

Chemical Analysis Report

NE-DIST-2018-08-01-03

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

Event Description: **LSJR East 1**
Request ID: **RQ-2018-07-23-17**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 27-AUG-2018 14:44

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

Case Narrative

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

Results for the following analytical groups are included in this report: 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: PUNCHEON BR @ DEERWOOD PK BLVD

Collection Date/Time: 07/31/2018 09:15

Field ID: 20030866

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012370	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P349510	
	EPA 300.0 Rev. 2.1	Chloride	27	A	mg Cl/L	P349625	
		Sulfate	23	A	mg SO4/L	P349628	
	SM 2120 B	Color (true)	160		PCU	P349506	
	SM 2320 B-97	Total Alkalinity	32		mg CaCO3/L	P349653	
	SM 2540 C-97	TDS	151		mg/L	P349799	
	SM 2540 D-97	TSS	3	I	mg/L	P349954	
	SM 4500 F-C-97	Fluoride	0.038	I	mg F/L	P349656	
2012372	EPA 350.1 Rev. 2.0	Ammonia-N	0.073		mg N/L	P349687	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P349663	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P349551	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P349565	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P349734	
2012374	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P349502	

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.

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: GREENFIELD CREEK AT ATLANTIC BLVD

Collection Date/Time: 07/31/2018 10:20

Field ID: 20030657

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012364	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P349510	
	EPA 300.0 Rev. 2.1	Chloride	40		mg Cl/L	P349624	
		Sulfate	35		mg SO4/L	P349627	
		Color (true)	70	A	PCU	P349506	
	SM 2320 B-97	Total Alkalinity	78		mg CaCO3/L	P349653	
	SM 2540 C-97	TDS	249		mg/L	P349799	
	SM 2540 D-97	TSS	3	I	mg/L	P349954	
	SM 4500 F-C-97	Fluoride	0.081	I	mg F/L	P349656	
2012366	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P349687	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P349663	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P349550	
	EPA 365.1 Rev. 2.0	Total-P	0.071		mg P/L	P349564	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P349734	
2012368	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.033		mg P/L	P349502	
2012395	EPA 8321B	2,4-D	0.011		ug/L	P349520	
		Sucralose**	0.064		ug/L	P349536	
		Bentazon	0.029		ug/L	P349520	
		MCP	0.0031	I	ug/L	P349520	
		Triclopyr**	0.0040	U	ug/L	P349520	
		Imidacloprid	0.10		ug/L	P349520	
		Diuron	0.011		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**	0.74		ug/L	P349520	
		Carbamazepine**	8.0E-04	U	ug/L	P349520	
		Fluridone**	0.064		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.

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: GREENFIELD CR. at HODGES RD

Collection Date/Time: 07/31/2018 10:40

Field ID: G2NE1145

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012397	EPA 8321B	2,4-D	0.0090		ug/L	P349520	
		Sucralose**	0.13		ug/L	P349536	
		Bentazon	0.027		ug/L	P349520	
		MCP	0.0036	I	ug/L	P349520	
		Triclopyr**	0.0040	U	ug/L	P349520	
		Imidacloprid	0.18		ug/L	P349520	
		Diuron	0.020		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**	0.0061	I	ug/L	P349520	
		Carbamazepine**	8.0E-04	U	ug/L	P349520	
		Fluridone**	0.081		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	

Sample Location: STRAWBERRY CR AT END OF BOWLAN RD

Collection Date/Time: 07/31/2018 11:25

Field ID: 20030579

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012371	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P349510	
	EPA 300.0 Rev. 2.1	Chloride	41		mg Cl/L	P349625	
		Sulfate	29		mg SO4/L	P349628	
	SM 2120 B	Color (true)	46		PCU	P349506	
	SM 2320 B-97	Total Alkalinity	68		mg CaCO3/L	P349653	
	SM 2540 C-97	TDS	183		mg/L	P349799	
	SM 2540 D-97	TSS	3	I	mg/L	P349954	
	SM 4500 F-C-97	Fluoride	0.052	I	mg F/L	P349656	
2012373	EPA 350.1 Rev. 2.0	Ammonia-N	0.057		mg N/L	P349687	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P349663	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.48		mg N/L	P349551	
	EPA 365.1 Rev. 2.0	Total-P	0.047		mg P/L	P349565	
	SM 5310 B-00	Organic Carbon	8.5		mg C/L	P349734	
2012375	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P349502	

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.

