

Chemical Analysis Report

NE-DIST-2018-10-03-01

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

Event Description: **LSJR Southside 2**
Request ID: **RQ-2018-10-01-13**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7577
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 31-OCT-2018 16:09

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

NON-CONFORMANCE REPORT INCLUDED

Case Narrative

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

Results for the following analytical groups are included in this report: 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: Cormorant Branch at Julington Creek Road

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

Field ID: 20030685

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2030481	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P352802	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P353035	
		Sulfate	16		mg SO4/L	P353037	
		Color (true)	86		PCU	P352751	
	SM 2320 B-97	Total Alkalinity	77		mg CaCO3/L	P352903	
	SM 2540 C-97	TDS	167		mg/L	P353105	
	SM 2540 D-97	TSS	3	I	mg/L	P353123	
	SM 4500 F-C-97	Fluoride	0.095	I	mg F/L	P352913	
2030482	EPA 350.1 Rev. 2.0	Ammonia-N	0.033		mg N/L	P353048	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P353280	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P352772	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P352779	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P352967	
2030483	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P352708	
2030548	EPA 8276	Chlordane	2.5	UY	ng/L	P352831	
		Toxaphene	30	UY	ng/L	P352831	

Ref. Method and Comment:

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

EPA 8276: Sample extract stored above six degrees Celcius because of power outage caused by Hurricane Michael.

Sample Location: Cormorant Branch @ Marbon Rd

Collection Date/Time: 10/02/2018 09:45

Field ID: 20030852

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2030562	EPA 8321B	2,4-D	0.17		ug/L	P352381	
		Bentazon	0.041		ug/L	P352381	
		MCP	0.0096		ug/L	P352381	
		Triclopyr**	0.0040	U	ug/L	P352381	
		Imidacloprid	0.19		ug/L	P352381	MS
		Diuron	0.17		ug/L	P352381	
		Pyraclostrobin**	0.0020	U	ug/L	P352381	
		Primidone**	0.0043	I	ug/L	P352381	
		Linuron	0.0040	U	ug/L	P352381	
		Acetaminophen**	0.0080	U	ug/L	P352381	
		Fenuron	0.016	U	ug/L	P352381	
		Imazapyr**	2.1	Y	ug/L	P352381	
		Carbamazepine**	8.0E-04	U	ug/L	P352381	
		Fluridone**	0.096		ug/L	P352381	
		Hydrocodone**	8.0E-04	U	ug/L	P352381	
		Naproxen**	0.0080	U	ug/L	P352381	
		Ibuprofen**	0.020	U	ug/L	P352381	
		Sucralose**	0.18		ug/L	P352677	
		Acesulfame K**	0.11	I	ug/L	P352677	

Ref. Method and Comment:

EPA 8321B: Y- Sample extract stored above six degrees Celsius because of power outage caused by Hurricane Michael.

Sample Location: Oldfield Cr @ Loretto Rd

Collection Date/Time: 10/02/2018 11:10

Field ID: 20030563

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2030484	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P352802	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P353035	
		Sulfate	17		mg SO4/L	P353037	
		Color (true)	52		PCU	P352751	
	SM 2320 B-97	Total Alkalinity	88		mg CaCO3/L	P352903	
	SM 2540 C-97	TDS	162		mg/L	P353105	
	SM 2540 D-97	TSS	3	I	mg/L	P353123	
	SM 4500 F-C-97	Fluoride	0.096	I	mg F/L	P352913	
2030487	EPA 350.1 Rev. 2.0	Ammonia-N	0.048		mg N/L	P353048	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.49		mg N/L	P353280	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P352772	
	EPA 365.1 Rev. 2.0	Total-P	0.060		mg P/L	P352779	
	SM 5310 B-00	Organic Carbon	7.9		mg C/L	P352967	
2030490	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.031		mg P/L	P352708	
2030563	EPA 200.7 Rev. 4.4	Calcium	36.7		mg/L	P352944	
		Iron	1.16E+03		ug/L	P352944	
		Magnesium	4.77		mg/L	P352944	
		Potassium	2.0		mg/L	P352944	
		Sodium	12.8		mg/L	P352944	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P352944	
		Arsenic	1.19		ug/L	P352944	
		Cadmium	0.020	U	ug/L	P352944	
		Chromium	0.40	U	ug/L	P352944	
		Copper	1.99		ug/L	P353517	
		Lead	0.092	I	ug/L	P352944	
		Nickel	0.48	I	ug/L	P352944	
		Silver	0.010	U	ug/L	P352944	

Ref. Method and Comment:

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

Sample Location: Oldfield Cr @ Julington Creek Road

Collection Date/Time: 10/02/2018 10:30

Field ID: 20030684

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2030485	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P352802	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P353035	
		Sulfate	25		mg SO4/L	P353037	
		Color (true)	67		PCU	P352751	
	SM 2320 B-97	Total Alkalinity	76		mg CaCO3/L	P352903	
	SM 2540 C-97	TDS	176		mg/L	P353105	
	SM 2540 D-97	TSS	4	I	mg/L	P353123	
	SM 4500 F-C-97	Fluoride	0.098	I	mg F/L	P352913	
2030488	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P353048	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P353280	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P352772	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P352780	
	SM 5310 B-00	Organic Carbon	8.7		mg C/L	P352967	
2030491	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P352708	
2030564	EPA 200.7 Rev. 4.4	Calcium	30.0		mg/L	P352769	
		Iron	930		ug/L	P352769	
		Magnesium	7.00		mg/L	P352769	
		Potassium	2.9		mg/L	P352769	
		Sodium	16.7		mg/L	P352769	
		Zinc	5.0	U	ug/L	P352769	
	EPA 200.8 Rev. 5.4	Arsenic	1.30		ug/L	P352769	
		Cadmium	0.020	U	ug/L	P352769	
		Chromium	0.40	U	ug/L	P352769	
		Copper	1.12		ug/L	P352769	
		Lead	0.14	I	ug/L	P352769	
		Nickel	0.30	I	ug/L	P352769	
		Silver	0.010	U	ug/L	P352769	

