

Chemical Analysis Report

SW-DIST-2019-02-13-01

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

Event Description: **PP Ditch 1&5, 34th St., McKay Tidal**

Request ID: **RQ-2019-02-11-30**

Customer: **SW-DIST**

Project ID: **SMP**

Send Reports to:

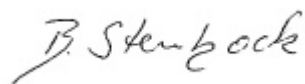
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Date Certified: 06-MAR-2019 12:15



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: 34th STREET BASIN @ 11 AVE S

Collection Date/Time: 02/12/2019 10:30

Field ID: G5SW0146

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062125	EPA 180.1 Rev. 2.0	Turbidity	3.2	A	NTU	P358888	
	EPA 300.0 Rev. 2.1	Chloride	65		mg Cl/L	P359451	
		Sulfate	37		mg SO4/L	P359455	
	SM 2120 B	Color (true)	50	A	PCU	P358875	
	SM 2320 B-97	Total Alkalinity	92		mg CaCO3/L	P359117	
	SM 2540 C-97	TDS	271	A	mg/L	P359434	
	SM 2540 D-97	TSS	2	UA	mg/L	P359334	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P359122	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.079		mg N/L	P359266	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P358934	
2062126	EPA 353.2 Rev. 2.0	NO2NO3-N	0.77		mg N/L	P359356	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P358959	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P359403	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.015		mg P/L	P358892	
	dissolved						
2062127	EPA 8321B	2,4-D	0.0020	U	ug/L	P358820	
2062160		Acesulfame K**	0.11	I	ug/L	P358749	
		AMPA**	0.10	U	ug/L	P358749	
		Sucralose**	0.21		ug/L	P358749	
		Acetaminophen**	0.0080	U	ug/L	P358820	
		Endothall**	0.25	U	ug/L	P358749	MS
		Glufosinate**	0.10	U	ug/L	P358749	
		Bentazon	0.0093		ug/L	P358820	
		Glyphosate**	0.10	U	ug/L	P358749	
		Carbamazepine**	8.0E-04	U	ug/L	P358820	
		Diuron	0.053		ug/L	P358820	
		Fenuron	0.016	U	ug/L	P358820	
		Imazapyr**	0.0085	I	ug/L	P358820	
		Imidacloprid	0.021		ug/L	P358820	MS
		Linuron	0.0040	U	ug/L	P358820	
		MCPP	0.0020	U	ug/L	P358820	
		Primidone**	0.0040	U	ug/L	P358820	
		Pyraclostrobin**	0.0020	U	ug/L	P358820	
		Triclopyr**	0.0040	U	ug/L	P358820	
		Fluridone**	8.0E-04	U	ug/L	P358820	
		Hydrocodone**	0.0020	U	ug/L	P358820	
		Naproxen**	0.0080	U	ug/L	P358820	
		Ibuprofen**	0.020	U	ug/L	P358820	

Ref. Method and Comment:

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

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: SNUG HARBOR-TP428

Collection Date/Time: 02/12/2019 09:50

Field ID: G1SW0099

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062128	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P358888	
	SM 2320 B-97	Total Alkalinity	117		mg CaCO3/L	P359386	
	SM 2540 D-97	TSS	4	I	mg/L	P359136	
	SM 4500 F-C-97	Fluoride	0.88		mg F/L	P359395	
2062131	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P359265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P358932	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.078		mg N/L	P359215	
	EPA 365.1 Rev. 2.0	Total-P	0.097		mg P/L	P358984	
	SM 5310 B-00	Organic Carbon	5.4		mg C/L	P359419	
2062134	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.066		mg P/L	P358891	

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: McKAY CREEK TIDAL OFF HICKORY

