Chemical Analysis Report

SW-DIST-2019-06-28-01

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

Event Description: **Run 10: Longboat and such**
Request ID: **RQ-2019-06-24-15**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
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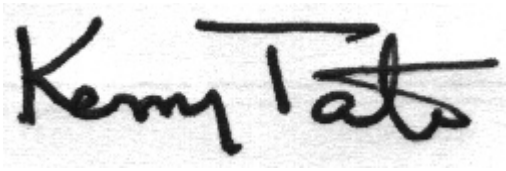
Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 17-JUL-2019 08:22



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: Wares Creek Fresh@30th Ave West **Collection Date/Time: 06/27/2019 10:50**

Field ID: G2SW0109 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2099557	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P366499	
	EPA 300.0 Rev. 2.1	Chloride	56		mg Cl/L	P366762	
		Sulfate	110		mg SO4/L	P366764	
	SM 2120 B	Color (true)	28		PCU	P366495	
	SM 2320 B-97	Total Alkalinity	191		mg CaCO3/L	P366738	
	SM 2540 C-97	TDS	442		mg/L	P366895	
	SM 2540 D-97	TSS	2	U	mg/L	P366870	
	SM 4500 F-C-97	Fluoride	0.58		mg F/L	P366745	
2099559	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P366776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P366771	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P366730	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P366679	
	SM 5310 B-00	Organic Carbon	8.0		mg C/L	P366726	
2099561	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P366506	
2099588	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P366578	
		2,4-D	1.8		ug/L	P366536	MS
		AMPA**	0.67		ug/L	P366578	MS
		Sucralose**	0.054		ug/L	P366578	
		Acetaminophen**	0.0080	U	ug/L	P366536	
		Endothall**	0.25	U	ug/L	P366578	
		Glufosinate**	0.10	U	ug/L	P366578	
		Glyphosate**	2.0		ug/L	P366578	
		Bentazon	0.010		ug/L	P366536	
		Carbamazepine**	8.0E-04	U	ug/L	P366536	
		Diuron	0.011		ug/L	P366536	RPD
		Fenuron	0.016	U	ug/L	P366536	
		Fluridone**	1.4		ug/L	P366536	
		Imazapyr**	0.45		ug/L	P366536	
		Hydrocodone**	0.0020	U	ug/L	P366536	
		Ibuprofen**	0.020	U	ug/L	P366536	
		Imidacloprid	0.021		ug/L	P366536	MS
		Linuron	0.0040	U	ug/L	P366536	
		MCPP	0.0033	I	ug/L	P366536	MS
		Naproxen**	0.0080	U	ug/L	P366536	
		Primidone**	0.0040	U	ug/L	P366536	
		Pyraclostrobin**	0.0020	U	ug/L	P366536	
		Triclopyr**	0.0040	U	ug/L	P366536	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference and batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Wares Crk @ 36th Ave **Collection Date/Time: 06/27/2019 11:10**

Field ID: G2SW0031 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2099558	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P366499	
	EPA 300.0 Rev. 2.1	Chloride	62		mg Cl/L	P366762	
		Sulfate	130		mg SO4/L	P366764	
	SM 2120 B	Color (true)	28		PCU	P366495	
	SM 2320 B-97	Total Alkalinity	189		mg CaCO3/L	P366738	
	SM 2540 C-97	TDS	492		mg/L	P366895	
	SM 2540 D-97	TSS	5	I	mg/L	P366870	
	SM 4500 F-C-97	Fluoride	0.61		mg F/L	P366745	
2099560	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P366776	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P366771	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P366730	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P366680	
	SM 5310 B-00	Organic Carbon	8.0		mg C/L	P366726	
2099562	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P366506	
2099589	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P366578	
		2,4-D	1.9		ug/L	P366536	MS
		AMPA**	1.1		ug/L	P366578	MS
		Sucralose**	0.049		ug/L	P366578	
		Acetaminophen**	0.0080	U	ug/L	P366536	
		Endothall**	0.25	U	ug/L	P366578	
		Glufosinate**	0.10	U	ug/L	P366578	
		Glyphosate**	4.7		ug/L	P366578	
		Bentazon	0.012		ug/L	P366536	
		Carbamazepine**	8.0E-04	U	ug/L	P366536	
		Diuron	0.012		ug/L	P366536	RPD
		Fenuron	0.016	U	ug/L	P366536	
		Fluridone**	1.0		ug/L	P366536	
		Imazapyr**	0.20		ug/L	P366536	
		Hydrocodone**	0.0020	U	ug/L	P366536	
		Ibuprofen**	0.020	U	ug/L	P366536	
		Imidacloprid	0.097		ug/L	P366536	MS
		Linuron	0.0040	U	ug/L	P366536	
		MCPP	0.0039	I	ug/L	P366536	MS
		Naproxen**	0.0080	U	ug/L	P366536	
		Primidone**	0.0040	U	ug/L	P366536	
		Pyraclostrobin**	0.0020	U	ug/L	P366536	
		Triclopyr**	0.0040	U	ug/L	P366536	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference and batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Longboat Key@Bishops Bayou **Collection Date/Time: 06/27/2019 11:45**