Ref. Method and Comment:

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

Sample Location: Deep Bottom Creek at Scott Mill Rd

Collection Date/Time: 10/02/2018 09:20

Field ID: 20030595

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2030493	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P352802	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P353035	
		Sulfate	14		mg SO4/L	P353037	
	SM 2120 B	Color (true)	50		PCU	P352751	
	SM 2320 B-97	Total Alkalinity	82		mg CaCO3/L	P352903	
	SM 2540 C-97	TDS	146		mg/L	P353105	
	SM 2540 D-97	TSS	4	I	mg/L	P353123	
	SM 4500 F-C-97	Fluoride	0.085	I	mg F/L	P352913	
2030495	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P353048	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P353280	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P352773	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P352780	
	SM 5310 B-00	Organic Carbon	9.7		mg C/L	P352967	
2030497	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P352708	
2030560	EPA 8321B	2,4-D	0.026		ug/L	P352381	
		Bentazon	0.011		ug/L	P352381	
		MCP	0.0082		ug/L	P352381	
		Triclopyr**	0.0040	U	ug/L	P352381	
		Imidacloprid	0.10		ug/L	P352381	MS
		Diuron	0.069		ug/L	P352381	
		Pyraclostrobin**	0.0020	U	ug/L	P352381	
		Primidone**	0.0040	U	ug/L	P352381	
		Linuron	0.0040	U	ug/L	P352381	
		Acetaminophen**	0.018	I	ug/L	P352381	
		Fenuron	0.017	I	ug/L	P352381	
		Imazapyr**	0.087		ug/L	P352381	
		Carbamazepine**	8.0E-04	U	ug/L	P352381	
		Fluridone**	0.12		ug/L	P352381	
		Hydrocodone**	8.0E-04	U	ug/L	P352381	
		Naproxen**	0.0080	U	ug/L	P352381	
		Ibuprofen**	0.020	U	ug/L	P352381	
		Sucralose**	0.21		ug/L	P352677	
		Acesulfame K**	0.20	I	ug/L	P352677	
2030566	EPA 200.7 Rev. 4.4	Calcium	32.2		mg/L	P352769	
		Iron	850		ug/L	P352769	
		Magnesium	4.41		mg/L	P352769	
		Potassium	2.0		mg/L	P352769	
		Sodium	12.5		mg/L	P352769	
	EPA 200.8 Rev. 5.4	Zinc	5.1	I	ug/L	P352769	
		Arsenic	1.48		ug/L	P352769	
		Cadmium	0.020	U	ug/L	P352769	
		Chromium	0.53	I	ug/L	P352769	
		Copper	1.13		ug/L	P352769	

Field ID: 20030595

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2030566	EPA 200.8 Rev. 5.4	Lead	0.20	I	ug/L	P352769	
		Nickel	0.49	I	ug/L	P352769	
		Silver	0.010	U	ug/L	P352769	

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

Sample Location: Deep Bottom Creek at I-295

Collection Date/Time: 10/02/2018 09:00

Field ID: 20030596

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2030494	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P352802	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P353035	
		Sulfate	13		mg SO4/L	P353037	
	SM 2120 B	Color (true)	82		PCU	P352751	
	SM 2320 B-97	Total Alkalinity	61		mg CaCO3/L	P352903	
	SM 2540 C-97	TDS	119		mg/L	P353105	
	SM 2540 D-97	TSS	4	I	mg/L	P353123	
	SM 4500 F-C-97	Fluoride	0.080	I	mg F/L	P352913	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.10	Y	mg N/L	P353048	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen		O	mg N/L	P353280	
2030496	EPA 353.2 Rev. 2.0	NO2NO3-N		O	mg N/L	P352954	
	EPA 365.1 Rev. 2.0	Total-P	0.070	Y	mg P/L	P352780	
	SM 5310 B-00	Organic Carbon	9.6	Y	mg C/L	P352967	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.025		mg P/L	P352709	
	dissolved						
2030561	EPA 8321B	2,4-D	0.094		ug/L	P352381	
		Bentazon	0.021		ug/L	P352381	
		MCP	0.029		ug/L	P352381	
		Triclopyr**	0.0040	U	ug/L	P352381	
		Imidacloprid	0.081		ug/L	P352381	MS
		Diuron	0.039		ug/L	P352381	
		Pyraclostrobin**	0.0020	U	ug/L	P352381	
		Primidone**	0.0040	U	ug/L	P352381	
		Linuron	0.0040	U	ug/L	P352381	
		Acetaminophen**	0.0080	U	ug/L	P352381	
		Fenuron	0.058	I	ug/L	P352381	
		Imazapyr**	0.098		ug/L	P352381	
		Carbamazepine**	8.0E-04	U	ug/L	P352381	
		Fluridone**	0.050		ug/L	P352381	
		Hydrocodone**	8.0E-04	U	ug/L	P352381	
		Naproxen**	0.0080	U	ug/L	P352381	
		Ibuprofen**	0.020	U	ug/L	P352381	
		Sucralose**	0.13		ug/L	P352677	
		Acesulfame K**	0.10	I	ug/L	P352677	
2030567	EPA 200.7 Rev. 4.4	Calcium	25.0		mg/L	P352769	
		Iron	1.64E+03		ug/L	P352769	
		Magnesium	4.90		mg/L	P352769	
		Potassium	2.0		mg/L	P352769	
		Sodium	17.4		mg/L	P352769	
		Zinc	6.9	I	ug/L	P352769	
	EPA 200.8 Rev. 5.4	Arsenic	1.33		ug/L	P352769	
		Cadmium	0.020	U	ug/L	P352769	
		Chromium	0.46	I	ug/L	P352769	
		Copper	1.56		ug/L	P352769	

Field ID: 20030596

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2030567	EPA 200.8 Rev. 5.4	Lead	0.20		ug/L	P352769	
		Nickel	0.67	I	ug/L	P352769	
		Silver	0.010	U	ug/L	P352769	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 350.1 Rev. 2.0: Sample appears to have been preserved with nitric acid.
EPA 351.2 Rev. 2.0: Sample appears to have been preserved with nitric acid.
EPA 353.2 Rev. 2.0: Sample appears to have been preserved with nitric acid.
EPA 365.1 Rev. 2.0: Total-P: Sample appears to have been preserved with nitric acid.
SM 5310 B-00: Sample appears to have been preserved with nitric acid.