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: NEWCASTLE CR @ FT CAROLINE HILLS RD Collection Date/Time: 07/31/2018 12:10

Field ID: 20030872

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012365	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P349510	
	EPA 300.0 Rev. 2.1	Chloride	33		mg Cl/L	P349624	
		Sulfate	28		mg SO4/L	P349627	
		Color (true)	16		PCU	P349506	
	SM 2120 B	Total Alkalinity	41		mg CaCO3/L	P349653	
	SM 2540 C-97	TDS	151	A	mg/L	P349799	
	SM 2540 D-97	TSS	3	IA	mg/L	P349954	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P349656	
2012367	EPA 350.1 Rev. 2.0	Ammonia-N	0.098		mg N/L	P349687	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P349663	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.34		mg N/L	P349550	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P349565	
	SM 5310 B-00	Organic Carbon	3.5		mg C/L	P349734	
2012369	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P349502	
2012396	EPA 8321B	2,4-D	0.0020	I	ug/L	P349520	
		Sucralose**	0.043		ug/L	P349536	
		Bentazon	0.018		ug/L	P349520	
		MCP	0.0047	I	ug/L	P349520	
		Triclopyr**	0.0040	U	ug/L	P349520	
		Imidacloprid	0.035		ug/L	P349520	
		Diuron	0.0025	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**	0.0080	U	ug/L	P349520	
		Fenuron	0.016	U	ug/L	P349520	
		Imazapyr**	0.033		ug/L	P349520	
		Carbamazepine**	8.0E-04	U	ug/L	P349520	
		Fluridone**	4.0E-04	U	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.

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: NEWCASTLE CR @ MILLCREST DR

Collection Date/Time: 07/31/2018 12:35

Field ID: 20030805

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012398	EPA 8321B	2,4-D	0.0020	U	ug/L	P349520	
		Sucralose**	0.062		ug/L	P349536	
		Bentazon	0.016		ug/L	P349520	
		MCP	0.0098		ug/L	P349520	
		Triclopyr**	0.0040	U	ug/L	P349520	
		Imidacloprid	0.017		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**	0.071		ug/L	P349520	
		Carbamazepine**	8.0E-04	U	ug/L	P349520	
		Fluridone**	7.1E-04	I	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	

Sample Location: NE ROC DI

Collection Date/Time: 07/31/2018 10:50

Field ID: blank 07312018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2012376	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P349510	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P349625	
		Sulfate	0.20	U	mg SO4/L	P349628	
		Color (true)	2.5	U	PCU	P349506	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P349653	
	SM 2540 C-97	TDS	15	U	mg/L	P349795	
	SM 2540 D-97	TSS	2	U	mg/L	P349950	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P349656	
2012377	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P349687	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P349663	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P349551	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P349565	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P349734	
2012378	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P349502	
2012399	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	P349975	
		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:

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.

EPA 350.1 Rev. 2.0: 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: P349510

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
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349975

Component	Result	Code	Units
Copper	0.20	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349624

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/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: P349627

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

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

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

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 350.1 Rev. 2.0
Batch ID: P349687

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349663

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349550

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349551

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349564

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349565

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349502

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P349520

Component	Result	Code	Units
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P349536

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P349506

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P349653

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

Reference Method: SM 2540 C-97
Batch ID: P349795

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P349799

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P349950

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P349954

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P349656

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P349734

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
Lead	95.3		P	85 - 115
Nickel	98.2		P	85 - 115
Silver	97.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349975

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	107		P	90 - 110

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: P349627

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	106		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 350.1 Rev. 2.0
Batch ID: P349687

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

Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349687

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349663

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349550

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349551

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349564

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349565

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349502

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P349520

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

Reference Method: SM 2120 B
Batch ID: P349506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P349653

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P349656

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

Reference Method: SM 5310 B-00
Batch ID: P349734

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.8		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	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	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 200.8 Rev. 5.4
Batch ID: P349975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2016467	Copper	94.4	92.7	P/P	80 - 120
2016471	Copper	94.8		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012260	Chloride	105		P	90 - 110

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349627

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012179	Sulfate	110		P	90 - 110
2012260	Sulfate	102		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 351.2 Rev. 2.0
Batch ID: P349663

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012366	Kjeldahl Nitrogen	94.9	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349550

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012287	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349551

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012372	NO2NO3-N	101		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349564

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012287	Total-P	100	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349565

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012367	Total-P	95.6	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012311	O-Phosphate-P	96.2	98.0	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

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	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
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	MCPP	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 4500 F-C-97
Batch ID: P349656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012216	Fluoride	97.1	97.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2012252	Organic Carbon	95.8	99.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012309	Turbidity	9.06	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	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 200.8 Rev. 5.4
Batch ID: P349975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2016467	Copper	1.81	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012179	Chloride	7.23	Sample	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

