

Chemical Analysis Report

SO-DIST-2019-06-25-02

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

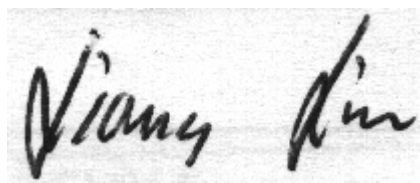
Event Description: **LaBelle**
Request ID: **RQ-2019-06-24-12**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 15-JUL-2019 10:20

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

Case Narrative

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

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

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

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

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

Collection Date/Time: 06/24/2019 09:15

Field ID: G3SD0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2098208	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P366308	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P366537	
		Sulfate	8.5		mg SO4/L	P366538	
	SM 2120 B	Color (true)	690		PCU	P366289	
	SM 2320 B-97	Total Alkalinity	15		mg CaCO3/L	P366445	RPD
	SM 2540 C-97	TDS	213		mg/L	P366618	
	SM 2540 D-97	TSS	2	I	mg/L	P366610	
	SM 4500 F-C-97	Fluoride	0.087	I	mg F/L	P366583	
2098209	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P366754	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.5		mg N/L	P366395	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.090		mg N/L	P366438	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P366339	
	SM 5310 B-00	Organic Carbon	52		mg C/L	P366423	
2098210	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P366292	

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: PollywogCreek@SR78

Collection Date/Time: 06/24/2019 09:45

Field ID: G3SD0098

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2098237	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P366232	
		2,4-D	0.0050	I	ug/L	P366199	MS
		AMPA**	0.10	U	ug/L	P366232	
		Acetaminophen**	0.0080	U	ug/L	P366199	
		Endothall**	0.25	U	ug/L	P366232	
		Glufosinate**	0.10	U	ug/L	P366232	
		Glyphosate**	0.10	U	ug/L	P366232	
		Sucralose**	0.020	I	ug/L	P366232	
		Bentazon	8.0E-04	U	ug/L	P366199	
		Carbamazepine**	8.0E-04	U	ug/L	P366199	
		Diuron	0.0020	U	ug/L	P366199	
		Fenuron	0.016	U	ug/L	P366199	
		Fluridone**	8.0E-04	U	ug/L	P366199	
		Imazapyr**	0.0040	U	ug/L	P366199	MS
		Hydrocodone**	0.0020	U	ug/L	P366199	
		Ibuprofen**	0.020	U	ug/L	P366199	
		Imidacloprid	0.0043	I	ug/L	P366199	MS
		Linuron	0.0040	U	ug/L	P366199	
		MCPP	0.0020	U	ug/L	P366199	MS
		Naproxen**	0.0080	U	ug/L	P366199	
		Primidone**	0.0040	U	ug/L	P366199	
		Pyraclostrobin**	0.0020	U	ug/L	P366199	
		Triclopyr**	0.0040	U	ug/L	P366199	

Sample Location: Ok Branch @ Eucalyptus

Collection Date/Time: 06/24/2019 10:20

Field ID: G3SD0099_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2098217	EPA 180.1 Rev. 2.0	Turbidity	7.2		NTU	P366308	
	EPA 300.0 Rev. 2.1	Chloride	59		mg Cl/L	P366537	
		Sulfate	20		mg SO4/L	P366538	
		Color (true)	100		PCU	P366289	
	SM 2320 B-97	Total Alkalinity	241		mg CaCO3/L	P366453	
	SM 2540 C-97	TDS	392		mg/L	P366618	
	SM 2540 D-97	TSS	5	I	mg/L	P366610	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P366584	
2098218	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P366754	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P366395	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.034		mg N/L	P366438	
	EPA 365.1 Rev. 2.0	Total-P	0.098		mg P/L	P366339	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P366423	
2098219	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.045		mg P/L	P366292	
2098241	EPA 200.7 Rev. 4.4	Barium	18.3		ug/L	P366332	
		Calcium	95.1		mg/L	P366332	
		Iron	1.18E+03		ug/L	P366332	
		Magnesium	5.76		mg/L	P366332	
		Potassium	3.5		mg/L	P366332	
		Sodium	45.0		mg/L	P366332	
		Zinc	5.0	U	ug/L	P366332	
	EPA 200.8 Rev. 5.4	Aluminum	36		ug/L	P366332	
		Antimony	0.20		ug/L	P366332	
		Arsenic	2.33		ug/L	P366332	
		Boron**	65.8		ug/L	P366332	
		Cadmium	0.020	U	ug/L	P366332	
		Chromium	0.54	I	ug/L	P366332	
		Copper	0.40	U	ug/L	P366332	
		Lead	0.20	U	ug/L	P366332	
		Nickel	0.54	I	ug/L	P366332	
		Selenium	0.20	U	ug/L	P366332	
		Silver	0.010	U	ug/L	P366332	
		Thallium	0.10	U	ug/L	P366332	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Ok Branch @ Eucalyptus