Sample Location: Oldfield Cr at Tar Kiln Rd.

Collection Date/Time: 10/02/2018 10:45

Field ID: G2NE1174

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2030486	EPA 180.1 Rev. 2.0	Turbidity	12	A	NTU	P352802	
	EPA 300.0 Rev. 2.1	Chloride	27		mg Cl/L	P353035	
		Sulfate	21		mg SO4/L	P353037	
		Color (true)	64	A	PCU	P352751	
	SM 2320 B-97	Total Alkalinity	82		mg CaCO3/L	P352903	
	SM 2540 C-97	TDS	183		mg/L	P353105	
	SM 2540 D-97	TSS	15		mg/L	P353123	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P352913	
2030489	EPA 350.1 Rev. 2.0	Ammonia-N	0.059		mg N/L	P353048	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P353280	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P352773	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P352780	
	SM 5310 B-00	Organic Carbon	8.9		mg C/L	P352967	
2030492	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.053		mg P/L	P352708	
2030565	EPA 200.7 Rev. 4.4	Calcium	32.9		mg/L	P352769	
		Iron	1.35E+03		ug/L	P352769	
		Magnesium	6.33		mg/L	P352769	
		Potassium	2.5		mg/L	P352769	
		Sodium	16.0		mg/L	P352769	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P352769	
		Arsenic	1.28		ug/L	P352769	
		Cadmium	0.020	U	ug/L	P352769	
		Chromium	0.43	I	ug/L	P352769	
		Copper	1.82		ug/L	P352769	
		Lead	0.31		ug/L	P352769	
		Nickel	0.37	I	ug/L	P352769	
		Silver	0.010	U	ug/L	P352769	

Ref. Method and Comment:

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

Non-Conformance Report

NCR ID: 7228

Event(s)

NE-DIST-2018-10-03-01

Job(s)

TLH-2018-10-03-20

Sample(s)

2030496

Test(s)

NCR Type: SAMPLING

NCR Category: General

Observation: Sample appears to be preserved with nitric acid. It has a nitrite/nitrate concentration of 480 mg/L and there is approximately 0.20 mg N/L in the unpreserved aliquot (laboratory ID 2030494).

Resolution: Results for the NO₂NO₃-N and Kjeldahl Nitrogen components were reported as the non numeric qualifier O. Results for the other affected components were qualified with a Y qualifier for incorrect preservation.

Authorized by/Date: Dr. rer. nat. Bettina Steinbock 10/26/2018

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

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P352802

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P352769

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 200.7 Rev. 4.4
Batch ID: P352944

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: P352769

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 200.8 Rev. 5.4
Batch ID: P352944

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: P353517

Component	Result	Code	Units
Copper	0.20	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353035

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353037

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353048

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353280

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352772

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352773

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352954

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352779

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352780

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352708

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352709

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

Reference Method: EPA 8276
Batch ID: P352831

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
Batch ID: P352381

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
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: P352677

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P352751

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P352903

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

Reference Method: SM 2540 C-97
Batch ID: P353105

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P353123

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P352913

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P352967

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: P352769

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	96.6		P	85 - 115
Iron	103		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	105		P	85 - 115
Sodium	97.8		P	85 - 115
Zinc	99.5		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P352944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	101		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	95.3		P	85 - 115
Sodium	96.0		P	85 - 115
Zinc	97.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P352769

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	105		P	85 - 115
Chromium	101		P	85 - 115
Copper	113		P	85 - 115
Lead	98.7		P	85 - 115
Nickel	98.6		P	85 - 115
Silver	95.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P352944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	100		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	98.9		P	85 - 115
Lead	92.2		P	85 - 115
Nickel	106		P	85 - 115
Silver	97.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	98.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353035

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353037

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353048

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353280

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352772

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352773

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352954

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352779

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352780

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352708

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.8		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352709

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

Reference Method: EPA 8276
Batch ID: P352831

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	59.4	54.4	P/P	47 - 125
Toxaphene	105	95.4	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P352381

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
Acetaminophen	91.8		P	30 - 150
Bentazon	112		P	30 - 150
Carbamazepine	78.4		P	40 - 150
Diuron	73.2		P	40 - 150
Fenuron	107		P	40 - 150
Fluridone	103		P	40 - 150
Hydrocodone	98.8		P	40 - 150
Ibuprofen	98.0		P	40 - 150
Imazapyr	79.7		P	40 - 150
Imidacloprid	96.5		P	40 - 160
Linuron	70.3		P	40 - 150
MCPP	92.9		P	40 - 150
Naproxen	79.5		P	40 - 150
Primidone	85.7		P	40 - 150
Pyraclostrobin	69.7		P	40 - 150
Triclopyr	105		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P352677

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	122		P	40 - 150
Sucralose	97.2		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P352751

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P352903

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P352913

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.6		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P352967

