EPA 300.0 Rev. 2.1	Chloride	9.3		mg Cl/L	P349625	
		Sulfate	4.4		mg SO4/L	P349628	
		Color (true)	670		PCU	P349581	
	SM 2320 B-97	Total Alkalinity	2.6		mg CaCO3/L	P350016	
	SM 2540 C-97	TDS	118		mg/L	P349821	
	SM 2540 D-97	TSS	4	I	mg/L	P349818	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P350019	
2012581	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P349809	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P349665	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P349613	
	EPA 365.1 Rev. 2.0	Total-P	0.081		mg P/L	P349658	
	SM 5310 B-00	Organic Carbon	47		mg C/L	P349735	
2012583	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.057		mg P/L	P349577	
2012616	EPA 200.7 Rev. 4.4	Calcium	6.81		mg/L	P349576	
		Iron	1.21E+03		ug/L	P349576	
		Magnesium	1.41		mg/L	P349576	
		Potassium	2.0		mg/L	P349576	
		Sodium	6.4		mg/L	P349576	
		Zinc	11	I	ug/L	P349576	
	EPA 200.8 Rev. 5.4	Arsenic	1.04		ug/L	P349576	
		Cadmium	0.020	U	ug/L	P349576	
		Chromium	0.77	I	ug/L	P349576	
		Copper	0.90		ug/L	P349576	
		Lead	1.64		ug/L	P349576	
		Nickel	0.92		ug/L	P349576	
		Silver	0.010	U	ug/L	P349576	

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.

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.

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 08/07/2018.

Sample Location: Trout River at Garden Rd

Collection Date/Time: 08/01/2018 10:00

Field ID: 20030751

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012580	EPA 180.1 Rev. 2.0	Turbidity	3.2	A	NTU	P349586	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P349625	
		Sulfate	4.4		mg SO4/L	P349628	
	SM 2120 B	Color (true)	590		PCU	P349581	
	SM 2320 B-97	Total Alkalinity	8.4		mg CaCO3/L	P350016	
	SM 2540 C-97	TDS	109		mg/L	P349821	
	SM 2540 D-97	TSS	2	U	mg/L	P349818	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P350019	
2012582	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P349809	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P349665	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P349613	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P349671	
	SM 5310 B-00	Organic Carbon	43		mg C/L	P349735	
2012584	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.056		mg P/L	P349577	
2012617	EPA 200.7 Rev. 4.4	Calcium	9.02		mg/L	P349576	
		Iron	1.12E+03		ug/L	P349576	
		Magnesium	1.44		mg/L	P349576	
		Potassium	1.8		mg/L	P349576	
		Sodium	7.3		mg/L	P349576	
	EPA 200.8 Rev. 5.4	Zinc	10	I	ug/L	P349576	
		Arsenic	1.03		ug/L	P349576	
		Cadmium	0.020	U	ug/L	P349576	
		Chromium	0.72	I	ug/L	P349576	
		Copper	0.90		ug/L	P349576	
		Lead	1.42		ug/L	P349576	
		Nickel	0.82		ug/L	P349576	
		Silver	0.010	U	ug/L	P349576	

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.

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.

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 08/07/2018.

Sample Location: Hogans CR at Broad St.

Collection Date/Time: 08/01/2018 12:55

Field ID: 20030729

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012573	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P349585	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P349625	
		Sulfate	61		mg SO4/L	P349628	
		Color (true)	38		PCU	P349581	
	SM 2320 B-97	Total Alkalinity	153		mg CaCO3/L	P350016	
	SM 2540 C-97	TDS	285		mg/L	P349821	
	SM 2540 D-97	TSS	2	U	mg/L	P349818	
	SM 4500 F-C-97	Fluoride	0.27		mg F/L	P350019	
2012575	EPA 350.1 Rev. 2.0	Ammonia-N	0.20		mg N/L	P349809	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P349665	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.30		mg N/L	P349613	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P349658	
	SM 5310 B-00	Organic Carbon	6.4		mg C/L	P349735	
2012577	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.057		mg P/L	P349577	
2012613	EPA 8321B	2,4-D	0.076		ug/L	P349520	
		Sucralose**	0.19		ug/L	P349536	
		Bentazon	0.018		ug/L	P349520	
		MCP	0.0020	U	ug/L	P349520	
		Triclopyr**	0.0040	U	ug/L	P349520	
		Imidacloprid	0.026		ug/L	P349520	
		Diuron	0.0047	I	ug/L	P349520	
		Pyraclostrobin**	0.0020	U	ug/L	P349520	
		Primidone**	0.0040	U	ug/L	P349520	
		Linuron	0.0040	U	ug/L	P349520	
		Acetaminophen**	0.014	I	ug/L	P349520	
		Fenuron	0.016	U	ug/L	P349520	
		Imazapyr**	0.43		ug/L	P349520	
		Carbamazepine**	8.0E-04	U	ug/L	P349520	
		Fluridone**	0.048		ug/L	P349520	
		Hydrocodone**	8.0E-04	U	ug/L	P349520	
		Naproxen**	0.012	I	ug/L	P349520	
		Ibuprofen**	0.020	U	ug/L	P349520	