Collection Date/Time: 06/24/2019 10:15

Field ID: G3SD0099

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2098214	EPA 180.1 Rev. 2.0	Turbidity	7.4	A	NTU	P366308	
	EPA 300.0 Rev. 2.1	Chloride	63		mg Cl/L	P366537	
		Sulfate	21		mg SO4/L	P366538	
	SM 2120 B	Color (true)	97		PCU	P366289	
	SM 2320 B-97	Total Alkalinity	245		mg CaCO3/L	P366453	
	SM 2540 C-97	TDS	403		mg/L	P366618	
	SM 2540 D-97	TSS	4	I	mg/L	P366610	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P366584	
2098215	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P366754	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P366395	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.034		mg N/L	P366438	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P366339	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P366423	
2098216	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.046		mg P/L	P366292	
2098239	EPA 8321B	Acesulfame K**	0.19	I	ug/L	P366232	
		2,4-D	0.0085		ug/L	P366199	MS
		AMPA**	0.53		ug/L	P366232	
		Acetaminophen**	0.0080	U	ug/L	P366199	
		Endothall**	0.25	U	ug/L	P366232	
		Glufosinate**	0.10	U	ug/L	P366232	
		Glyphosate**	0.10	U	ug/L	P366232	
		Sucralose**	0.76		ug/L	P366232	
		Bentazon	0.0071		ug/L	P366199	
		Carbamazepine**	0.0060		ug/L	P366199	
		Diuron	0.0020	U	ug/L	P366199	
		Fenuron	0.016	U	ug/L	P366199	
		Fluridone**	0.22		ug/L	P366199	
		Imazapyr**	0.028		ug/L	P366199	MS
		Hydrocodone**	0.0020	U	ug/L	P366199	
		Ibuprofen**	0.020	U	ug/L	P366199	
		Imidacloprid	0.0021	I	ug/L	P366199	MS
		Linuron	0.0040	U	ug/L	P366199	
		MCP	0.0020	U	ug/L	P366199	MS
		Naproxen**	0.0080	U	ug/L	P366199	
		Primidone**	0.0040	U	ug/L	P366199	
		Pyraclostrobin**	0.0020	U	ug/L	P366199	
		Triclopyr**	0.0040	U	ug/L	P366199	
2098240	EPA 200.7 Rev. 4.4	Barium	18.9		ug/L	P366332	
		Calcium	95.5		mg/L	P366332	
		Iron	1.08E+03		ug/L	P366332	
		Magnesium	6.25		mg/L	P366332	
		Potassium	3.7		mg/L	P366332	
		Sodium	50.4		mg/L	P366332	

Field ID: G3SD0099

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2098240	EPA 200.7 Rev. 4.4	Zinc	5.0	U	ug/L	P366332	
	EPA 200.8 Rev. 5.4	Aluminum	30		ug/L	P366332	
		Antimony	0.20	I	ug/L	P366332	
		Arsenic	2.27		ug/L	P366332	
		Boron**	70.2		ug/L	P366332	
		Cadmium	0.020	U	ug/L	P366332	
		Chromium	0.49	I	ug/L	P366332	
		Copper	0.40	U	ug/L	P366332	
		Lead	0.20	U	ug/L	P366332	
		Nickel	0.54	I	ug/L	P366332	
		Selenium	0.20	U	ug/L	P366332	
		Silver	0.010	U	ug/L	P366332	
		Thallium	0.10	U	ug/L	P366332	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Robert's Canal @SR80