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: P352769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030363	Calcium	99.0		P	80 - 120
2030363	Iron	99.3	101	P/P	80 - 120
2030363	Magnesium	104	105	P/P	80 - 120
2030363	Potassium	97.3	101	P/P	80 - 120
2030363	Sodium	99.8		P	80 - 120
2030363	Zinc	96.1	97.9	P/P	80 - 120
2030582	Calcium	94.5		P	80 - 120
2030582	Iron	99.1		P	80 - 120
2030582	Magnesium	99.5		P	80 - 120
2030582	Potassium	97.8		P	80 - 120
2030582	Sodium	101		P	80 - 120
2030582	Zinc	97.1		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P352944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030652	Calcium	106		P	80 - 120
2030652	Iron	104		P	80 - 120
2030652	Magnesium	107		P	80 - 120
2030652	Potassium	101		P	80 - 120
2030652	Sodium	92.2		P	80 - 120
2030652	Zinc	98.5		P	80 - 120
2031012	Calcium	106	104	P/P	80 - 120
2031012	Iron	103	102	P/P	80 - 120
2031012	Magnesium	105	104	P/P	80 - 120
2031012	Potassium	97.9	97.0	P/P	80 - 120
2031012	Sodium	94.0		P	80 - 120
2031012	Zinc	99.3	98.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P352769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030363	Arsenic	103	101	P/P	80 - 120
2030363	Cadmium	105	103	P/P	80 - 120
2030363	Chromium	99.7	98.7	P/P	80 - 120
2030363	Copper	111	107	P/P	80 - 120
2030363	Lead	97.5	96.5	P/P	80 - 120
2030363	Nickel	97.1	96.3	P/P	80 - 120
2030363	Silver	95.0	93.6	P/P	80 - 120
2030582	Arsenic	102		P	80 - 120
2030582	Cadmium	107		P	80 - 120
2030582	Chromium	100		P	80 - 120
2030582	Copper	106		P	80 - 120
2030582	Lead	99.7		P	80 - 120
2030582	Nickel	98.5		P	80 - 120
2030582	Silver	96.2		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P352944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030652	Arsenic	101		P	80 - 120
2030652	Cadmium	103		P	80 - 120
2030652	Chromium	99.2		P	80 - 120
2030652	Lead	92.0		P	80 - 120
2030652	Nickel	107		P	80 - 120
2030652	Silver	95.8		P	80 - 120
2031012	Arsenic	101	99.6	P/P	80 - 120
2031012	Cadmium	103	105	P/P	80 - 120
2031012	Chromium	98.3	97.7	P/P	80 - 120
2031012	Lead	91.8	90.7	P/P	80 - 120
2031012	Nickel	105	106	P/P	80 - 120
2031012	Silver	96.4	94.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034391	Copper	93.1		P	80 - 120
2034419	Copper	96.8	94.4	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030412	Chloride	95.7		P	90 - 110
2030485	Chloride	93.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030412	Sulfate	96.1		P	90 - 110
2030485	Sulfate	92.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353048

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030460	Ammonia-N	99.3	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030482	Kjeldahl Nitrogen	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352772

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030417	NO2NO3-N	98.2		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352773

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030489	NO2NO3-N	98.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352954

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030576	NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352779

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030460	Total-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352780

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030495	Total-P	99.4	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030490	O-Phosphate-P	98.2	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030509	O-Phosphate-P	97.2	98.1	P/P	90 - 110

Reference Method: EPA 8276
Batch ID: P352831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2031730	Chlordane	66.3	72.7	P/P	41 - 134
2031730	Toxaphene	62.1	56.7	P/P	39 - 158

Reference Method: EPA 8321B
Batch ID: P352381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2029419	2,4-D	118	129	P/P	40 - 150
2029419	Acetaminophen	91.2	84.5	P/P	30 - 150
2029419	Bentazon	54.6	61.3	P/P	30 - 150
2029419	Carbamazepine	66.8	60.6	P/P	40 - 150
2029419	Diuron	56.3	55.2	P/P	40 - 150
2029419	Fenuron	86.6	86.9	P/P	40 - 150
2029419	Fluridone	97.3	93.0	P/P	40 - 150
2029419	Hydrocodone	79.5	84.7	P/P	40 - 150
2029419	Ibuprofen	70.3	72.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P352381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2029419	Imazapyr	110	101	P/P	40 - 150
2029419	Imidacloprid	166	155	F/P	40 - 160
2029419	Linuron	62.9	58.6	P/P	40 - 150
2029419	MCP	123	138	P/P	40 - 150
2029419	Naproxen	99.0	110	P/P	40 - 150
2029419	Primidone	90.1	81.1	P/P	40 - 150
2029419	Pyraclostrobin	75.8	67.3	P/P	40 - 150
2029419	Triclopyr	134	150	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P352677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030560	Acesulfame K	130	119	P/P	40 - 150
2030560	Sucralose	98.2	97.4	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P352913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030437	Fluoride	98.6	100	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P352967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2030482	Organic Carbon	93.5	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P352802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030486	Turbidity	11.2	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P352769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030363	Calcium	0.923	Spike	P	0 - 20
2030363	Iron	1.31	Spike	P	0 - 20
2030363	Magnesium	0.812	Spike	P	0 - 20
2030363	Potassium	2.45	Spike	P	0 - 20
2030363	Sodium	1.80	Spike	P	0 - 20
2030363	Zinc	1.82	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P352944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2031012	Calcium	1.62	Spike	P	0 - 20
2031012	Iron	0.933	Spike	P	0 - 20
2031012	Magnesium	1.38	Spike	P	0 - 20
2031012	Potassium	0.919	Spike	P	0 - 20
2031012	Sodium	0.452	Spike	P	0 - 20
2031012	Zinc	0.578	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P352769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030363	Arsenic	1.63	Spike	P	0 - 20
2030363	Cadmium	1.40	Spike	P	0 - 20
2030363	Chromium	0.981	Spike	P	0 - 20
2030363	Copper	3.85	Spike	P	0 - 20
2030363	Lead	0.959	Spike	P	0 - 20
2030363	Nickel	0.786	Spike	P	0 - 20
2030363	Silver	1.43	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P352944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2031012	Arsenic	1.17	Spike	P	0 - 20
2031012	Cadmium	1.55	Spike	P	0 - 20
2031012	Chromium	0.554	Spike	P	0 - 20
2031012	Lead	1.13	Spike	P	0 - 20
2031012	Nickel	0.354	Spike	P	0 - 20
2031012	Silver	1.71	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034419	Copper	2.46	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030412	Chloride	1.59	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030412	Sulfate	1.70	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353048