Collection Date/Time: 02/12/2019 12:50

Field ID: G5SW0130

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062129	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P358888	
	SM 2320 B-97	Total Alkalinity	104		mg CaCO3/L	P359386	
	SM 2540 D-97	TSS	3	U	mg/L	P359136	
	SM 4500 F-C-97	Fluoride	0.32		mg F/L	P359601	
2062132	EPA 350.1 Rev. 2.0	Ammonia-N	0.049		mg N/L	P359265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P359084	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P359215	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P358984	
	SM 5310 B-00	Organic Carbon	9.9		mg C/L	P359407	
2062135	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.098		mg P/L	P358891	
2062161	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P358749	
		2,4-D	0.0020	U	ug/L	P358820	
		AMPA**	0.10	UJ	ug/L	P358749	SUR
		Sucralose**	1.0		ug/L	P358749	
		Acetaminophen**	0.0080	U	ug/L	P358820	
		Endothall**	0.25	U	ug/L	P358749	MS
		Glufosinate**	0.10	UJ	ug/L	P358749	SUR
		Bentazon	0.039		ug/L	P358820	
		Glyphosate**	0.10	UJ	ug/L	P358749	SUR
		Carbamazepine**	0.0014	I	ug/L	P358820	
		Diuron	0.0020	U	ug/L	P358820	
		Fenuron	0.016	U	ug/L	P358820	
		Imazapyr**	0.031		ug/L	P358820	
		Imidacloprid	0.020		ug/L	P358820	MS
		Linuron	0.0040	U	ug/L	P358820	
		MCP	0.0020	I	ug/L	P358820	
		Primidone**	0.0068	I	ug/L	P358820	
		Pyraclostrobin**	0.0020	U	ug/L	P358820	
		Triclopyr**	0.0040	U	ug/L	P358820	
		Fluridone**	0.038		ug/L	P358820	
		Hydrocodone**	0.0020	U	ug/L	P358820	
		Naproxen**	0.0080	U	ug/L	P358820	
		Ibuprofen**	0.020	U	ug/L	P358820	

Ref. Method and Comment:

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

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Results confirmed in re-extraction.

Sample Location: PP DITCH#1 71st ST

Collection Date/Time: 02/12/2019 11:20

Field ID: G5SW0134

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2062130	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P358888	
	SM 2320 B-97	Total Alkalinity	207		mg CaCO3/L	P359117	
	SM 2540 D-97	TSS	2	I	mg/L	P359335	
	SM 4500 F-C-97	Fluoride	0.33		mg F/L	P359122	
2062133	EPA 350.1 Rev. 2.0	Ammonia-N	0.073		mg N/L	P359266	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P358934	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.079		mg N/L	P359515	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P358959	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P359403	
2062136	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P358892	
2062162	EPA 8321B	Acesulfame K**	0.11	I	ug/L	P358749	
		2,4-D	6.5		ug/L	P358820	
		AMPA**	0.33	IJ	ug/L	P358749	SUR
		Sucralose**	3.0		ug/L	P358749	
		Acetaminophen**	0.0080	U	ug/L	P358820	
		Endothall**	0.25	U	ug/L	P358749	MS
		Glufosinate**	0.10	UJ	ug/L	P358749	SUR
		Bentazon	0.052		ug/L	P358820	
		Glyphosate**	0.10	UJ	ug/L	P358749	SUR
		Carbamazepine**	0.0059		ug/L	P358820	
		Diuron	0.027		ug/L	P358820	
		Fenuron	0.016	U	ug/L	P358820	
		Imazapyr**	0.096		ug/L	P358820	
		Imidacloprid	0.041		ug/L	P358820	MS
		Linuron	0.0040	U	ug/L	P358820	
		MCPP	0.011		ug/L	P358820	
		Primidone**	0.027		ug/L	P358820	
		Pyraclostrobin**	0.0020	U	ug/L	P358820	
		Triclopyr**	0.0040	U	ug/L	P358820	
		Fluridone**	0.046		ug/L	P358820	
		Hydrocodone**	0.0020	U	ug/L	P358820	
		Naproxen**	0.0080	U	ug/L	P358820	
		Ibuprofen**	0.020	U	ug/L	P358820	

Ref. Method and Comment:

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

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Results confirmed in re-extraction.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358888

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359451

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359455

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359265

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359266

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358932

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358934

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359084

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359215

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359356

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359515

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358959

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358984

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358891

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358892

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

Reference Method: EPA 8321B
Batch ID: P358749

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: EPA 8321B
Batch ID: P358820

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P358820

Component	Result	Code	Units
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: SM 2120 B
Batch ID: P358875

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P359117

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

Reference Method: SM 2320 B-97
Batch ID: P359386

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

Reference Method: SM 2540 C-97
Batch ID: P359434

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P359136

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P359334

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P359335

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P359122

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P359395

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P359601

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P359403

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

Reference Method: SM 5310 B-00
Batch ID: P359407

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

Reference Method: SM 5310 B-00
Batch ID: P359419

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359451

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359455

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359265

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359266

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358932

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358934

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359084

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359215

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	100		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359356