Collection Date/Time: 06/24/2019 10:55

Field ID: G3SD0146

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2098211	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P366308	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P366537	
		Sulfate	6.9		mg SO4/L	P366538	
	SM 2120 B	Color (true)	160		PCU	P366289	
	SM 2320 B-97	Total Alkalinity	197		mg CaCO3/L	P366453	
	SM 2540 C-97	TDS	301		mg/L	P366618	
	SM 2540 D-97	TSS	3	I	mg/L	P366610	
	SM 4500 F-C-97	Fluoride	0.29		mg F/L	P366584	
2098212	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P366754	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P366395	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P366438	
	EPA 365.1 Rev. 2.0	Total-P	0.097		mg P/L	P366339	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P366423	
2098213	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.059		mg P/L	P366292	
2098238	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P366232	
		2,4-D	0.028		ug/L	P366199	MS
		AMPA**	1.1		ug/L	P366232	
		Acetaminophen**	0.0080	U	ug/L	P366199	
		Endothall**	0.25	U	ug/L	P366232	
		Glufosinate**	0.10	U	ug/L	P366232	
		Glyphosate**	0.10	U	ug/L	P366232	
		Sucralose**	0.010	U	ug/L	P366232	
		Bentazon	0.0024	I	ug/L	P366199	
		Carbamazepine**	8.0E-04	U	ug/L	P366199	
		Diuron	0.0031	I	ug/L	P366199	
		Fenuron	0.016	U	ug/L	P366199	
		Fluridone**	0.0030	I	ug/L	P366199	
		Imazapyr**	0.14		ug/L	P366199	MS
		Hydrocodone**	0.0020	U	ug/L	P366199	
		Ibuprofen**	0.020	U	ug/L	P366199	
		Imidacloprid	0.25		ug/L	P366199	MS
		Linuron	0.0040	U	ug/L	P366199	
		MCP	0.0020	U	ug/L	P366199	MS
		Naproxen**	0.011	I	ug/L	P366199	
		Primidone**	0.0040	U	ug/L	P366199	
		Pyraclostrobin**	0.0020	U	ug/L	P366199	
		Triclopyr**	0.0040	U	ug/L	P366199	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P366308

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P366332

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P366332

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	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 Rev. 2.1
Batch ID: P366537

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366538

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366754

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366395

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366438

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366339

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366292

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

Reference Method: EPA 8321B
Batch ID: P366199

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: P366232

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 2120 B
Batch ID: P366289

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P366445

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

Reference Method: SM 2320 B-97
Batch ID: P366453

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

Reference Method: SM 2540 C-97
Batch ID: P366618

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P366610

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P366583

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P366584

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P366423

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: P366332

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	101		P	85 - 115
Iron	105		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	107		P	85 - 115
Sodium	101		P	85 - 115
Zinc	97.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P366332

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	106		P	85 - 115
Boron	102		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	102		P	85 - 115
Copper	105		P	85 - 115
Lead	101		P	85 - 115
Nickel	106		P	85 - 115
Selenium	104		P	85 - 115
Silver	109		P	85 - 115
Thallium	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366537

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366538

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366754

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366395

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366438

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: P366339

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366292

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

Reference Method: EPA 8321B
Batch ID: P366199

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	116		P	40 - 150
Acetaminophen	82.7		P	30 - 150
Bentazon	117		P	30 - 150
Carbamazepine	82.5		P	40 - 150
Diuron	83.2		P	40 - 150
Fenuron	100		P	40 - 150
Fluridone	93.2		P	40 - 150
Hydrocodone	98.7		P	40 - 150
Ibuprofen	83.5		P	30 - 150
Imazapyr	131		P	40 - 150
Imidacloprid	87.5		P	40 - 150
Linuron	63.2		P	40 - 150
MCPP	137		P	40 - 150
Naproxen	84.5		P	40 - 150
Primidone	79.5		P	40 - 150
Pyraclostrobin	69.4		P	30 - 150
Triclopyr	107		P	30 - 150

Reference Method: EPA 8321B
Batch ID: P366232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	116		P	40 - 150
AMPA	95.3		P	40 - 150
Endothall	94.4		P	40 - 150
Glufosinate	86.8		P	40 - 150
Glyphosate	95.3		P	40 - 140
Sucralose	103		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P366289

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P366445

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P366453

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P366583

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P366584

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P366423

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P366332

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098240	Barium	96.8	96.9	P/P	80 - 120
2098240	Iron	100	104	P/P	80 - 120
2098240	Magnesium	103		P	80 - 120
2098240	Potassium	103	99.3	P/P	80 - 120
2098240	Sodium	98.9		P	80 - 120
2098240	Zinc	99.1	99.1	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P366332