Field ID: G3SW0052 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2099563	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P366499	
	EPA 300.0	Bromide	72		mg Br/L	P366795	
	SM 2320 B-97	Total Alkalinity	134		mg CaCO3/L	P366672	
	SM 2540 D-97	TSS	4	IA	mg/L	P366874	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P366859	
2099564	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P366788	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P366888	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P366686	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P366561	
	SM 5310 B-00	Organic Carbon	4.4		mg C/L	P366727	
2099565	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P366507	

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: Wares Creek Tidal by Watertower **Collection Date/Time: 06/27/2019 10:30**

Field ID: G2SW0108 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2099566	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P366500	
	EPA 300.0	Bromide	2.9		mg Br/L	P366795	
	SM 2320 B-97	Total Alkalinity	175	A	mg CaCO3/L	P366672	
	SM 2540 D-97	TSS	3	U	mg/L	P366874	
	SM 4500 F-C-97	Fluoride	0.53		mg F/L	P366858	
2099568	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P366788	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P366821	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.022		mg N/L	P366686	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P366561	
	SM 5310 B-00	Organic Carbon	8.5		mg C/L	P366726	
2099570	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P366507	
2099590	EPA 8321B	2,4-D	1.0		ug/L	P366536	MS
		Acesulfame K**	0.10	UJ	ug/L	P366578	SUR
		AMPA**	1.0	U	ug/L	P366578	MS
		Sucralose**	0.20		ug/L	P366578	
		Acetaminophen**	0.0080	U	ug/L	P366536	
		Endothall**	0.25	UJ	ug/L	P366578	SUR
		Glufosinate**	1.0	U	ug/L	P366578	
		Glyphosate**	1.0	U	ug/L	P366578	
		Bentazon	0.012		ug/L	P366536	
		Carbamazepine**	8.0E-04	U	ug/L	P366536	
		Diuron	0.0095		ug/L	P366536	RPD
		Fenuron	0.016	U	ug/L	P366536	
		Fluridone**	1.1		ug/L	P366536	
		Imazapyr**	0.75		ug/L	P366536	
		Hydrocodone**	0.0020	U	ug/L	P366536	
		Ibuprofen**	0.020	U	ug/L	P366536	
		Imidacloprid	0.021		ug/L	P366536	MS
		Linuron	0.0040	U	ug/L	P366536	
		MCPP	0.0022	I	ug/L	P366536	MS
		Naproxen**	0.0080	U	ug/L	P366536	
		Primidone**	0.0040	U	ug/L	P366536	
		Pyraclostrobin**	0.0020	U	ug/L	P366536	
		Triclopyr**	0.0040	U	ug/L	P366536	

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.
EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate. MDL for some parameters elevated due to matrix interference.

