

Chemical Analysis Report

NE-DIST-2019-03-12-03

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

Event Description: **LSJR Downtown Boat**

Request ID: **RQ-2019-03-04-13**

Customer: **NE-DIST**

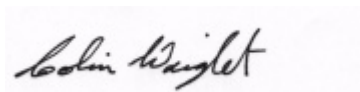
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 01-APR-2019 14:29

A handwritten signature in black ink, appearing to read "Colin Wright", is shown on a light-colored background.

Case Narrative

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

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

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

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

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: BIG POTTSBURG CR ATL BLVD

Collection Date/Time: 03/11/2019 10:45

Field ID: 20030072 dup

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068928	EPA 180.1 Rev. 2.0	Turbidity	7.3		NTU	P360286	
	EPA 300.0	Bromide	3.4		mg Br/L	P360571	
	SM 2320 B-97	Total Alkalinity	85		mg CaCO3/L	P360895	
	SM 2540 D-97	TSS	8	I	mg/L	P360658	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P360902	
2068930	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P360587	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P360468	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P360549	
	EPA 365.1 Rev. 2.0	Total-P	0.089		mg P/L	P360532	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P360635	
2068932	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.044		mg P/L	P360298	
2068943	EPA 8321B	2,4-D	0.045		ug/L	P360131	
		Acesulfame K**	0.30	I	ug/L	P360251	MS
		AMPA**	0.10	UJ	ug/L	P360251	SUR
		Sucralose**	0.010	UJ	ug/L	P360251	SUR
		Endothall**	0.25	U	ug/L	P360251	
		Acetaminophen**	0.0080	U	ug/L	P360131	
		Glufosinate**	0.10	UJ	ug/L	P360251	SUR
		Bentazon	0.021		ug/L	P360131	
		Glyphosate**	0.10	UJ	ug/L	P360251	SUR
		Carbamazepine**	0.0023	I	ug/L	P360131	
		Diuron	0.018		ug/L	P360131	
		Fenuron	0.016	U	ug/L	P360131	
		Fluridone**	0.011		ug/L	P360131	
		Imazapyr**	0.22		ug/L	P360131	
		Hydrocodone**	0.0020	U	ug/L	P360131	
		Ibuprofen**	0.020	U	ug/L	P360131	
		Imidacloprid	0.030		ug/L	P360131	MS
		Linuron	0.0040	U	ug/L	P360131	
		MCP	0.0030	I	ug/L	P360131	MS
		Naproxen**	0.0080	U	ug/L	P360131	
		Primidone**	0.0040	U	ug/L	P360131	
		Pyraclostrobin**	0.0020	U	ug/L	P360131	
		Triclopyr**	0.0040	U	ug/L	P360131	
2068946	EPA 200.7 Rev. 4.4	Iron	530		ug/L	P360395	
		Manganese	19.8		ug/L	P360395	
		Zinc	7.4	I	ug/L	P360395	
	EPA 200.8 Rev. 5.4	Aluminum	215		ug/L	P360395	
		Antimony	0.14	I	ug/L	P360395	
		Arsenic	1.56		ug/L	P360395	
		Cadmium	0.020	U	ug/L	P360395	
		Chromium	0.74	I	ug/L	P360395	
		Copper	1.72		ug/L	P360395	

Field ID: 20030072 dup

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068946	EPA 200.8 Rev. 5.4	Lead	1.20		ug/L	P360395	
		Nickel	0.86	I	ug/L	P360395	
		Selenium	0.20	U	ug/L	P360395	
		Silver	0.010	U	ug/L	P360395	
		Thallium	0.10	U	ug/L	P360395	

Ref. Method and Comment:
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 EPA 8321B: Refer to the narrative for an explanation of QC Codes. Glyphosate 13C 15N surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate.
 EPA 8321B: Refer to the narrative for an explanation of QC Codes. Sucralose-d6 surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