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098240	Aluminum	101	98.8	P/P	80 - 120
2098240	Antimony	105	104	P/P	80 - 120
2098240	Arsenic	109	109	P/P	80 - 120
2098240	Boron	103	102	P/P	80 - 120
2098240	Cadmium	106	103	P/P	80 - 120
2098240	Chromium	98.7	97.3	P/P	80 - 120
2098240	Copper	102	102	P/P	80 - 120
2098240	Lead	103	101	P/P	80 - 120
2098240	Nickel	100	99.9	P/P	80 - 120
2098240	Selenium	107	105	P/P	80 - 120
2098240	Silver	107	106	P/P	80 - 120
2098240	Thallium	109	108	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366537

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2097920	Chloride	102		P	90 - 110
2098211	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366538

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2097920	Sulfate	101		P	90 - 110
2098211	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098686	Ammonia-N	103	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098182	Kjeldahl Nitrogen	114	106	F/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366438

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098190	NO2NO3-N	94.0	93.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098182	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366292

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098176	O-Phosphate-P	96.6	97.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P366199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2097411	2,4-D	137	161	P/F	40 - 150
2097411	Acetaminophen	101	111	P/P	30 - 150
2097411	Bentazon	101	106	P/P	30 - 150
2097411	Carbamazepine	84.4	85.3	P/P	40 - 150
2097411	Diuron	77.0	78.4	P/P	40 - 150
2097411	Fenuron	93.2	96.6	P/P	40 - 150
2097411	Fluridone	85.2	84.1	P/P	40 - 150
2097411	Hydrocodone	116	117	P/P	40 - 150
2097411	Ibuprofen	83.3	90.6	P/P	30 - 150
2097411	Imazapyr	139	182	P/F	40 - 150
2097411	Imidacloprid	174	198	F/F	40 - 150
2097411	Linuron	55.0	53.0	P/P	40 - 150
2097411	MCP	187	189	F/F	40 - 150
2097411	Naproxen	95.4	81.8	P/P	40 - 150
2097411	Primidone	92.6	99.7	P/P	40 - 150
2097411	Pyraclostrobin	71.8	73.2	P/P	30 - 150
2097411	Triclopyr	122	136	P/P	30 - 150

Reference Method: EPA 8321B
Batch ID: P366232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2097186	Acesulfame K	134	139	P/P	40 - 150
2097186	AMPA	70.6	71.9	P/P	40 - 150
2097186	Endothall	97.7	100	P/P	40 - 150
2097186	Glufosinate	82.5	83.7	P/P	40 - 150
2097186	Glyphosate	77.1	79.8	P/P	40 - 140
2097186	Sucralose	107	106	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P366583

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098178	Fluoride	97.8	99.1	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P366584

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098685	Fluoride	97.1	97.6	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P366423

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098183	Organic Carbon	91.9	92.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P366308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098214	Turbidity	3.39	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P366332

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098240	Barium	0.0590	Spike	P	0 - 20
2098240	Calcium	0.674	Spike	P	0 - 20
2098240	Iron	3.14	Spike	P	0 - 20
2098240	Magnesium	2.39	Spike	P	0 - 20
2098240	Potassium	1.96	Spike	P	0 - 20
2098240	Sodium	0.692	Spike	P	0 - 20
2098240	Zinc	0.0365	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P366332

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098240	Aluminum	1.80	Spike	P	0 - 20
2098240	Antimony	1.54	Spike	P	0 - 20
2098240	Arsenic	0.167	Spike	P	0 - 20
2098240	Boron	0.937	Spike	P	0 - 20
2098240	Cadmium	2.84	Spike	P	0 - 20
2098240	Chromium	1.36	Spike	P	0 - 20
2098240	Copper	0.378	Spike	P	0 - 20
2098240	Lead	1.80	Spike	P	0 - 20
2098240	Nickel	0.187	Spike	P	0 - 20
2098240	Selenium	1.17	Spike	P	0 - 20
2098240	Silver	0.620	Spike	P	0 - 20
2098240	Thallium	1.00	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2097920	Chloride	0.427	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366538

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2097920	Sulfate	0.752	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098686	Ammonia-N	0.735	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098182	Kjeldahl Nitrogen	5.40	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098190	NO2NO3-N	0.534	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098182	Total-P	1.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366292

