

Chemical Analysis Report

CEN-DIST-2019-09-12-02

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

Event Description: **Florence / Crane / Eau X2**
Request ID: **RQ-2019-09-16-54**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 02-OCT-2019 11:44



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: Eau Gallie River @ Ballard Park Boat Ramp

Collection Date/Time: 09/11/2019 11:38

Field ID: G5CE0088

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2118623	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P370589	
	EPA 300.0	Bromide	29		mg Br/L	P370689	
	SM 2320 B-97	Total Alkalinity	104		mg CaCO3/L	P371103	
	SM 2540 D-97	TSS	6	I	mg/L	P370804	
	SM 4500 F-C-97	Fluoride	0.69		mg F/L	P371107	
2118626	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P370847	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P370774	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370712	
	EPA 365.1 Rev. 2.0	Total-P	0.060		mg P/L	P371310	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P371023	
2118629	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P370582	
2118644	EPA 8321B	2,4-D	0.28		ug/L	P370625	
		Acesulfame K**	0.10	U	ug/L	P370612	MS
		AMPA**	1.0	U	ug/L	P370612	MS
		Sucralose**	0.39		ug/L	P370612	
		Acetaminophen**	0.021	I	ug/L	P370625	
		Acetamiprid**	0.0020	U	ug/L	P370625	
		Endothall**	0.25	U	ug/L	P370612	MS
		Glufosinate**	1.0	U	ug/L	P370612	MS
		Glyphosate**	1.0	U	ug/L	P370612	MS
		Afidopyropen**	0.0020	UJ	ug/L	P370625	
		Bentazon	0.011		ug/L	P370625	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370625	RPD
		Carbamazepine**	8.0E-04	U	ug/L	P370625	
		Clothianidin**	0.0020	U	ug/L	P370625	
		Dinotefuran**	0.0020	U	ug/L	P370625	
		Diuron	0.0020	U	ug/L	P370625	
		Fenuron	0.016	U	ug/L	P370625	
		Fluridone**	0.0072		ug/L	P370625	
		Imazapyr**	0.064		ug/L	P370625	
		Hydrocodone**	0.0020	U	ug/L	P370625	
		Ibuprofen**	0.020	U	ug/L	P370625	
		Imidacloprid	0.0084		ug/L	P370625	MS
		Linuron	0.0040	U	ug/L	P370625	
		Mandestrobin**	0.0020	UJ	ug/L	P370625	
		MCPP	0.0020	U	ug/L	P370625	
		Naproxen**	0.0080	U	ug/L	P370625	RPD
		Primidone**	0.0040	U	ug/L	P370625	
		Pyraclostrobin**	0.0020	U	ug/L	P370625	RPD
		Thiamethoxam**	0.0020	U	ug/L	P370625	MS
		Tolfenpyrad**	0.0020	UJ	ug/L	P370625	LCS, MS
		Triclopyr**	0.0040	U	ug/L	P370625	

Field ID: G5CE0088

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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: J - second source check standards for some analytes were not available for analysis. MS accuracy for imazapyr and fluridone could not be assessed due to high concentration of parameter in the spiked sample. Matrix spike precision for tolfenpyrad is not available due to low analyte recovery. Refer to the narrative for an explanation of QC Codes.

EPA 8321B: MDL for some parameters elevated due to matrix interference. Results confirmed in sample duplicate. Matrix spike precision for some analytes is not available due to low analyte recoveries.

Sample Location: Eau Gallie River downstream of US Hwy 1 Bridge

Collection Date/Time: 09/11/2019 11:49

Field ID: G5CE0096

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2118624	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P370589	
	EPA 300.0	Bromide	27		mg Br/L	P370689	
	SM 2320 B-97	Total Alkalinity	108	A	mg CaCO3/L	P371102	
	SM 2540 D-97	TSS	7	I	mg/L	P370804	
	SM 4500 F-C-97	Fluoride	0.68		mg F/L	P371519	
2118627	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P370847	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P370774	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P370712	
	EPA 365.1 Rev. 2.0	Total-P	0.069		mg P/L	P371310	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P371023	
2118630	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P370582	
2118645	EPA 8321B	2,4-D	0.37		ug/L	P370625	
		Acesulfame K**	0.10	UJ	ug/L	P370612	MS, SUR
		AMPA**	1.0	U	ug/L	P370612	MS
		Sucralose**	0.47		ug/L	P370612	
		Acetaminophen**	0.013	I	ug/L	P370625	
		Acetamiprid**	0.0020	U	ug/L	P370625	
		Endothall**	0.25	UJ	ug/L	P370612	MS, SUR
		Glufosinate**	1.0	U	ug/L	P370612	MS
		Glyphosate**	1.0	U	ug/L	P370612	MS
		Afidopyropen**	0.0020	UJ	ug/L	P370625	
		Bentazon	0.012		ug/L	P370625	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370625	RPD
		Carbamazepine**	8.0E-04	U	ug/L	P370625	
		Clothianidin**	0.0022	I	ug/L	P370625	
		Dinotefuran**	0.0020	U	ug/L	P370625	
		Diuron	0.0020	U	ug/L	P370625	
		Fenuron	0.016	U	ug/L	P370625	
		Fluridone**	0.0074		ug/L	P370625	
		Imazapyr**	0.080		ug/L	P370625	
		Hydrocodone**	0.0020	U	ug/L	P370625	
		Ibuprofen**	0.020	U	ug/L	P370625	
		Imidacloprid	0.011		ug/L	P370625	MS
		Linuron	0.0040	U	ug/L	P370625	
		Mandestrobin**	0.0020	UJ	ug/L	P370625	
		MCPD	0.0026	I	ug/L	P370625	
		Naproxen**	0.0080	U	ug/L	P370625	RPD
		Primidone**	0.0040	U	ug/L	P370625	
		Pyraclostrobin**	0.0020	U	ug/L	P370625	RPD
		Thiamethoxam**	0.0020	U	ug/L	P370625	MS
		Tolfenpyrad**	0.0020	UJ	ug/L	P370625	LCS, MS
		Triclopyr**	0.0040	U	ug/L	P370625	

