

Chemical Analysis Report

NE-DIST-2019-03-06-01

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

Event Description: **LSJR North Boat**
Request ID: **RQ-2019-03-04-14**
Customer: **NE-DIST**
Project ID: **SMP**

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

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

Certified by: Liang Lin, Environmental Administrator

Date Certified: 28-MAR-2019 15:23

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 by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: TROUT R @ I-95 BURT MAXWELL DOCK

Collection Date/Time: 03/05/2019 09:40

Field ID: 20030121

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2067486	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P360013	
	EPA 300.0	Bromide	14		mg Br/L	P360482	
	SM 2320 B-97	Total Alkalinity	76		mg CaCO3/L	P360621	
	SM 2540 D-97	TSS	8	I	mg/L	P360266	
	SM 4500 F-C-97	Fluoride	0.30		mg F/L	P360622	
2067487	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P360257	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51	Y	mg N/L	P360289	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.29		mg N/L	P360320	
	EPA 365.1 Rev. 2.0	Total-P	0.094	Y	mg P/L	P360258	
	SM 5310 B-00	Organic Carbon	13	Y	mg C/L	P360497	
2067488	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.065		mg P/L	P360033	
2067558	EPA 200.7 Rev. 4.4	Iron	400		ug/L	P360029	
		Manganese	13		ug/L	P360029	
		Zinc	19	I	ug/L	P360029	
	EPA 200.8 Rev. 5.4	Aluminum	244		ug/L	P360029	
		Antimony	0.15	U	ug/L	P360029	
		Arsenic	1.50		ug/L	P360029	
		Cadmium	0.060	U	ug/L	P360029	
		Chromium	1.2	U	ug/L	P360029	
		Copper	1.3	I	ug/L	P360029	
		Lead	0.63	I	ug/L	P360029	
		Nickel	1.5	U	ug/L	P360029	
		Selenium	0.60	U	ug/L	P360029	
		Silver	0.030	U	ug/L	P360029	
		Thallium	1.0	U	ug/L	P360029	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Sample was left out at room temperature overnight, should be stored below 6 degC.

EPA 365.1 Rev. 2.0: Total-P: Sample was left out at room temperature overnight, should be stored below 6 degC.

SM 5310 B-00: Sample was left out at room temperature overnight, should be stored below 6 degC.

Sample Location: MONCRIEF CREEK NEAR MOUTH

Collection Date/Time: 03/05/2019 10:05

Field ID: 20030115

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2067480	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P360012	
	EPA 300.0	Bromide	15		mg Br/L	P360482	
	SM 2320 B-97	Total Alkalinity	75	A	mg CaCO3/L	P360621	
	SM 2540 D-97	TSS	6	I	mg/L	P360266	
	SM 4500 F-C-97	Fluoride	0.32		mg F/L	P360622	
2067482	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P360168	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51	Y	mg N/L	P360225	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P360320	
	EPA 365.1 Rev. 2.0	Total-P	0.089	Y	mg P/L	P360258	
	SM 5310 B-00	Organic Carbon	13	Y	mg C/L	P360497	
2067484	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.066		mg P/L	P360033	
2067552	EPA 8321B	2,4-D	0.011		ug/L	P359974	
		Acesulfame K**	0.10	UJ	ug/L	P360042	SUR
		AMPA**	0.10	UJ	ug/L	P360042	SUR
		Sucralose**	0.59		ug/L	P360047	
		Acetaminophen**	0.0080	U	ug/L	P359974	
		Endothall**	0.25	UJ	ug/L	P360042	SUR
		Glufosinate**	0.10	UJ	ug/L	P360042	SUR
		Bentazon	0.012		ug/L	P359974	
		Glyphosate**	0.10	UJ	ug/L	P360042	SUR
		Carbamazepine**	0.0014	I	ug/L	P359974	
		Diuron	0.0070	I	ug/L	P359974	
		Fenuron	0.016	U	ug/L	P359974	
		Fluridone**	0.0038		ug/L	P359974	
		Imazapyr**	0.10		ug/L	P359974	
		Hydrocodone**	0.0020	U	ug/L	P359974	
		Ibuprofen**	0.020	U	ug/L	P359974	
		Imidacloprid	0.072		ug/L	P359974	
		Linuron	0.0040	U	ug/L	P359974	
		MCP	0.0024	I	ug/L	P359974	
		Naproxen**	0.0080	U	ug/L	P359974	RPD
		Primidone**	0.0040	U	ug/L	P359974	
		Pyraclostrobin**	0.0020	U	ug/L	P359974	
		Triclopyr**	0.0040	U	ug/L	P359974	
2067556	EPA 200.7 Rev. 4.4	Iron	370		ug/L	P360029	
		Manganese	12		ug/L	P360029	
		Zinc	18	I	ug/L	P360029	
	EPA 200.8 Rev. 5.4	Aluminum	189		ug/L	P360029	
		Antimony	0.15	U	ug/L	P360029	
		Arsenic	1.51		ug/L	P360029	
		Cadmium	0.060	U	ug/L	P360029	
		Chromium	1.2	U	ug/L	P360029	
		Copper	1.3	I	ug/L	P360029	

Field ID: 20030115

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2067556	EPA 200.8 Rev. 5.4	Lead	0.60	U	ug/L	P360029	
		Nickel	1.5	U	ug/L	P360029	
		Selenium	0.60	U	ug/L	P360029	
		Silver	0.030	U	ug/L	P360029	
		Thallium	1.0	U	ug/L	P360029	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Sample was left out at room temperature overnight, should be stored below 6 degC.

EPA 365.1 Rev. 2.0: Total-P: Sample was left out at room temperature overnight, should be stored below 6 degC.