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098176	O-Phosphate-P	0.722	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P366199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2097411	2,4-D	11.9	Spike	P	0 - 30
2097411	Acetaminophen	8.61	Spike	P	0 - 30
2097411	Bentazon	2.77	Spike	P	0 - 30
2097411	Carbamazepine	1.14	Spike	P	0 - 30
2097411	Diuron	1.59	Spike	P	0 - 30
2097411	Fenuron	3.59	Spike	P	0 - 30
2097411	Fluridone	1.25	Spike	P	0 - 30
2097411	Hydrocodone	1.01	Spike	P	0 - 30
2097411	Ibuprofen	8.35	Spike	P	0 - 30
2097411	Imazapyr	20.8	Spike	P	0 - 30
2097411	Imidacloprid	6.52	Spike	P	0 - 30
2097411	Linuron	3.84	Spike	P	0 - 30
2097411	MCP	1.01	Spike	P	0 - 30
2097411	Naproxen	15.4	Spike	P	0 - 30
2097411	Primidone	7.35	Spike	P	0 - 30
2097411	Pyraclostrobin	1.99	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P366199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2097411	Triclopyr	11.2	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P366232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2097186	Acesulfame K	4.04	Spike	P	0 - 30
2097186	AMPA	1.74	Spike	P	0 - 30
2097186	Endothall	2.39	Spike	P	0 - 30
2097186	Glufosinate	1.47	Spike	P	0 - 30
2097186	Glyphosate	3.43	Spike	P	0 - 30
2097186	Sucralose	1.04	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P366289

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098179	Color (true)	1.33	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P366445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098178	Total Alkalinity	5.44	Sample	F	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P366453

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098685	Total Alkalinity	0.691	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P366618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098177	TDS	5.56	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P366583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098178	Fluoride	0.979	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P366584

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098685	Fluoride	0.519	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P366423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098183	Organic Carbon	0.104	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: 2098237
Field Sample ID: G3SD0098

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	125	P	30 - 160
EPA 8321B	Acetaminophen-d4	78.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.7	P	30 - 160
EPA 8321B	Diuron-d6	53.6	P	30 - 160
EPA 8321B	Endothall-d6	98.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	58.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	86.4	P	30 - 160
EPA 8321B	Primidone-d5	58.2	P	30 - 160
EPA 8321B	Sucralose-d6	89.6	P	30 - 160

Lab Sample ID: 2098238
Field Sample ID: G3SD0146

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	134	P	30 - 160
EPA 8321B	Acetaminophen-d4	76.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	65.7	P	30 - 160
EPA 8321B	Diuron-d6	68.0	P	30 - 160
EPA 8321B	Endothall-d6	99.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	42.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	93.4	P	30 - 160
EPA 8321B	Primidone-d5	80.5	P	30 - 160
EPA 8321B	Sucralose-d6	88.3	P	30 - 160

Lab Sample ID: 2098239
Field Sample ID: G3SD0099

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	141	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.4	P	30 - 160
EPA 8321B	Diuron-d6	69.3	P	30 - 160
EPA 8321B	Endothall-d6	94.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	41.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	81.1	P	30 - 160
EPA 8321B	Primidone-d5	91.6	P	30 - 160
EPA 8321B	Sucralose-d6	80.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A92336

Included Lab Sample IDs: 2098208, 2098211, 2098214, 2098217

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

Reference Method: SM 2120 B

Run ID: A92345

Included Lab Sample IDs: 2098208, 2098211, 2098214, 2098217

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A92347

Included Lab Sample IDs: 2098210, 2098213, 2098216, 2098219

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A92356

Included Lab Sample IDs: 2098208, 2098211, 2098214, 2098217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	96.5	98.5	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A92361

Included Lab Sample IDs: 2098237, 2098238, 2098239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	71.0	130	P/P	60 - 160
Endothall	98.6	102	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A92363

Included Lab Sample IDs: 2098237, 2098238, 2098239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	71.7	74.5	P/P	60 - 160
Glufosinate	80.5	119	P/P	60 - 160
Glyphosate	82.8	127	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A92372

Included Lab Sample IDs: 2098237, 2098238, 2098239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	107	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A92389

Included Lab Sample IDs: 2098209, 2098212, 2098215, 2098218

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.6	97.9	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A92399

Included Lab Sample IDs: 2098240, 2098241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	95 - 105
Barium	101	101	P/P	90 - 110
Calcium	101	101	P/P	95 - 105
Calcium	101	100	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Iron	102	102	P/P	95 - 105
Magnesium	102	102	P/P	90 - 110
Magnesium	102	102	P/P	95 - 105
Potassium	100	101	P/P	95 - 105
Potassium	101	101	P/P	90 - 110
Sodium	102	102	P/P	90 - 110
Sodium	99.7	102	P/P	95 - 105
Zinc	100	99.8	P/P	95 - 105
Zinc	99.8	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A92403