Sample Location: BIG POTTSBURG CR ATL BLVD

Collection Date/Time: 03/11/2019 11:40

Field ID: FB 03052019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068934	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P360287	
	EPA 300.0	Bromide	0.013	U	mg Br/L	P360571	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P360895	
	SM 2540 D-97	TSS	2	U	mg/L	P360658	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P360902	
2068935	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P360587	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P360468	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P360549	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P360529	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P360635	
2068936	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P360298	
2068945	EPA 8321B	2,4-D	0.0020	U	ug/L	P360131	
		Acesulfame K**	0.10	U	ug/L	P360251	MS
		AMPA**	0.10	U	ug/L	P360251	
		Sucralose**	0.010	U	ug/L	P360251	
		Acetaminophen**	0.0080	U	ug/L	P360131	
		Endothall**	0.25	U	ug/L	P360251	
		Glufosinate**	0.10	U	ug/L	P360251	
		Bentazon	8.0E-04	U	ug/L	P360131	
		Glyphosate**	0.10	U	ug/L	P360251	
		Carbamazepine**	8.0E-04	U	ug/L	P360131	
		Diuron	0.0020	U	ug/L	P360131	
		Fenuron	0.016	U	ug/L	P360131	
		Fluridone**	8.0E-04	U	ug/L	P360131	
		Imazapyr**	0.0040	U	ug/L	P360131	
		Hydrocodone**	0.0020	U	ug/L	P360131	
		Ibuprofen**	0.020	U	ug/L	P360131	
		Imidacloprid	0.0020	U	ug/L	P360131	MS
		Linuron	0.0040	U	ug/L	P360131	
		MCPP	0.0020	U	ug/L	P360131	MS
		Naproxen**	0.0080	U	ug/L	P360131	
		Primidone**	0.0040	U	ug/L	P360131	
		Pyraclostrobin**	0.0020	U	ug/L	P360131	
		Triclopyr**	0.0040	U	ug/L	P360131	
2068948	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P360395	
		Manganese	1.0	U	ug/L	P360395	
		Zinc	5.0	U	ug/L	P360395	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P360395	
		Antimony	0.050	U	ug/L	P360395	
		Arsenic	0.050	U	ug/L	P360395	
		Cadmium	0.020	U	ug/L	P360395	
		Chromium	0.40	U	ug/L	P360395	
		Copper	0.40	U	ug/L	P360395	

Field ID: FB 03052019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068948	EPA 200.8 Rev. 5.4	Lead	0.20	U	ug/L	P360395	
		Nickel	0.50	U	ug/L	P360395	
		Selenium	0.20	U	ug/L	P360395	
		Silver	0.010	U	ug/L	P360395	
		Thallium	0.10	U	ug/L	P360395	

Ref. Method and Comment:

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

EPA 353.2 Rev. 2.0: The result was confirmed on 03/15/2019.

Sample Location: BIG POTTSBURG CR ATL BLVD

Collection Date/Time: 03/11/2019 10:40

Field ID: 20030072

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068929	EPA 180.1 Rev. 2.0	Turbidity	7.3		NTU	P360286	
	EPA 300.0	Bromide	3.3		mg Br/L	P360571	
	SM 2320 B-97	Total Alkalinity	85		mg CaCO3/L	P360895	
	SM 2540 D-97	TSS	8	I	mg/L	P360658	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P360902	
2068931	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P360587	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P360468	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P360549	
	EPA 365.1 Rev. 2.0	Total-P	0.089		mg P/L	P360532	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P360635	
2068933	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.045		mg P/L	P360298	
2068944	EPA 8321B	2,4-D	0.044		ug/L	P360131	
		Acesulfame K**	0.27	I	ug/L	P360251	MS
		AMPA**	0.10	UJ	ug/L	P360251	SUR
		Sucralose**	0.010	UJ	ug/L	P360251	SUR
		Endothall**	0.25	U	ug/L	P360251	
		Acetaminophen**	0.0080	U	ug/L	P360131	
		Glufosinate**	0.10	UJ	ug/L	P360251	SUR
		Bentazon	0.021		ug/L	P360131	
		Glyphosate**	0.10	UJ	ug/L	P360251	SUR
		Carbamazepine**	0.0022	I	ug/L	P360131	
		Diuron	0.016		ug/L	P360131	
		Fenuron	0.016	U	ug/L	P360131	
		Fluridone**	0.011		ug/L	P360131	
		Imazapyr**	0.23		ug/L	P360131	
		Hydrocodone**	0.0020	U	ug/L	P360131	
		Ibuprofen**	0.020	U	ug/L	P360131	
		Imidacloprid	0.029		ug/L	P360131	MS
		Linuron	0.0040	U	ug/L	P360131	
		MCP	0.0033	I	ug/L	P360131	MS
		Naproxen**	0.0080	U	ug/L	P360131	
		Primidone**	0.0040	U	ug/L	P360131	
		Pyraclostrobin**	0.0020	U	ug/L	P360131	
		Triclopyr**	0.0040	U	ug/L	P360131	
2068947	EPA 200.7 Rev. 4.4	Iron	500		ug/L	P360395	
		Manganese	19.8		ug/L	P360395	
		Zinc	9.2	I	ug/L	P360395	
	EPA 200.8 Rev. 5.4	Aluminum	192		ug/L	P360395	
		Antimony	0.14	I	ug/L	P360395	
		Arsenic	1.56		ug/L	P360395	
		Cadmium	0.020	U	ug/L	P360395	
		Chromium	0.64	I	ug/L	P360395	
		Copper	1.81		ug/L	P360395	