SM 5310 B-00: Sample was left out at room temperature overnight, should be stored below 6 degC.

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

**Sample Location: MONCRIEF CR LEM TURNER RD
BR/NORWOOD AVE**

Collection Date/Time: 03/05/2019 10:25

Field ID: 20030114

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2067481	EPA 180.1 Rev. 2.0	Turbidity	6.3		NTU	P360013	
	EPA 300.0	Bromide	6.0		mg Br/L	P360482	
	SM 2320 B-97	Total Alkalinity	101		mg CaCO3/L	P360182	
	SM 2540 D-97	TSS	6	I	mg/L	P360266	
	SM 4500 F-C-97	Fluoride	0.21		mg F/L	P360185	
2067483	EPA 350.1 Rev. 2.0	Ammonia-N	0.059		mg N/L	P360168	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58	Y	mg N/L	P360289	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P360320	
	EPA 365.1 Rev. 2.0	Total-P	0.11	Y	mg P/L	P360258	
	SM 5310 B-00	Organic Carbon	11	Y	mg C/L	P360497	
2067485	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.064		mg P/L	P360033	
2067553	EPA 8321B	2,4-D	0.017		ug/L	P359974	
		Acesulfame K**	0.10	UJ	ug/L	P360042	SUR
		AMPA**	0.10	UJ	ug/L	P360042	SUR
		Sucralose**	0.34		ug/L	P360047	
		Acetaminophen**	0.013	I	ug/L	P359974	
		Endothall**	0.25	UJ	ug/L	P360042	SUR
		Glufosinate**	0.10	UJ	ug/L	P360042	SUR
		Bentazon	0.0075		ug/L	P359974	
		Glyphosate**	0.10	UJ	ug/L	P360042	SUR
		Carbamazepine**	8.0E-04	U	ug/L	P359974	
		Diuron	0.0067	I	ug/L	P359974	
		Fenuron	0.016	U	ug/L	P359974	
		Fluridone**	0.011		ug/L	P359974	
		Imazapyr**	0.18		ug/L	P359974	
		Hydrocodone**	0.0020	U	ug/L	P359974	
		Ibuprofen**	0.020	U	ug/L	P359974	
		Imidacloprid	0.025		ug/L	P359974	
		Linuron	0.0040	U	ug/L	P359974	
		MCP	0.0057	I	ug/L	P359974	
		Naproxen**	0.0080	U	ug/L	P359974	RPD
		Primidone**	0.0040	U	ug/L	P359974	
		Pyraclostrobin**	0.0020	U	ug/L	P359974	
		Triclopyr**	0.0040	U	ug/L	P359974	
2067557	EPA 200.7 Rev. 4.4	Iron	660		ug/L	P360229	
		Manganese	36.6		ug/L	P360229	
		Zinc	5.7	I	ug/L	P360229	
	EPA 200.8 Rev. 5.4	Aluminum	186		ug/L	P360229	
		Antimony	0.20		ug/L	P360229	
		Arsenic	1.35		ug/L	P360229	
		Cadmium	0.020	U	ug/L	P360229	
		Chromium	0.54	I	ug/L	P360229	

Field ID: 20030114

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2067557	EPA 200.8 Rev. 5.4	Copper	1.84		ug/L	P360229	
		Lead	1.24		ug/L	P360229	
		Nickel	0.66	I	ug/L	P360229	
		Selenium	0.28	I	ug/L	P360229	
		Silver	0.010	U	ug/L	P360229	
		Thallium	0.10	U	ug/L	P360229	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Sample was left out at room temperature overnight, should be stored below 6 degC.

EPA 365.1 Rev. 2.0: Total-P: Sample was left out at room temperature overnight, should be stored below 6 degC.

SM 5310 B-00: Sample was left out at room temperature overnight, should be stored below 6 degC.

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

Sample Location: RIBAUT R MONCRIEF RD BR

Collection Date/Time: 03/05/2019 10:55

Field ID: 20030129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2067489	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P360013	
	EPA 300.0	Bromide	0.15		mg Br/L	P360482	
	SM 2320 B-97	Total Alkalinity	82		mg CaCO3/L	P360182	
	SM 2540 D-97	TSS	6	I	mg/L	P360266	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P360185	
2067491	EPA 350.1 Rev. 2.0	Ammonia-N	0.072		mg N/L	P360254	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P360224	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P360338	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P360307	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P360497	
2067493	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.045		mg P/L	P360032	
2067554	EPA 8321B	2,4-D	0.059		ug/L	P359974	
		Acesulfame K**	0.11	I	ug/L	P360042	
		AMPA**	0.25	I	ug/L	P360042	
		Sucralose**	0.24		ug/L	P360047	
		Acetaminophen**	0.010	I	ug/L	P359974	
		Endothall**	0.25	U	ug/L	P360042	
		Glufosinate**	0.10	U	ug/L	P360042	
		Bentazon	0.0035		ug/L	P359974	
		Glyphosate**	0.70		ug/L	P360042	
		Carbamazepine**	8.0E-04	U	ug/L	P359974	
		Diuron	0.023		ug/L	P359974	
		Fenuron	0.016	U	ug/L	P359974	
		Fluridone**	0.0055		ug/L	P359974	
		Imazapyr**	0.41		ug/L	P359974	
		Hydrocodone**	0.0020	U	ug/L	P359974	
		Ibuprofen**	0.020	U	ug/L	P359974	
		Imidacloprid	0.027		ug/L	P359974	
		Linuron	0.0040	U	ug/L	P359974	
		MCPP	0.012		ug/L	P359974	
		Naproxen**	0.0080	U	ug/L	P359974	RPD
		Primidone**	0.0040	U	ug/L	P359974	
		Pyraclostrobin**	0.0020	U	ug/L	P359974	
		Triclopyr**	0.0040	U	ug/L	P359974	