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030460	Ammonia-N	2.70	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030482	Kjeldahl Nitrogen	0.182	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352772

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030417	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030489	NO2NO3-N	0.738	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352954

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030576	NO2NO3-N	0.990	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P352779

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030460	Total-P	0.180	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P352780

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030495	Total-P	2.65	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P352708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030490	O-Phosphate-P	0.310	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P352709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030509	O-Phosphate-P	0.845	Spike	P	0 - 20

Reference Method: EPA 8276
 Batch ID: P352831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2031730	Chlordane	9.21	Spike	P	0 - 30
2031730	Toxaphene	9.10	Spike	P	0 - 30
LFB	Chlordane	8.85	LCS	P	0 - 30
LFB	Toxaphene	9.12	LCS	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P352381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2029419	2,4-D	8.91	Spike	P	0 - 30
2029419	Acetaminophen	7.58	Spike	P	0 - 30
2029419	Bentazon	11.7	Spike	P	0 - 30
2029419	Carbamazepine	9.65	Spike	P	0 - 30
2029419	Diuron	1.86	Spike	P	0 - 30
2029419	Fenuron	0.438	Spike	P	0 - 30
2029419	Fluridone	4.49	Spike	P	0 - 30
2029419	Hydrocodone	6.30	Spike	P	0 - 30
2029419	Ibuprofen	3.00	Spike	P	0 - 30
2029419	Imazapyr	8.68	Spike	P	0 - 30
2029419	Imidacloprid	6.59	Spike	P	0 - 30
2029419	Linuron	7.18	Spike	P	0 - 30
2029419	MCP	11.6	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P352381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2029419	Naproxen	10.8	Spike	P	0 - 30
2029419	Primidone	10.5	Spike	P	0 - 30
2029419	Pyraclostrobin	11.9	Spike	P	0 - 30
2029419	Triclopyr	11.0	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P352677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030560	Acesulfame K	8.26	Spike	P	0 - 30
2030560	Sucralose	0.735	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P352751

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030486	Color (true)	1.02	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P352903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030437	Total Alkalinity	0.192	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P353105

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030459	TDS	3.43	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P352913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030437	Fluoride	1.45	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P352967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2030482	Organic Carbon	2.91	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: 2030548
Field Sample ID: 20030685

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8276	Decachlorobiphenyl	46.0	P	31 - 108
EPA 8276	PCNB	91.4	P	62 - 142

Lab Sample ID: 2030560
Field Sample ID: 20030595

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	58.3	P	30 - 160
EPA 8321B	Diuron-d6	50.8	P	30 - 160
EPA 8321B	Endothall-d6	114	P	40 - 160
EPA 8321B	Ibuprofen-d3	76.3	P	30 - 160
EPA 8321B	Primidone-d5	82.2	P	30 - 160
EPA 8321B	Sucralose-d6	98.4	P	40 - 160

Lab Sample ID: 2030561
Field Sample ID: 20030596

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	52.3	P	30 - 160
EPA 8321B	Diuron-d6	55.0	P	30 - 160
EPA 8321B	Endothall-d6	92.4	P	40 - 160
EPA 8321B	Ibuprofen-d3	75.9	P	30 - 160
EPA 8321B	Primidone-d5	74.4	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	40 - 160

Lab Sample ID: 2030562
Field Sample ID: 20030852

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	109	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	61.6	P	30 - 160
EPA 8321B	Diuron-d6	53.9	P	30 - 160
EPA 8321B	Endothall-d6	104	P	40 - 160
EPA 8321B	Ibuprofen-d3	85.6	P	30 - 160
EPA 8321B	Primidone-d5	91.7	P	30 - 160
EPA 8321B	Sucralose-d6	97.2	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86891

Included Lab Sample IDs: 2030483, 2030490, 2030491, 2030492, 2030497, 2030498

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.9	P/P	90 - 110
O-Phosphate-P	101	101	P/P	90 - 110
O-Phosphate-P	99.7	101	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A86905

Included Lab Sample IDs: 2030481, 2030484, 2030485, 2030486, 2030493, 2030494

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	101	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86915

Included Lab Sample IDs: 2030482, 2030487, 2030488, 2030489, 2030495

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86923

Included Lab Sample IDs: 2030481, 2030484, 2030485, 2030486, 2030493, 2030494

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

Reference Method: EPA 8321B

Run ID: A86931

Included Lab Sample IDs: 2030560, 2030561, 2030562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	93.5	99.0	P/P	60 - 160
Carbamazepine	104	99.3	P/P	60 - 160
Diuron	107	93.6	P/P	60 - 150
Fenuron	118	119	P/P	60 - 150
Fluridone	119	127	P/P	60 - 160
Hydrocodone	118	116	P/P	60 - 150
Imazapyr	106	91.8	P/P	50 - 150
Imidacloprid	93.6	84.3	P/P	60 - 150
Linuron	105	118	P/P	60 - 150
Primidone	81.7	97.5	P/P	60 - 150
Pyraclostrobin	103	101	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86932

