

Chemical Analysis Report

SE-DIST-2019-06-04-01

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

Event Description: **SMP-Okeechobee**
Request ID: **RQ-2019-06-03-63**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 19-JUN-2019 16:49

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: 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: Padgett Branch @ 441

Collection Date/Time: 06/03/2019 11:30

Field ID: G3SE0026

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2091106	EPA 180.1 Rev. 2.0	Turbidity	22		NTU	P365010	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P365310	
		Sulfate	11		mg SO4/L	P365313	
		Color (true)	71	A	PCU	P365017	
	SM 2320 B-97	Total Alkalinity	42		mg CaCO3/L	P365483	
	SM 2540 C-97	TDS	114		mg/L	P365621	
	SM 2540 D-97	TSS	17		mg/L	P365626	
	SM 4500 F-C-97	Fluoride	0.093	I	mg F/L	P365484	
2091107	EPA 350.1 Rev. 2.0	Ammonia-N	0.36		mg N/L	P365351	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.0		mg N/L	P365272	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P365199	
	EPA 365.1 Rev. 2.0	Total-P	1.1		mg P/L	P365233	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P365296	
2091108	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.70		mg P/L	P365002	

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: Sweetwater Branch @ 441

Collection Date/Time: 06/03/2019 11:50

Field ID: G3SE0025

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2091112	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P365010	
	EPA 300.0 Rev. 2.1	Chloride	40		mg Cl/L	P365310	
		Sulfate	8.0		mg SO4/L	P365313	
	SM 2120 B	Color (true)	50	A	PCU	P365015	
	SM 2320 B-97	Total Alkalinity	42		mg CaCO3/L	P365483	
	SM 2540 C-97	TDS	155	A	mg/L	P365621	
	SM 2540 D-97	TSS	2	IA	mg/L	P365626	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P365484	
2091113	EPA 350.1 Rev. 2.0	Ammonia-N	0.30		mg N/L	P365351	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P365271	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.088		mg N/L	P365199	
	EPA 365.1 Rev. 2.0	Total-P	0.34		mg P/L	P365280	
	SM 5310 B-00	Organic Carbon	8.3		mg C/L	P365296	
2091114	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.26		mg P/L	P365002	

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: C-25 Canal West @ Godwin

Collection Date/Time: 06/03/2019 12:30

Field ID: G2SE0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2091109	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P365010	
	EPA 300.0 Rev. 2.1	Chloride	460		mg Cl/L	P365310	
		Sulfate	150		mg SO4/L	P365313	
		Color (true)	40		PCU	P365015	
	SM 2320 B-97	Total Alkalinity	212		mg CaCO3/L	P365483	
	SM 2540 C-97	TDS	1.13E+03		mg/L	P365621	
	SM 2540 D-97	TSS	13		mg/L	P365626	
	SM 4500 F-C-97	Fluoride	0.40		mg F/L	P365484	
2091110	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P365351	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P365272	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P365199	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P365233	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P365296	
2091111	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.034		mg P/L	P365002	