Sample Location: Wares Crk @ 9th Ave **Collection Date/Time: 06/27/2019 10:15**

Field ID: G2SW0029 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2099567	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P366500	
	EPA 300.0	Bromide	18		mg Br/L	P366795	
	SM 2320 B-97	Total Alkalinity	151		mg CaCO3/L	P366672	
	SM 2540 D-97	TSS	4	I	mg/L	P366874	
	SM 4500 F-C-97	Fluoride	0.69		mg F/L	P366859	
2099569	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P366788	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P366821	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.015		mg N/L	P366686	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P366561	
	SM 5310 B-00	Organic Carbon	8.6		mg C/L	P366727	
2099571	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.096		mg P/L	P366507	
2099591	EPA 8321B	2,4-D	0.38		ug/L	P366536	MS
		Acesulfame K**	0.10	UJ	ug/L	P366578	SUR
		AMPA**	1.0	U	ug/L	P366578	MS
		Sucralose**	0.36		ug/L	P366578	
		Acetaminophen**	0.0080	U	ug/L	P366536	
		Endothall**	0.25	UJ	ug/L	P366578	SUR
		Glufosinate**	1.0	U	ug/L	P366578	
		Glyphosate**	1.0	U	ug/L	P366578	
		Bentazon	0.018		ug/L	P366536	
		Carbamazepine**	8.0E-04	U	ug/L	P366536	
		Diuron	0.012		ug/L	P366536	RPD
		Fenuron	0.016	U	ug/L	P366536	
		Fluridone**	0.71		ug/L	P366536	
		Imazapyr**	0.28		ug/L	P366536	
		Hydrocodone**	0.0020	U	ug/L	P366536	
		Ibuprofen**	0.020	U	ug/L	P366536	
		Imidacloprid	0.020		ug/L	P366536	MS
		Linuron	0.0040	U	ug/L	P366536	
		MCPP	0.0023	I	ug/L	P366536	MS
		Naproxen**	0.0080	U	ug/L	P366536	
		Primidone**	0.0040	U	ug/L	P366536	
		Pyraclostrobin**	0.0020	U	ug/L	P366536	
		Triclopyr**	0.0040	U	ug/L	P366536	

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. Surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate. MDL for some parameters elevated due to matrix interference.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P366499

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P366500

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P366795

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366762

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366764

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366776

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366788

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366771

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366821

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366888

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366686

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366730

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366561

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366679

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366680

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366506

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366507

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

Reference Method: EPA 8321B
Batch ID: P366536

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P366536

Component	Result	Code	Units
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: P366578

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: P366495

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P366672

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

Reference Method: SM 2320 B-97
Batch ID: P366738

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

Reference Method: SM 2540 C-97
Batch ID: P366895

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P366870

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P366874

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P366745

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P366858

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P366859

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P366726

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

Reference Method: SM 5310 B-00
Batch ID: P366727

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: P366795

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	97.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366762

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366764

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366776

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: P366788

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366771

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: P366821

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366888

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366686

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366730

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366561

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366679

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: P366680

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366506

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366507

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

Reference Method: EPA 8321B
Batch ID: P366536

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	122		P	40 - 150
Acetaminophen	83.5		P	30 - 150
Bentazon	97.6		P	30 - 150
Carbamazepine	92.0		P	40 - 150
Diuron	91.3		P	40 - 150
Fenuron	95.7		P	40 - 150
Fluridone	97.4		P	40 - 150
Hydrocodone	92.1		P	40 - 150
Ibuprofen	89.4		P	30 - 150
Imazapyr	98.1		P	40 - 150
Imidacloprid	89.4		P	40 - 150
Linuron	73.6		P	40 - 150
MCPP	138		P	40 - 150
Naproxen	82.9		P	40 - 150
Primidone	81.8		P	40 - 150
Pyraclostrobin	84.2		P	30 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P366536

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Triclopyr	103		P	30 - 150

Reference Method: EPA 8321B
Batch ID: P366578

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	128		P	40 - 150
AMPA	93.2		P	40 - 150
Endothall	94.9		P	40 - 150
Glufosinate	106		P	40 - 150
Glyphosate	98.7		P	40 - 140
Sucralose	101		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P366495

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

Reference Method: SM 2320 B-97
Batch ID: P366672

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

Reference Method: SM 2320 B-97
Batch ID: P366738

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P366745

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P366858

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.5		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P366859

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	92 - 103

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P366726

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P366727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.1		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P366795

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099104	Bromide	95.7	96.3	P/P	90 - 110
2099566	Bromide	96.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366762

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2098885	Chloride	103		P	90 - 110
2099402	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099402	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099706	Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366788

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099466	Ammonia-N	105	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099601	Kjeldahl Nitrogen	105	91.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366821

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099568	Kjeldahl Nitrogen	110	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366888

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099564	Kjeldahl Nitrogen	92.3	97.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099452	NO2NO3-N	103	103	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099483	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099334	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366679

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099353	Total-P	104	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099560	Total-P	99.6	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099604	O-Phosphate-P	95.1	96.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366507

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099565	O-Phosphate-P	96.1	97.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P366536

