Chemical Analysis Report

SW-DIST-2019-04-03-01

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-2019-04-01-07**
Customer: **SW-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 24-APR-2019 15:48

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: 34Tth Street Basin @ 11Ave S **Collection Date/Time: 04/02/2019 12:10**

Field ID: G5SW0146 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2074710	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P361524	
	EPA 300.0 Rev. 2.1	Chloride	71		mg Cl/L	P361965	
		Sulfate	38		mg SO4/L	P361967	
	SM 2120 B	Color (true)	64		PCU	P361550	
	SM 2320 B-97	Total Alkalinity	89		mg CaCO3/L	P361854	
	SM 2540 C-97	TDS	329	A	mg/L	P362130	
	SM 2540 D-97	TSS	4	IA	mg/L	P362040	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P362577	
2074711	EPA 350.1 Rev. 2.0	Ammonia-N	0.089		mg N/L	P361703	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P361754	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.75		mg N/L	P361628	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P361767	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P361725	
2074712	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P361530	
2074730	EPA 8321B	2,4-D	0.030		ug/L	P361474	
		Acesulfame K**	0.27	I	ug/L	P361569	MS
		AMPA**	0.18	I	ug/L	P361569	
		Sucralose**	0.31		ug/L	P361569	
		Acetaminophen**	0.039		ug/L	P361474	
		Endothall**	0.25	U	ug/L	P361569	
		Glufosinate**	0.10	U	ug/L	P361569	
		Bentazon	0.0080		ug/L	P361474	
		Glyphosate**	0.27	I	ug/L	P361569	
		Carbamazepine**	8.0E-04	U	ug/L	P361474	
		Diuron	0.0028	I	ug/L	P361474	
		Fenuron	0.016	U	ug/L	P361474	
		Fluridone**	8.0E-04	U	ug/L	P361474	
		Imazapyr**	0.0057	I	ug/L	P361474	
		Hydrocodone**	0.0020	U	ug/L	P361474	
		Ibuprofen**	0.020	U	ug/L	P361474	
		Imidacloprid	0.032		ug/L	P361474	
		Linuron	0.0040	U	ug/L	P361474	
		MCPP	0.0035	I	ug/L	P361474	
		Naproxen**	0.0080	U	ug/L	P361474	RPD
		Primidone**	0.0040	U	ug/L	P361474	
		Pyraclostrobin**	0.0020	U	ug/L	P361474	
		Triclopyr**	0.0040	U	ug/L	P361474	

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: PP Ditch#1 @ 71st St **Collection Date/Time: 04/02/2019 11:30**

Field ID: G5SW0134 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2074713	EPA 180.1 Rev. 2.0	Turbidity	9.8		NTU	P361524	
	SM 2320 B-97	Total Alkalinity	140		mg CaCO3/L	P362175	RPD
	SM 2540 D-97	TSS	15		mg/L	P362041	
	SM 4500 F-C-97	Fluoride	0.38		mg F/L	P362181	
2074715	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P361696	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P361755	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.089		mg N/L	P361747	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P361673	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P361725	
2074717	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.053		mg P/L	P361529	
2074731	EPA 8321B	2,4-D	0.059		ug/L	P361474	
		Acesulfame K**	0.10	U	ug/L	P361569	MS
		AMPA**	0.10	U	ug/L	P361569	
		Sucralose**	1.7		ug/L	P361569	
		Acetaminophen**	0.010	I	ug/L	P361474	
		Endothall**	0.25	U	ug/L	P361569	
		Glufosinate**	0.10	U	ug/L	P361569	
		Bentazon	0.052		ug/L	P361474	
		Glyphosate**	4.0		ug/L	P361569	
		Carbamazepine**	0.0070		ug/L	P361474	
		Diuron	0.018		ug/L	P361474	
		Fenuron	0.016	U	ug/L	P361474	
		Fluridone**	0.11		ug/L	P361474	
		Imazapyr**	0.066		ug/L	P361474	
		Hydrocodone**	0.0020	U	ug/L	P361474	
		Ibuprofen**	0.020	U	ug/L	P361474	
		Imidacloprid	0.063		ug/L	P361474	
		Linuron	0.0040	U	ug/L	P361474	
		MCPP	0.0087		ug/L	P361474	
		Naproxen**	0.0080	U	ug/L	P361474	RPD
		Primidone**	0.020		ug/L	P361474	
		Pyraclostrobin**	0.0020	U	ug/L	P361474	
		Triclopyr**	0.0040	U	ug/L	P361474	