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	99.0		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P359515

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P358959

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P358984

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P358891

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P358892

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.9		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P358749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	112		P	40 - 150
AMPA	103		P	40 - 150
Endothall	100		P	40 - 150
Glufosinate	94.1		P	40 - 150
Glyphosate	107		P	40 - 140
Sucralose	99.4		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P358820

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	74.1		P	40 - 150
Acetaminophen	99.9		P	30 - 150
Bentazon	79.2		P	30 - 150
Carbamazepine	85.4		P	40 - 150
Diuron	76.2		P	40 - 150
Fenuron	116		P	40 - 150
Fluridone	111		P	40 - 150
Hydrocodone	99.0		P	40 - 150
Ibuprofen	104		P	40 - 150
Imazapyr	89.6		P	40 - 150
Imidacloprid	101		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P358820

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	75.1		P	40 - 150
MCPP	113		P	40 - 150
Naproxen	79.8		P	40 - 150
Primidone	107		P	40 - 150
Pyraclostrobin	82.0		P	40 - 150
Triclopyr	75.7		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P358875

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

Reference Method: SM 2320 B-97
Batch ID: P359117

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

Reference Method: SM 2320 B-97
Batch ID: P359386

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

Reference Method: SM 4500 F-C-97
Batch ID: P359122

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.1		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P359395

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P359601

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359403

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.2		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P359407

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.2		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P359419

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062087	Chloride	102		P	90 - 110
2062359	Chloride	99.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062087	Sulfate	101		P	90 - 110
2062359	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061996	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062310	Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358932

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061869	Kjeldahl Nitrogen	104	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358934

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062088	Kjeldahl Nitrogen	99.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359084

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062542	Kjeldahl Nitrogen	103	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061870	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062702	NO2NO3-N	97.5	97.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P359515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062737	NO2NO3-N	99.8	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P358959

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062309	Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P358984

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062540	Total-P	99.4	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P358891

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062135	O-Phosphate-P	96.4	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P358892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062312	O-Phosphate-P	95.4	96.7	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P358749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061239	Acesulfame K	71.3	72.6	P/P	40 - 150
2061239	Endothall	25.1	20.9	F/F	40 - 150
2061239	Sucralose	101	109	P/P	40 - 150
2061887	AMPA	94.0	92.8	P/P	40 - 150
2061887	Glufosinate	80.5	85.4	P/P	40 - 150
2061887	Glyphosate	89.8	89.1	P/P	40 - 140

Reference Method: EPA 8321B
 Batch ID: P358820

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062398	2,4-D	88.2	91.8	P/P	40 - 150
2062398	Acetaminophen	113	126	P/P	30 - 150
2062398	Bentazon	60.0	65.0	P/P	30 - 150
2062398	Carbamazepine	80.9	88.6	P/P	40 - 150
2062398	Diuron	72.3	79.6	P/P	40 - 150
2062398	Fenuron	101	112	P/P	40 - 150
2062398	Fluridone	91.6	104	P/P	40 - 150
2062398	Hydrocodone	74.6	85.0	P/P	40 - 150
2062398	Ibuprofen	89.2	107	P/P	40 - 150
2062398	Imazapyr	118	122	P/P	40 - 150
2062398	Imidacloprid	174	191	F/F	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P358820

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062398	Linuron	77.3	81.9	P/P	40 - 150
2062398	MCP	117	131	P/P	40 - 150
2062398	Naproxen	98.6	81.2	P/P	40 - 150
2062398	Primidone	118	139	P/P	40 - 150
2062398	Pyraclostrobin	81.8	93.4	P/P	40 - 150
2062398	Triclopyr	60.7	68.3	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P359122

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2061974	Fluoride	92.5	92.5	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P359395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062546	Fluoride	96.7	96.7	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P359601

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2064733	Fluoride	98.0	97.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359407

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062132	Organic Carbon	97.3	96.9	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P359419

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062785	Organic Carbon	96.2	96.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P358888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062125	Turbidity	6.49	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062087	Chloride	0.438	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062087	Sulfate	0.848	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061996	Ammonia-N	0.363	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062310	Ammonia-N	1.26	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358932