Field ID: 20030072

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2068947	EPA 200.8 Rev. 5.4	Lead	1.16		ug/L	P360395	
		Nickel	0.69	I	ug/L	P360395	
		Selenium	0.21	I	ug/L	P360395	
		Silver	0.010	U	ug/L	P360395	
		Thallium	0.10	U	ug/L	P360395	

Ref. Method and Comment:

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

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Glyphosate 13C 15N surrogate spike recovery exceeding the control limits.

Results confirmed in sample duplicate.

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Sucralose-d6 surrogate spike recovery exceeding the control limits. Results confirmed in re-extraction.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360286

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360287

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360395

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: P360395

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 300.0
Batch ID: P360571

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360587

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360468

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: P360549

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360529

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360532

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360298

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

Reference Method: EPA 8321B
Batch ID: P360131

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
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P360251

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
Sucralose	0.010	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P360895

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

Reference Method: SM 2540 D-97
Batch ID: P360658

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P360902

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P360635

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: P360395

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	105		P	85 - 115
Manganese	106		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360395

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	104		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	107		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	105		P	85 - 115
Copper	103		P	85 - 115
Lead	103		P	85 - 115
Nickel	103		P	85 - 115
Selenium	105		P	85 - 115
Silver	100		P	85 - 115
Thallium	98.3		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P360571

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360587

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360468

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	108		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360549

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360529

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360532

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: P360298

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

Reference Method: EPA 8321B
Batch ID: P360131

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	97.9		P	40 - 150
Acetaminophen	80.2		P	30 - 150
Bentazon	91.3		P	30 - 150
Carbamazepine	96.3		P	40 - 150
Diuron	72.2		P	40 - 150
Fenuron	129		P	40 - 150
Fluridone	115		P	40 - 150
Hydrocodone	119		P	40 - 150
Ibuprofen	82.7		P	40 - 150
Imazapyr	111		P	40 - 150
Imidacloprid	107		P	40 - 150
Linuron	77.4		P	40 - 150
MCPP	126		P	40 - 150
Naproxen	66.3		P	40 - 150
Primidone	111		P	40 - 150
Pyraclostrobin	67.2		P	40 - 150
Triclopyr	65.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P360251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	81.7		P	40 - 150
AMPA	92.5		P	40 - 150
Endothall	74.4		P	40 - 150
Glufosinate	123		P	40 - 150
Glyphosate	115		P	40 - 140
Sucralose	74.0		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P360895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P360902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	91 - 105