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.

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.

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

Sample Location: Blockhouse CR @ Duval Rd

Collection Date/Time: 08/01/2018 10:55

Field ID: 20030746

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012615	EPA 8321B	2,4-D	0.15		ug/L	P349520	
		Sucralose**	0.098		ug/L	P349536	
		Bentazon	0.026		ug/L	P349520	
		MCPD	0.021		ug/L	P349520	
		Triclopyr**	0.0040	U	ug/L	P349520	
		Imidacloprid	0.10		ug/L	P349520	
		Diuron	0.0020	U	ug/L	P349520	
		Pyraclostrobin**	0.0020	U	ug/L	P349520	
		Primidone**	0.0040	U	ug/L	P349520	
		Linuron	0.0040	U	ug/L	P349520	
		Acetaminophen**	0.0080	U	ug/L	P349520	
		Fenuron	0.016	U	ug/L	P349520	
		Imazapyr**	0.41		ug/L	P349520	
		Carbamazepine**	8.0E-04	U	ug/L	P349520	
		Fluridone**	0.0033		ug/L	P349520	
		Hydrocodone**	8.0E-04	U	ug/L	P349520	
		Naproxen**	0.0080	U	ug/L	P349520	
		Ibuprofen**	0.030	I	ug/L	P349520	

Sample Location: NE ROC DI

Collection Date/Time: 08/01/2018 11:25

Field ID: BLANK 08012018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012585	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P349586	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P349707	
		Sulfate	0.20	U	mg SO4/L	P349708	
		Color (true)	2.5	U	PCU	P349582	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P350016	
	SM 2540 C-97	TDS	15	U	mg/L	P349822	
	SM 2540 D-97	TSS	2	U	mg/L	P349819	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P350019	
2012586	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P349809	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P349665	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P349613	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P349671	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P349968	
2012587	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P349577	
2012618	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P349576	
		Iron	30	U	ug/L	P349576	
		Magnesium	0.040	U	mg/L	P349576	
		Potassium	0.30	U	mg/L	P349576	
		Sodium	0.50	U	mg/L	P349576	
		Zinc	5.0	U	ug/L	P349576	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P349576	
		Cadmium	0.020	U	ug/L	P349576	
		Chromium	0.40	U	ug/L	P349576	
		Copper	0.20	U	ug/L	P349576	
		Lead	0.050	U	ug/L	P349576	
		Nickel	0.20	U	ug/L	P349576	
		Silver	0.010	U	ug/L	P349576	

Ref. Method and Comment:

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

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

Sample Location: Blockhouse 100m abv Irma Rd.