Included Lab Sample IDs: 2030482, 2030487, 2030488, 2030489, 2030496

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A86953

Included Lab Sample IDs: 2030560, 2030561, 2030562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	107	134	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A86962

Included Lab Sample IDs: 2030481, 2030484, 2030485, 2030486, 2030493, 2030494

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

Reference Method: SM 4500 F-C-97

Run ID: A86962

Included Lab Sample IDs: 2030481, 2030484, 2030485, 2030486, 2030493, 2030494

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86974

Included Lab Sample IDs: 2030495

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86985

Included Lab Sample IDs: 2030496

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A86987

Included Lab Sample IDs: 2030482, 2030487, 2030488, 2030489, 2030495, 2030496

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.0	96.1	P/P	90 - 110
Organic Carbon	98.8	98.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A86988

Included Lab Sample IDs: 2030564, 2030565, 2030566, 2030567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.6	97.2	P/P	90 - 110
Iron	98.1	97.1	P/P	90 - 110
Magnesium	98.5	97.7	P/P	90 - 110
Potassium	101	99.9	P/P	90 - 110
Sodium	101	99.8	P/P	90 - 110
Zinc	100	99.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A86996

Included Lab Sample IDs: 2030560, 2030561, 2030562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	87.5	84.6	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A87017

Included Lab Sample IDs: 2030481, 2030484, 2030485, 2030486, 2030493, 2030494

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A87024

Included Lab Sample IDs: 2030482, 2030487, 2030488, 2030489, 2030495, 2030496

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

Reference Method: EPA 8321B

Run ID: A87116

Included Lab Sample IDs: 2030562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	110	102	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A87117

Included Lab Sample IDs: 2030560, 2030561, 2030562

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	90.9	110	P/P	50 - 150
Bentazon	95.9	95.4	P/P	50 - 160
Ibuprofen	95.5	107	P/P	50 - 160
MCP	100	99.3	P/P	50 - 150
Naproxen	101	73.5	P/P	50 - 160
Triclopyr	94.1	98.9	P/P	50 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A87140

Included Lab Sample IDs: 2030564, 2030565, 2030566, 2030567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.9	98.0	P/P	90 - 110
Cadmium	101	103	P/P	90 - 110
Chromium	99.1	99.4	P/P	90 - 110
Lead	97.0	97.4	P/P	90 - 110
Nickel	97.7	97.7	P/P	90 - 110
Silver	94.8	95.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A87161

Included Lab Sample IDs: 2030563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	99.5	P/P	90 - 110
Cadmium	103	103	P/P	90 - 110
Chromium	101	99.9	P/P	90 - 110
Lead	98.4	97.6	P/P	90 - 110
Silver	95.9	94.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A87191

Included Lab Sample IDs: 2030564, 2030565, 2030566, 2030567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	107	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A87206

Included Lab Sample IDs: 2030482, 2030487, 2030488, 2030489, 2030495, 2030496

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A87223

Included Lab Sample IDs: 2030563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	103	P/P	95 - 105
Iron	103	103	P/P	95 - 105
Magnesium	102	101	P/P	95 - 105
Potassium	99.7	99.1	P/P	95 - 105
Sodium	99.4	97.3	P/P	95 - 105
Zinc	100	100	P/P	95 - 105

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A87265

Included Lab Sample IDs: 2030563

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A87269

Included Lab Sample IDs: 2030563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	98.7	97.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8276

Run ID: A87324

Included Lab Sample IDs: 2030548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	95.0		P	80 - 120
Toxaphene	99.7		P	80 - 120

* 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							11.2	
EPA 200.7 Rev. 4.4	Calcium	96.6		99.0	94.5				0.923
	Calcium	104		106	106	104			1.62
	Iron	103		99.3	101	99.1			1.31
	Iron	101		104	103	102			0.933
	Magnesium	109		104	105	99.5			0.812
	Magnesium	104		107	105	104			1.38
	Potassium	105		97.3	101	97.8			2.45
	Potassium	95.3		101	97.9	97.0			0.919
	Sodium	97.8		99.8	101				1.80
	Sodium	96.0		92.2	94.0				0.452
	Zinc	99.5		96.1	97.9	97.1			1.82
	Zinc	97.2		98.5	99.3	98.8			0.578
EPA 200.8 Rev. 5.4	Arsenic	102		103	101	102			1.63
	Arsenic	100		101	101	99.6			1.17
	Cadmium	105		105	103	107			1.40
	Cadmium	103		103	103	105			1.55
	Chromium	101		99.7	98.7	100			0.981
	Chromium	98.9		99.2	98.3	97.7			0.554
	Copper	113		111	107	106			3.85
	Copper	98.5		93.1	96.8	94.4			2.46
	Lead	98.7		97.5	96.5	99.7			0.959
	Lead	92.2		92.0	91.8	90.7			1.13
	Nickel	98.6		97.1	96.3	98.5			0.786
	Nickel	106		107	105	106			0.354
	Silver	95.8		95.0	93.6	96.2			1.43
	Silver	97.2		95.8	96.4	94.8			1.71
EPA 300.0 Rev. 2.1	Chloride	99.4		95.7	93.9			1.59	
	Sulfate	98.7		96.1	92.0			1.70	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8		99.3	102				2.70
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104		101	101				0.182
EPA 353.2 Rev. 2.0	NO2NO3-N	100		98.2					0.0
	NO2NO3-N	100		98.2					0.738
	NO2NO3-N	99.5		100	102				0.990
EPA 365.1 Rev. 2.0	Total-P	102		101	101				0.180
	Total-P	99.4		99.4	102				2.65
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.8		98.2	98.6				0.310
	O-Phosphate-P	103		97.2	98.1				0.845
EPA 8276	Chlordane	59.4	54.4	66.3	72.7		8.85		9.21
	Toxaphene	95.4	105	62.1	56.7		9.12		9.10
EPA 8321B	2,4-D	109		118	129				8.91
	Acesulfame K	122		130	119				8.26
	Acetaminophen	91.8		91.2	84.5				7.58
	Bentazon	112		54.6	61.3				11.7
	Carbamazepine	78.4		66.8	60.6				9.65
	Diuron	73.2		56.3	55.2				1.86
	Fenuron	107		86.6	86.9				0.438
	Fluridone	103		97.3	93.0				4.49
	Hydrocodone	98.8		79.5	84.7				6.30
	Ibuprofen	98.0		70.3	72.4				3.00
	Imazapyr	79.7		110	101				8.68
	Imidacloprid	96.5		166	155				6.59
	Linuron	70.3		62.9	58.6				7.18
	MCP	92.9		123	138				11.6