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061869	Kjeldahl Nitrogen	2.14	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P358934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062088	Kjeldahl Nitrogen	1.14	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062542	Kjeldahl Nitrogen	2.72	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061870	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062702	NO2NO3-N	0.323	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062737	NO2NO3-N	0.971	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358959

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062309	Total-P	1.52	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P358984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062540	Total-P	3.85	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062135	O-Phosphate-P	0.821	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P358892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062312	O-Phosphate-P	1.02	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P358749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061239	Acesulfame K	1.72	Spike	P	0 - 30
2061239	Endothall	18.5	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P358749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061239	Sucralose	5.41	Spike	P	0 - 30
2061887	AMPA	1.37	Spike	P	0 - 30
2061887	Glufosinate	5.80	Spike	P	0 - 30
2061887	Glyphosate	0.769	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P358820

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062398	2,4-D	3.99	Spike	P	0 - 30
2062398	Acetaminophen	10.8	Spike	P	0 - 30
2062398	Bentazon	7.94	Spike	P	0 - 30
2062398	Carbamazepine	9.13	Spike	P	0 - 30
2062398	Diuron	9.56	Spike	P	0 - 30
2062398	Fenuron	10.2	Spike	P	0 - 30
2062398	Fluridone	12.4	Spike	P	0 - 30
2062398	Hydrocodone	13.0	Spike	P	0 - 30
2062398	Ibuprofen	17.7	Spike	P	0 - 30
2062398	Imazapyr	3.66	Spike	P	0 - 30
2062398	Imidacloprid	9.12	Spike	P	0 - 30
2062398	Linuron	5.88	Spike	P	0 - 30
2062398	MCPP	11.3	Spike	P	0 - 30
2062398	Naproxen	19.3	Spike	P	0 - 30
2062398	Primidone	16.3	Spike	P	0 - 30
2062398	Pyraclostrobin	13.3	Spike	P	0 - 30
2062398	Triclopyr	11.8	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P358875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062125	Color (true)	0.733	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P359117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061974	Total Alkalinity	1.37	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P359386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062546	Total Alkalinity	0.674	Sample	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P359434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062125	TDS	2.21	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P359122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2061974	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P359395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062546	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P359601

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2064733	Fluoride	0.470	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P359403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062097	Organic Carbon	0.802	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P359407

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062132	Organic Carbon	0.328	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P359419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062785	Organic Carbon	0.337	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: 2062160
Field Sample ID: G5SW0146

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	122	P	30 - 160
EPA 8321B	Carbamazepine-d10	66.7	P	30 - 160
EPA 8321B	Diuron-d6	63.3	P	30 - 160
EPA 8321B	Endothall-d6	94.7	P	40 - 160
EPA 8321B	Endothall-d6	94.7	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	45.1	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	45.1	P	40 - 160
EPA 8321B	Ibuprofen-d3	88.3	P	30 - 160
EPA 8321B	Primidone-d5	123	P	30 - 160
EPA 8321B	Sucralose-d6	119	P	40 - 160
EPA 8321B	Sucralose-d6	119	P	40 - 160

Lab Sample ID: 2062161
Field Sample ID: G5SW0130

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	91.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	129	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.7	P	30 - 160
EPA 8321B	Diuron-d6	68.3	P	30 - 160
EPA 8321B	Endothall-d6	85.5	P	40 - 160
EPA 8321B	Endothall-d6	85.5	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	5.80	F	40 - 160
EPA 8321B	Glyphosate 13C 15N	5.80	F	40 - 160
EPA 8321B	Ibuprofen-d3	85.6	P	30 - 160
EPA 8321B	Primidone-d5	120	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160

Lab Sample ID: 2062162
Field Sample ID: G5SW0134

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	152	P	30 - 160
EPA 8321B	Acetaminophen-d4	108	P	30 - 160
EPA 8321B	Carbamazepine-d10	62.3	P	30 - 160
EPA 8321B	Diuron-d6	62.2	P	30 - 160
EPA 8321B	Endothall-d6	76.8	P	40 - 160
EPA 8321B	Endothall-d6	76.8	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	10.9	F	40 - 160
EPA 8321B	Glyphosate 13C 15N	10.9	F	40 - 160
EPA 8321B	Ibuprofen-d3	91.3	P	30 - 160
EPA 8321B	Primidone-d5	123	P	30 - 160
EPA 8321B	Sucralose-d6	126	P	40 - 160
EPA 8321B	Sucralose-d6	126	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A89398
Included Lab Sample IDs: 2062125