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: Moores Creek @ 2nd

Collection Date/Time: 06/03/2019 13:40

Field ID: G2SE0025

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2091115	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P365010	
	EPA 300.0	Bromide	55		mg Br/L	P365319	
	SM 2320 B-97	Total Alkalinity	139		mg CaCO3/L	P365562	
	SM 2540 D-97	TSS	5	I	mg/L	P365630	
	SM 4500 F-C-97	Fluoride	1.0		mg F/L	P365568	
2091116	EPA 350.1 Rev. 2.0	Ammonia-N	0.076		mg N/L	P365211	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36	I	mg N/L	P365328	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.017		mg N/L	P365286	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P365283	
	SM 5310 B-00	Organic Carbon	4.5		mg C/L	P365297	
2091117	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.063		mg P/L	P365000	
2091171	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P365160	
		2,4-D	0.0025	I	ug/L	P364985	
		AMPA**	1.0	U	ug/L	P365160	
		Sucralose**	0.046		ug/L	P365160	
		Endothall**	0.25	U	ug/L	P365160	
		Acetaminophen**	0.0080	U	ug/L	P364985	
		Glufosinate**	1.0	U	ug/L	P365160	
		Glyphosate**	1.0	U	ug/L	P365160	
		Bentazon	9.3E-04	I	ug/L	P364985	
		Carbamazepine**	8.0E-04	U	ug/L	P364985	
		Diuron	0.0023	I	ug/L	P364985	
		Fenuron	0.016	U	ug/L	P364985	
		Fluridone**	8.0E-04	U	ug/L	P364985	
		Imazapyr**	0.0040	U	ug/L	P364985	
		Hydrocodone**	0.0020	U	ug/L	P364985	
		Ibuprofen**	0.020	U	ug/L	P364985	
		Imidacloprid	0.0020	U	ug/L	P364985	
		Linuron	0.0040	U	ug/L	P364985	
		MCP	0.0020	U	ug/L	P364985	
		Naproxen**	0.0080	U	ug/L	P364985	
		Primidone**	0.0040	U	ug/L	P364985	
		Pyraclostrobin**	0.0020	U	ug/L	P364985	
		Triclopyr**	0.0040	U	ug/L	P364985	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch matrix spike recoveries and relative percent difference are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: MDL for some parameters elevated due to matrix interference.

Sample Location: Five-Mile Creek @ Edward

Collection Date/Time: 06/03/2019 14:10

Field ID: G2SE0047

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2091118	EPA 180.1 Rev. 2.0	Turbidity	7.9		NTU	P365010	
	EPA 300.0 Rev. 2.1	Chloride	160		mg Cl/L	P365310	
		Sulfate	90		mg SO4/L	P365313	
	SM 2120 B	Color (true)	37		PCU	P365015	
	SM 2320 B-97	Total Alkalinity	183		mg CaCO3/L	P365483	
	SM 2540 C-97	TDS	590		mg/L	P365622	
	SM 2540 D-97	TSS	9	I	mg/L	P365627	
	SM 4500 F-C-97	Fluoride	0.39		mg F/L	P365484	
2091119	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P365351	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.89		mg N/L	P365271	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P365199	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P365280	
	SM 5310 B-00	Organic Carbon	9.5		mg C/L	P365345	
2091120	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.078		mg P/L	P365002	

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: P365010

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P365319

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365310

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365313

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365211

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365351

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365271

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365272

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365328

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: P365199

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365286

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365233

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365280

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365283

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365000

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365002

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

Reference Method: EPA 8321B
Batch ID: P364985

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P364985

Component	Result	Code	Units
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: P365160

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

Reference Method: SM 2120 B
Batch ID: P365015

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P365017

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P365483

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

Reference Method: SM 2320 B-97
Batch ID: P365562

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

Reference Method: SM 2540 C-97
Batch ID: P365621

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P365622

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P365626

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P365627

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P365630

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P365484

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P365568

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P365296

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-00
Batch ID: P365297

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Reference Method: SM 5310 B-00
Batch ID: P365345

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0
Batch ID: P365319

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	99.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365310

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365313

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365211

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365351

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365271

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365272

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365328

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.7		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365199

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.0		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365286

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365233

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365280

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365283

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365000

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365002

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

Reference Method: EPA 8321B
Batch ID: P364985

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	114		P	40 - 150
Acetaminophen	90.4		P	30 - 150
Bentazon	112		P	30 - 150
Carbamazepine	105		P	40 - 150
Diuron	90.6		P	40 - 150
Fenuron	109		P	40 - 150
Fluridone	95.1		P	40 - 150
Hydrocodone	104		P	40 - 150
Ibuprofen	73.3		P	40 - 150
Imazapyr	93.1		P	40 - 150
Imidacloprid	95.8		P	40 - 150
Linuron	71.0		P	40 - 150
MCPP	115		P	40 - 150
Naproxen	87.2		P	40 - 150
Primidone	92.8		P	40 - 150
Pyraclostrobin	85.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P364985