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P360635

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068882	Iron	107		P	80 - 120
2068882	Manganese	105		P	80 - 120
2068882	Zinc	104		P	80 - 120
2069070	Iron	104	104	P/P	80 - 120
2069070	Manganese	104	101	P/P	80 - 120
2069070	Zinc	105	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068882	Aluminum	101		P	80 - 120
2068882	Antimony	105		P	80 - 120
2068882	Arsenic	109		P	80 - 120
2068882	Cadmium	107		P	80 - 120
2068882	Chromium	102		P	80 - 120
2068882	Copper	100		P	80 - 120
2068882	Lead	103		P	80 - 120
2068882	Nickel	101		P	80 - 120
2068882	Selenium	105		P	80 - 120
2068882	Silver	100		P	80 - 120
2068882	Thallium	101		P	80 - 120
2069070	Aluminum	101	101	P/P	80 - 120
2069070	Antimony	103	103	P/P	80 - 120
2069070	Arsenic	108	107	P/P	80 - 120
2069070	Cadmium	105	105	P/P	80 - 120
2069070	Chromium	103	103	P/P	80 - 120
2069070	Copper	101	100	P/P	80 - 120
2069070	Lead	101	101	P/P	80 - 120
2069070	Nickel	101	101	P/P	80 - 120
2069070	Selenium	104	103	P/P	80 - 120
2069070	Silver	100	100	P/P	80 - 120
2069070	Thallium	97.6	99.6	P/P	80 - 120

Reference Method: EPA 300.0
Batch ID: P360571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068488	Bromide	98.9	95.8	P/P	90 - 110
2068891	Bromide	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360587

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068957	Ammonia-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068931	Kjeldahl Nitrogen	108	106	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360549

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068930	NO2NO3-N	99.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068847	Total-P	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068931	Total-P	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068863	O-Phosphate-P	94.2	96.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P360131

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069006	2,4-D	119	92.7	P/P	40 - 150
2069006	Acetaminophen	118	116	P/P	30 - 150
2069006	Bentazon	77.2	61.1	P/P	30 - 150
2069006	Carbamazepine	87.2	74.3	P/P	40 - 150
2069006	Diuron	62.3	58.5	P/P	40 - 150
2069006	Fenuron	123	118	P/P	40 - 150
2069006	Fluridone	124	111	P/P	40 - 150
2069006	Hydrocodone	117	118	P/P	40 - 150
2069006	Ibuprofen	78.8	69.2	P/P	40 - 150
2069006	Imazapyr	138	114	P/P	40 - 150
2069006	Imidacloprid	197	183	F/F	40 - 150
2069006	Linuron	72.6	73.4	P/P	40 - 150
2069006	MCPP	162	142	F/P	40 - 150
2069006	Naproxen	85.7	74.9	P/P	40 - 150
2069006	Primidone	125	104	P/P	40 - 150
2069006	Pyraclostrobin	77.3	65.8	P/P	40 - 150
2069006	Triclopyr	88.4	72.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P360251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068775	Acesulfame K	158	178	F/F	40 - 150
2068775	AMPA	71.7	74.4	P/P	40 - 150
2068775	Endothall	76.9	76.7	P/P	40 - 150
2068775	Glufosinate	83.4	100	P/P	40 - 150
2068775	Glyphosate	104	106	P/P	40 - 140
2068775	Sucralose	101	101	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P360902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2069078	Fluoride	93.6	95.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P360635

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2068733	Organic Carbon	97.8	99.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068886	Turbidity	2.44	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P360287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068980	Turbidity	2.86	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P360395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069070	Iron	0.156	Spike	P	0 - 20
2069070	Manganese	2.13	Spike	P	0 - 20
2069070	Zinc	2.62	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P360395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069070	Aluminum	0.260	Spike	P	0 - 20
2069070	Antimony	0.174	Spike	P	0 - 20
2069070	Arsenic	0.365	Spike	P	0 - 20
2069070	Cadmium	0.0979	Spike	P	0 - 20
2069070	Chromium	0.535	Spike	P	0 - 20
2069070	Copper	0.356	Spike	P	0 - 20
2069070	Lead	0.134	Spike	P	0 - 20
2069070	Nickel	0.166	Spike	P	0 - 20
2069070	Selenium	0.437	Spike	P	0 - 20
2069070	Silver	0.401	Spike	P	0 - 20
2069070	Thallium	2.06	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P360571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068488	Bromide	2.25	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P360587

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068957	Ammonia-N	0.461	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P360468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068931	Kjeldahl Nitrogen	1.10	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P360549