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A89400
Included Lab Sample IDs: 2062125, 2062128, 2062129, 2062130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A89401
Included Lab Sample IDs: 2062127, 2062134, 2062135, 2062136

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.2	98.6	P/P	90 - 110
O-Phosphate-P	98.6	98.6	P/P	90 - 110
O-Phosphate-P	99.8	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A89442
Included Lab Sample IDs: 2062126, 2062131, 2062133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	107	P/P	90 - 110
Kjeldahl Nitrogen	104	104	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A89461
Included Lab Sample IDs: 2062160, 2062161, 2062162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	97.5	98.2	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A89483
Included Lab Sample IDs: 2062132

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A89484
Included Lab Sample IDs: 2062131

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89485

Included Lab Sample IDs: 2062126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.8	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A89490

Included Lab Sample IDs: 2062125, 2062130

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

Reference Method: SM 4500 F-C-97

Run ID: A89490

Included Lab Sample IDs: 2062125, 2062130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	94.9	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89494

Included Lab Sample IDs: 2062132

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	107	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A89502

Included Lab Sample IDs: 2062160, 2062161, 2062162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	90.6	125	P/P	50 - 150
2,4-D	94.4	102	P/P	50 - 150
Acetaminophen	114	120	P/P	60 - 160
Bentazon	92.5	85.1	P/P	50 - 160
Carbamazepine	101	90.8	P/P	60 - 150
Diuron	101	101	P/P	60 - 150
Fenuron	99.3	101	P/P	60 - 150
Fluridone	101	103	P/P	60 - 160
Hydrocodone	98.8	97.5	P/P	60 - 150
Ibuprofen	113	109	P/P	50 - 160
Imazapyr	83.3	85.5	P/P	50 - 150
Imidacloprid	96.9	94.6	P/P	60 - 150
Linuron	105	99.2	P/P	60 - 150
MCPP	90.6	93.5	P/P	50 - 150
Naproxen	76.2	113	P/P	50 - 160
Primidone	102	91.6	P/P	60 - 150
Pyraclostrobin	119	115	P/P	60 - 150
Triclopyr	96.4	91.9	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89525

Included Lab Sample IDs: 2062131, 2062132

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89542

Included Lab Sample IDs: 2062126, 2062131, 2062132, 2062133

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89560

Included Lab Sample IDs: 2062133

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

Reference Method: EPA 8321B

Run ID: A89578

Included Lab Sample IDs: 2062160, 2062161, 2062162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	107	99.0	P/P	60 - 160
Glufosinate	105	98.3	P/P	60 - 160
Glyphosate	116	113	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A89585

Included Lab Sample IDs: 2062160, 2062161, 2062162

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	108	P/P	60 - 160
Endothall	90.1	103	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89586

Included Lab Sample IDs: 2062126

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

Reference Method: SM 2320 B-97

Run ID: A89593

Included Lab Sample IDs: 2062128, 2062129

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A89593

Included Lab Sample IDs: 2062128

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	99.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89596

Included Lab Sample IDs: 2062126, 2062133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	98.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89598

Included Lab Sample IDs: 2062132

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	98.4	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89603

Included Lab Sample IDs: 2062131

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.1	94.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A89617