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Naproxen	79.5	99.0	110		10.8
	Primidone	85.7	90.1	81.1		10.5
	Pyraclostrobin	69.7	75.8	67.3		11.9
	Sucralose	97.2	98.2	97.4		0.735
	Triclopyr	105	134	150		11.0
SM 2120 B	Color (true)	101			1.02	
SM 2320 B-97	Total Alkalinity	104			0.192	
SM 2540 C-97	TDS				3.43	
SM 4500 F-C-97	Fluoride	97.6	98.6	100		1.45
SM 5310 B-00	Organic Carbon	97.8	93.5	97.8		2.91

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2030563, 2030564, 2030565, 2030566, 2030567
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2030563, 2030564, 2030565, 2030566, 2030567
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2030482, 2030487, 2030488, 2030489, 2030495, 2030496
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2030482, 2030487, 2030488, 2030489, 2030495, 2030496
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2030482, 2030487, 2030488, 2030489, 2030495, 2030496
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2030482, 2030487, 2030488, 2030489, 2030495, 2030496
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2030483, 2030490, 2030491, 2030492, 2030497, 2030498
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2030548
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2030560, 2030561, 2030562
SM 2120 B / E31780	True Color measured at 450 nm	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2030482, 2030487, 2030488, 2030489, 2030495, 2030496

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	10/03/2018			10/03/2018 16:51	Megan Treadwell	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
EPA 200.7 Rev. 4.4	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/08/2018 14:41	Betina Topolski	2030564
	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/08/2018 14:45	Betina Topolski	2030565
	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/08/2018 14:50	Betina Topolski	2030566
	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/08/2018 14:55	Betina Topolski	2030567
	10/03/2018	10/08/2018 14:00	Elliott D. Healy	10/23/2018 10:24	Betina Topolski	2030563
EPA 200.8 Rev. 5.4	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/19/2018 03:37	Allison Taylor	2030564
	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/19/2018 03:47	Allison Taylor	2030565
	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/19/2018 03:56	Allison Taylor	2030566
	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/19/2018 04:06	Allison Taylor	2030567
	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/19/2018 23:50	Allison Taylor	2030564
	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/19/2018 23:57	Allison Taylor	2030565
	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/20/2018 00:05	Allison Taylor	2030566
	10/03/2018	10/04/2018 15:00	Elliott D. Healy	10/20/2018 00:12	Allison Taylor	2030567
	10/03/2018	10/08/2018 14:00	Elliott D. Healy	10/18/2018 17:21	Robert K Palmer	2030563
	10/03/2018	10/08/2018 14:00	Elliott D. Healy	10/24/2018 12:13	Robert K Palmer	2030563
	10/03/2018	10/23/2018 15:20	Elliott D. Healy	10/25/2018 04:45	Robert K Palmer	2030563
EPA 300.0 Rev. 2.1	10/03/2018			10/08/2018 22:35	Lipi Saha	2030485
	10/03/2018			10/09/2018 00:48	Lipi Saha	2030481
	10/03/2018			10/09/2018 01:00	Lipi Saha	2030484
	10/03/2018			10/09/2018 01:12	Lipi Saha	2030486
	10/03/2018			10/09/2018 01:24	Lipi Saha	2030493
	10/03/2018			10/09/2018 01:36	Lipi Saha	2030494
EPA 350.1 Rev. 2.0	10/03/2018			10/05/2018 11:59	Ping Hua	2030482
	10/03/2018			10/05/2018 12:01	Ping Hua	2030487
	10/03/2018			10/05/2018 12:02	Ping Hua	2030488
	10/03/2018			10/05/2018 12:04	Ping Hua	2030489
	10/03/2018			10/05/2018 12:05	Ping Hua	2030495
	10/03/2018			10/05/2018 12:07	Ping Hua	2030496
EPA 351.2 Rev. 2.0	10/03/2018	10/18/2018 11:30	Adrian Shelby	10/22/2018 11:50	Joseph Suarez	2030482
	10/03/2018	10/18/2018 11:30	Adrian Shelby	10/22/2018 11:55	Joseph Suarez	2030487
	10/03/2018	10/18/2018 11:30	Adrian Shelby	10/22/2018 11:56	Joseph Suarez	2030488
	10/03/2018	10/18/2018 11:30	Adrian Shelby	10/22/2018 11:58	Joseph Suarez	2030489
	10/03/2018	10/18/2018 11:30	Adrian Shelby	10/22/2018 12:03	Joseph Suarez	2030495
	10/03/2018	10/18/2018 11:30	Adrian Shelby	10/22/2018 12:04	Joseph Suarez	2030496
EPA 353.2 Rev. 2.0	10/03/2018			10/04/2018 12:29	Lauren Bottorf	2030487
	10/03/2018			10/04/2018 12:30	Lauren Bottorf	2030488
	10/03/2018			10/04/2018 12:37	Lauren Bottorf	2030489
	10/03/2018			10/04/2018 12:46	Lauren Bottorf	2030495