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: 04/02/2019 10:20**

Field ID: G5SW0130 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2074714	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P361524	
	SM 2320 B-97	Total Alkalinity	115		mg CaCO3/L	P362101	
	SM 2540 D-97	TSS	6	I	mg/L	P362044	
	SM 4500 F-C-97	Fluoride	0.50	I	mg F/L	P362102	
2074716	EPA 350.1 Rev. 2.0	Ammonia-N	0.058		mg N/L	P361696	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P361755	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.059		mg N/L	P361747	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P361673	
	SM 5310 B-00	Organic Carbon	9.1		mg C/L	P361615	
2074718	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P361529	
2074732	EPA 8321B	2,4-D	0.0078	I	ug/L	P361474	
		Acesulfame K**	0.10	U	ug/L	P361569	MS
		AMPA**	1.0	U	ug/L	P361569	
		Sucralose**	0.66		ug/L	P361569	
		Acetaminophen**	0.0080	U	ug/L	P361474	
		Endothall**	0.25	U	ug/L	P361569	
		Glufosinate**	1.0	U	ug/L	P361569	
		Bentazon	0.079		ug/L	P361474	
		Glyphosate**	1.0	U	ug/L	P361569	
		Carbamazepine**	0.0018	I	ug/L	P361474	
		Diuron	0.0021	I	ug/L	P361474	
		Fenuron	0.016	U	ug/L	P361474	
		Fluridone**	0.037		ug/L	P361474	
		Imazapyr**	0.017		ug/L	P361474	
		Hydrocodone**	0.0020	U	ug/L	P361474	
		Ibuprofen**	0.020	U	ug/L	P361474	
		Imidacloprid	0.012		ug/L	P361474	
		Linuron	0.0040	U	ug/L	P361474	
		MCPP	0.0075	I	ug/L	P361474	
		Naproxen**	0.0080	U	ug/L	P361474	RPD
		Primidone**	0.0064	I	ug/L	P361474	
		Pyraclostrobin**	0.0020	U	ug/L	P361474	
		Triclopyr**	0.0040	U	ug/L	P361474	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P361524

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361965

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361967

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361696

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361703

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361754

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361755

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361628

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361747

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361673

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361767

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361529

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361530

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

Reference Method: EPA 8321B
Batch ID: P361474

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P361569

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2120 B
Batch ID: P361550

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P361854

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

Reference Method: SM 2320 B-97
Batch ID: P362101

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

Reference Method: SM 2320 B-97
Batch ID: P362175

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

Reference Method: SM 2540 C-97
Batch ID: P362130

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P362040

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P362041

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P362044

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P362102

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P362181

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P362577

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P361615

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

Reference Method: SM 5310 B-00
Batch ID: P361725

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: P361965

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361967

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361696

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361703

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361754

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361755

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361628

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361747

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361673

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.2		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361767

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361529

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.8		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P361474

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	61.3		P	40 - 150
Acetaminophen	70.0		P	30 - 150
Bentazon	90.1		P	30 - 150
Carbamazepine	78.8		P	40 - 150
Diuron	70.7		P	40 - 150
Fenuron	87.6		P	40 - 150
Fluridone	126		P	40 - 150
Hydrocodone	79.5		P	40 - 150
Ibuprofen	75.5		P	40 - 150
Imazapyr	77.1		P	40 - 150
Imidacloprid	100		P	40 - 150
Linuron	74.2		P	40 - 150
MCPP	67.8		P	40 - 150
Naproxen	56.9		P	40 - 150
Primidone	73.8		P	40 - 150
Pyraclostrobin	50.5		P	40 - 150
Triclopyr	48.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P361569

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	118		P	40 - 150
AMPA	88.0		P	40 - 150
Endothall	93.0		P	40 - 150
Glufosinate	112		P	40 - 150
Glyphosate	124		P	40 - 140
Sucralose	86.2		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P361550

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P361854

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

Reference Method: SM 2320 B-97
Batch ID: P362101

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P362175

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P362102

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P362181

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P362577

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P361615

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P361725

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	103		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361965

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074614	Chloride	95.9		P	90 - 110
2074784	Chloride	95.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361967

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074614	Sulfate	95.8		P	90 - 110
2074784	Sulfate	92.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2072700	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074637	Ammonia-N	96.4	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074639	Kjeldahl Nitrogen	98.2	92.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074681	Kjeldahl Nitrogen	95.9	99.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361628