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: RIBAUT RIVER AT US-1

Collection Date/Time: 03/05/2019 11:15

Field ID: 20030133

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2067490	EPA 180.1 Rev. 2.0	Turbidity	27	A	NTU	P360013	
	EPA 300.0	Bromide	0.098		mg Br/L	P360482	
	SM 2320 B-97	Total Alkalinity	78		mg CaCO3/L	P360182	
	SM 2540 D-97	TSS	16	A	mg/L	P360267	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P360185	
2067492	EPA 350.1 Rev. 2.0	Ammonia-N	0.075		mg N/L	P360254	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P360226	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P360338	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P360307	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P360497	
2067494	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.037		mg P/L	P360032	
2067555	EPA 8321B	2,4-D	0.065		ug/L	P359974	
		Acesulfame K**	0.10	U	ug/L	P360042	
		AMPA**	0.24	I	ug/L	P360042	
		Sucralose**	0.24		ug/L	P360047	
		Acetaminophen**	0.0080	U	ug/L	P359974	
		Endothall**	0.25	U	ug/L	P360042	
		Glufosinate**	0.10	U	ug/L	P360042	
		Bentazon	0.0042		ug/L	P359974	
		Glyphosate**	0.66		ug/L	P360042	
		Carbamazepine**	8.0E-04	U	ug/L	P359974	
		Diuron	0.028		ug/L	P359974	
		Fenuron	0.016	U	ug/L	P359974	
		Fluridone**	0.0057		ug/L	P359974	
		Imazapyr**	0.53		ug/L	P359974	
		Hydrocodone**	0.0020	U	ug/L	P359974	
		Ibuprofen**	0.020	U	ug/L	P359974	
		Imidacloprid	0.042		ug/L	P359974	
		Linuron	0.0040	U	ug/L	P359974	
		MCPP	0.011		ug/L	P359974	
		Naproxen**	0.0080	U	ug/L	P359974	RPD
		Primidone**	0.0040	U	ug/L	P359974	
		Pyraclostrobin**	0.0020	U	ug/L	P359974	
		Triclopyr**	0.0040	U	ug/L	P359974	

Non-Conformance Report

NCR ID: 7537

<u>Event(s)</u>	<u>Job(s)</u>	<u>Sample(s)</u>	<u>Test(s)</u>
NE-DIST-2019-03-06-01	TLH-2019-03-06-14	2067482	
NE-DIST-2019-03-06-01	TLH-2019-03-06-14	2067483	
NE-DIST-2019-03-06-01	TLH-2019-03-06-14	2067487	

NCR Type: CUSTODY

NCR Category: General

Observation: Sample not stored in the refrigerator the night of 03/11/2019.

Resolution: Sample returned to refrigerator the morning of 03/12/2019. All analyses requiring refrigeration that were prepared or, if preparation is not required, analyzed on or after 03/12/2019 are Y qualified for incorrect preservation.

Authorized by/Date: Peter D. Kaus 3/21/2019

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: P360012

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360013

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360029

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360229

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360029

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360229

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360229

Component	Result	Code	Units
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0
Batch ID: P360482

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360168

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360254

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360257

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360224

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360225

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360226

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360289

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360320

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360338

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360258

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360307

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360032

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360033

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

Reference Method: EPA 8321B
Batch ID: P359974

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	8.0E-04	U	ug/L
Hydrocodone	0.0020	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P359974

Component	Result	Code	Units
Tricopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P360042

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P360047

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P360182

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

Reference Method: SM 2320 B-97
Batch ID: P360621

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

Reference Method: SM 2540 D-97
Batch ID: P360266

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P360267

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P360185

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P360622

Component	Result	Code	Units
-----------	--------	------	-------

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P360622

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P360497

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: P360029

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	108		P	85 - 115
Manganese	103		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360229

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	106		P	85 - 115
Manganese	103		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360029

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	99.6		P	85 - 115
Arsenic	108		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	102		P	80 - 120
Copper	106		P	85 - 115
Lead	104		P	85 - 115
Nickel	104		P	85 - 115
Selenium	101		P	85 - 115
Silver	101		P	85 - 115
Thallium	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360229

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	99.5		P	85 - 115
Arsenic	105		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	98.7		P	85 - 115
Copper	102		P	85 - 115
Lead	95.0		P	85 - 115
Nickel	101		P	85 - 115
Selenium	104		P	85 - 115
Silver	102		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P360482

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360168

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360254

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360224

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360225

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360226

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360289

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360320

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360338

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360258

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360307

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360032

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360033

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

Reference Method: EPA 8321B
Batch ID: P359974

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	96.4		P	40 - 150
Acetaminophen	91.2		P	30 - 150
Bentazon	102		P	30 - 150
Carbamazepine	89.4		P	40 - 150
Diuron	83.3		P	40 - 150
Fenuron	109		P	40 - 150
Fluridone	103		P	40 - 150
Hydrocodone	105		P	40 - 150
Ibuprofen	99.3		P	40 - 150
Imazapyr	106		P	40 - 150
Imidacloprid	99.3		P	40 - 150
Linuron	75.2		P	40 - 150
MCPP	106		P	40 - 150
Naproxen	61.5		P	40 - 150
Primidone	89.8		P	40 - 150
Pyraclostrobin	60.9		P	40 - 150
Triclopyr	70.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P360042

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	68.9		P	40 - 150
Endothall	95.9		P	40 - 150
Glufosinate	124		P	40 - 150
Glyphosate	120		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P360047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	95.9		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P360182