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Triclopyr	81.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P365160

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	112		P	40 - 150
AMPA	106		P	40 - 150
Endothall	92.4		P	40 - 150
Glufosinate	100		P	40 - 150
Glyphosate	106		P	40 - 140
Sucralose	101		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P365015

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P365017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P365483

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

Reference Method: SM 2320 B-97
Batch ID: P365562

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P365484

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P365568

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	92 - 103

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P365296

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.9		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P365297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.7		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P365345

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365310

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091040	Chloride	99.3		P	90 - 110
2091106	Chloride	94.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365313

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091040	Sulfate	99.0		P	90 - 110
2091106	Sulfate	95.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091026	Ammonia-N	105	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365351

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091123	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365271

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091124	Kjeldahl Nitrogen	107	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365272

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091041	Kjeldahl Nitrogen	106	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365328

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2090888	Kjeldahl Nitrogen	108	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365199

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091068	NO2NO3-N	97.0	95.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365286

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2090890	NO2NO3-N	104	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365233

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091041	Total-P	101	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091124	Total-P	100	96.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2090892	Total-P	95.0	93.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365000

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2090841	O-Phosphate-P	98.0	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091070	O-Phosphate-P	99.2	99.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P364985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091078	2,4-D	126	104	P/P	40 - 150
2091078	Acetaminophen	102	96.4	P/P	30 - 150
2091078	Bentazon	122	115	P/P	30 - 150
2091078	Carbamazepine	94.9	97.4	P/P	40 - 150
2091078	Diuron	88.8	89.7	P/P	40 - 150
2091078	Fenuron	102	107	P/P	40 - 150
2091078	Fluridone	98.1	91.5	P/P	40 - 150
2091078	Hydrocodone	108	113	P/P	40 - 150
2091078	Ibuprofen	78.9	60.1	P/P	40 - 150
2091078	Imazapyr	102	109	P/P	40 - 150
2091078	Imidacloprid	128	122	P/P	40 - 150
2091078	Linuron	72.0	69.6	P/P	40 - 150
2091078	MCPP	133	118	P/P	40 - 150
2091078	Naproxen	85.2	78.4	P/P	40 - 150
2091078	Primidone	105	104	P/P	40 - 150
2091078	Pyraclostrobin	87.1	82.3	P/P	40 - 150
2091078	Triclopyr	88.1	76.9	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P365160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P365160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091078	Acesulfame K	110	106	P/P	40 - 150
2091078	AMPA	94.1	96.4	P/P	40 - 150
2091078	Endothall	96.5	96.5	P/P	40 - 150
2091078	Glufosinate	96.9	97.7	P/P	40 - 150
2091078	Glyphosate	95.3	97.2	P/P	40 - 140
2091078	Sucralose	102	98.5	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P365484

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091382	Fluoride	104	104	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P365568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2090850	Fluoride	98.1	98.1	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P365296

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2090947	Organic Carbon	93.6	93.3	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P365297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091006	Organic Carbon	95.0	95.9	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P365345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2091183	Organic Carbon	93.4	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P365010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091088	Turbidity	0.930	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091040	Chloride	0.124	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P365313

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091040	Sulfate	0.480	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091026	Ammonia-N	0.288	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P365351

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091123	Ammonia-N	0.247	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365271

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091124	Kjeldahl Nitrogen	6.40	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091041	Kjeldahl Nitrogen	1.10	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P365328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090888	Kjeldahl Nitrogen	1.48	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365199

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091068	NO2NO3-N	1.14	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P365286