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074750	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074682	NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361673

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074682	Total-P	97.4	96.9	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361767

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074637	Total-P	103	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074869	O-Phosphate-P	95.6	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074570	O-Phosphate-P	93.5	95.0	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P361474

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074598	2,4-D	84.7	69.6	P/P	40 - 150
2074598	Acetaminophen	95.9	94.0	P/P	30 - 150
2074598	Bentazon	85.8	80.6	P/P	30 - 150
2074598	Carbamazepine	90.7	85.2	P/P	40 - 150
2074598	Diuron	75.7	73.1	P/P	40 - 150
2074598	Fenuron	109	108	P/P	40 - 150
2074598	Fluridone	150	121	P/P	40 - 150
2074598	Hydrocodone	94.0	86.6	P/P	40 - 150
2074598	Ibuprofen	82.6	73.0	P/P	40 - 150
2074598	Imazapyr	99.2	100	P/P	40 - 150
2074598	Imidacloprid	148	137	P/P	40 - 150
2074598	Linuron	79.7	70.9	P/P	40 - 150
2074598	MCPP	105	90.0	P/P	40 - 150
2074598	Naproxen	78.5	53.5	P/P	40 - 150
2074598	Primidone	83.5	76.6	P/P	40 - 150
2074598	Pyraclostrobin	63.7	57.1	P/P	40 - 150
2074598	Triclopyr	64.7	64.5	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P361569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074312	Acesulfame K	154	147	F/P	40 - 150
2074312	AMPA	56.8	58.6	P/P	40 - 150
2074312	Endothall	74.8	77.6	P/P	40 - 150
2074312	Glufosinate	94.6	91.0	P/P	40 - 150
2074312	Glyphosate	90.7	69.3	P/P	40 - 140
2074312	Sucralose	102	92.0	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P362181

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2076325	Fluoride	104	103	P/P	89 - 106

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P362577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2077663	Fluoride	101	100	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P361615

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074683	Organic Carbon	100	99.5	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P361725

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2074637	Organic Carbon	101	101	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P361524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074620	Turbidity	1.63	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074614	Chloride	0.0284	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P361967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074614	Sulfate	0.166	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2072700	Ammonia-N	0.0315	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P361703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074637	Ammonia-N	3.86	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074639	Kjeldahl Nitrogen	3.80	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P361755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074681	Kjeldahl Nitrogen	3.73	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361628

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074750	NO2NO3-N	0.319	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P361747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074682	NO2NO3-N	0.225	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074682	Total-P	0.480	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P361767

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074637	Total-P	2.35	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074869	O-Phosphate-P	0.635	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P361530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074570	O-Phosphate-P	1.59	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P361474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074598	2,4-D	19.7	Spike	P	0 - 30
2074598	Acetaminophen	2.00	Spike	P	0 - 30
2074598	Bentazon	4.61	Spike	P	0 - 30
2074598	Carbamazepine	6.25	Spike	P	0 - 30
2074598	Diuron	3.49	Spike	P	0 - 30
2074598	Fenuron	1.06	Spike	P	0 - 30
2074598	Fluridone	21.0	Spike	P	0 - 30
2074598	Hydrocodone	8.20	Spike	P	0 - 30
2074598	Ibuprofen	12.3	Spike	P	0 - 30
2074598	Imazapyr	1.02	Spike	P	0 - 30
2074598	Imidacloprid	7.54	Spike	P	0 - 30
2074598	Linuron	11.7	Spike	P	0 - 30
2074598	MCPP	15.0	Spike	P	0 - 30
2074598	Naproxen	37.8	Spike	F	0 - 30
2074598	Primidone	8.70	Spike	P	0 - 30
2074598	Pyraclostrobin	10.8	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P361474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074598	Triclopyr	0.379	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P361569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074312	Acesulfame K	5.18	Spike	P	0 - 30
2074312	AMPA	1.22	Spike	P	0 - 30
2074312	Endothall	3.65	Spike	P	0 - 30
2074312	Glufosinate	3.95	Spike	P	0 - 30
2074312	Glyphosate	21.2	Spike	P	0 - 30
2074312	Sucralose	10.1	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P361550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074697	Color (true)	0.428	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P361854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074374	Total Alkalinity	1.01	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P362101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074613	Total Alkalinity	0.509	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P362175

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076325	Total Alkalinity	9.84	Sample	F	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P362130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074710	TDS	5.47	Sample	P	0 - 10