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099202	2,4-D	141	151	P/F	40 - 150
2099202	Acetaminophen	104	107	P/P	30 - 150
2099202	Bentazon	92.4	93.3	P/P	30 - 150
2099202	Carbamazepine	109	109	P/P	40 - 150
2099202	Diuron	102	73.7	P/P	40 - 150
2099202	Fenuron	80.0	90.3	P/P	40 - 150
2099202	Fluridone	105	111	P/P	40 - 150
2099202	Hydrocodone	91.6	75.9	P/P	40 - 150
2099202	Ibuprofen	108	92.2	P/P	30 - 150
2099202	Imazapyr	147	119	P/P	40 - 150
2099202	Imidacloprid	156	163	F/F	40 - 150
2099202	Linuron	82.8	82.7	P/P	40 - 150
2099202	MCPP	168	174	F/F	40 - 150
2099202	Naproxen	105	104	P/P	40 - 150
2099202	Primidone	110	93.4	P/P	40 - 150
2099202	Pyraclostrobin	96.6	103	P/P	30 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P366536

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099202	Triclopyr	130	131	P/P	30 - 150

Reference Method: EPA 8321B
Batch ID: P366578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099422	Acesulfame K	143	149	P/P	40 - 150
2099422	AMPA	24.4	20.2	F/F	40 - 150
2099422	Endothall	101	104	P/P	40 - 150
2099422	Glufosinate	53.8	49.1	P/P	40 - 150
2099422	Glyphosate	51.2	48.2	P/P	40 - 140
2099422	Sucralose	119	87.7	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P366745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099948	Fluoride	98.9	98.9	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P366859

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099567	Fluoride	98.1	98.1	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P366726

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099559	Organic Carbon	95.6	95.5	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P366727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2099646	Organic Carbon	94.7	95.6	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P366499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099450	Turbidity	5.88	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P366500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099645	Turbidity	1.98	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P366795

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099104	Bromide	0.496	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366762

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2098885	Chloride	0.123	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099706	Ammonia-N	1.35	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099466	Ammonia-N	1.85	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099601	Kjeldahl Nitrogen	8.50	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366821

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099568	Kjeldahl Nitrogen	7.47	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099564	Kjeldahl Nitrogen	4.40	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099452	NO2NO3-N	0.449	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099483	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099334	Total-P	0.737	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099353	Total-P	1.66	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099560	Total-P	1.62	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099604	O-Phosphate-P	1.27	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099565	O-Phosphate-P	1.55	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P366536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099202	2,4-D	7.20	Spike	P	0 - 30
2099202	Acetaminophen	2.90	Spike	P	0 - 30
2099202	Bentazon	0.997	Spike	P	0 - 30
2099202	Carbamazepine	0.313	Spike	P	0 - 30
2099202	Diuron	32.1	Spike	F	0 - 30
2099202	Fenuron	12.1	Spike	P	0 - 30
2099202	Fluridone	5.52	Spike	P	0 - 30
2099202	Hydrocodone	18.7	Spike	P	0 - 30
2099202	Ibuprofen	16.2	Spike	P	0 - 30
2099202	Imazapyr	21.1	Spike	P	0 - 30
2099202	Imidacloprid	4.59	Spike	P	0 - 30
2099202	Linuron	0.228	Spike	P	0 - 30
2099202	MCPP	3.60	Spike	P	0 - 30
2099202	Naproxen	1.22	Spike	P	0 - 30
2099202	Primidone	16.6	Spike	P	0 - 30
2099202	Pyraclostrobin	6.55	Spike	P	0 - 30
2099202	Triclopyr	0.630	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P366578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099422	Acesulfame K	4.15	Spike	P	0 - 30
2099422	AMPA	1.61	Spike	P	0 - 30
2099422	Endothall	2.61	Spike	P	0 - 30
2099422	Glufosinate	9.11	Spike	P	0 - 30
2099422	Glyphosate	0.384	Spike	P	0 - 30
2099422	Sucralose	27.4	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P366495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099405	Color (true)	1.45	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P366672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099566	Total Alkalinity	0.276	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P366738

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099948	Total Alkalinity	0.709	Sample	P	0 - 2.8

Quality Assurance Report
Precision

Reference Method: SM 2540 C-97
Batch ID: P366895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099405	TDS	3.93	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P366745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099948	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P366858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100316	Fluoride	0.473	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P366859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099567	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P366726