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090890	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091041	Total-P	0.830	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091124	Total-P	3.25	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P365283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090892	Total-P	1.46	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090841	O-Phosphate-P	0.861	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091070	O-Phosphate-P	0.503	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P364985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091078	2,4-D	18.8	Spike	P	0 - 30
2091078	Acetaminophen	5.53	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P364985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091078	Bentazon	6.17	Spike	P	0 - 30
2091078	Carbamazepine	2.61	Spike	P	0 - 30
2091078	Diuron	1.02	Spike	P	0 - 30
2091078	Fenuron	4.81	Spike	P	0 - 30
2091078	Fluridone	6.97	Spike	P	0 - 30
2091078	Hydrocodone	4.22	Spike	P	0 - 30
2091078	Ibuprofen	27.1	Spike	P	0 - 30
2091078	Imazapyr	7.14	Spike	P	0 - 30
2091078	Imidacloprid	5.05	Spike	P	0 - 30
2091078	Linuron	3.46	Spike	P	0 - 30
2091078	MCPP	12.1	Spike	P	0 - 30
2091078	Naproxen	8.31	Spike	P	0 - 30
2091078	Primidone	0.662	Spike	P	0 - 30
2091078	Pyraclostrobin	5.68	Spike	P	0 - 30
2091078	Triclopyr	13.6	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P365160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091078	Acesulfame K	3.31	Spike	P	0 - 30
2091078	AMPA	2.44	Spike	P	0 - 30
2091078	Endothall	0.0369	Spike	P	0 - 30
2091078	Glufosinate	0.847	Spike	P	0 - 30
2091078	Glyphosate	2.00	Spike	P	0 - 30
2091078	Sucralose	3.96	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P365015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091112	Color (true)	0.804	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P365017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091106	Color (true)	0.140	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P365483

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091382	Total Alkalinity	0.0345	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P365562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090850	Total Alkalinity	0.741	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P365621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091112	TDS	2.58	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P365622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091180	TDS	2.25	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P365630

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091025	TSS	4.14	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P365484

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091382	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P365568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090850	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P365296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2090947	Organic Carbon	0.239	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P365297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091006	Organic Carbon	0.750	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P365345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2091183	Organic Carbon	2.07	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: 2091171
Field Sample ID: G2SE0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	131	P	30 - 160
EPA 8321B	Acetaminophen-d4	95.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.0	P	30 - 160
EPA 8321B	Diuron-d6	81.1	P	30 - 160
EPA 8321B	Endothall-d6	115	P	30 - 160
EPA 8321B	Endothall-d6	115	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	32.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	32.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.8	P	30 - 160
EPA 8321B	Primidone-d5	109	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A91848

Included Lab Sample IDs: 2091108, 2091111, 2091114, 2091117, 2091120

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	97.7	P/P	90 - 110
O-Phosphate-P	98.9	98.7	P/P	90 - 110
O-Phosphate-P	99.1	98.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A91849

Included Lab Sample IDs: 2091106, 2091109, 2091112, 2091115, 2091118

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

Reference Method: SM 2120 B

Run ID: A91850

Included Lab Sample IDs: 2091106, 2091109, 2091112, 2091118

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	105	P/P	90 - 115
Color (true)	104	103	P/P	90 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A91854

Included Lab Sample IDs: 2091106, 2091109, 2091112, 2091118

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

Reference Method: EPA 300.0

Run ID: A91896

Included Lab Sample IDs: 2091115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	99.4	98.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91913

Included Lab Sample IDs: 2091107, 2091110, 2091113, 2091119

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.0	90.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A91914

Included Lab Sample IDs: 2091116

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91947

Included Lab Sample IDs: 2091116

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

Reference Method: SM 5310 B-00

Run ID: A91953

Included Lab Sample IDs: 2091107, 2091110, 2091113, 2091116

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.8	95.8	P/P	90 - 110
Organic Carbon	95.8	96.2	P/P	90 - 110
Organic Carbon	96.0	95.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A91966

Included Lab Sample IDs: 2091171

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	80.1	P/P	60 - 160
Endothall	84.6	88.0	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A91971

Included Lab Sample IDs: 2091171

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	81.2	83.2	P/P	60 - 160
Glufosinate	90.5	88.9	P/P	60 - 160
Glyphosate	80.9	80.7	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91980