Included Lab Sample IDs: 2098209, 2098212, 2098215, 2098218

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

Reference Method: SM 5310 B-00

Run ID: A92406

Included Lab Sample IDs: 2098209, 2098212, 2098215, 2098218

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	95.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A92417

Included Lab Sample IDs: 2098208

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

Reference Method: SM 2320 B-97

Run ID: A92420

Included Lab Sample IDs: 2098211, 2098214, 2098217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	99.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A92486

Included Lab Sample IDs: 2098209, 2098212, 2098215, 2098218

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	97.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A92489

Included Lab Sample IDs: 2098240, 2098241

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	103	P/P	90 - 110
Aluminum	103	104	P/P	90 - 110
Antimony	96.7	97.0	P/P	90 - 110
Antimony	97.0	95.5	P/P	90 - 110
Arsenic	102	101	P/P	90 - 110
Arsenic	103	102	P/P	90 - 110
Boron	104	104	P/P	90 - 110
Boron	97.0	104	P/P	90 - 110
Cadmium	100	98.9	P/P	90 - 110
Cadmium	99.5	100	P/P	90 - 110
Chromium	100	101	P/P	90 - 110
Chromium	101	97.5	P/P	90 - 110
Copper	104	103	P/P	90 - 110
Copper	104	104	P/P	90 - 110
Lead	100	99.8	P/P	90 - 110
Lead	99.8	100	P/P	90 - 110
Nickel	102	101	P/P	90 - 110
Nickel	103	102	P/P	90 - 110
Selenium	101	100	P/P	90 - 110
Selenium	102	101	P/P	90 - 110
Silver	105	104	P/P	90 - 110
Silver	105	105	P/P	90 - 110
Thallium	96.3	98.1	P/P	90 - 110
Thallium	98.1	97.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A92490

Included Lab Sample IDs: 2098208, 2098211, 2098214, 2098217

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	99.1	P/P	90 - 110
Fluoride	99.5	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A92569

Included Lab Sample IDs: 2098237, 2098238, 2098239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	81.7	79.9	P/P	50 - 150
Acetaminophen	103	101	P/P	60 - 160
Bentazon	112	114	P/P	50 - 160
Carbamazepine	104	102	P/P	60 - 150
Diuron	106	103	P/P	60 - 150
Fenuron	107	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A92569

Included Lab Sample IDs: 2098237, 2098238, 2098239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	102	112	P/P	60 - 160
Hydrocodone	94.6	102	P/P	60 - 150
Ibuprofen	82.6	90.0	P/P	50 - 160
Imazapyr	122	112	P/P	50 - 150
Imidacloprid	88.9	84.8	P/P	60 - 150
Linuron	91.4	88.0	P/P	60 - 150
MCPP	81.6	80.0	P/P	50 - 150
Naproxen	132	101	P/P	50 - 160
Primidone	100	95.2	P/P	60 - 150
Pyraclostrobin	78.6	80.7	P/P	60 - 150
Triclopyr	80.8	79.3	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A92572