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068930	NO2NO3-N	0.707	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068847	Total-P	0.589	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P360532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068931	Total-P	0.783	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P360298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068863	O-Phosphate-P	1.57	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P360131

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069006	2,4-D	23.0	Spike	P	0 - 30
2069006	Acetaminophen	1.77	Spike	P	0 - 30
2069006	Bentazon	9.24	Spike	P	0 - 30
2069006	Carbamazepine	15.9	Spike	P	0 - 30
2069006	Diuron	3.15	Spike	P	0 - 30
2069006	Fenuron	4.26	Spike	P	0 - 30
2069006	Fluridone	6.68	Spike	P	0 - 30
2069006	Hydrocodone	1.12	Spike	P	0 - 30
2069006	Ibuprofen	13.0	Spike	P	0 - 30
2069006	Imazapyr	9.49	Spike	P	0 - 30
2069006	Imidacloprid	6.77	Spike	P	0 - 30
2069006	Linuron	1.17	Spike	P	0 - 30
2069006	MCP	12.8	Spike	P	0 - 30
2069006	Naproxen	13.5	Spike	P	0 - 30
2069006	Primidone	18.2	Spike	P	0 - 30
2069006	Pyraclostrobin	15.3	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P360131

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069006	Triclopyr	19.7	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P360251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068775	Acesulfame K	11.3	Spike	P	0 - 30
2068775	AMPA	2.75	Spike	P	0 - 30
2068775	Endothall	0.330	Spike	P	0 - 30
2068775	Glufosinate	18.2	Spike	P	0 - 30
2068775	Glyphosate	1.20	Spike	P	0 - 30
2068775	Sucralose	0.443	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P360895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069078	Total Alkalinity	0.869	Sample	P	0 - 1.6

Reference Method: SM 4500 F-C-97
Batch ID: P360902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2069078	Fluoride	1.47	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P360635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2068733	Organic Carbon	1.21	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: 2068943
Field Sample ID: 20030072 dup

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	87.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	92.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	67.0	P	30 - 160
EPA 8321B	Diuron-d6	55.2	P	30 - 160
EPA 8321B	Endothall-d6	71.2	P	30 - 160
EPA 8321B	Endothall-d6	71.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	29.5	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	29.5	F	30 - 160
EPA 8321B	Ibuprofen-d3	64.3	P	30 - 160
EPA 8321B	Primidone-d5	87.0	P	30 - 160
EPA 8321B	Sucralose-d6	12.4	F	30 - 160
EPA 8321B	Sucralose-d6	12.4	F	30 - 160

Lab Sample ID: 2068944
Field Sample ID: 20030072

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	89.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	91.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.2	P	30 - 160
EPA 8321B	Diuron-d6	62.0	P	30 - 160
EPA 8321B	Endothall-d6	69.7	P	30 - 160
EPA 8321B	Endothall-d6	69.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	25.6	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	25.6	F	30 - 160
EPA 8321B	Ibuprofen-d3	66.4	P	30 - 160
EPA 8321B	Primidone-d5	89.8	P	30 - 160
EPA 8321B	Sucralose-d6	18.9	F	30 - 160
EPA 8321B	Sucralose-d6	18.9	F	30 - 160

Lab Sample ID: 2068945
Field Sample ID: FB 03052019

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	61.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.7	P	30 - 160
EPA 8321B	Diuron-d6	72.6	P	30 - 160
EPA 8321B	Endothall-d6	65.2	P	30 - 160
EPA 8321B	Endothall-d6	65.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	72.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	72.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	59.6	P	30 - 160
EPA 8321B	Primidone-d5	82.0	P	30 - 160
EPA 8321B	Sucralose-d6	94.0	P	30 - 160
EPA 8321B	Sucralose-d6	94.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A89962

Included Lab Sample IDs: 2068928, 2068929, 2068934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.0	P/P	95 - 105
Turbidity	99.0	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A89964

Included Lab Sample IDs: 2068932, 2068933, 2068936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	98.7	P/P	90 - 110
O-Phosphate-P	97.6	99.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A89982