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

Reference Method: SM 2320 B-97
Batch ID: P360621

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

Reference Method: SM 4500 F-C-97
Batch ID: P360185

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

Reference Method: SM 4500 F-C-97
Batch ID: P360622

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360497

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2064386	Iron	104	104	P/P	80 - 120
2064386	Manganese	95.9	97.8	P/P	80 - 120
2064386	Zinc	102	105	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360229

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067591	Iron	102		P	80 - 120
2067591	Manganese	99.8		P	80 - 120
2067591	Zinc	103		P	80 - 120
2067975	Iron	104	106	P/P	80 - 120
2067975	Manganese	102	106	P/P	80 - 120
2067975	Zinc	102	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2064386	Aluminum	101	99.6	P/P	70 - 130
2064386	Antimony	101	101	P/P	70 - 130
2064386	Arsenic	113	113	P/P	70 - 130
2064386	Cadmium	97.4	97.8	P/P	70 - 130
2064386	Chromium	94.9	91.8	P/P	70 - 130
2064386	Copper	96.5	96.6	P/P	70 - 130
2064386	Lead	105	105	P/P	70 - 130
2064386	Nickel	94.6	94.0	P/P	70 - 130
2064386	Selenium	101	100	P/P	70 - 130
2064386	Silver	92.8	93.0	P/P	70 - 130
2064386	Thallium	96.4	97.2	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360229

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067591	Aluminum	101		P	80 - 120
2067591	Antimony	103		P	80 - 120
2067591	Arsenic	105		P	80 - 120
2067591	Cadmium	103		P	80 - 120
2067591	Chromium	99.6		P	80 - 120
2067591	Copper	100		P	80 - 120
2067591	Lead	96.4		P	80 - 120
2067591	Nickel	99.4		P	80 - 120
2067591	Selenium	104		P	80 - 120
2067591	Silver	102		P	80 - 120
2067591	Thallium	105		P	80 - 120
2067975	Aluminum	102	102	P/P	80 - 120
2067975	Antimony	98.7	99.7	P/P	80 - 120
2067975	Arsenic	102	104	P/P	80 - 120
2067975	Cadmium	100	102	P/P	80 - 120
2067975	Chromium	99.8	99.2	P/P	80 - 120
2067975	Copper	102	102	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360229

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067975	Lead	95.4	97.1	P/P	80 - 120
2067975	Nickel	101	101	P/P	80 - 120
2067975	Selenium	101	104	P/P	80 - 120
2067975	Silver	101	101	P/P	80 - 120
2067975	Thallium	102	105	P/P	80 - 120

Reference Method: EPA 300.0
Batch ID: P360482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067489	Bromide	97.9	99.1	P/P	90 - 110
2067490	Bromide	99.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066505	Ammonia-N	98.9	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360254

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067462	Ammonia-N	98.5	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067753	Ammonia-N	103	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360224

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067424	Kjeldahl Nitrogen	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360225

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067257	Kjeldahl Nitrogen	95.4	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360226

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067510	Kjeldahl Nitrogen	98.8	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P360289

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067725	Kjeldahl Nitrogen	97.7	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P360320

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067370	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P360338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067461	NO2NO3-N	96.5	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P360258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067740	Total-P	95.3	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P360307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067462	Total-P	106	96.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P360032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067514	O-Phosphate-P	96.5	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P360033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067707	O-Phosphate-P	98.9	99.8	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P359974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068137	2,4-D	104	102	P/P	40 - 150
2068137	Acetaminophen	94.9	104	P/P	30 - 150
2068137	Bentazon	64.1	73.6	P/P	30 - 150
2068137	Carbamazepine	64.3	67.3	P/P	40 - 150
2068137	Diuron	50.5	61.2	P/P	40 - 150
2068137	Fenuron	76.4	78.9	P/P	40 - 150
2068137	Fluridone	96.4	103	P/P	40 - 150
2068137	Hydrocodone	96.5	101	P/P	40 - 150
2068137	Ibuprofen	117	117	P/P	40 - 150
2068137	Imazapyr	93.2	101	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P359974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068137	Imidacloprid	131	141	P/P	40 - 150
2068137	Linuron	65.2	68.3	P/P	40 - 150
2068137	MCCP	141	145	P/P	40 - 150
2068137	Naproxen	50.6	74.0	P/P	40 - 150
2068137	Primidone	81.8	87.8	P/P	40 - 150
2068137	Pyraclostrobin	69.1	71.3	P/P	40 - 150
2068137	Triclopyr	98.0	83.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P360042

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066956	Acesulfame K	101	101	P/P	40 - 150
2066956	AMPA	42.8	47.9	P/P	40 - 150
2066956	Endothall	125	131	P/P	40 - 150
2066956	Glufosinate	86.6	81.3	P/P	40 - 150
2066956	Glyphosate	84.3	83.4	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P360047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2066956	Sucralose	107	106	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P360185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067037	Fluoride	97.1	94.8	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P360622

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067480	Fluoride	97.5	99.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360497