Included Lab Sample IDs: 2062125

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89651

Included Lab Sample IDs: 2062133

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

Reference Method: SM 4500 F-C-97

Run ID: A89680

Included Lab Sample IDs: 2062129

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	98.6	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					6.49	
EPA 300.0 Rev. 2.1	Chloride	103	102	99.8		0.438	
	Sulfate	104	101	103		0.848	
EPA 350.1 Rev. 2.0	Ammonia-N	100	102	103			0.363
	Ammonia-N	101	103	104			1.26
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	104	101			2.14
	Kjeldahl Nitrogen	106	99.2	101			1.14
	Kjeldahl Nitrogen	107	103	100			2.72
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.5	99.5			0.0
	NO2NO3-N	99.0	97.5	97.0			0.323
	NO2NO3-N	99.0	99.8	98.8			0.971
EPA 365.1 Rev. 2.0	Total-P	104	105	103			1.52
	Total-P	98.9	99.4	103			3.85
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4	96.4	98.0			0.821
	O-Phosphate-P	96.9	95.4	96.7			1.02
EPA 8321B	2,4-D	74.1	88.2	91.8			3.99
	Acesulfame K	112	71.3	72.6			1.72
	Acetaminophen	99.9	113	126			10.8
	AMPA	103	94.0	92.8			1.37
	Bentazon	79.2	60.0	65.0			7.94
	Carbamazepine	85.4	80.9	88.6			9.13
	Diuron	76.2	72.3	79.6			9.56
	Endothall	100	25.1	20.9			18.5
	Fenuron	116	101	112			10.2
	Fluridone	111	91.6	104			12.4
	Glufosinate	94.1	80.5	85.4			5.80
	Glyphosate	107	89.8	89.1			0.769
	Hydrocodone	99.0	74.6	85.0			13.0
	Ibuprofen	104	89.2	107			17.7
	Imazapyr	89.6	118	122			3.66
	Imidacloprid	101	174	191			9.12
	Linuron	75.1	77.3	81.9			5.88
	MCP	113	117	131			11.3
	Naproxen	79.8	98.6	81.2			19.3
	Primidone	107	118	139			16.3
	Pyraclostrobin	82.0	81.8	93.4			13.3
	Sucralose	99.4	109	101			5.41
	Triclopyr	75.7	60.7	68.3			11.8
SM 2120 B	Color (true)	104				0.733	
SM 2320 B-97	Total Alkalinity	101				1.37	
	Total Alkalinity	101				0.674	
SM 2540 C-97	TDS					2.21	
SM 4500 F-C-97	Fluoride	93.1	92.5	92.5			0.0
	Fluoride	96.9	96.7	96.7			0.0
	Fluoride	96.5	98.0	97.3			0.470
SM 5310 B-00	Organic Carbon	98.2					0.802
	Organic Carbon	98.2	97.3	96.9			0.328
	Organic Carbon	97.2	96.2	96.6			0.337

Reference Method Descriptions

Method / DoH Cert #

Description

Associated Samples

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2062125, 2062128, 2062129, 2062130
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2062125
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2062125
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2062126, 2062131, 2062132, 2062133
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2062126, 2062131, 2062132, 2062133
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2062126, 2062131, 2062132, 2062133
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2062126, 2062131, 2062132, 2062133
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2062127, 2062134, 2062135, 2062136
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2062160, 2062161, 2062162
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2062160, 2062161, 2062162
SM 2120 B / E31780	True Color measured at 450 nm	2062125
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2062125, 2062128, 2062129, 2062130
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2062125
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2062125, 2062128, 2062129, 2062130
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2062125, 2062128, 2062129, 2062130
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2062126, 2062131, 2062132, 2062133