Included Lab Sample IDs: 2068943, 2068944, 2068945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	73.9	84.8	P/P	60 - 160
Acesulfame K	84.8	113	P/P	60 - 160
Endothall	81.0	90.6	P/P	60 - 160
Endothall	84.7	81.0	P/P	60 - 160
Sucralose	79.2	88.0	P/P	60 - 160
Sucralose	88.0	105	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A89984

Included Lab Sample IDs: 2068943, 2068944, 2068945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	93.9	105	P/P	60 - 160
Glufosinate	128	128	P/P	60 - 160
Glyphosate	117	111	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A90019

Included Lab Sample IDs: 2068946, 2068947, 2068948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	102	101	P/P	95 - 105
Iron	104	107	P/P	90 - 110
Manganese	103	103	P/P	95 - 105
Manganese	104	106	P/P	90 - 110
Zinc	102	107	P/P	90 - 110
Zinc	98.7	99.1	P/P	95 - 105

Reference Method: EPA 300.0

Run ID: A90025

Included Lab Sample IDs: 2068928, 2068929, 2068934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	96.8	97.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A90029

Included Lab Sample IDs: 2068930, 2068931, 2068935

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: A90056

Included Lab Sample IDs: 2068930, 2068931, 2068935

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90063

Included Lab Sample IDs: 2068930, 2068931

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A90069

Included Lab Sample IDs: 2068930, 2068931, 2068935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	105	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A90074

Included Lab Sample IDs: 2068946, 2068947, 2068948

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	99.7	P/P	90 - 110
Aluminum	99.5	98.8	P/P	90 - 110
Antimony	94.9	96.1	P/P	90 - 110
Antimony	97.2	98.2	P/P	90 - 110
Arsenic	100	99.4	P/P	90 - 110
Arsenic	100	101	P/P	90 - 110
Cadmium	96.0	97.3	P/P	90 - 110
Cadmium	97.5	98.3	P/P	90 - 110
Chromium	98.8	100	P/P	90 - 110
Chromium	99.7	99.4	P/P	90 - 110
Copper	100	98.8	P/P	90 - 110
Copper	99.7	99.8	P/P	90 - 110
Lead	99.3	98.5	P/P	90 - 110
Lead	99.5	99.3	P/P	90 - 110
Nickel	98.7	99.2	P/P	90 - 110
Nickel	99.9	98.4	P/P	90 - 110
Selenium	97.7	98.9	P/P	90 - 110
Selenium	98.9	98.6	P/P	90 - 110
Silver	93.8	94.3	P/P	90 - 110
Silver	95.0	95.2	P/P	90 - 110
Thallium	92.1	90.9	P/P	90 - 110
Thallium	92.4	92.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A90082

Included Lab Sample IDs: 2068930, 2068931, 2068935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	96.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A90091

Included Lab Sample IDs: 2068943, 2068944, 2068945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.3	73.2	P/P	50 - 150
Acetaminophen	102	113	P/P	60 - 160
Bentazon	95.7	90.1	P/P	50 - 160
Carbamazepine	108	101	P/P	60 - 150
Diuron	110	90.2	P/P	60 - 150
Fenuron	112	106	P/P	60 - 150
Fluridone	115	112	P/P	60 - 160
Hydrocodone	116	104	P/P	60 - 150
Ibuprofen	80.0	90.1	P/P	50 - 160
Imazapyr	88.4	90.4	P/P	50 - 150
Imidacloprid	109	89.9	P/P	60 - 150
Linuron	87.6	99.3	P/P	60 - 150
MCPP	92.4	81.8	P/P	50 - 150
Naproxen	97.7	91.9	P/P	50 - 160
Primidone	80.3	88.9	P/P	60 - 150
Pyraclostrobin	95.9	69.9	P/P	60 - 150
Triclopyr	98.7	96.2	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A90147

Included Lab Sample IDs: 2068935

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

Reference Method: SM 2320 B-97

Run ID: A90183

Included Lab Sample IDs: 2068928, 2068929, 2068934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.9	P/P	90 - 110
Total Alkalinity	99.9	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A90183