Collection Date/Time: 08/01/2018 11:35

Field ID: G2NE1159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012574	EPA 180.1 Rev. 2.0	Turbidity	15		NTU	P349585	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P349625	
		Sulfate	5.8		mg SO4/L	P349628	
		Color (true)	200	A	PCU	P349584	
	SM 2320 B-97	Total Alkalinity	46		mg CaCO3/L	P350016	
	SM 2540 C-97	TDS	135		mg/L	P349821	
	SM 2540 D-97	TSS	10		mg/L	P349818	
	SM 4500 F-C-97	Fluoride	0.092	I	mg F/L	P350019	
2012576	EPA 350.1 Rev. 2.0	Ammonia-N	0.075		mg N/L	P349809	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.92		mg N/L	P349665	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.062		mg N/L	P349613	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P349658	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P349735	
2012578	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.056		mg P/L	P349577	
2012614	EPA 8321B	2,4-D	0.11		ug/L	P349520	
		Sucralose**	0.31		ug/L	P349536	
		Bentazon	0.023		ug/L	P349520	
		MCP	0.018		ug/L	P349520	
		Triclopyr**	0.0040	U	ug/L	P349520	
		Imidacloprid	0.073		ug/L	P349520	
		Diuron	0.0020	U	ug/L	P349520	
		Pyraclostrobin**	0.0020	U	ug/L	P349520	
		Primidone**	0.0040	U	ug/L	P349520	
		Linuron	0.0040	U	ug/L	P349520	
		Acetaminophen**	0.0080	U	ug/L	P349520	
		Fenuron	0.016	U	ug/L	P349520	
		Imazapyr**	0.30		ug/L	P349520	
		Carbamazepine**	0.0080		ug/L	P349520	
		Fluridone**	0.0028		ug/L	P349520	
		Hydrocodone**	8.0E-04	U	ug/L	P349520	
		Naproxen**	0.0080	U	ug/L	P349520	
		Ibuprofen**	0.020	U	ug/L	P349520	

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.

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.

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349585

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349586

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349576

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349576

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349625

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349628

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349707

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: P349708

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349809

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349665

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349613

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349658

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349671

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349577

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

Reference Method: EPA 8321B
Batch ID: P349520

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	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P349520

Component	Result	Code	Units
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P349536

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P349581

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P349582

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P349584

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P350016

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

Reference Method: SM 2540 C-97
Batch ID: P349821

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P349822

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P349818

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P349819

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P350019

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P349735

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

Reference Method: SM 5310 B-00
Batch ID: P349968

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: P349576

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	105		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	103		P	85 - 115
Sodium	97.6		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P349576

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.3		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	93.5		P	85 - 115
Copper	96.3		P	85 - 115
Lead	95.3		P	85 - 115
Nickel	98.2		P	85 - 115
Silver	97.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P349625

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P349628

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P349707

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P349708

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P349809

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.1		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349665

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349613

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349658

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349671

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349577

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

Reference Method: EPA 8321B
Batch ID: P349520

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	85.0		P	40 - 150
Acetaminophen	99.0		P	30 - 150
Bentazon	54.5		P	30 - 150
Carbamazepine	102		P	40 - 150
Diuron	85.9		P	40 - 150
Fenuron	111		P	40 - 150
Fluridone	107		P	40 - 150
Hydrocodone	95.9		P	40 - 150
Ibuprofen	98.3		P	40 - 150
Imazapyr	91.0		P	40 - 150
Imidacloprid	108		P	40 - 160
Linuron	83.6		P	40 - 150
MCPP	97.7		P	40 - 150
Naproxen	94.4		P	40 - 150
Primidone	117		P	40 - 150
Pyraclostrobin	77.9		P	40 - 150
Triclopyr	104		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P349536

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
-----------	---------	---------	-----------	----------------

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P349536

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	107		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P349581

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.6		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P349582

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.4		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P349584

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

Reference Method: SM 2320 B-97
Batch ID: P350016

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P350019

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349735

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P349968

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012229	Calcium	106		P	80 - 120
2012229	Iron	107		P	80 - 120
2012229	Magnesium	111		P	80 - 120
2012229	Potassium	105		P	80 - 120
2012229	Sodium	101		P	80 - 120
2012229	Zinc	105		P	80 - 120
2012690	Calcium	105		P	80 - 120
2012690	Iron	110	109	P/P	80 - 120
2012690	Magnesium	114	114	P/P	80 - 120
2012690	Potassium	106	106	P/P	80 - 120
2012690	Sodium	101		P	80 - 120
2012690	Zinc	107	108	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012229	Arsenic	102		P	80 - 120
2012229	Cadmium	103		P	80 - 120
2012229	Chromium	95.7		P	80 - 120
2012229	Copper	98.8		P	80 - 120
2012229	Lead	98.2		P	80 - 120
2012229	Nickel	101		P	80 - 120
2012229	Silver	99.0		P	80 - 120
2012690	Arsenic	99.4	104	P/P	80 - 120
2012690	Cadmium	98.8	102	P/P	80 - 120
2012690	Chromium	94.1	97.1	P/P	80 - 120
2012690	Copper	93.8	98.4	P/P	80 - 120
2012690	Lead	94.3	97.8	P/P	80 - 120
2012690	Nickel	96.1	100	P/P	80 - 120
2012690	Silver	96.2	98.8	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012370	Chloride	108		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349628