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P349627

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012179	Sulfate	8.04	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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012373	Ammonia-N	1.23	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349663

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012366	Kjeldahl Nitrogen	4.99	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012287	NO2NO3-N	0.482	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349551

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012372	NO2NO3-N	0.208	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349564

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012287	Total-P	0.432	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012367	Total-P	1.33	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012311	O-Phosphate-P	1.58	Spike	P	0 - 20

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	MCP	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: P349506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012364	Color (true)	0.127	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P349653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012216	Total Alkalinity	0.170	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P349795

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

Reference Method: SM 2540 C-97
Batch ID: P349795

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2011869	TDS	5.22	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P349799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012365	TDS	6.62	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P349656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012216	Fluoride	0.476	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P349734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2012252	Organic Carbon	2.22	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: 2012395
Field Sample ID: 20030657

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	79.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.0	P	30 - 160
EPA 8321B	Diuron-d6	66.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	52.1	P	30 - 160
EPA 8321B	Primidone-d5	96.5	P	30 - 160
EPA 8321B	Sucralose-d6	97.4	P	40 - 160

Lab Sample ID: 2012396
Field Sample ID: 20030872

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	82.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	92.1	P	30 - 160
EPA 8321B	Diuron-d6	76.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	44.7	P	30 - 160
EPA 8321B	Primidone-d5	89.0	P	30 - 160
EPA 8321B	Sucralose-d6	90.7	P	40 - 160

Lab Sample ID: 2012397
Field Sample ID: G2NE1145

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	68.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	73.1	P	30 - 160
EPA 8321B	Diuron-d6	61.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	49.2	P	30 - 160
EPA 8321B	Primidone-d5	87.1	P	30 - 160
EPA 8321B	Sucralose-d6	93.5	P	40 - 160

Lab Sample ID: 2012398
Field Sample ID: 20030805

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	121	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.0	P	30 - 160
EPA 8321B	Diuron-d6	79.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	58.6	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	91.6	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A85560

Included Lab Sample IDs: 2012364, 2012365, 2012370, 2012371, 2012376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	104	P/P	90 - 110
Chloride	104	102	P/P	90 - 110
Sulfate	103	106	P/P	90 - 110
Sulfate	106	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A85616

Included Lab Sample IDs: 2012368, 2012369, 2012374, 2012375, 2012378

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	97.7	P/P	90 - 110
O-Phosphate-P	98.9	98.5	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A85617

Included Lab Sample IDs: 2012364, 2012365, 2012370, 2012371, 2012376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	90 - 115
Color (true)	102	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A85618

Included Lab Sample IDs: 2012364, 2012365, 2012370, 2012371, 2012376

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A85640

Included Lab Sample IDs: 2012366, 2012367, 2012372, 2012373, 2012377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	100	P/P	90 - 110
NO2NO3-N	97.5	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85666

Included Lab Sample IDs: 2012366

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85668

Included Lab Sample IDs: 2012367, 2012372, 2012373, 2012377

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A85692

Included Lab Sample IDs: 2012364, 2012365, 2012370, 2012371, 2012376

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

Reference Method: SM 4500 F-C-97

Run ID: A85692

Included Lab Sample IDs: 2012364, 2012365, 2012370, 2012371, 2012376

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A85703

Included Lab Sample IDs: 2012366, 2012367, 2012372, 2012373, 2012377

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A85708

Included Lab Sample IDs: 2012399

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85716

Included Lab Sample IDs: 2012399

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	98.3	P/P	90 - 110
Cadmium	100	99.2	P/P	90 - 110
Lead	98.9	97.3	P/P	90 - 110
Nickel	99.8	96.2	P/P	90 - 110
Silver	95.9	93.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85727

Included Lab Sample IDs: 2012366, 2012367, 2012372, 2012373, 2012377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	95.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A85729

Included Lab Sample IDs: 2012366, 2012367, 2012372, 2012373, 2012377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	99.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85738

Included Lab Sample IDs: 2012399

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

Reference Method: EPA 8321B

Run ID: A85787

Included Lab Sample IDs: 2012395, 2012396, 2012397, 2012398

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	106	107	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A85823

Included Lab Sample IDs: 2012395, 2012396, 2012397, 2012398

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
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: EPA 200.8 Rev. 5.4