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	02/13/2019			02/13/2019 16:57	Adrian Shelby	2062125, 2062128, 2062129, 2062130
EPA 300.0 Rev. 2.1	02/13/2019			02/23/2019 16:25	Lipi Saha	2062125
EPA 350.1 Rev. 2.0	02/13/2019			02/20/2019 12:13	Ping Hua	2062131
	02/13/2019			02/20/2019 12:15	Ping Hua	2062132
	02/13/2019			02/20/2019 12:39	Ping Hua	2062126
	02/13/2019			02/20/2019 12:52	Ping Hua	2062133
EPA 351.2 Rev. 2.0	02/13/2019	02/14/2019 12:45	Adrian Shelby	02/15/2019 11:58	Joseph Suarez	2062131
	02/13/2019	02/14/2019 12:45	Adrian Shelby	02/15/2019 12:46	Joseph Suarez	2062126
	02/13/2019	02/14/2019 12:45	Adrian Shelby	02/15/2019 12:48	Joseph Suarez	2062133
	02/13/2019	02/18/2019 13:50	Adrian Shelby	02/19/2019 10:09	Joseph Suarez	2062132
EPA 353.2 Rev. 2.0	02/13/2019			02/20/2019 10:14	Beverly Y. Sanders	2062131
	02/13/2019			02/20/2019 10:15	Beverly Y. Sanders	2062132
	02/13/2019			02/22/2019 09:54	Beverly Y. Sanders	2062126
	02/13/2019			02/26/2019 09:25	Beverly Y. Sanders	2062133
EPA 365.1 Rev. 2.0	02/13/2019	02/14/2019 13:40	Sima Feizi	02/18/2019 13:56	Rosalyn Ballman	2062126
	02/13/2019	02/14/2019 13:40	Sima Feizi	02/20/2019 18:56	Rosalyn Ballman	2062133
	02/13/2019	02/15/2019 13:25	Sima Feizi	02/18/2019 14:25	Rosalyn Ballman	2062132
	02/13/2019	02/15/2019 13:25	Sima Feizi	02/18/2019 16:04	Rosalyn Ballman	2062131
EPA 365.1 Rev. 2.0 dissolved	02/13/2019			02/13/2019 15:12	Jhamieka S. Greenwood	2062135
	02/13/2019			02/13/2019 15:24	Jhamieka S. Greenwood	2062134
	02/13/2019			02/13/2019 15:37	Jhamieka S. Greenwood	2062136
	02/13/2019			02/13/2019 15:38	Jhamieka S. Greenwood	2062127
EPA 8321B	02/13/2019	02/13/2019 14:30	Rebecca Ware	02/13/2019 22:03	Mohammad Ghaffari	2062160
	02/13/2019	02/13/2019 14:30	Rebecca Ware	02/13/2019 22:16	Mohammad Ghaffari	2062161
	02/13/2019	02/13/2019 14:30	Rebecca Ware	02/13/2019 22:30	Mohammad Ghaffari	2062162
	02/13/2019	02/13/2019 14:30	Rebecca Ware	02/14/2019 15:18	Mohammad Ghaffari	2062160
	02/13/2019	02/13/2019 14:30	Rebecca Ware	02/14/2019 15:29	Mohammad Ghaffari	2062161
	02/13/2019	02/13/2019 14:30	Rebecca Ware	02/14/2019 15:39	Mohammad Ghaffari	2062162
	02/13/2019	02/13/2019 14:30	Rebecca Ware	02/16/2019 16:00	Mohammad Ghaffari	2062160
	02/13/2019	02/13/2019 14:30	Rebecca Ware	02/16/2019 16:14	Mohammad Ghaffari	2062161
	02/13/2019	02/13/2019 14:30	Rebecca Ware	02/16/2019 16:27	Mohammad Ghaffari	2062162
	02/13/2019	02/15/2019 10:00	Hoor Shaik	02/20/2019 22:48	Juyoung Kim	2062160
	02/13/2019	02/15/2019 10:00	Hoor Shaik	02/20/2019 23:23	Juyoung Kim	2062161
	02/13/2019	02/15/2019 10:00	Hoor Shaik	02/20/2019 23:57	Juyoung Kim	2062162
	02/13/2019	02/15/2019 10:00	Hoor Shaik	02/21/2019 14:22	Juyoung Kim	2062162
SM 2120 B	02/13/2019			02/13/2019 15:37	Chelsea Hernandez	2062125
SM 2320 B-97	02/13/2019			02/16/2019 22:56	Dale L. Simmons	2062125
	02/13/2019			02/17/2019 00:04	Dale L. Simmons	2062130
	02/13/2019			02/21/2019 13:26	Dale L. Simmons	2062128
	02/13/2019			02/21/2019 13:39	Dale L. Simmons	2062129

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-97	02/13/2019			02/16/2019 22:18	Yijie Li	2062125
SM 2540 D-97	02/13/2019			02/16/2019 22:18	Yijie Li	2062125, 2062130
	02/13/2019			02/18/2019 16:00	Mariam Hanna	2062128, 2062129
SM 4500 F-C-97	02/13/2019			02/16/2019 22:56	Dale L. Simmons	2062125
	02/13/2019			02/17/2019 00:04	Dale L. Simmons	2062130
	02/13/2019			02/21/2019 10:29	Dale L. Simmons	2062128
	02/13/2019			02/26/2019 07:17	Dale L. Simmons	2062129
SM 5310 B-00	02/13/2019			02/21/2019 05:12	Julia Storbeck	2062126
	02/13/2019			02/21/2019 05:26	Julia Storbeck	2062133
	02/13/2019			02/23/2019 08:16	Julia Storbeck	2062132
	02/13/2019			02/24/2019 11:46	Julia Storbeck	2062131