Included Lab Sample IDs: 2091107, 2091110, 2091113, 2091116, 2091119

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	104	P/P	90 - 110
Total-P	101	103	P/P	90 - 110
Total-P	103	103	P/P	90 - 110
Total-P	99.6	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A91981

Included Lab Sample IDs: 2091119

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A91986

Included Lab Sample IDs: 2091107, 2091110, 2091113, 2091119

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A91986

Included Lab Sample IDs: 2091107, 2091110, 2091113, 2091119

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	105	106	P/P	90 - 110
Ammonia-N	107	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A92001

Included Lab Sample IDs: 2091107, 2091110

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	99.4	P/P	90 - 110
Kjeldahl Nitrogen	99.4	94.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A92025

Included Lab Sample IDs: 2091116

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.2	94.8	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A92039

Included Lab Sample IDs: 2091106, 2091109, 2091112, 2091118

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

Reference Method: SM 4500 F-C-97

Run ID: A92039

Included Lab Sample IDs: 2091106, 2091109, 2091112, 2091118

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A92042

Included Lab Sample IDs: 2091113, 2091119

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.8	96.6	P/P	90 - 110
Kjeldahl Nitrogen	95.9	94.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A92066

Included Lab Sample IDs: 2091171

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	95.9	97.7	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
 Run ID: A92072
 Included Lab Sample IDs: 2091115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Run ID: A92072
 Included Lab Sample IDs: 2091115

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

Reference Method: EPA 8321B
 Run ID: A92168
 Included Lab Sample IDs: 2091171

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.6	101	P/P	50 - 150
Acetaminophen	119	79.7	P/P	60 - 160
Bentazon	107	109	P/P	50 - 160
Carbamazepine	103	106	P/P	60 - 150
Diuron	105	102	P/P	60 - 150
Fenuron	94.5	99.9	P/P	60 - 150
Fluridone	97.9	106	P/P	60 - 160
Hydrocodone	111	100	P/P	60 - 150
Ibuprofen	99.2	86.8	P/P	50 - 160
Imazapyr	98.2	99.2	P/P	50 - 150
Imidacloprid	98.9	89.1	P/P	60 - 150
Linuron	91.4	97.3	P/P	60 - 150
MCPP	95.0	91.9	P/P	50 - 150
Naproxen	99.0	118	P/P	50 - 160
Primidone	105	106	P/P	60 - 150
Pyraclostrobin	93.4	94.5	P/P	60 - 150
Triclopyr	101	102	P/P	50 - 150

* 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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.930	
EPA 300.0	Bromide	99.2					
EPA 300.0 Rev. 2.1	Chloride	98.9	99.3	94.8		0.124	
	Sulfate	97.5	99.0	95.4		0.480	
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	105	106			0.288
	Ammonia-N	98.9	103	104			0.247
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.5	107	99.2			6.40
	Kjeldahl Nitrogen	108	106	107			1.10
	Kjeldahl Nitrogen	99.7	108	106			1.48
EPA 353.2 Rev. 2.0	NO2NO3-N	96.0	97.0	95.6			1.14
	NO2NO3-N	102	104	104			0.0
EPA 365.1 Rev. 2.0	Total-P	100	101	99.8			0.830
	Total-P	99.2	100	96.8			3.25
	Total-P	96.5	95.0	93.6			1.46
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.1	98.0	98.9			0.861
	O-Phosphate-P	98.4	99.2	99.7			0.503
EPA 8321B	2,4-D	114	126	104			18.8
	Acesulfame K	112	110	106			3.31
	Acetaminophen	90.4	102	96.4			5.53
	AMPA	106	94.1	96.4			2.44
	Bentazon	112	122	115			6.17
	Carbamazepine	105	94.9	97.4			2.61
	Diuron	90.6	88.8	89.7			1.02
	Endothall	92.4	96.5	96.5			0.0369
	Fenuron	109	102	107			4.81
	Fluridone	95.1	98.1	91.5			6.97
	Glufosinate	100	96.9	97.7			0.847
	Glyphosate	106	95.3	97.2			2.00
	Hydrocodone	104	108	113			4.22
	Ibuprofen	73.3	78.9	60.1			27.1
	Imazapyr	93.1	102	109			7.14
	Imidacloprid	95.8	128	122			5.05
	Linuron	71.0	72.0	69.6			3.46
	MCPP	115	133	118			12.1
	Naproxen	87.2	85.2	78.4			8.31
	Primidone	92.8	105	104			0.662
	Pyraclostrobin	85.5	87.1	82.3			5.68
	Sucralose	101	102	98.5			3.96
	Triclopyr	81.3	88.1	76.9			13.6
SM 2120 B	Color (true)	104				0.804	
	Color (true)	104				0.140	
SM 2320 B-97	Total Alkalinity	103				0.0345	
	Total Alkalinity	105				0.741	
SM 2540 C-97	TDS					2.58	
	TDS					2.25	
SM 2540 D-97	TSS					4.14	
SM 4500 F-C-97	Fluoride	97.1	104	104			0.0
	Fluoride	97.4	98.1	98.1			0.0
SM 5310 B-00	Organic Carbon	96.9	93.6	93.3			0.239
	Organic Carbon	96.7	95.0	95.9			0.750
	Organic Carbon	98.4	93.4	96.4			2.07