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2067426	Organic Carbon	95.4		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067459	Turbidity	3.77	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067490	Turbidity	0.730	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2064386	Iron	0.0183	Spike	P	0 - 20
2064386	Manganese	1.49	Spike	P	0 - 20
2064386	Zinc	2.91	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067975	Iron	1.02	Spike	P	0 - 20
2067975	Manganese	3.27	Spike	P	0 - 20
2067975	Zinc	3.68	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2064386	Aluminum	0.853	Spike	P	0 - 20
2064386	Antimony	0.0125	Spike	P	0 - 20
2064386	Arsenic	0.390	Spike	P	0 - 20
2064386	Cadmium	0.404	Spike	P	0 - 20
2064386	Chromium	3.34	Spike	P	0 - 20
2064386	Copper	0.145	Spike	P	0 - 20
2064386	Lead	0.104	Spike	P	0 - 20
2064386	Nickel	0.570	Spike	P	0 - 20
2064386	Selenium	0.935	Spike	P	0 - 20
2064386	Silver	0.186	Spike	P	0 - 20
2064386	Thallium	0.821	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067975	Aluminum	0.0502	Spike	P	0 - 20
2067975	Antimony	1.02	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067975	Arsenic	1.42	Spike	P	0 - 20
2067975	Cadmium	2.14	Spike	P	0 - 20
2067975	Chromium	0.564	Spike	P	0 - 20
2067975	Copper	0.412	Spike	P	0 - 20
2067975	Lead	1.84	Spike	P	0 - 20
2067975	Nickel	0.352	Spike	P	0 - 20
2067975	Selenium	3.25	Spike	P	0 - 20
2067975	Silver	0.103	Spike	P	0 - 20
2067975	Thallium	2.61	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P360482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067489	Bromide	0.902	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360168

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066505	Ammonia-N	2.02	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067462	Ammonia-N	0.0144	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067753	Ammonia-N	1.14	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067424	Kjeldahl Nitrogen	0.397	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360225

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067257	Kjeldahl Nitrogen	3.07	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067510	Kjeldahl Nitrogen	1.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360289

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067725	Kjeldahl Nitrogen	1.79	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067370	NO2NO3-N	0.501	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067461	NO2NO3-N	0.454	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067740	Total-P	1.21	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067462	Total-P	7.10	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067514	O-Phosphate-P	0.853	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067707	O-Phosphate-P	0.847	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P359974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068137	2,4-D	1.83	Spike	P	0 - 30
2068137	Acetaminophen	8.68	Spike	P	0 - 30
2068137	Bentazon	10.9	Spike	P	0 - 30
2068137	Carbamazepine	4.52	Spike	P	0 - 30
2068137	Diuron	19.3	Spike	P	0 - 30
2068137	Fenuron	3.23	Spike	P	0 - 30
2068137	Fluridone	5.87	Spike	P	0 - 30
2068137	Hydrocodone	4.60	Spike	P	0 - 30
2068137	Ibuprofen	0.237	Spike	P	0 - 30
2068137	Imazapyr	6.39	Spike	P	0 - 30
2068137	Imidacloprid	4.35	Spike	P	0 - 30
2068137	Linuron	4.65	Spike	P	0 - 30
2068137	MCP	2.52	Spike	P	0 - 30
2068137	Naproxen	37.6	Spike	F	0 - 30
2068137	Primidone	7.01	Spike	P	0 - 30
2068137	Pyraclostrobin	3.07	Spike	P	0 - 30
2068137	Triclopyr	16.3	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P360042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066956	Acesulfame K	0.572	Spike	P	0 - 30
2066956	AMPA	4.33	Spike	P	0 - 30
2066956	Endothall	4.80	Spike	P	0 - 30
2066956	Glufosinate	6.27	Spike	P	0 - 30
2066956	Glyphosate	0.741	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P360047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2066956	Sucralose	0.937	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P360182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067037	Total Alkalinity	0.543	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P360621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067480	Total Alkalinity	0.282	Sample	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 2540 D-97
Batch ID: P360267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067490	TSS	5.00	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P360185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067037	Fluoride	1.46	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P360622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067480	Fluoride	1.41	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P360497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2067426	Organic Carbon	1.08	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: 2067552
Field Sample ID: 20030115

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.6	P	30 - 160
EPA 8321B	Diuron-d6	69.3	P	30 - 160
EPA 8321B	Endothall-d6	180	F	30 - 160
EPA 8321B	Endothall-d6	180	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	8.02	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	8.02	F	30 - 160
EPA 8321B	Ibuprofen-d3	83.7	P	30 - 160
EPA 8321B	Primidone-d5	89.2	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160

Lab Sample ID: 2067553
Field Sample ID: 20030114

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	92.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.2	P	30 - 160
EPA 8321B	Diuron-d6	58.7	P	30 - 160
EPA 8321B	Endothall-d6	273	F	30 - 160
EPA 8321B	Endothall-d6	273	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	24.7	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	24.7	F	30 - 160
EPA 8321B	Ibuprofen-d3	71.1	P	30 - 160
EPA 8321B	Primidone-d5	88.7	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	30 - 160

Lab Sample ID: 2067554
Field Sample ID: 20030129

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.8	P	30 - 160
EPA 8321B	Diuron-d6	56.2	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	66.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	66.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.1	P	30 - 160
EPA 8321B	Primidone-d5	82.0	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Lab Sample ID: 2067555
Field Sample ID: 20030133

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	95.5	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2067555
Field Sample ID: 20030133

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	84.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	57.7	P	30 - 160
EPA 8321B	Diuron-d6	52.6	P	30 - 160
EPA 8321B	Endothall-d6	99.0	P	30 - 160
EPA 8321B	Endothall-d6	99.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	72.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	72.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.8	P	30 - 160
EPA 8321B	Primidone-d5	79.3	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A89847

Included Lab Sample IDs: 2067480, 2067481, 2067486, 2067489, 2067490

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	98.0	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A89850

Included Lab Sample IDs: 2067484, 2067485, 2067488, 2067493, 2067494

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.5	95.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A89880

Included Lab Sample IDs: 2067556, 2067558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	104	104	P/P	90 - 110
Manganese	105	105	P/P	90 - 110
Zinc	106	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89910

Included Lab Sample IDs: 2067482, 2067483

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.8	99.6	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A89915