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099559	Organic Carbon	0.0738	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P366727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2099646	Organic Carbon	0.727	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: 2099588
Field Sample ID: G2SW0109

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	145	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	101	P	30 - 160
EPA 8321B	Diuron-d6	87.2	P	30 - 160
EPA 8321B	Endothall-d6	93.8	P	30 - 160
EPA 8321B	Endothall-d6	93.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	56.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	56.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	85.9	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	49.4	P	30 - 160
EPA 8321B	Sucralose-d6	49.4	P	30 - 160

Lab Sample ID: 2099589
Field Sample ID: G2SW0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.8	P	30 - 160
EPA 8321B	Diuron-d6	82.8	P	30 - 160
EPA 8321B	Endothall-d6	89.6	P	30 - 160
EPA 8321B	Endothall-d6	89.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.4	P	30 - 160
EPA 8321B	Primidone-d5	88.7	P	30 - 160
EPA 8321B	Sucralose-d6	48.5	P	30 - 160
EPA 8321B	Sucralose-d6	48.5	P	30 - 160

Lab Sample ID: 2099590
Field Sample ID: G2SW0108

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	150	P	30 - 160
EPA 8321B	Acetaminophen-d4	75.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.0	P	30 - 160
EPA 8321B	Diuron-d6	72.3	P	30 - 160
EPA 8321B	Endothall-d6	737	F	30 - 160
EPA 8321B	Endothall-d6	737	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	57.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	57.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	72.2	P	30 - 160
EPA 8321B	Primidone-d5	89.7	P	30 - 160
EPA 8321B	Sucralose-d6	135	P	30 - 160
EPA 8321B	Sucralose-d6	135	P	30 - 160

Lab Sample ID: 2099591
Field Sample ID: G2SW0029

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	146	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2099591
Field Sample ID: G2SW0029

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	90.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.3	P	30 - 160
EPA 8321B	Diuron-d6	87.4	P	30 - 160
EPA 8321B	Endothall-d6	1230	F	30 - 160
EPA 8321B	Endothall-d6	1230	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	112	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	112	P	30 - 160
EPA 8321B	Ibuprofen-d3	80.1	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	145	P	30 - 160
EPA 8321B	Sucralose-d6	145	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B
Run ID: A92445
Included Lab Sample IDs: 2099557, 2099558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A92446
Included Lab Sample IDs: 2099557, 2099558, 2099563, 2099566, 2099567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105
Turbidity	99.5	101	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A92447
Included Lab Sample IDs: 2099561, 2099562, 2099565, 2099570, 2099571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.8	96.9	P/P	90 - 110
O-Phosphate-P	96.9	95.6	P/P	90 - 110
O-Phosphate-P	98.3	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A92503
Included Lab Sample IDs: 2099568, 2099569

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

Reference Method: EPA 300.0
Run ID: A92511
Included Lab Sample IDs: 2099563, 2099566, 2099567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	104	106	P/P	90 - 110
Bromide	106	104	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A92512
Included Lab Sample IDs: 2099557, 2099558

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	102	P/P	90 - 110
Sulfate	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A92520
Included Lab Sample IDs: 2099564

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A92525
Included Lab Sample IDs: 2099588, 2099589, 2099590, 2099591

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	132	65.6	P/P	60 - 160
Acesulfame K	78.2	132	P/P	60 - 160
Endothall	104	131	P/P	60 - 160
Endothall	99.5	104	P/P	60 - 160

Reference Method: SM 2320 B-97
Run ID: A92529
Included Lab Sample IDs: 2099563, 2099566, 2099567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	104	P/P	90 - 110
Total Alkalinity	103	102	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A92530
Included Lab Sample IDs: 2099588, 2099589, 2099590, 2099591

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	94.8	95.3	P/P	60 - 160
AMPA	95.3	92.2	P/P	60 - 160
Glufosinate	101	95.4	P/P	60 - 160
Glufosinate	95.4	99.4	P/P	60 - 160
Glyphosate	94.9	98.5	P/P	60 - 160
Glyphosate	98.5	103	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A92533
Included Lab Sample IDs: 2099564, 2099568, 2099569

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A92556
Included Lab Sample IDs: 2099559, 2099560