Quality Assurance Report
Precision

Reference Method: SM 4500 F-C-97
Batch ID: P362102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2075903	Fluoride	0.935	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P362181

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2076325	Fluoride	1.45	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P362577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2077663	Fluoride	0.470	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P361615

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074683	Organic Carbon	0.743	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P361725

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2074637	Organic Carbon	0.0365	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: 2074730
Field Sample ID: G5SW0146

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	58.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	73.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.8	P	30 - 160
EPA 8321B	Diuron-d6	49.0	P	30 - 160
EPA 8321B	Endothall-d6	128	P	30 - 160
EPA 8321B	Endothall-d6	128	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.1	P	30 - 160
EPA 8321B	Primidone-d5	56.0	P	30 - 160
EPA 8321B	Sucralose-d6	99.8	P	30 - 160
EPA 8321B	Sucralose-d6	99.8	P	30 - 160

Lab Sample ID: 2074731
Field Sample ID: G5SW0134

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	64.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	53.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	61.5	P	30 - 160
EPA 8321B	Diuron-d6	48.0	P	30 - 160
EPA 8321B	Endothall-d6	123	P	30 - 160
EPA 8321B	Endothall-d6	123	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	56.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	56.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.7	P	30 - 160
EPA 8321B	Primidone-d5	60.1	P	30 - 160
EPA 8321B	Sucralose-d6	55.9	P	30 - 160
EPA 8321B	Sucralose-d6	55.9	P	30 - 160

Lab Sample ID: 2074732
Field Sample ID: G5SW0130

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	61.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	71.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	73.1	P	30 - 160
EPA 8321B	Diuron-d6	62.4	P	30 - 160
EPA 8321B	Endothall-d6	148	P	30 - 160
EPA 8321B	Endothall-d6	148	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Ibuprofen-d3	99.4	P	30 - 160
EPA 8321B	Primidone-d5	63.4	P	30 - 160
EPA 8321B	Sucralose-d6	62.1	P	30 - 160
EPA 8321B	Sucralose-d6	62.1	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A90416
Included Lab Sample IDs: 2074710, 2074713, 2074714

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A90417
Included Lab Sample IDs: 2074712, 2074717, 2074718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.1	97.6	P/P	90 - 110
O-Phosphate-P	97.7	96.0	P/P	90 - 110
O-Phosphate-P	97.9	97.1	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A90429
Included Lab Sample IDs: 2074710

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A90436
Included Lab Sample IDs: 2074711

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A90463
Included Lab Sample IDs: 2074716

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A90502
Included Lab Sample IDs: 2074711, 2074715, 2074716

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	104	P/P	90 - 110
Ammonia-N	104	105	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A90508
Included Lab Sample IDs: 2074711, 2074715

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A90517
Included Lab Sample IDs: 2074730, 2074731

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	83.9	74.4	P/P	60 - 160
Glufosinate	113	106	P/P	60 - 160
Glyphosate	133	113	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A90521
Included Lab Sample IDs: 2074730, 2074731, 2074732

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	122	60.1	P/P	60 - 160
Endothall	107	110	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A90524
Included Lab Sample IDs: 2074715, 2074716

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A90533
Included Lab Sample IDs: 2074715, 2074716

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A90538
Included Lab Sample IDs: 2074710

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

Reference Method: EPA 8321B
Run ID: A90550
Included Lab Sample IDs: 2074732

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	97.7	P/P	60 - 160
Glufosinate	108	106	P/P	60 - 160
Glyphosate	97.2	107	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A90554
Included Lab Sample IDs: 2074711

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A90560
Included Lab Sample IDs: 2074710

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

Reference Method: EPA 8321B
Run ID: A90572
Included Lab Sample IDs: 2074730, 2074731, 2074732

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	62.1	100	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A90592
Included Lab Sample IDs: 2074711, 2074715, 2074716

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	98.6	P/P	90 - 110
Kjeldahl Nitrogen	99.3	105	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A90692
Included Lab Sample IDs: 2074714

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	99.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A90692
Included Lab Sample IDs: 2074714

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

Reference Method: SM 2320 B-97
Run ID: A90703
Included Lab Sample IDs: 2074713

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.3	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A90703
Included Lab Sample IDs: 2074713

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

Reference Method: EPA 8321B
Run ID: A90784
Included Lab Sample IDs: 2074730, 2074731, 2074732

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	89.7	95.8	P/P	50 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A90784
Included Lab Sample IDs: 2074730, 2074731, 2074732