Included Lab Sample IDs: 2098209, 2098212, 2098215, 2098218

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	104	P/P	90 - 110
Ammonia-N	103	103	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					3.39	
EPA 200.7 Rev. 4.4	Barium	100	96.8	96.9			0.0590
	Calcium	101					0.674
	Iron	105	100	104			3.14
	Magnesium	103	103				2.39
	Potassium	107	103	99.3			1.96
	Sodium	101	98.9				0.692
	Zinc	97.1	99.1	99.1			0.0365
EPA 200.8 Rev. 5.4	Aluminum	103	101	98.8			1.80
	Antimony	102	105	104			1.54
	Arsenic	106	109	109			0.167
	Boron	102	103	102			0.937
	Cadmium	103	106	103			2.84
	Chromium	102	98.7	97.3			1.36
	Copper	105	102	102			0.378
	Lead	101	103	101			1.80
	Nickel	106	100	99.9			0.187
	Selenium	104	107	105			1.17
	Silver	109	107	106			0.620
	Thallium	104	109	108			1.00
EPA 300.0 Rev. 2.1	Chloride	101	102	101		0.427	
	Sulfate	101	101	101		0.752	
EPA 350.1 Rev. 2.0	Ammonia-N	102	103	102			0.735
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.6	114	106			5.40
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	94.0	93.5			0.534
EPA 365.1 Rev. 2.0	Total-P	100	104	105			1.15
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	96.6	97.3			0.722
EPA 8321B	2,4-D	116	137	161			11.9
	Acesulfame K	116	134	139			4.04
	Acetaminophen	82.7	101	111			8.61
	AMPA	95.3	70.6	71.9			1.74
	Bentazon	117	101	106			2.77
	Carbamazepine	82.5	84.4	85.3			1.14
	Diuron	83.2	77.0	78.4			1.59
	Endothall	94.4	97.7	100			2.39
	Fenuron	100	93.2	96.6			3.59
	Fluridone	93.2	85.2	84.1			1.25
	Glufosinate	86.8	83.7	82.5			1.47
	Glyphosate	95.3	77.1	79.8			3.43
	Hydrocodone	98.7	116	117			1.01
	Ibuprofen	83.5	83.3	90.6			8.35
	Imazapyr	131	139	182			20.8
	Imidacloprid	87.5	174	198			6.52
	Linuron	63.2	55.0	53.0			3.84
	MCPP	137	187	189			1.01
	Naproxen	84.5	95.4	81.8			15.4
	Primidone	79.5	92.6	99.7			7.35
	Pyraclostrobin	69.4	71.8	73.2			1.99
	Sucralose	103	107	106			1.04
	Triclopyr	107	122	136			11.2
SM 2120 B	Color (true)	103				1.33	
SM 2320 B-97	Total Alkalinity	103				5.44	
	Total Alkalinity	103				0.691	
SM 2540 C-97	TDS					5.56	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-97	Fluoride	98.0	97.8	99.1		0.979
	Fluoride	98.0	97.1	97.6		0.519
SM 5310 B-00	Organic Carbon	95.6	91.9	92.0		0.104

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2098208, 2098211, 2098214, 2098217
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2098240, 2098241
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2098240, 2098241
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2098208, 2098211, 2098214, 2098217
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2098208, 2098211, 2098214, 2098217
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2098209, 2098212, 2098215, 2098218
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2098209, 2098212, 2098215, 2098218
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2098209, 2098212, 2098215, 2098218
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2098209, 2098212, 2098215, 2098218
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2098210, 2098213, 2098216, 2098219
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2098237, 2098238, 2098239
SM 2120 B / E31780	True Color measured at 450 nm	2098208, 2098211, 2098214, 2098217
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2098208, 2098211, 2098214, 2098217
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2098208, 2098211, 2098214, 2098217
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2098208, 2098211, 2098214, 2098217
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2098208, 2098211, 2098214, 2098217
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2098209, 2098212, 2098215, 2098218