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

Reference Method: SM 5310 B-00
Run ID: A92558
Included Lab Sample IDs: 2099559, 2099560, 2099564, 2099568, 2099569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	94.2	P/P	90 - 110
Organic Carbon	96.6	96.6	P/P	90 - 110
Organic Carbon	98.2	96.6	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A92563
Included Lab Sample IDs: 2099557, 2099558

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

Reference Method: SM 4500 F-C-97
Run ID: A92563
Included Lab Sample IDs: 2099557, 2099558

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

Reference Method: EPA 8321B
Run ID: A92569
Included Lab Sample IDs: 2099588, 2099589, 2099590, 2099591

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.5	91.4	P/P	50 - 150
Acetaminophen	115	104	P/P	60 - 160
Bentazon	104	106	P/P	50 - 160
Carbamazepine	100	106	P/P	60 - 150
Diuron	106	110	P/P	60 - 150
Fenuron	104	101	P/P	60 - 150
Fluridone	106	105	P/P	60 - 160
Hydrocodone	108	109	P/P	60 - 150
Ibuprofen	84.5	85.6	P/P	50 - 160
Imazapyr	83.0	95.2	P/P	50 - 150
Imidacloprid	121	100	P/P	60 - 150
Linuron	106	99.2	P/P	60 - 150
MCPP	95.3	92.5	P/P	50 - 150
Naproxen	120	118	P/P	50 - 160
Primidone	98.8	94.4	P/P	60 - 150
Pyraclostrobin	112	110	P/P	60 - 150
Triclopyr	89.9	108	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A92578
Included Lab Sample IDs: 2099559, 2099560

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A92579
Included Lab Sample IDs: 2099564, 2099568, 2099569

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A92606
Included Lab Sample IDs: 2099559, 2099560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A92606
Included Lab Sample IDs: 2099559, 2099560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.8	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A92608
Included Lab Sample IDs: 2099559, 2099560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A92633
Included Lab Sample IDs: 2099563, 2099566, 2099567

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	99.1	P/P	90 - 110
Fluoride	99.1	98.6	P/P	90 - 110
Fluoride	99.1	99.5	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A92634
Included Lab Sample IDs: 2099588, 2099589, 2099590, 2099591

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	109	104	P/P	60 - 160
Sucralose	98.8	109	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A92645
Included Lab Sample IDs: 2099568, 2099569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	90.2	97.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A92675
Included Lab Sample IDs: 2099564

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	98.1	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					5.88	
	Turbidity					1.98	
EPA 300.0	Bromide	97.6	95.7	96.3	96.0		0.496
EPA 300.0 Rev. 2.1	Chloride	100	103	102		0.123	
	Sulfate	101	101				
EPA 350.1 Rev. 2.0	Ammonia-N	103	105	104			1.35
	Ammonia-N	107	105	107			1.85
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	105	91.0			8.50
	Kjeldahl Nitrogen	97.9	110	100			7.47
	Kjeldahl Nitrogen	100	92.3	97.6			4.40
EPA 353.2 Rev. 2.0	NO2NO3-N	101	103	103			0.449
	NO2NO3-N	104	99.0	99.0			0.0
EPA 365.1 Rev. 2.0	Total-P	102	104	104			0.737
	Total-P	100	104	102			1.66
	Total-P	100	99.6	102			1.62
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.6	95.1	96.7			1.27
	O-Phosphate-P	99.1	96.1	97.6			1.55
EPA 8321B	2,4-D	122	151	141			7.20
	Acesulfame K	128	143	149			4.15
	Acetaminophen	83.5	104	107			2.90
	AMPA	93.2	24.4	20.2			1.61
	Bentazon	97.6	93.3	92.4			0.997
	Carbamazepine	92.0	109	109			0.313
	Diuron	91.3	73.7	102			32.1
	Endothall	94.9	101	104			2.61
	Fenuron	95.7	90.3	80.0			12.1
	Fluridone	97.4	111	105			5.52
	Glufosinate	106	53.8	49.1			9.11
	Glyphosate	98.7	51.2	48.2			0.384
	Hydrocodone	92.1	91.6	75.9			18.7
	Ibuprofen	89.4	108	92.2			16.2
	Imazapyr	98.1	119	147			21.1
	Imidacloprid	89.4	163	156			4.59
	Linuron	73.6	82.7	82.8			0.228
	MCPP	138	168	174			3.60
	Naproxen	82.9	105	104			1.22
	Primidone	81.8	110	93.4			16.6
	Pyraclostrobin	84.2	103	96.6			6.55
	Sucralose	101	119	87.7			27.4
	Triclopyr	103	130	131			0.630
SM 2120 B	Color (true)	102				1.45	
SM 2320 B-97	Total Alkalinity	103				0.276	
	Total Alkalinity	104				0.709	
SM 2540 C-97	TDS					3.93	
SM 4500 F-C-97	Fluoride	101	98.9	98.9			0.0
	Fluoride	99.5					0.473
	Fluoride	101	98.1	98.1			0.0
SM 5310 B-00	Organic Carbon	97.0	95.6	95.5			0.0738
	Organic Carbon	94.1	94.7	95.6			0.727