Run ID: A85944

Included Lab Sample IDs: 2012399

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	94.8	94.8	P/P	90 - 110

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						9.06	
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	99.4	94.4	92.7	94.8			1.81
	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	107	105				7.23	
	Chloride	103	108				6.47	
	Sulfate	106	110	102			8.04	
	Sulfate	105	109				7.04	
EPA 350.1 Rev. 2.0	Ammonia-N	101						1.23
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.1	94.9	103				4.99
EPA 353.2 Rev. 2.0	NO2NO3-N	103	104	104				0.482
	NO2NO3-N	103	101					0.208
EPA 365.1 Rev. 2.0	Total-P	98.4	100	99.8				0.432
	Total-P	106	95.6	97.0				1.33
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	96.2	98.0				1.58
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
	MCP	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)	99.0					0.127	
SM 2320 B-97	Total Alkalinity	104					0.170	
SM 2540 C-97	TDS						5.22	
	TDS						6.62	
SM 4500 F-C-97	Fluoride	99.2	97.1	97.7				0.476
SM 5310 B-00	Organic Carbon	97.8	95.8	99.4				2.22

Reference Method Descriptions

Method / DoH Cert #

Description

Associated Samples

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2012364, 2012365, 2012370, 2012371, 2012376
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2012399
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2012399
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2012364, 2012365, 2012370, 2012371, 2012376
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2012364, 2012365, 2012370, 2012371, 2012376
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2012366, 2012367, 2012372, 2012373, 2012377
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2012366, 2012367, 2012372, 2012373, 2012377
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2012366, 2012367, 2012372, 2012373, 2012377
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2012366, 2012367, 2012372, 2012373, 2012377
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2012368, 2012369, 2012374, 2012375, 2012378
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2012395, 2012396, 2012397, 2012398
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2012395, 2012396, 2012397, 2012398
SM 2120 B / E31780	True Color measured at 450 nm	2012364, 2012365, 2012370, 2012371, 2012376
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2012364, 2012365, 2012370, 2012371, 2012376
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2012364, 2012365, 2012370, 2012371, 2012376
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2012364, 2012365, 2012370, 2012371, 2012376
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2012364, 2012365, 2012370, 2012371, 2012376
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2012366, 2012367, 2012372, 2012373, 2012377

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	08/01/2018			08/01/2018 14:45	William L. Brown IV	2012364, 2012365, 2012370, 2012371, 2012376
EPA 200.7 Rev. 4.4	08/01/2018	08/02/2018 15:20	Elliott D. Healy	08/03/2018 15:47	Betina Topolski	2012399
EPA 200.8 Rev. 5.4	08/01/2018	08/02/2018 15:20	Elliott D. Healy	08/06/2018 17:13	Allison Taylor	2012399
	08/01/2018	08/02/2018 15:20	Elliott D. Healy	08/07/2018 18:17	Allison Taylor	2012399
	08/01/2018	08/13/2018 13:00	Elliott D. Healy	08/16/2018 13:37	Robert K Palmer	2012399
EPA 300.0 Rev. 2.1	08/01/2018			08/03/2018 22:55	Lipi Saha	2012364
	08/01/2018			08/03/2018 23:07	Lipi Saha	2012365
	08/01/2018			08/04/2018 00:30	Lipi Saha	2012370
	08/01/2018			08/04/2018 01:18	Lipi Saha	2012371
	08/01/2018			08/04/2018 01:30	Lipi Saha	2012376
EPA 350.1 Rev. 2.0	08/01/2018			08/06/2018 15:12	Julia Storbeck	2012373
	08/01/2018			08/06/2018 15:18	Julia Storbeck	2012366
	08/01/2018			08/06/2018 15:19	Julia Storbeck	2012367
	08/01/2018			08/06/2018 15:21	Julia Storbeck	2012377
	08/01/2018			08/06/2018 15:28	Julia Storbeck	2012372
EPA 351.2 Rev. 2.0	08/01/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 10:58	Joseph Suarez	2012366
	08/01/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 11:03	Joseph Suarez	2012367
	08/01/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 11:04	Joseph Suarez	2012372
	08/01/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 11:06	Joseph Suarez	2012373
	08/01/2018	08/06/2018 15:40	Adrian Shelby	08/07/2018 11:07	Joseph Suarez	2012377
EPA 353.2 Rev. 2.0	08/01/2018			08/02/2018 11:54	Lauren Bottorf	2012366
	08/01/2018			08/02/2018 11:55	Lauren Bottorf	2012367
	08/01/2018			08/02/2018 12:02	Lauren Bottorf	2012372
	08/01/2018			08/02/2018 12:08	Lauren Bottorf	2012377
	08/01/2018			08/02/2018 12:10	Lauren Bottorf	2012373
EPA 365.1 Rev. 2.0	08/01/2018	08/02/2018 11:50	Sima Feizi	08/03/2018 10:13	Beverly Y. Sanders	2012366
	08/01/2018	08/02/2018 11:50	Sima Feizi	08/03/2018 11:32	Beverly Y. Sanders	2012377
	08/01/2018	08/02/2018 11:50	Sima Feizi	08/03/2018 11:33	Beverly Y. Sanders	2012367
	08/01/2018	08/02/2018 11:50	Sima Feizi	08/03/2018 11:41	Beverly Y. Sanders	2012372
	08/01/2018	08/02/2018 11:50	Sima Feizi	08/03/2018 11:42	Beverly Y. Sanders	2012373
EPA 365.1 Rev. 2.0 dissolved	08/01/2018			08/01/2018 15:23	Julia Storbeck	2012378
	08/01/2018			08/01/2018 15:26	Julia Storbeck	2012374
	08/01/2018			08/01/2018 15:34	Julia Storbeck	2012368
	08/01/2018			08/01/2018 15:35	Julia Storbeck	2012369
	08/01/2018			08/01/2018 15:36	Julia Storbeck	2012375
EPA 8321B	08/01/2018	08/03/2018 12:15	Mohammad Ghaffari	08/09/2018 09:50	Mohammad Ghaffari	2012397
	08/01/2018	08/03/2018 12:15	Mohammad Ghaffari	08/09/2018 10:05	Mohammad Ghaffari	2012395
	08/01/2018	08/03/2018 12:15	Mohammad Ghaffari	08/09/2018 10:19	Mohammad Ghaffari	2012396
	08/01/2018	08/03/2018 12:15	Mohammad Ghaffari	08/09/2018 10:34	Mohammad Ghaffari	2012398