Included Lab Sample IDs: 2068928, 2068929, 2068934

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					2.44	
	Turbidity					2.86	
EPA 200.7 Rev. 4.4	Iron	105	107	104	104		0.156
	Manganese	106	105	104	101		2.13
	Zinc	102	104	105	102		2.62
EPA 200.8 Rev. 5.4	Aluminum	104	101	101	101		0.260
	Antimony	102	105	103	103		0.174
	Arsenic	107	109	108	107		0.365
	Cadmium	104	107	105	105		0.0979
	Chromium	105	102	103	103		0.535
	Copper	103	100	101	100		0.356
	Lead	103	103	101	101		0.134
	Nickel	103	101	101	101		0.166
	Selenium	105	105	104	103		0.437
	Silver	100	100	100	100		0.401
	Thallium	98.3	101	97.6	99.6		2.06
EPA 300.0	Bromide	97.8	98.9	95.8	98.0		2.25
EPA 350.1 Rev. 2.0	Ammonia-N	101	99.5	99.0			0.461
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	108	106			1.10
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	99.2				0.707
EPA 365.1 Rev. 2.0	Total-P	100	101	102			0.589
	Total-P	102	102	103			0.783
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.3	94.2	96.1			1.57
EPA 8321B	2,4-D	97.9	119	92.7			23.0
	Acesulfame K	81.7	158	178			11.3
	Acetaminophen	80.2	118	116			1.77
	AMPA	92.5	71.7	74.4			2.75
	Bentazon	91.3	77.2	61.1			9.24
	Carbamazepine	96.3	87.2	74.3			15.9
	Diuron	72.2	62.3	58.5			3.15
	Endothall	74.4	76.9	76.7			0.330
	Fenuron	129	123	118			4.26
	Fluridone	115	124	111			6.68
	Glufosinate	123	83.4	100			18.2
	Glyphosate	115	104	106			1.20
	Hydrocodone	119	117	118			1.12
	Ibuprofen	82.7	78.8	69.2			13.0
	Imazapyr	111	138	114			9.49
	Imidacloprid	107	197	183			6.77
	Linuron	77.4	72.6	73.4			1.17
	MCPP	126	162	142			12.8
	Naproxen	66.3	85.7	74.9			13.5
	Primidone	111	125	104			18.2
	Pyraclostrobin	67.2	77.3	65.8			15.3
	Sucralose	74.0	101	101			0.443
	Triclopyr	65.1	88.4	72.6			19.7
SM 2320 B-97	Total Alkalinity	101				0.869	
SM 4500 F-C-97	Fluoride	98.1	93.6	95.2			1.47
SM 5310 B-00	Organic Carbon	97.6	97.8	99.1			1.21

Reference Method Descriptions

Method / DoH Cert #

Description

Associated Samples

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2068928, 2068929, 2068934
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2068946, 2068947, 2068948
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2068946, 2068947, 2068948
EPA 300.0 / E31780	Bromide in aqueous matrices	2068928, 2068929, 2068934
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2068930, 2068931, 2068935
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2068930, 2068931, 2068935
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2068930, 2068931, 2068935
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2068930, 2068931, 2068935
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2068932, 2068933, 2068936
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2068943, 2068944, 2068945
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2068943, 2068944, 2068945
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2068928, 2068929, 2068934
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2068928, 2068929, 2068934
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2068928, 2068929, 2068934
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2068930, 2068931, 2068935