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	2099557, 2099558, 2099563, 2099566, 2099567
EPA 300.0 / E31780	Bromide in aqueous matrices	2099563, 2099566, 2099567
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2099557, 2099558
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2099557, 2099558
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2099559, 2099560, 2099564, 2099568, 2099569
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2099559, 2099560, 2099564, 2099568, 2099569
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2099559, 2099560, 2099564, 2099568, 2099569
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2099559, 2099560, 2099564, 2099568, 2099569
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2099561, 2099562, 2099565, 2099570, 2099571
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2099588, 2099589, 2099590, 2099591
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2099588, 2099589, 2099590, 2099591
SM 2120 B / E31780	True Color measured at 450 nm	2099557, 2099558
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2099557, 2099558, 2099563, 2099566, 2099567
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2099557, 2099558
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2099557, 2099558, 2099563, 2099566, 2099567
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2099557, 2099558, 2099563, 2099566, 2099567
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2099559, 2099560, 2099564, 2099568, 2099569

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	06/28/2019			06/28/2019 16:42	Samantha Davila	2099557, 2099558, 2099563, 2099566, 2099567
EPA 300.0	06/28/2019			07/05/2019 13:34	Jhamieka S. Greenwood	2099566
	06/28/2019			07/05/2019 16:59	Jhamieka S. Greenwood	2099563
	06/28/2019			07/05/2019 17:16	Jhamieka S. Greenwood	2099567
EPA 300.0 Rev. 2.1	06/28/2019			07/03/2019 20:05	Jhamieka S. Greenwood	2099557
	06/28/2019			07/03/2019 20:17	Jhamieka S. Greenwood	2099558
EPA 350.1 Rev. 2.0	06/28/2019			07/05/2019 14:38	Ping Hua	2099564
	06/28/2019			07/05/2019 14:40	Ping Hua	2099568
	06/28/2019			07/05/2019 14:41	Ping Hua	2099569
	06/28/2019			07/06/2019 10:40	Ping Hua	2099559
	06/28/2019			07/06/2019 10:41	Ping Hua	2099560
EPA 351.2 Rev. 2.0	06/28/2019	07/05/2019 13:30	Adrian Shelby	07/08/2019 13:57	Virginia P. Brown	2099559
	06/28/2019	07/05/2019 13:30	Adrian Shelby	07/08/2019 13:58	Virginia P. Brown	2099560
	06/28/2019	07/08/2019 13:30	Adrian Shelby	07/09/2019 10:31	Joseph Suarez	2099568
	06/28/2019	07/08/2019 13:30	Adrian Shelby	07/09/2019 10:35	Joseph Suarez	2099569
	06/28/2019	07/09/2019 12:45	Adrian Shelby	07/10/2019 10:00	Joseph Suarez	2099564
EPA 353.2 Rev. 2.0	06/28/2019			07/03/2019 10:00	Beverly Y. Sanders	2099564
	06/28/2019			07/03/2019 10:01	Beverly Y. Sanders	2099568
	06/28/2019			07/03/2019 10:02	Beverly Y. Sanders	2099569
	06/28/2019			07/03/2019 18:24	Lauren Lees	2099559
	06/28/2019			07/03/2019 18:25	Lauren Lees	2099560
EPA 365.1 Rev. 2.0	06/28/2019	07/01/2019 12:00	Lipi Saha	07/02/2019 14:06	Rosalyn Ballman	2099568
	06/28/2019	07/01/2019 12:00	Lipi Saha	07/02/2019 14:07	Rosalyn Ballman	2099569
	06/28/2019	07/01/2019 12:00	Lipi Saha	07/02/2019 16:30	Rosalyn Ballman	2099564
	06/28/2019	07/03/2019 12:30	Lipi Saha	07/08/2019 14:45	Rosalyn Ballman	2099559
	06/28/2019	07/03/2019 12:30	Lipi Saha	07/08/2019 14:48	Rosalyn Ballman	2099560
EPA 365.1 Rev. 2.0 dissolved	06/28/2019			06/28/2019 16:06	Jhamieka S. Greenwood	2099565
	06/28/2019			06/28/2019 16:42	Jhamieka S. Greenwood	2099561
	06/28/2019			06/28/2019 16:43	Jhamieka S. Greenwood	2099562
	06/28/2019			06/28/2019 16:56	Jhamieka S. Greenwood	2099570, 2099571
EPA 8321B	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/02/2019 13:33	Rebecca Ware	2099588
	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/02/2019 13:54	Rebecca Ware	2099589
	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/02/2019 14:37	Rebecca Ware	2099590
	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/02/2019 14:48	Rebecca Ware	2099591
	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/02/2019 19:37	Rebecca Ware	2099588
	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/02/2019 20:05	Rebecca Ware	2099589
	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/02/2019 20:19	Rebecca Ware	2099590
	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/02/2019 20:33	Rebecca Ware	2099591
	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/08/2019 21:02	Rebecca Ware	2099588