Field ID: G5CE0096

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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: J - second source check standards for some analytes were not available for analysis. MS accuracy for imazapyr and fluridone could not be assessed due to high concentration of parameter in the spiked sample. Matrix spike precision for tolfenpyrad is not available due to low analyte recovery. Refer to the narrative for an explanation of QC Codes.

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. MDL for some parameters elevated due to matrix interference. Matrix spike precision for some analytes is not available due to low analyte recoveries. Results confirmed in sample duplicate.

Sample Location: Crane Creek @ 200m upstream of RR Bridge

Collection Date/Time: 09/11/2019 12:27

Field ID: G5CE0097

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2118625	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P370589	
	EPA 300.0	Bromide	5.3		mg Br/L	P370690	
	SM 2320 B-97	Total Alkalinity	175		mg CaCO3/L	P371032	
	SM 2540 D-97	TSS	4	I	mg/L	P370800	
	SM 4500 F-C-97	Fluoride	0.25		mg F/L	P371510	
2118628	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P370847	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P370774	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.087		mg N/L	P370713	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P371310	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P370754	
2118631	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.061		mg P/L	P370582	
2118646	EPA 8321B	2,4-D	0.028		ug/L	P370625	
		Acesulfame K**	0.10	UJ	ug/L	P370612	MS, SUR
		AMPA**	2.2	I	ug/L	P370612	MS
		Sucralose**	0.66		ug/L	P370612	
		Acetaminophen**	0.0080	U	ug/L	P370625	
		Acetamiprid**	0.0020	U	ug/L	P370625	
		Endothall**	0.25	UJ	ug/L	P370612	MS, SUR
		Glufosinate**	1.0	U	ug/L	P370612	MS
		Glyphosate**	1.0	U	ug/L	P370612	MS
		Afidopyropen**	0.0020	UJ	ug/L	P370625	
		Bentazon	0.039		ug/L	P370625	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370625	RPD
		Carbamazepine**	0.0027	I	ug/L	P370625	
		Clothianidin**	0.0048	I	ug/L	P370625	
		Dinotefuran**	0.0020	U	ug/L	P370625	
		Diuron	0.0092		ug/L	P370625	
		Fenuron	0.016	U	ug/L	P370625	
		Fluridone**	0.017		ug/L	P370625	
		Imazapyr**	0.15		ug/L	P370625	
		Hydrocodone**	0.0020	U	ug/L	P370625	
		Ibuprofen**	0.020	U	ug/L	P370625	
		Imidacloprid	0.027		ug/L	P370625	MS
		Linuron	0.0040	U	ug/L	P370625	
		Mandestrobin**	0.0020	UJ	ug/L	P370625	
		MCP	0.0022	I	ug/L	P370625	
		Naproxen**	0.0080	U	ug/L	P370625	RPD
		Primidone**	0.0040	U	ug/L	P370625	
		Pyraclostrobin**	0.0020	U	ug/L	P370625	RPD
		Thiamethoxam**	0.0021	I	ug/L	P370625	MS
		Tolfenpyrad**	0.0020	UJ	ug/L	P370625	LCS, MS
		Triclopyr**	0.0040	U	ug/L	P370625	

Field ID: G5CE0097

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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: J - second source check standards for some analytes were not available for analysis. MS accuracy for imazapyr and fluridone could not be assessed due to high concentration of parameter in the spiked sample. Matrix spike precision for tolfenpyrad is not available due to low analyte recovery. Refer to the narrative for an explanation of QC Codes.