Included Lab Sample IDs: 2067481, 2067489, 2067490

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A89915

Included Lab Sample IDs: 2067481, 2067489, 2067490

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

Reference Method: EPA 8321B

Run ID: A89920

Included Lab Sample IDs: 2067552, 2067553, 2067554, 2067555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	72.1	83.6	P/P	60 - 160
Glufosinate	118	119	P/P	60 - 160
Glyphosate	122	115	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A89922

Included Lab Sample IDs: 2067552, 2067553, 2067554, 2067555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	89.5	70.7	P/P	50 - 150
Acetaminophen	119	123	P/P	60 - 160
Bentazon	116	123	P/P	50 - 160
Carbamazepine	112	106	P/P	60 - 150
Diuron	118	116	P/P	60 - 150
Fenuron	107	110	P/P	60 - 150
Fluridone	116	119	P/P	60 - 160
Hydrocodone	122	118	P/P	60 - 150
Ibuprofen	128	109	P/P	50 - 160
Imazapyr	109	101	P/P	50 - 150
Imidacloprid	102	95.7	P/P	60 - 150
Linuron	111	116	P/P	60 - 150
MCP	112	117	P/P	50 - 150
Naproxen	95.9	112	P/P	50 - 160
Primidone	97.4	104	P/P	60 - 150
Pyraclostrobin	99.2	94.9	P/P	60 - 150
Triclopyr	105	115	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A89923

Included Lab Sample IDs: 2067556, 2067558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.7	96.4	P/P	90 - 110
Antimony	94.1	95.6	P/P	90 - 110
Cadmium	94.9	95.8	P/P	90 - 110
Copper	101	98.2	P/P	90 - 110
Lead	99.9	99.8	P/P	90 - 110
Nickel	98.7	96.5	P/P	90 - 110
Selenium	96.5	98.1	P/P	90 - 110
Silver	94.2	94.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A89935

Included Lab Sample IDs: 2067552, 2067553, 2067554, 2067555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	65.0	80.3	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89944

Included Lab Sample IDs: 2067482, 2067483, 2067487

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO ₂ NO ₃ -N	98.0	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89945

Included Lab Sample IDs: 2067482

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89945

Included Lab Sample IDs: 2067482

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	99.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89946

Included Lab Sample IDs: 2067491, 2067492

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89949

Included Lab Sample IDs: 2067487, 2067491, 2067492

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	100	P/P	90 - 110
Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A89965

Included Lab Sample IDs: 2067557

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.7	101	P/P	90 - 110
Antimony	98.1	97.6	P/P	90 - 110
Arsenic	101	99.9	P/P	90 - 110
Cadmium	97.6	98.7	P/P	90 - 110
Chromium	97.2	98.3	P/P	90 - 110
Copper	101	100	P/P	90 - 110
Lead	93.7	94.1	P/P	90 - 110
Nickel	99.4	98.6	P/P	90 - 110
Silver	101	102	P/P	90 - 110
Thallium	93.3	93.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A89966

Included Lab Sample IDs: 2067557

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	103	103	P/P	90 - 110
Manganese	103	103	P/P	90 - 110
Zinc	101	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89967

Included Lab Sample IDs: 2067491, 2067492

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A89977

Included Lab Sample IDs: 2067556, 2067558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.3	96.9	P/P	90 - 110
Chromium	98.6	96.1	P/P	90 - 110
Thallium	93.9	92.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89991

Included Lab Sample IDs: 2067483, 2067487

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.3	98.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90012

Included Lab Sample IDs: 2067483, 2067491, 2067492

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	102	P/P	90 - 110
Total-P	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90020

Included Lab Sample IDs: 2067482, 2067487

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

Reference Method: EPA 300.0

Run ID: A90025

Included Lab Sample IDs: 2067480, 2067481, 2067486, 2067489, 2067490

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	106	103	P/P	90 - 110
Bromide	108	106	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A90030

Included Lab Sample IDs: 2067482, 2067483, 2067487, 2067491, 2067492

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	91.6	94.3	P/P	90 - 110
Organic Carbon	94.3	91.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A90049

Included Lab Sample IDs: 2067552, 2067553, 2067554, 2067555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	99.9	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A90072

Included Lab Sample IDs: 2067480, 2067486

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

Reference Method: SM 4500 F-C-97

Run ID: A90072

Included Lab Sample IDs: 2067480, 2067486

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	98.1	P/P	90 - 110
Fluoride	98.1	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90073

Included Lab Sample IDs: 2067557

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Selenium	98.8	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A90085

Included Lab Sample IDs: 2067552, 2067553, 2067554, 2067555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endothall	101	90.4	P/P	60 - 160