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/01/2018	08/06/2018 10:00	Hoor Shaik	08/11/2018 12:38	Juyoung Kim	2012395
	08/01/2018	08/06/2018 10:00	Hoor Shaik	08/11/2018 13:12	Juyoung Kim	2012396
	08/01/2018	08/06/2018 10:00	Hoor Shaik	08/11/2018 13:47	Juyoung Kim	2012397
	08/01/2018	08/06/2018 10:00	Hoor Shaik	08/11/2018 14:21	Juyoung Kim	2012398
	08/01/2018	08/06/2018 10:00	Hoor Shaik	08/12/2018 23:48	Juyoung Kim	2012395
	08/01/2018	08/06/2018 10:00	Hoor Shaik	08/13/2018 00:23	Juyoung Kim	2012396
	08/01/2018	08/06/2018 10:00	Hoor Shaik	08/13/2018 00:58	Juyoung Kim	2012397
	08/01/2018	08/06/2018 10:00	Hoor Shaik	08/13/2018 01:32	Juyoung Kim	2012398
SM 2120 B	08/01/2018			08/01/2018 16:52	Tanya Welborn	2012364, 2012365
	08/01/2018			08/01/2018 16:54	Tanya Welborn	2012371
	08/01/2018			08/01/2018 16:55	Tanya Welborn	2012376
	08/01/2018			08/01/2018 17:08	Tanya Welborn	2012370
SM 2320 B-97	08/01/2018			08/03/2018 08:44	Dale L. Simmons	2012364
	08/01/2018			08/03/2018 08:56	Dale L. Simmons	2012365
	08/01/2018			08/03/2018 09:06	Dale L. Simmons	2012370
	08/01/2018			08/03/2018 09:16	Dale L. Simmons	2012371
	08/01/2018			08/03/2018 09:29	Dale L. Simmons	2012376
SM 2540 C-97	08/01/2018			08/03/2018 16:45	Yijie Li	2012364, 2012365, 2012370, 2012371, 2012376
SM 2540 D-97	08/01/2018			08/03/2018 16:45	Yijie Li	2012364, 2012365, 2012370, 2012371, 2012376
SM 4500 F-C-97	08/01/2018			08/03/2018 08:44	Dale L. Simmons	2012364
	08/01/2018			08/03/2018 08:56	Dale L. Simmons	2012365
	08/01/2018			08/03/2018 09:06	Dale L. Simmons	2012370
	08/01/2018			08/03/2018 09:16	Dale L. Simmons	2012371
	08/01/2018			08/03/2018 09:29	Dale L. Simmons	2012376
SM 5310 B-00	08/01/2018			08/07/2018 02:58	Megan Treadwell	2012366
	08/01/2018			08/07/2018 03:11	Megan Treadwell	2012367
	08/01/2018			08/07/2018 03:24	Megan Treadwell	2012372
	08/01/2018			08/07/2018 03:38	Megan Treadwell	2012373
	08/01/2018			08/07/2018 03:51	Megan Treadwell	2012377