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 353.2 Rev. 2.0	10/03/2018			10/04/2018 14:31	Lauren Bottorf	2030482
	10/03/2018			10/08/2018 11:53	Lauren Bottorf	2030496
EPA 365.1 Rev. 2.0	10/03/2018	10/04/2018 12:35	Sima Feizi	10/05/2018 09:31	Beverly Y. Sanders	2030482
	10/03/2018	10/04/2018 12:35	Sima Feizi	10/05/2018 09:33	Beverly Y. Sanders	2030487
	10/03/2018	10/04/2018 12:35	Sima Feizi	10/05/2018 09:42	Beverly Y. Sanders	2030488
	10/03/2018	10/04/2018 12:35	Sima Feizi	10/05/2018 09:43	Beverly Y. Sanders	2030489
	10/03/2018	10/04/2018 12:35	Sima Feizi	10/05/2018 09:44	Beverly Y. Sanders	2030496
	10/03/2018	10/04/2018 12:35	Sima Feizi	10/05/2018 14:31	Beverly Y. Sanders	2030495
	10/03/2018	10/04/2018 12:35	Sima Feizi	10/05/2018 16:37	Julia Storbeck	2030490
EPA 365.1 Rev. 2.0 dissolved	10/03/2018			10/03/2018 17:09	Julia Storbeck	2030483
	10/03/2018			10/03/2018 17:16	Julia Storbeck	2030491
	10/03/2018			10/03/2018 17:17	Julia Storbeck	2030492
	10/03/2018			10/03/2018 17:18	Julia Storbeck	2030497
	10/03/2018			10/03/2018 17:19	Julia Storbeck	2030498
EPA 8276	10/03/2018	10/08/2018 10:30	Rasheda Ghaffari	10/26/2018 02:21	Arthur Maknenko	2030548
EPA 8321B	10/03/2018	10/03/2018 14:00	Hoor Shaik	10/04/2018 23:13	Juyoung Kim	2030560
	10/03/2018	10/03/2018 14:00	Hoor Shaik	10/04/2018 23:48	Juyoung Kim	2030561
	10/03/2018	10/03/2018 14:00	Hoor Shaik	10/05/2018 00:22	Juyoung Kim	2030562
	10/03/2018	10/03/2018 14:00	Hoor Shaik	10/06/2018 07:12	Juyoung Kim	2030560
	10/03/2018	10/03/2018 14:00	Hoor Shaik	10/06/2018 07:47	Juyoung Kim	2030561
	10/03/2018	10/03/2018 14:00	Hoor Shaik	10/06/2018 08:21	Juyoung Kim	2030562
	10/03/2018	10/03/2018 14:00	Hoor Shaik	10/18/2018 07:10	Juyoung Kim	2030562
	10/03/2018	10/05/2018 08:00	Mohammad Ghaffari	10/05/2018 10:33	Mohammad Ghaffari	2030560
	10/03/2018	10/05/2018 08:00	Mohammad Ghaffari	10/05/2018 10:48	Mohammad Ghaffari	2030561
	10/03/2018	10/05/2018 08:00	Mohammad Ghaffari	10/05/2018 11:03	Mohammad Ghaffari	2030562
	10/03/2018	10/05/2018 08:00	Mohammad Ghaffari	10/08/2018 17:05	Mohammad Ghaffari	2030560
	10/03/2018	10/05/2018 08:00	Mohammad Ghaffari	10/08/2018 17:19	Mohammad Ghaffari	2030561
	10/03/2018	10/05/2018 08:00	Mohammad Ghaffari	10/08/2018 17:34	Mohammad Ghaffari	2030562
	10/03/2018			10/03/2018 15:11	Chelsea Hernandez	2030481
	10/03/2018			10/03/2018 15:12	Chelsea Hernandez	2030484
SM 2120 B	10/03/2018			10/03/2018 15:13	Chelsea Hernandez	2030485
	10/03/2018			10/03/2018 15:14	Chelsea Hernandez	2030486
	10/03/2018			10/03/2018 15:15	Chelsea Hernandez	2030493
	10/03/2018			10/03/2018 15:16	Chelsea Hernandez	2030494
	10/03/2018			10/07/2018 22:02	Dale L. Simmons	2030481
SM 2320 B-97	10/03/2018			10/07/2018 22:12	Dale L. Simmons	2030484
	10/03/2018			10/07/2018 22:22	Dale L. Simmons	2030485
	10/03/2018			10/07/2018 22:33	Dale L. Simmons	2030486
	10/03/2018			10/07/2018 22:43	Dale L. Simmons	2030493
	10/03/2018			10/07/2018 22:53	Dale L. Simmons	2030494

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-97	10/03/2018			10/05/2018 16:36	Yijie Li	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
SM 2540 D-97	10/03/2018			10/05/2018 16:36	Yijie Li	2030481, 2030484, 2030485, 2030486, 2030493, 2030494
SM 4500 F-C-97	10/03/2018			10/07/2018 22:02	Dale L. Simmons	2030481
	10/03/2018			10/07/2018 22:12	Dale L. Simmons	2030484
	10/03/2018			10/07/2018 22:22	Dale L. Simmons	2030485
	10/03/2018			10/07/2018 22:33	Dale L. Simmons	2030486
	10/03/2018			10/07/2018 22:43	Dale L. Simmons	2030493
SM 5310 B-00	10/03/2018			10/07/2018 22:53	Dale L. Simmons	2030494
	10/03/2018			10/05/2018 04:59	Megan Treadwell	2030482
	10/03/2018			10/05/2018 05:53	Megan Treadwell	2030487
	10/03/2018			10/05/2018 06:17	Megan Treadwell	2030488
	10/03/2018			10/05/2018 06:30	Megan Treadwell	2030489
	10/03/2018			10/05/2018 07:06	Megan Treadwell	2030495
	10/03/2018			10/05/2018 07:20	Megan Treadwell	2030496