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

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						3.77	
	Turbidity						0.730	
EPA 200.7 Rev. 4.4	Iron	108	104	104				0.0183
	Iron	106	102	104	106			1.02
	Manganese	103	95.9	97.8				1.49
	Manganese	103	99.8	102	106			3.27
	Zinc	102	102	105				2.91
	Zinc	103	103	102	106			3.68
EPA 200.8 Rev. 5.4	Aluminum	101	101	99.6				0.853
	Aluminum	101	101	102	102			0.0502
	Antimony	99.6	101	101				0.0125
	Antimony	99.5	103	98.7	99.7			1.02
	Arsenic	108	113	113				0.390
	Arsenic	105	105	102	104			1.42
	Cadmium	102	97.4	97.8				0.404
	Cadmium	101	103	100	102			2.14
	Chromium	102	94.9	91.8				3.34
	Chromium	98.7	99.6	99.8	99.2			0.564
	Copper	106	96.5	96.6				0.145
	Copper	102	100	102	102			0.412
	Lead	104	105	105				0.104
	Lead	95.0	96.4	95.4	97.1			1.84
	Nickel	104	94.6	94.0				0.570
	Nickel	101	101	99.4	101			0.352
	Selenium	101	101	100				0.935
	Selenium	104	104	101	104			3.25
	Silver	101	92.8	93.0				0.186
	Silver	102	102	101	101			0.103
	Thallium	100	96.4	97.2				0.821
	Thallium	102	105	102	105			2.61
EPA 300.0	Bromide	103	97.9	99.1	99.1			0.902
EPA 350.1 Rev. 2.0	Ammonia-N	99.3	98.9	102				2.02
	Ammonia-N	99.1	98.5	98.5				0.0144
	Ammonia-N	98.1	103	105				1.14
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	102	101				0.397
	Kjeldahl Nitrogen	106	95.4	98.6				3.07
	Kjeldahl Nitrogen	103	98.8	100				1.24
	Kjeldahl Nitrogen	95.2	97.7	99.6				1.79
EPA 353.2 Rev. 2.0	NO2NO3-N	98.0	100	99.5				0.501
	NO2NO3-N	100	96.5	97.0				0.454
EPA 365.1 Rev. 2.0	Total-P	104	95.3	96.5				1.21
	Total-P	102	106	96.9				7.10
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5	96.5	97.4				0.853
	O-Phosphate-P	101	98.9	99.8				0.847
EPA 8321B	2,4-D	96.4	104	102				1.83
	Acesulfame K	104	101	101				0.572
	Acetaminophen	91.2	94.9	104				8.68
	AMPA	68.9	47.9	42.8				4.33
	Bentazon	102	64.1	73.6				10.9
	Carbamazepine	89.4	64.3	67.3				4.52
	Diuron	83.3	50.5	61.2				19.3
	Endothall	95.9	125	131				4.80
	Fenuron	109	76.4	78.9				3.23
	Fluridone	103	96.4	103				5.87

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Glufosinate	124	86.6	81.3		6.27
	Glyphosate	120	84.3	83.4		0.741
	Hydrocodone	105	96.5	101		4.60
	Ibuprofen	99.3	117	117		0.237
	Imazapyr	106	93.2	101		6.39
	Imidacloprid	99.3	131	141		4.35
	Linuron	75.2	65.2	68.3		4.65
	MCPP	106	141	145		2.52
	Naproxen	61.5	50.6	74.0		37.6
	Primidone	89.8	81.8	87.8		7.01
	Pyraclostrobin	60.9	69.1	71.3		3.07
	Sucralose	95.9	107	106		0.937
	Triclopyr	70.0	98.0	83.3		16.3
SM 2320 B-97	Total Alkalinity	102			0.543	
	Total Alkalinity	104			0.282	
SM 2540 D-97	TSS				5.00	
SM 4500 F-C-97	Fluoride	95.6	97.1	94.8		1.46
	Fluoride	95.8	97.5	99.4		1.41
SM 5310 B-00	Organic Carbon	95.8	95.4			1.08

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2067480, 2067481, 2067486, 2067489, 2067490
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2067556, 2067557, 2067558
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2067556, 2067557, 2067558
EPA 300.0 / E31780	Bromide in aqueous matrices	2067480, 2067481, 2067486, 2067489, 2067490
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2067482, 2067483, 2067487, 2067491, 2067492
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2067482, 2067483, 2067487, 2067491, 2067492
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2067482, 2067483, 2067487, 2067491, 2067492
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2067482, 2067483, 2067487, 2067491, 2067492
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2067484, 2067485, 2067488, 2067493, 2067494
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2067552, 2067553, 2067554, 2067555
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2067552, 2067553, 2067554, 2067555
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2067480, 2067481, 2067486, 2067489, 2067490
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2067480, 2067481, 2067486, 2067489, 2067490
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2067480, 2067481, 2067486, 2067489, 2067490
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2067482, 2067483, 2067487, 2067491, 2067492