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	113	110	P/P	60 - 160
Bentazon	113	127	P/P	50 - 160
Carbamazepine	107	90.9	P/P	60 - 150
Diuron	105	102	P/P	60 - 150
Fenuron	109	99.4	P/P	60 - 150
Fluridone	128	102	P/P	60 - 160
Hydrocodone	104	104	P/P	60 - 150
Ibuprofen	124	99.2	P/P	50 - 160
Imazapyr	111	92.6	P/P	50 - 150
Imidacloprid	99.3	105	P/P	60 - 150
Linuron	90.8	97.2	P/P	60 - 150
MCPP	95.0	90.0	P/P	50 - 150
Naproxen	85.5	115	P/P	50 - 160
Primidone	88.9	103	P/P	60 - 150
Pyraclostrobin	99.6	96.5	P/P	60 - 150
Triclopyr	96.3	98.9	P/P	50 - 150

Reference Method: SM 4500 F-C-97
Run ID: A90871
Included Lab Sample IDs: 2074710

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

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					1.63	
EPA 300.0 Rev. 2.1	Chloride	101	95.9	95.2		0.0284	
	Sulfate	99.2	95.8	92.8		0.166	
EPA 350.1 Rev. 2.0	Ammonia-N	103	101	101			0.0315
	Ammonia-N	102	96.4	100			3.86
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	98.2	92.4			3.80
	Kjeldahl Nitrogen	98.3	95.9	99.9			3.73
EPA 353.2 Rev. 2.0	NO2NO3-N	102	100	100			0.319
	NO2NO3-N	100	98.0				0.225
EPA 365.1 Rev. 2.0	Total-P	96.2	97.4	96.9			0.480
	Total-P	105	103	100			2.35
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	95.6	96.5			0.635
	O-Phosphate-P	98.8	93.5	95.0			1.59
EPA 8321B	2,4-D	61.3	69.6	84.7			19.7
	Acesulfame K	118	154	147			5.18
	Acetaminophen	70.0	94.0	95.9			2.00
	AMPA	88.0	56.8	58.6			1.22
	Bentazon	90.1	80.6	85.8			4.61
	Carbamazepine	78.8	85.2	90.7			6.25
	Diuron	70.7	73.1	75.7			3.49
	Endothall	93.0	74.8	77.6			3.65
	Fenuron	87.6	108	109			1.06
	Fluridone	126	121	150			21.0
	Glufosinate	112	94.6	91.0			3.95
	Glyphosate	124	90.7	69.3			21.2
	Hydrocodone	79.5	86.6	94.0			8.20
	Ibuprofen	75.5	73.0	82.6			12.3
	Imazapyr	77.1	100	99.2			1.02
	Imidacloprid	100	137	148			7.54
	Linuron	74.2	70.9	79.7			11.7
	MCPP	67.8	90.0	105			15.0
	Naproxen	56.9	53.5	78.5			37.8
	Primidone	73.8	76.6	83.5			8.70
	Pyraclostrobin	50.5	57.1	63.7			10.8
	Sucralose	86.2	102	92.0			10.1
	Triclopyr	48.3	64.5	64.7			0.379
SM 2120 B	Color (true)	102				0.428	
SM 2320 B-97	Total Alkalinity	101				1.01	
	Total Alkalinity	100				0.509	
	Total Alkalinity	101				9.84	
SM 2540 C-97	TDS					5.47	
SM 4500 F-C-97	Fluoride	98.8					0.935
	Fluoride	102	104	103			1.45
	Fluoride	99.3	101	100			0.470
SM 5310 B-00	Organic Carbon	102	100	99.5			0.743
	Organic Carbon	103	101	101			0.0365

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2074710, 2074713, 2074714

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2074710
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2074710
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2074711, 2074715, 2074716
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2074711, 2074715, 2074716
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2074711, 2074715, 2074716
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2074711, 2074715, 2074716
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2074712, 2074717, 2074718
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2074730, 2074731, 2074732
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2074730, 2074731, 2074732
SM 2120 B / E31780	True Color measured at 450 nm	2074710
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2074710, 2074713, 2074714
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2074710
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2074710, 2074713, 2074714
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2074710, 2074713, 2074714
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2074711, 2074715, 2074716