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012370	Sulfate	109		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012625	Chloride	100		P	90 - 110
2012655	Chloride	97.1		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012625	Sulfate	100		P	90 - 110
2012655	Sulfate	95.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349809

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012565	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012575	Kjeldahl Nitrogen	98.2	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012566	NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349658

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012575	Total-P	96.1	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349671

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012641	Total-P	96.2	95.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012629	O-Phosphate-P	97.5	97.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P349520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012676	2,4-D	132	105	P/P	40 - 150
2012676	Acetaminophen	85.3	91.7	P/P	30 - 150
2012676	Bentazon	70.1	63.0	P/P	30 - 150
2012676	Carbamazepine	85.0	87.7	P/P	40 - 150
2012676	Diuron	66.4	68.3	P/P	40 - 150
2012676	Fenuron	95.4	101	P/P	40 - 150
2012676	Fluridone	81.7	106	P/P	40 - 150
2012676	Hydrocodone	83.1	98.0	P/P	40 - 150
2012676	Ibuprofen	65.7	72.5	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P349520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012676	Imazapyr	98.6	97.8	P/P	40 - 150
2012676	Imidacloprid	135	134	P/P	40 - 160
2012676	Linuron	62.7	70.7	P/P	40 - 150
2012676	MCP	136	131	P/P	40 - 150
2012676	Naproxen	66.6	55.4	P/P	40 - 150
2012676	Primidone	126	111	P/P	40 - 150
2012676	Pyraclostrobin	75.6	79.2	P/P	40 - 150
2012676	Triclopyr	138	140	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P349536

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012397	Sucralose	114	103	P/P	40 - 150

Reference Method: SM 5310 B-00
Batch ID: P349735

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012521	Organic Carbon	97.5	96.0	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P349968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2015171	Organic Carbon	104		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012488	Turbidity	0.893	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349586

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012580	Turbidity	0.930	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012690	Calcium	0.100	Spike	P	0 - 20
2012690	Iron	0.552	Spike	P	0 - 20
2012690	Magnesium	0.277	Spike	P	0 - 20
2012690	Potassium	0.331	Spike	P	0 - 20
2012690	Sodium	0.689	Spike	P	0 - 20
2012690	Zinc	0.608	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012690	Arsenic	4.00	Spike	P	0 - 20
2012690	Cadmium	3.50	Spike	P	0 - 20
2012690	Chromium	3.10	Spike	P	0 - 20
2012690	Copper	4.68	Spike	P	0 - 20
2012690	Lead	3.61	Spike	P	0 - 20
2012690	Nickel	3.90	Spike	P	0 - 20
2012690	Silver	2.68	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012370	Chloride	6.47	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349628

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012370	Sulfate	7.04	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012625	Chloride	4.74	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012625	Sulfate	5.10	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349809

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012565	Ammonia-N	0.203	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012575	Kjeldahl Nitrogen	3.09	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012566	NO2NO3-N	0.327	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012575	Total-P	0.922	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349671

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012641	Total-P	0.344	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012629	O-Phosphate-P	0.307	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P349520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012676	2,4-D	21.3	Spike	P	0 - 30
2012676	Acetaminophen	7.28	Spike	P	0 - 30
2012676	Bentazon	9.64	Spike	P	0 - 30
2012676	Carbamazepine	3.15	Spike	P	0 - 30
2012676	Diuron	2.82	Spike	P	0 - 30
2012676	Fenuron	5.33	Spike	P	0 - 30
2012676	Fluridone	18.6	Spike	P	0 - 30
2012676	Hydrocodone	16.5	Spike	P	0 - 30
2012676	Ibuprofen	9.83	Spike	P	0 - 30
2012676	Imazapyr	0.485	Spike	P	0 - 30
2012676	Imidacloprid	0.420	Spike	P	0 - 30
2012676	Linuron	12.1	Spike	P	0 - 30
2012676	MCPP	3.74	Spike	P	0 - 30
2012676	Naproxen	18.4	Spike	P	0 - 30
2012676	Primidone	13.2	Spike	P	0 - 30
2012676	Pyraclostrobin	4.70	Spike	P	0 - 30
2012676	Triclopyr	1.47	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P349536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012397	Sucralose	9.12	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P349581

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012520	Color (true)	0.828	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P349582

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012625	Color (true)	2.59	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P349584