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	03/06/2019			03/06/2019 16:16	Adrian Shelby	2067480, 2067481, 2067486, 2067489, 2067490
EPA 200.7 Rev. 4.4	03/06/2019	03/06/2019 19:05	Elliott D. Healy	03/07/2019 21:37	Betina Topolski	2067556
	03/06/2019	03/06/2019 19:05	Elliott D. Healy	03/07/2019 21:44	Betina Topolski	2067558
	03/06/2019	03/11/2019 17:45	Elliott D. Healy	03/12/2019 14:39	Betina Topolski	2067557
EPA 200.8 Rev. 5.4	03/06/2019	03/06/2019 19:05	Elliott D. Healy	03/09/2019 14:16	Allison Taylor	2067556
	03/06/2019	03/06/2019 19:05	Elliott D. Healy	03/09/2019 14:25	Allison Taylor	2067558
	03/06/2019	03/06/2019 19:05	Elliott D. Healy	03/12/2019 16:06	Allison Taylor	2067556
	03/06/2019	03/06/2019 19:05	Elliott D. Healy	03/12/2019 16:19	Allison Taylor	2067558
	03/06/2019	03/06/2019 19:05	Elliott D. Healy	03/12/2019 18:21	Allison Taylor	2067556
	03/06/2019	03/06/2019 19:05	Elliott D. Healy	03/12/2019 18:28	Allison Taylor	2067558
	03/06/2019	03/11/2019 17:45	Elliott D. Healy	03/12/2019 23:11	Robert K Palmer	2067557
	03/06/2019	03/11/2019 17:45	Elliott D. Healy	03/18/2019 12:49	Robert K Palmer	2067557
EPA 300.0	03/06/2019			03/14/2019 08:44	Lipi Saha	2067489
	03/06/2019			03/14/2019 09:36	Lipi Saha	2067490
	03/06/2019			03/14/2019 14:09	Lipi Saha	2067480
	03/06/2019			03/14/2019 14:26	Lipi Saha	2067481
	03/06/2019			03/14/2019 14:43	Lipi Saha	2067486
EPA 350.1 Rev. 2.0	03/06/2019			03/08/2019 12:22	Ping Hua	2067482
	03/06/2019			03/08/2019 12:23	Ping Hua	2067483
	03/06/2019			03/11/2019 11:32	Ping Hua	2067491
	03/06/2019			03/11/2019 11:33	Ping Hua	2067492
	03/06/2019			03/11/2019 13:02	Ping Hua	2067487
EPA 351.2 Rev. 2.0	03/06/2019	03/11/2019 13:00	Adrian Shelby	03/12/2019 10:39	Joseph Suarez	2067482
	03/06/2019	03/11/2019 13:00	Adrian Shelby	03/12/2019 14:19	Joseph Suarez	2067491
	03/06/2019	03/11/2019 13:00	Adrian Shelby	03/12/2019 14:30	Joseph Suarez	2067492
	03/06/2019	03/12/2019 12:50	Adrian Shelby	03/13/2019 12:10	Joseph Suarez	2067483
	03/06/2019	03/12/2019 12:50	Adrian Shelby	03/13/2019 12:12	Joseph Suarez	2067487
EPA 353.2 Rev. 2.0	03/06/2019			03/11/2019 09:58	Beverly Y. Sanders	2067482
	03/06/2019			03/11/2019 09:59	Beverly Y. Sanders	2067483
	03/06/2019			03/11/2019 10:00	Beverly Y. Sanders	2067487
	03/06/2019			03/12/2019 12:08	Beverly Y. Sanders	2067491
	03/06/2019			03/12/2019 12:09	Beverly Y. Sanders	2067492
EPA 365.1 Rev. 2.0	03/06/2019	03/12/2019 13:45	Sima Feizi	03/14/2019 11:12	Rosalyn Ballman	2067483
	03/06/2019	03/12/2019 13:45	Sima Feizi	03/14/2019 12:29	Rosalyn Ballman	2067491
	03/06/2019	03/12/2019 13:45	Sima Feizi	03/14/2019 12:30	Rosalyn Ballman	2067492
	03/06/2019	03/12/2019 13:45	Sima Feizi	03/14/2019 15:47	Rosalyn Ballman	2067482
	03/06/2019	03/12/2019 13:45	Sima Feizi	03/14/2019 15:48	Rosalyn Ballman	2067487
EPA 365.1 Rev. 2.0 dissolved	03/06/2019			03/06/2019 20:05	Jhamieka S. Greenwood	2067493
	03/06/2019			03/06/2019 20:06	Jhamieka S. Greenwood	2067494

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	03/06/2019			03/06/2019 20:08	Jhamieka S. Greenwood	2067484, 2067485
	03/06/2019			03/06/2019 20:09	Jhamieka S. Greenwood	2067488
EPA 8321B	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/07/2019 18:51	Rebecca Ware	2067552
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/07/2019 19:02	Rebecca Ware	2067553
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/07/2019 19:12	Rebecca Ware	2067554
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/07/2019 19:23	Rebecca Ware	2067555
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/08/2019 15:55	Rebecca Ware	2067552
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/08/2019 16:09	Rebecca Ware	2067553
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/08/2019 16:23	Rebecca Ware	2067554
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/08/2019 16:37	Rebecca Ware	2067555
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/11/2019 16:43	Rebecca Ware	2067552
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/11/2019 16:57	Rebecca Ware	2067553
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/11/2019 17:11	Rebecca Ware	2067554
	03/06/2019	03/07/2019 14:30	Rebecca Ware	03/11/2019 17:24	Rebecca Ware	2067555
	03/06/2019	03/08/2019 14:00	Hoor Shaik	03/09/2019 04:38	Juyoung Kim	2067552
	03/06/2019	03/08/2019 14:00	Hoor Shaik	03/09/2019 05:13	Juyoung Kim	2067553
	03/06/2019	03/08/2019 14:00	Hoor Shaik	03/09/2019 05:47	Juyoung Kim	2067554
	03/06/2019	03/08/2019 14:00	Hoor Shaik	03/09/2019 06:22	Juyoung Kim	2067555
SM 2320 B-97	03/06/2019			03/09/2019 08:51	Lauren Lees	2067489
	03/06/2019			03/09/2019 09:04	Lauren Lees	2067490
	03/06/2019			03/09/2019 10:49	Lauren Lees	2067481
	03/06/2019			03/18/2019 22:03	Lauren Lees	2067480
	03/06/2019			03/18/2019 22:16	Lauren Lees	2067486
SM 2540 D-97	03/06/2019			03/08/2019 15:41	Yijie Li	2067480, 2067481, 2067486, 2067489, 2067490
SM 4500 F-C-97	03/06/2019			03/09/2019 08:51	Lauren Lees	2067489
	03/06/2019			03/09/2019 09:04	Lauren Lees	2067490
	03/06/2019			03/09/2019 10:49	Lauren Lees	2067481
	03/06/2019			03/18/2019 20:57	Lauren Lees	2067480
	03/06/2019			03/18/2019 21:39	Lauren Lees	2067486
SM 5310 B-00	03/06/2019			03/15/2019 01:05	Chelsea Hernandez	2067482
	03/06/2019			03/15/2019 01:21	Chelsea Hernandez	2067483
	03/06/2019			03/15/2019 01:37	Chelsea Hernandez	2067487
	03/06/2019			03/15/2019 02:18	Chelsea Hernandez	2067491
	03/06/2019			03/15/2019 02:34	Chelsea Hernandez	2067492