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	04/03/2019			04/03/2019 16:46	Adrian Shelby	2074710, 2074713, 2074714
EPA 300.0 Rev. 2.1	04/03/2019			04/10/2019 20:48	Lipi Saha	2074710
EPA 350.1 Rev. 2.0	04/03/2019			04/04/2019 11:54	Ping Hua	2074715
	04/03/2019			04/04/2019 11:56	Ping Hua	2074716
	04/03/2019			04/04/2019 15:13	Ping Hua	2074711
EPA 351.2 Rev. 2.0	04/03/2019	04/08/2019 15:00	Jhamieka S. Greenwood	04/10/2019 12:29	Joseph Suarez	2074711
	04/03/2019	04/08/2019 15:00	Jhamieka S. Greenwood	04/10/2019 12:56	Joseph Suarez	2074715
	04/03/2019	04/08/2019 15:00	Jhamieka S. Greenwood	04/10/2019 12:57	Joseph Suarez	2074716
EPA 353.2 Rev. 2.0	04/03/2019			04/04/2019 11:04	Beverly Y. Sanders	2074711
	04/03/2019			04/08/2019 12:40	Beverly Y. Sanders	2074715
	04/03/2019			04/08/2019 12:41	Beverly Y. Sanders	2074716
EPA 365.1 Rev. 2.0	04/03/2019	04/05/2019 13:45	Sima Feizi	04/08/2019 13:12	Rosalyn Ballman	2074715
	04/03/2019	04/05/2019 13:45	Sima Feizi	04/08/2019 13:15	Rosalyn Ballman	2074716
	04/03/2019	04/08/2019 14:35	Sima Feizi	04/09/2019 15:17	Rosalyn Ballman	2074711
EPA 365.1 Rev. 2.0 dissolved	04/03/2019			04/03/2019 18:28	Jhamieka S. Greenwood	2074712
	04/03/2019			04/03/2019 18:47	Jhamieka S. Greenwood	2074717
	04/03/2019			04/03/2019 19:10	Jhamieka S. Greenwood	2074718
EPA 8321B	04/03/2019	04/04/2019 13:30	Rebecca Ware	04/04/2019 18:41	Rebecca Ware	2074730
	04/03/2019	04/04/2019 13:30	Rebecca Ware	04/04/2019 18:55	Rebecca Ware	2074731
	04/03/2019	04/04/2019 13:30	Rebecca Ware	04/04/2019 19:09	Rebecca Ware	2074732
	04/03/2019	04/04/2019 13:30	Rebecca Ware	04/05/2019 13:58	Rebecca Ware	2074730
	04/03/2019	04/04/2019 13:30	Rebecca Ware	04/05/2019 14:06	Rebecca Ware	2074731
	04/03/2019	04/04/2019 13:30	Rebecca Ware	04/09/2019 08:37	Rebecca Ware	2074732
	04/03/2019	04/04/2019 13:30	Rebecca Ware	04/09/2019 20:32	Rebecca Ware	2074730
	04/03/2019	04/04/2019 13:30	Rebecca Ware	04/09/2019 20:46	Rebecca Ware	2074731
	04/03/2019	04/04/2019 13:30	Rebecca Ware	04/09/2019 21:00	Rebecca Ware	2074732
	04/03/2019	04/05/2019 10:00	Hoor Shaik	04/17/2019 01:43	Juyoung Kim	2074730
	04/03/2019	04/05/2019 10:00	Hoor Shaik	04/17/2019 02:18	Juyoung Kim	2074731
	04/03/2019	04/05/2019 10:00	Hoor Shaik	04/17/2019 02:52	Juyoung Kim	2074732
SM 2120 B	04/03/2019			04/03/2019 16:46	Mariam Hanna	2074710
SM 2320 B-97	04/03/2019			04/09/2019 19:53	Samantha Davila	2074710
	04/03/2019			04/13/2019 04:28	Dale L. Simmons	2074714
	04/03/2019			04/14/2019 02:46	Dale L. Simmons	2074713
SM 2540 C-97	04/03/2019			04/05/2019 15:52	Yijie Li	2074710
SM 2540 D-97	04/03/2019			04/05/2019 15:52	Yijie Li	2074710, 2074713, 2074714
SM 4500 F-C-97	04/03/2019			04/13/2019 01:52	Dale L. Simmons	2074714
	04/03/2019			04/14/2019 02:46	Dale L. Simmons	2074713
	04/03/2019			04/19/2019 14:27	Samantha Davila	2074710
SM 5310 B-00	04/03/2019			04/05/2019 05:45	Julia Storbeck	2074716
	04/03/2019			04/05/2019 18:18	Julia Storbeck	2074711

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	04/03/2019			04/05/2019 18:30	Julia Storbeck	2074715