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	06/25/2019			06/25/2019 16:55	Adrian Shelby	2098208, 2098211, 2098214, 2098217
EPA 200.7 Rev. 4.4	06/25/2019	06/26/2019 14:10	Elliott D. Healy	06/27/2019 12:54	Betina Topolski	2098240
	06/25/2019	06/26/2019 14:10	Elliott D. Healy	06/27/2019 13:42	Betina Topolski	2098241
EPA 200.8 Rev. 5.4	06/25/2019	06/26/2019 14:10	Elliott D. Healy	07/01/2019 18:20	Robert K Palmer	2098240
	06/25/2019	06/26/2019 14:10	Elliott D. Healy	07/01/2019 19:19	Robert K Palmer	2098241
EPA 300.0 Rev. 2.1	06/25/2019			06/28/2019 19:12	Jhamieka S. Greenwood	2098211
	06/25/2019			06/28/2019 21:37	Jhamieka S. Greenwood	2098208
	06/25/2019			06/28/2019 21:50	Jhamieka S. Greenwood	2098214
	06/25/2019			06/28/2019 22:02	Jhamieka S. Greenwood	2098217
EPA 350.1 Rev. 2.0	06/25/2019			07/03/2019 11:06	Ping Hua	2098212
	06/25/2019			07/03/2019 11:13	Ping Hua	2098215
	06/25/2019			07/03/2019 11:15	Ping Hua	2098218
	06/25/2019			07/03/2019 11:19	Ping Hua	2098209
EPA 351.2 Rev. 2.0	06/25/2019	06/27/2019 11:45	Sima Feizi	07/01/2019 16:39	Joseph Suarez	2098209
	06/25/2019	06/27/2019 11:45	Sima Feizi	07/01/2019 16:40	Joseph Suarez	2098212
	06/25/2019	06/27/2019 11:45	Sima Feizi	07/01/2019 16:42	Joseph Suarez	2098215
	06/25/2019	06/27/2019 11:45	Sima Feizi	07/01/2019 16:44	Joseph Suarez	2098218
EPA 353.2 Rev. 2.0	06/25/2019			06/27/2019 12:45	Beverly Y. Sanders	2098209
	06/25/2019			06/27/2019 12:47	Beverly Y. Sanders	2098212
	06/25/2019			06/27/2019 12:48	Beverly Y. Sanders	2098215
	06/25/2019			06/27/2019 12:49	Beverly Y. Sanders	2098218
EPA 365.1 Rev. 2.0	06/25/2019	06/26/2019 12:15	Sima Feizi	06/27/2019 12:08	Lipi Saha	2098209
	06/25/2019	06/26/2019 12:15	Sima Feizi	06/27/2019 12:10	Lipi Saha	2098212
	06/25/2019	06/26/2019 12:15	Sima Feizi	06/27/2019 12:11	Lipi Saha	2098215
	06/25/2019	06/26/2019 12:15	Sima Feizi	06/27/2019 12:12	Lipi Saha	2098218
EPA 365.1 Rev. 2.0 dissolved	06/25/2019			06/25/2019 15:21	Jhamieka S. Greenwood	2098213, 2098216
	06/25/2019			06/25/2019 15:22	Jhamieka S. Greenwood	2098219
	06/25/2019			06/25/2019 15:23	Jhamieka S. Greenwood	2098210
EPA 8321B	06/25/2019	06/25/2019 13:00	Rebecca Ware	06/25/2019 13:30	Rebecca Ware	2098237
	06/25/2019	06/25/2019 13:00	Rebecca Ware	06/25/2019 13:41	Rebecca Ware	2098238
	06/25/2019	06/25/2019 13:00	Rebecca Ware	06/25/2019 13:52	Rebecca Ware	2098239
	06/25/2019	06/25/2019 13:00	Rebecca Ware	06/25/2019 23:22	Rebecca Ware	2098237
	06/25/2019	06/25/2019 13:00	Rebecca Ware	06/25/2019 23:36	Rebecca Ware	2098238
	06/25/2019	06/25/2019 13:00	Rebecca Ware	06/25/2019 23:50	Rebecca Ware	2098239
	06/25/2019	06/25/2019 13:00	Rebecca Ware	06/26/2019 12:40	Rebecca Ware	2098237
	06/25/2019	06/25/2019 13:00	Rebecca Ware	06/26/2019 12:51	Rebecca Ware	2098238
	06/25/2019	06/25/2019 13:00	Rebecca Ware	06/26/2019 13:03	Rebecca Ware	2098239
	06/25/2019	06/27/2019 09:00	Hoor Shaik	07/05/2019 23:14	Juyoung Kim	2098237
	06/25/2019	06/27/2019 09:00	Hoor Shaik	07/05/2019 23:48	Juyoung Kim	2098238
	06/25/2019	06/27/2019 09:00	Hoor Shaik	07/06/2019 00:23	Juyoung Kim	2098239

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B	06/25/2019			06/25/2019 17:37	Julia Storbeck	2098214
	06/25/2019			06/25/2019 17:38	Julia Storbeck	2098217
	06/25/2019			06/25/2019 17:43	Julia Storbeck	2098208, 2098211
SM 2320 B-97	06/25/2019			06/27/2019 10:42	Dale L. Simmons	2098208
	06/25/2019			06/27/2019 19:00	Dale L. Simmons	2098211
	06/25/2019			06/27/2019 19:15	Dale L. Simmons	2098214
	06/25/2019			06/27/2019 19:29	Dale L. Simmons	2098217
SM 2540 C-97	06/25/2019			06/26/2019 15:02	Yijie Li	2098208, 2098211, 2098214, 2098217
SM 2540 D-97	06/25/2019			06/26/2019 15:02	Yijie Li	2098208, 2098211, 2098214, 2098217
SM 4500 F-C-97	06/25/2019			07/01/2019 23:11	Dale L. Simmons	2098208
	06/25/2019			07/01/2019 23:58	Dale L. Simmons	2098211
	06/25/2019			07/02/2019 00:03	Dale L. Simmons	2098214
	06/25/2019			07/02/2019 00:07	Dale L. Simmons	2098217
SM 5310 B-00	06/25/2019			06/27/2019 02:18	Julia Storbeck	2098209
	06/25/2019			06/27/2019 02:32	Julia Storbeck	2098212
	06/25/2019			06/27/2019 02:46	Julia Storbeck	2098215
	06/25/2019			06/27/2019 02:59	Julia Storbeck	2098218