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012574	Color (true)	0.306	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P350016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
--------------------------	-----------	-----------	-------------------	-----------	----------------

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P350016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2013532	Total Alkalinity	1.16	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P349821

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012535	TDS	0.528	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P349822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012588	TDS	0.803	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P350019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2013532	Fluoride	0.471	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P349735

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012521	Organic Carbon	0.886	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P349968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2015171	Organic Carbon	1.37	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: 2012613
Field Sample ID: 20030729

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	75.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	99.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.8	P	30 - 160
EPA 8321B	Diuron-d6	64.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	50.0	P	30 - 160
EPA 8321B	Primidone-d5	101	P	30 - 160
EPA 8321B	Sucralose-d6	89.9	P	40 - 160

Lab Sample ID: 2012614
Field Sample ID: G2NE1159

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	100	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.7	P	30 - 160
EPA 8321B	Diuron-d6	65.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	67.9	P	30 - 160
EPA 8321B	Primidone-d5	92.2	P	30 - 160
EPA 8321B	Sucralose-d6	99.0	P	40 - 160

Lab Sample ID: 2012615
Field Sample ID: 20030746

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	77.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.8	P	30 - 160
EPA 8321B	Diuron-d6	52.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	49.2	P	30 - 160
EPA 8321B	Primidone-d5	75.1	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A85560

Included Lab Sample IDs: 2012573, 2012574, 2012579, 2012580

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	105	P/P	90 - 110
Sulfate	106	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A85654

Included Lab Sample IDs: 2012577, 2012578, 2012583, 2012584, 2012587

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.0	98.1	P/P	90 - 110
O-Phosphate-P	99.0	97.0	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A85656

Included Lab Sample IDs: 2012573, 2012574, 2012579, 2012580, 2012585

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	90 - 115
Color (true)	102	102	P/P	90 - 115
Color (true)	99.5	100	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A85657

Included Lab Sample IDs: 2012573, 2012574, 2012579, 2012580, 2012585

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	103	P/P	95 - 105
Turbidity	103	102	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A85677

Included Lab Sample IDs: 2012575, 2012576, 2012581, 2012582, 2012586

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A85708

Included Lab Sample IDs: 2012616, 2012617, 2012618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	102	P/P	90 - 110
Calcium	103	104	P/P	90 - 110
Iron	100	101	P/P	90 - 110
Iron	102	103	P/P	90 - 110
Magnesium	102	103	P/P	90 - 110
Magnesium	103	104	P/P	90 - 110
Potassium	100	101	P/P	90 - 110
Potassium	102	103	P/P	90 - 110
Sodium	96.9	98.4	P/P	90 - 110
Sodium	98.3	100	P/P	90 - 110
Zinc	102	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A85708

Included Lab Sample IDs: 2012616, 2012617, 2012618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Zinc	106	106	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A85712

Included Lab Sample IDs: 2012585

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.7	105	P/P	90 - 110
Sulfate	97.3	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85713

Included Lab Sample IDs: 2012575, 2012576, 2012581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.6	P/P	90 - 110
Total-P	99.6	99.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85716

Included Lab Sample IDs: 2012616, 2012617, 2012618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	98.3	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Cadmium	100	99.2	P/P	90 - 110
Cadmium	100	101	P/P	90 - 110
Copper	100	96.6	P/P	90 - 110
Copper	100	100	P/P	90 - 110
Lead	98.5	99.2	P/P	90 - 110
Lead	98.9	97.3	P/P	90 - 110
Nickel	100	98.8	P/P	90 - 110
Nickel	99.8	96.2	P/P	90 - 110
Silver	95.4	95.5	P/P	90 - 110
Silver	95.9	93.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85718

Included Lab Sample IDs: 2012582

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85720

Included Lab Sample IDs: 2012586

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85727

Included Lab Sample IDs: 2012575, 2012576, 2012581, 2012582, 2012586

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	104	P/P	90 - 110
Kjeldahl Nitrogen	97.7	102	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A85729

Included Lab Sample IDs: 2012575, 2012576, 2012581, 2012582

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	97.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85738

Included Lab Sample IDs: 2012616, 2012617, 2012618

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	97.3	98.4	P/P	90 - 110
Chromium	97.6	97.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A85755

Included Lab Sample IDs: 2012575, 2012576, 2012581, 2012582, 2012586

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	103	P/P	90 - 110
Ammonia-N	99.3	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A85787