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2091106, 2091109, 2091112, 2091115, 2091118
EPA 300.0 / E31780	Bromide in aqueous matrices	2091115
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2091106, 2091109, 2091112, 2091118
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2091106, 2091109, 2091112, 2091118
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2091107, 2091110, 2091113, 2091116, 2091119
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2091107, 2091110, 2091113, 2091116, 2091119
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2091107, 2091110, 2091113, 2091116, 2091119
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2091107, 2091110, 2091113, 2091116, 2091119
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2091108, 2091111, 2091114, 2091117, 2091120
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2091171
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2091171
SM 2120 B / E31780	True Color measured at 450 nm	2091106, 2091109, 2091112, 2091118
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2091106, 2091109, 2091112, 2091115, 2091118
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2091106, 2091109, 2091112, 2091118
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2091106, 2091109, 2091112, 2091115, 2091118
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2091106, 2091109, 2091112, 2091115, 2091118
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2091107, 2091110, 2091113, 2091116, 2091119

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	06/04/2019			06/04/2019 17:24	Julia Storbeck	2091106, 2091109, 2091112, 2091115, 2091118
EPA 300.0	06/04/2019			06/06/2019 12:40	Lipi Saha	2091115
EPA 300.0 Rev. 2.1	06/04/2019			06/06/2019 20:22	Lipi Saha	2091106
	06/04/2019			06/06/2019 22:59	Lipi Saha	2091109
	06/04/2019			06/06/2019 23:11	Lipi Saha	2091112
	06/04/2019			06/06/2019 23:23	Lipi Saha	2091118
EPA 350.1 Rev. 2.0	06/04/2019			06/05/2019 13:51	Ping Hua	2091116
	06/04/2019			06/06/2019 13:48	Ping Hua	2091107
	06/04/2019			06/06/2019 13:55	Ping Hua	2091110
	06/04/2019			06/06/2019 16:03	Ping Hua	2091113
	06/04/2019			06/06/2019 16:04	Ping Hua	2091119
EPA 351.2 Rev. 2.0	06/04/2019	06/07/2019 12:45	Adrian Shelby	06/10/2019 18:14	Virginia P. Brown	2091107
	06/04/2019	06/07/2019 12:45	Adrian Shelby	06/10/2019 18:19	Virginia P. Brown	2091110
	06/04/2019	06/07/2019 12:45	Adrian Shelby	06/12/2019 13:49	Joseph Suarez	2091119
	06/04/2019	06/07/2019 12:45	Adrian Shelby	06/12/2019 14:03	Joseph Suarez	2091113
	06/04/2019	06/10/2019 10:00	Adrian Shelby	06/11/2019 13:17	Joseph Suarez	2091116