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/08/2019 21:14	Rebecca Ware	2099589
	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/08/2019 21:49	Rebecca Ware	2099590
	06/28/2019	07/02/2019 09:45	Rebecca Ware	07/08/2019 22:01	Rebecca Ware	2099591
	06/28/2019	07/03/2019 12:30	Hoor Shaik	07/04/2019 08:00	Juyoung Kim	2099588
	06/28/2019	07/03/2019 12:30	Hoor Shaik	07/04/2019 08:34	Juyoung Kim	2099589
	06/28/2019	07/03/2019 12:30	Hoor Shaik	07/04/2019 09:09	Juyoung Kim	2099590
	06/28/2019	07/03/2019 12:30	Hoor Shaik	07/04/2019 09:43	Juyoung Kim	2099591
	06/28/2019	07/03/2019 12:30	Hoor Shaik	07/05/2019 14:00	Juyoung Kim	2099588
	06/28/2019	07/03/2019 12:30	Hoor Shaik	07/05/2019 14:35	Juyoung Kim	2099589
	06/28/2019	07/03/2019 12:30	Hoor Shaik	07/05/2019 15:09	Juyoung Kim	2099590
	06/28/2019	07/03/2019 12:30	Hoor Shaik	07/05/2019 15:44	Juyoung Kim	2099591
SM 2120 B	06/28/2019			06/28/2019 16:39	Madeline Funaro	2099557, 2099558
SM 2320 B-97	06/28/2019			07/02/2019 20:41	Dale L. Simmons	2099566
	06/28/2019			07/03/2019 00:45	Dale L. Simmons	2099563
	06/28/2019			07/03/2019 00:59	Dale L. Simmons	2099567
	06/28/2019			07/04/2019 14:02	Dale L. Simmons	2099557
	06/28/2019			07/04/2019 14:15	Dale L. Simmons	2099558
SM 2540 C-97	06/28/2019			07/03/2019 15:12	Yijie Li	2099557, 2099558
SM 2540 D-97	06/28/2019			07/03/2019 15:12	Yijie Li	2099557, 2099558, 2099563, 2099566, 2099567
SM 4500 F-C-97	06/28/2019			07/04/2019 14:02	Dale L. Simmons	2099557
	06/28/2019			07/04/2019 14:15	Dale L. Simmons	2099558
	06/28/2019			07/09/2019 00:50	Dale L. Simmons	2099566
	06/28/2019			07/09/2019 04:43	Dale L. Simmons	2099567
	06/28/2019			07/09/2019 06:40	Dale L. Simmons	2099563
SM 5310 B-00	06/28/2019			07/03/2019 02:50	Madeline Funaro	2099559
	06/28/2019			07/03/2019 03:46	Madeline Funaro	2099560
	06/28/2019			07/03/2019 06:01	Madeline Funaro	2099568
	06/28/2019			07/04/2019 01:02	Madeline Funaro	2099569
	06/28/2019			07/04/2019 12:33	Madeline Funaro	2099564