Included Lab Sample IDs: 2012613, 2012614, 2012615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	105	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A85823

Included Lab Sample IDs: 2012613, 2012614, 2012615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	104	109	P/P	50 - 150
Acetaminophen	124	97.9	P/P	60 - 160
Bentazon	81.9	78.5	P/P	50 - 160
Carbamazepine	122	120	P/P	60 - 160
Diuron	109	107	P/P	60 - 150
Fenuron	85.3	82.4	P/P	60 - 150
Fluridone	117	106	P/P	60 - 160
Hydrocodone	110	93.6	P/P	60 - 150
Ibuprofen	108	105	P/P	50 - 160
Imazapyr	82.7	79.4	P/P	50 - 150
Imidacloprid	111	93.1	P/P	60 - 150
Linuron	110	118	P/P	60 - 150
MCPP	85.5	80.0	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A85823

Included Lab Sample IDs: 2012613, 2012614, 2012615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Naproxen	77.0	86.7	P/P	50 - 160
Primidone	104	96.1	P/P	60 - 150
Pyraclostrobin	101	96.1	P/P	60 - 150
Triclopyr	105	70.5	P/P	50 - 160

Reference Method: SM 5310 B-00

Run ID: A85826

Included Lab Sample IDs: 2012586

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	97.0	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A85838

Included Lab Sample IDs: 2012573, 2012574, 2012579, 2012580, 2012585

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

Reference Method: SM 4500 F-C-97

Run ID: A85838

Included Lab Sample IDs: 2012573, 2012574, 2012579, 2012580, 2012585

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

Reference Method: EPA 8321B

Run ID: A85929

Included Lab Sample IDs: 2012615

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	105	90.6	P/P	60 - 160
Carbamazepine	91.5	95.5	P/P	60 - 160
Diuron	97.5	97.7	P/P	60 - 150
Fenuron	102	102	P/P	60 - 150
Fluridone	105	90.1	P/P	60 - 160
Hydrocodone	107	96.8	P/P	60 - 150
Imazapyr	130	70.9	P/P	50 - 150
Imidacloprid	78.3	87.2	P/P	60 - 150
Linuron	105	75.3	P/P	60 - 150
Primidone	102	114	P/P	60 - 150
Pyraclostrobin	96.2	83.1	P/P	60 - 150

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

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					0.893	
	Turbidity					0.930	
EPA 200.7 Rev. 4.4	Calcium	102	106	105			0.100
	Iron	105	107	110	109		0.552
	Magnesium	110	111	114	114		0.277
	Potassium	103	105	106	106		0.331
	Sodium	97.6	101	101			0.689
	Zinc	103	105	107	108		0.608
EPA 200.8 Rev. 5.4	Arsenic	99.3	102	99.4	104		4.00
	Cadmium	101	103	98.8	102		3.50
	Chromium	93.5	95.7	94.1	97.1		3.10
	Copper	96.3	98.8	93.8	98.4		4.68
	Lead	95.3	98.2	94.3	97.8		3.61
	Nickel	98.2	101	96.1	100		3.90
	Silver	97.6	99.0	96.2	98.8		2.68
EPA 300.0 Rev. 2.1	Chloride	103	108			6.47	
	Chloride	98.7	100	97.1		4.74	
	Sulfate	105	109			7.04	
	Sulfate	97.3	100	95.2		5.10	
EPA 350.1 Rev. 2.0	Ammonia-N	95.1	101	102			0.203
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.8	98.2	103			3.09
EPA 353.2 Rev. 2.0	NO2NO3-N	101	100	101			0.327
EPA 365.1 Rev. 2.0	Total-P	98.6	96.1	97.4			0.922
	Total-P	95.0	96.2	95.9			0.344
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	97.5	97.8			0.307
EPA 8321B	2,4-D	85.0	132	105			21.3
	Acetaminophen	99.0	85.3	91.7			7.28
	Bentazon	54.5	70.1	63.0			9.64
	Carbamazepine	102	85.0	87.7			3.15
	Diuron	85.9	66.4	68.3			2.82
	Fenuron	111	95.4	101			5.33
	Fluridone	107	81.7	106			18.6
	Hydrocodone	95.9	83.1	98.0			16.5
	Ibuprofen	98.3	65.7	72.5			9.83
	Imazapyr	91.0	98.6	97.8			0.485
	Imidacloprid	108	135	134			0.420
	Linuron	83.6	62.7	70.7			12.1
	MCPP	97.7	136	131			3.74
	Naproxen	94.4	66.6	55.4			18.4
	Primidone	117	126	111			13.2
	Pyraclostrobin	77.9	75.6	79.2			4.70
	Sucralose	107	114	103			9.12
	Triclopyr	104	138	140			1.47
SM 2120 B	Color (true)	96.6				0.828	
	Color (true)	99.4				2.59	
	Color (true)	100				0.306	
SM 2320 B-97	Total Alkalinity	105				1.16	
SM 2540 C-97	TDS					0.528	
	TDS					0.803	
SM 4500 F-C-97	Fluoride	97.3					0.471
SM 5310 B-00	Organic Carbon	96.6	97.5	96.0			0.886
	Organic Carbon	96.0	104				1.37