EPA 353.2 Rev. 2.0	06/04/2019			06/06/2019 11:09	Beverly Y. Sanders	2091107
	06/04/2019			06/06/2019 11:11	Beverly Y. Sanders	2091110
	06/04/2019			06/06/2019 11:12	Beverly Y. Sanders	2091113
	06/04/2019			06/06/2019 11:13	Beverly Y. Sanders	2091119
	06/04/2019			06/07/2019 10:09	Beverly Y. Sanders	2091116
EPA 365.1 Rev. 2.0	06/04/2019	06/07/2019 11:40	Sima Feizi	06/10/2019 11:30	Julia Storbeck	2091110
	06/04/2019	06/07/2019 11:40	Sima Feizi	06/10/2019 11:39	Julia Storbeck	2091113
	06/04/2019	06/07/2019 11:40	Sima Feizi	06/10/2019 11:40	Julia Storbeck	2091119
	06/04/2019	06/07/2019 11:40	Sima Feizi	06/10/2019 12:36	Julia Storbeck	2091116
	06/04/2019	06/07/2019 11:40	Sima Feizi	06/10/2019 13:26	Julia Storbeck	2091107
EPA 365.1 Rev. 2.0 dissolved	06/04/2019			06/04/2019 15:43	Jhamieka S. Greenwood	2091117
	06/04/2019			06/04/2019 15:54	Jhamieka S. Greenwood	2091114, 2091120
	06/04/2019			06/04/2019 16:04	Jhamieka S. Greenwood	2091111
	06/04/2019			06/04/2019 16:06	Jhamieka S. Greenwood	2091108
EPA 8321B	06/04/2019	06/06/2019 09:45	Rebecca Ware	06/06/2019 15:39	Rebecca Ware	2091171
	06/04/2019	06/06/2019 09:45	Rebecca Ware	06/06/2019 19:58	Rebecca Ware	2091171
	06/04/2019	06/06/2019 09:45	Rebecca Ware	06/11/2019 23:11	Rebecca Ware	2091171
	06/04/2019	06/07/2019 09:00	Hoor Shaik	06/08/2019 00:36	Juyoung Kim	2091171
SM 2120 B	06/04/2019			06/04/2019 18:01	Madeline Funaro	2091109
	06/04/2019			06/04/2019 18:03	Madeline Funaro	2091112
	06/04/2019			06/04/2019 18:04	Madeline Funaro	2091118
	06/04/2019			06/04/2019 18:22	Madeline Funaro	2091106
SM 2320 B-97	06/04/2019			06/11/2019 21:34	Dale L. Simmons	2091106

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-97	06/04/2019			06/11/2019 21:46	Dale L. Simmons	2091112
	06/04/2019			06/11/2019 23:06	Dale L. Simmons	2091118
	06/04/2019			06/11/2019 23:19	Dale L. Simmons	2091109
	06/04/2019			06/13/2019 10:23	Dale L. Simmons	2091115
SM 2540 C-97	06/04/2019			06/06/2019 15:49	Yijie Li	2091106, 2091109, 2091112, 2091118
SM 2540 D-97	06/04/2019			06/06/2019 15:49	Yijie Li	2091106, 2091109, 2091112, 2091115, 2091118
SM 4500 F-C-97	06/04/2019			06/11/2019 21:34	Dale L. Simmons	2091106
	06/04/2019			06/11/2019 21:46	Dale L. Simmons	2091112
	06/04/2019			06/11/2019 23:06	Dale L. Simmons	2091118
	06/04/2019			06/11/2019 23:19	Dale L. Simmons	2091109
	06/04/2019			06/13/2019 08:57	Dale L. Simmons	2091115
SM 5310 B-00	06/04/2019			06/07/2019 02:55	Julia Storbeck	2091116
	06/04/2019			06/07/2019 09:46	Julia Storbeck	2091119
	06/04/2019			06/07/2019 09:47	Julia Storbeck	2091107
	06/04/2019			06/07/2019 10:00	Julia Storbeck	2091110
	06/04/2019			06/07/2019 10:40	Julia Storbeck	2091113