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	03/12/2019			03/12/2019 16:50	Adrian Shelby	2068928, 2068929, 2068934
EPA 200.7 Rev. 4.4	03/12/2019	03/13/2019 17:35	Elliott D. Healy	03/14/2019 13:26	Betina Topolski	2068948
	03/12/2019	03/13/2019 17:35	Elliott D. Healy	03/14/2019 16:14	Betina Topolski	2068946
	03/12/2019	03/13/2019 17:35	Elliott D. Healy	03/14/2019 16:33	Betina Topolski	2068947
EPA 200.8 Rev. 5.4	03/12/2019	03/13/2019 17:35	Elliott D. Healy	03/16/2019 07:05	Allison Taylor	2068948
	03/12/2019	03/13/2019 17:35	Elliott D. Healy	03/16/2019 10:35	Allison Taylor	2068946
	03/12/2019	03/13/2019 17:35	Elliott D. Healy	03/16/2019 10:44	Allison Taylor	2068947
EPA 300.0	03/12/2019			03/16/2019 17:50	Lipi Saha	2068928
	03/12/2019			03/16/2019 18:07	Lipi Saha	2068929
	03/12/2019			03/16/2019 18:24	Lipi Saha	2068934
EPA 350.1 Rev. 2.0	03/12/2019			03/15/2019 12:36	Ping Hua	2068930
	03/12/2019			03/15/2019 12:37	Ping Hua	2068935
	03/12/2019			03/15/2019 12:45	Ping Hua	2068931
EPA 351.2 Rev. 2.0	03/12/2019	03/14/2019 12:17	Adrian Shelby	03/15/2019 15:53	Joseph Suarez	2068930
	03/12/2019	03/14/2019 12:17	Adrian Shelby	03/15/2019 15:55	Joseph Suarez	2068931
	03/12/2019	03/14/2019 12:17	Adrian Shelby	03/15/2019 15:59	Joseph Suarez	2068935
EPA 353.2 Rev. 2.0	03/12/2019			03/15/2019 09:06	Beverly Y. Sanders	2068930
	03/12/2019			03/15/2019 09:12	Beverly Y. Sanders	2068931
	03/12/2019			03/15/2019 09:13	Beverly Y. Sanders	2068935
EPA 365.1 Rev. 2.0	03/12/2019	03/15/2019 14:20	Sima Feizi	03/18/2019 10:16	Beverly Y. Sanders	2068931
	03/12/2019	03/15/2019 14:20	Sima Feizi	03/18/2019 10:20	Beverly Y. Sanders	2068930
	03/12/2019	03/15/2019 14:20	Sima Feizi	03/19/2019 13:35	Beverly Y. Sanders	2068935
EPA 365.1 Rev. 2.0 dissolved	03/12/2019			03/12/2019 15:49	Jhamieka S. Greenwood	2068936
	03/12/2019			03/12/2019 16:23	Jhamieka S. Greenwood	2068932, 2068933
EPA 8321B	03/12/2019	03/12/2019 15:00	Hoor Shaik	03/12/2019 17:47	Juyoung Kim	2068943
	03/12/2019	03/12/2019 15:00	Hoor Shaik	03/12/2019 17:58	Juyoung Kim	2068944
	03/12/2019	03/12/2019 15:00	Hoor Shaik	03/12/2019 18:09	Juyoung Kim	2068945
	03/12/2019	03/12/2019 15:00	Hoor Shaik	03/13/2019 01:58	Juyoung Kim	2068943
	03/12/2019	03/12/2019 15:00	Hoor Shaik	03/13/2019 02:12	Juyoung Kim	2068944
	03/12/2019	03/12/2019 15:00	Hoor Shaik	03/13/2019 02:40	Juyoung Kim	2068945
	03/12/2019	03/13/2019 10:00	Hoor Shaik	03/16/2019 08:35	Juyoung Kim	2068943
	03/12/2019	03/13/2019 10:00	Hoor Shaik	03/16/2019 09:10	Juyoung Kim	2068944
	03/12/2019	03/13/2019 10:00	Hoor Shaik	03/16/2019 09:45	Juyoung Kim	2068945
SM 2320 B-97	03/12/2019			03/21/2019 05:03	Dale L. Simmons	2068934
	03/12/2019			03/21/2019 08:39	Dale L. Simmons	2068928
	03/12/2019			03/21/2019 08:53	Dale L. Simmons	2068929
SM 2540 D-97	03/12/2019			03/13/2019 14:03	Yijie Li	2068928, 2068929, 2068934
SM 4500 F-C-97	03/12/2019			03/21/2019 05:03	Dale L. Simmons	2068934
	03/12/2019			03/21/2019 08:39	Dale L. Simmons	2068928
	03/12/2019			03/21/2019 08:53	Dale L. Simmons	2068929

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	03/12/2019			03/19/2019 01:56	Julia Storbeck	2068930
	03/12/2019			03/19/2019 02:10	Julia Storbeck	2068931
	03/12/2019			03/19/2019 02:23	Julia Storbeck	2068935