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2012573, 2012574, 2012579, 2012580, 2012585
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2012616, 2012617, 2012618
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2012616, 2012617, 2012618
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2012573, 2012574, 2012579, 2012580, 2012585
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2012573, 2012574, 2012579, 2012580, 2012585
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2012575, 2012576, 2012581, 2012582, 2012586
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2012575, 2012576, 2012581, 2012582, 2012586
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2012575, 2012576, 2012581, 2012582, 2012586
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2012575, 2012576, 2012581, 2012582, 2012586
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2012577, 2012578, 2012583, 2012584, 2012587
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2012613, 2012614, 2012615
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2012613, 2012614, 2012615
SM 2120 B / E31780	True Color measured at 450 nm	2012573, 2012574, 2012579, 2012580, 2012585
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2012573, 2012574, 2012579, 2012580, 2012585
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2012573, 2012574, 2012579, 2012580, 2012585
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2012573, 2012574, 2012579, 2012580, 2012585
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2012573, 2012574, 2012579, 2012580, 2012585
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2012575, 2012576, 2012581, 2012582, 2012586

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	08/02/2018			08/02/2018 16:39	William L. Brown IV	2012573, 2012574, 2012579, 2012580, 2012585
EPA 200.7 Rev. 4.4	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/03/2018 15:58	Betina Topolski	2012618
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/03/2018 18:38	Betina Topolski	2012616
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/03/2018 18:46	Betina Topolski	2012617
EPA 200.8 Rev. 5.4	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/06/2018 17:32	Allison Taylor	2012618
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/06/2018 20:55	Allison Taylor	2012616
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/06/2018 21:04	Allison Taylor	2012617
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/07/2018 18:23	Allison Taylor	2012618
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/07/2018 20:35	Allison Taylor	2012616
	08/02/2018	08/02/2018 15:20	Elliott D. Healy	08/07/2018 20:42	Allison Taylor	2012617
EPA 300.0 Rev. 2.1	08/02/2018			08/04/2018 03:54	Lipi Saha	2012573
	08/02/2018			08/04/2018 04:06	Lipi Saha	2012574
	08/02/2018			08/04/2018 04:18	Lipi Saha	2012579
	08/02/2018			08/04/2018 04:30	Lipi Saha	2012580
	08/02/2018			08/06/2018 16:15	Lipi Saha	2012585
EPA 350.1 Rev. 2.0	08/02/2018			08/08/2018 13:44	Julia Storbeck	2012575
	08/02/2018			08/08/2018 13:52	Julia Storbeck	2012576
	08/02/2018			08/08/2018 13:53	Julia Storbeck	2012581
	08/02/2018			08/08/2018 13:55	Julia Storbeck	2012582
	08/02/2018			08/08/2018 14:05	Julia Storbeck	2012586
EPA 351.2 Rev. 2.0	08/02/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 11:49	Joseph Suarez	2012575
	08/02/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 11:57	Joseph Suarez	2012576
	08/02/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 11:59	Joseph Suarez	2012581
	08/02/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 12:00	Joseph Suarez	2012582
	08/02/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 12:02	Joseph Suarez	2012586
EPA 353.2 Rev. 2.0	08/02/2018			08/03/2018 11:48	Lauren Bottorf	2012586
	08/02/2018			08/03/2018 11:51	Lauren Bottorf	2012575
	08/02/2018			08/03/2018 11:52	Lauren Bottorf	2012576
	08/02/2018			08/03/2018 11:53	Lauren Bottorf	2012581
	08/02/2018			08/03/2018 11:54	Lauren Bottorf	2012582
EPA 365.1 Rev. 2.0	08/02/2018	08/06/2018 13:35	Sima Feizi	08/07/2018 08:59	Beverly Y. Sanders	2012575
	08/02/2018	08/06/2018 13:35	Sima Feizi	08/07/2018 09:12	Beverly Y. Sanders	2012576
	08/02/2018	08/06/2018 13:35	Sima Feizi	08/07/2018 09:13	Beverly Y. Sanders	2012581
	08/02/2018	08/06/2018 13:35	Sima Feizi	08/07/2018 10:30	Beverly Y. Sanders	2012582
	08/02/2018	08/06/2018 13:35	Sima Feizi	08/07/2018 11:55	Beverly Y. Sanders	2012586
EPA 365.1 Rev. 2.0 dissolved	08/02/2018			08/02/2018 15:32	Julia Storbeck	2012587
	08/02/2018			08/02/2018 15:40	Julia Storbeck	2012577
	08/02/2018			08/02/2018 15:41	Julia Storbeck	2012578
	08/02/2018			08/02/2018 15:42	Julia Storbeck	2012583, 2012584

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/02/2018	08/03/2018 12:15	Mohammad Ghaffari	08/09/2018 11:03	Mohammad Ghaffari	2012613
	08/02/2018	08/03/2018 12:15	Mohammad Ghaffari	08/09/2018 11:18	Mohammad Ghaffari	2012614
	08/02/2018	08/03/2018 12:15	Mohammad Ghaffari	08/09/2018 11:32	Mohammad Ghaffari	2012615
	08/02/2018	08/06/2018 10:00	Hoor Shaik	08/11/2018 14:56	Juyoung Kim	2012613
	08/02/2018	08/06/2018 10:00	Hoor Shaik	08/11/2018 15:31	Juyoung Kim	2012614
	08/02/2018	08/06/2018 10:00	Hoor Shaik	08/11/2018 16:05	Juyoung Kim	2012615
	08/02/2018	08/06/2018 10:00	Hoor Shaik	08/13/2018 02:07	Juyoung Kim	2012613
	08/02/2018	08/06/2018 10:00	Hoor Shaik	08/13/2018 02:41	Juyoung Kim	2012614
	08/02/2018	08/06/2018 10:00	Hoor Shaik	08/15/2018 22:52	Juyoung Kim	2012615
SM 2120 B	08/02/2018			08/02/2018 15:28	Tanya Welborn	2012573
	08/02/2018			08/02/2018 15:34	Tanya Welborn	2012585
	08/02/2018			08/02/2018 15:56	Tanya Welborn	2012574
	08/02/2018			08/02/2018 16:00	Tanya Welborn	2012579, 2012580
SM 2320 B-97	08/02/2018			08/10/2018 08:31	Dale L. Simmons	2012573
	08/02/2018			08/10/2018 08:42	Dale L. Simmons	2012574
	08/02/2018			08/10/2018 08:51	Dale L. Simmons	2012579
	08/02/2018			08/10/2018 09:02	Dale L. Simmons	2012580
	08/02/2018			08/10/2018 09:14	Dale L. Simmons	2012585
SM 2540 C-97	08/02/2018			08/03/2018 17:00	William L. Brown IV	2012573, 2012574, 2012579, 2012580, 2012585
SM 2540 D-97	08/02/2018			08/03/2018 17:05	William L. Brown IV	2012573, 2012574, 2012579, 2012580, 2012585
SM 4500 F-C-97	08/02/2018			08/10/2018 08:31	Dale L. Simmons	2012573
	08/02/2018			08/10/2018 08:42	Dale L. Simmons	2012574
	08/02/2018			08/10/2018 08:51	Dale L. Simmons	2012579
	08/02/2018			08/10/2018 09:02	Dale L. Simmons	2012580
	08/02/2018			08/10/2018 09:14	Dale L. Simmons	2012585
SM 5310 B-00	08/02/2018			08/07/2018 08:28	Megan Treadwell	2012575
	08/02/2018			08/07/2018 08:44	Megan Treadwell	2012576
	08/02/2018			08/07/2018 08:58	Megan Treadwell	2012581
	08/02/2018			08/07/2018 09:12	Megan Treadwell	2012582
	08/02/2018			08/10/2018 22:28	Julia Storbeck	2012586