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. MDL for some parameters elevated due to matrix interference. Matrix spike precision for some analytes is not available due to low analyte recoveries. Results confirmed in sample duplicate.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370589

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P370689

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0
Batch ID: P370690

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370847

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370774

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370712

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370713

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371310

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370582

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P370612

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

Reference Method: EPA 8321B
Batch ID: P370625

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	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
Mandestrobin	0.0020	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
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P371032

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

Reference Method: SM 2320 B-97
Batch ID: P371102

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P371103

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

Reference Method: SM 2540 D-97
Batch ID: P370800

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P370804

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P371107

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P371510

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P371519

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P370754

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

Reference Method: SM 5310 B-00
Batch ID: P371023

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: P370689

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	94.8		P	90 - 110

Reference Method: EPA 300.0
Batch ID: P370690

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370847

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370774

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: P370712

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: P370713

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: P371310

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370582

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

Reference Method: EPA 8321B
Batch ID: P370612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	46.3		P	40 - 150
AMPA	106		P	40 - 150
Endothall	87.5		P	40 - 150
Glufosinate	115		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P370612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	111		P	40 - 140
Sucralose	87.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P370625

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	74.6		P	40 - 160
Acetaminophen	83.7		P	30 - 160
Acetamiprid	96.7		P	40 - 160
Afidopyropen	79.9		P	40 - 160
Bentazon	93.6		P	30 - 160
Benzovindiflupyr	50.5		P	40 - 160
Carbamazepine	97.5		P	40 - 160
Clothianidin	95.6		P	40 - 160
Dinotefuran	89.5		P	40 - 160
Diuron	103		P	40 - 160
Fenuron	119		P	40 - 160
Fluridone	88.8		P	40 - 160
Hydrocodone	98.6		P	40 - 160
Ibuprofen	49.3		P	30 - 160
Imazapyr	86.7		P	40 - 160
Imidacloprid	100		P	40 - 160
Linuron	66.3		P	40 - 160
Mandestrobin	73.0		P	40 - 160
MCPP	75.3		P	40 - 160
Naproxen	60.1		P	40 - 160
Primidone	84.4		P	40 - 160
Pyraclostrobin	41.1		P	30 - 160
Thiamethoxam	108		P	40 - 160
Tolfenpyrad	14.2		F	40 - 160
Triclopyr	50.7		P	30 - 160

Reference Method: SM 2320 B-97
Batch ID: P371032

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

Reference Method: SM 2320 B-97
Batch ID: P371102

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

Reference Method: SM 2320 B-97
Batch ID: P371103

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P371107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.6		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P371510

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P371519

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P370754

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

Reference Method: SM 5310 B-00
Batch ID: P371023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P370689

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2117129	Bromide	92.6	93.4	P/P	90 - 110
2117707	Bromide	92.5		P	90 - 110

Reference Method: EPA 300.0
Batch ID: P370690

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118899	Bromide	95.6	96.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118616	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370774

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118616	Kjeldahl Nitrogen	93.7	93.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370712

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118616	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370713

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118668	NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371310

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118563	Total-P	94.6	93.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370582

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118630	O-Phosphate-P	96.7	97.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P370612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118309	Acesulfame K	21.0	21.8	F/F	40 - 150
2118309	AMPA	0.0	0.0	F/F	40 - 150
2118309	Endothall	212	212	F/F	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P370612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118309	Glufosinate	0.0	0.0	F/F	40 - 150
2118309	Glyphosate	0.0	0.0	F/F	40 - 140
2118309	Sucralose	142	141	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P370625

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118309	2,4-D	132	119	P/P	40 - 160
2118309	Acetaminophen	88.0	89.4	P/P	30 - 160
2118309	Acetamiprid	127	110	P/P	40 - 160
2118309	Afidopyropen	117	114	P/P	40 - 160
2118309	Bentazon	73.0	75.1	P/P	30 - 160
2118309	Benzovindiflupyr	45.1	73.3	P/P	40 - 160
2118309	Carbamazepine	116	114	P/P	40 - 160
2118309	Clothianidin	117	116	P/P	40 - 160
2118309	Dinotefuran	123	123	P/P	40 - 160
2118309	Diuron	115	106	P/P	40 - 160
2118309	Fenuron	100	103	P/P	40 - 160
2118309	Hydrocodone	110	108	P/P	40 - 160
2118309	Ibuprofen	70.2	76.9	P/P	30 - 160
2118309	Imidacloprid	222	210	F/F	40 - 160
2118309	Linuron	72.3	71.9	P/P	40 - 160
2118309	Mandestrobin	86.0	90.6	P/P	40 - 160
2118309	MCPP	141	130	P/P	40 - 160
2118309	Naproxen	116	74.0	P/P	40 - 160
2118309	Primidone	102	101	P/P	40 - 160
2118309	Pyraclostrobin	36.8	65.1	P/P	30 - 160
2118309	Thiamethoxam	174	176	F/F	40 - 160
2118309	Tolfenpyrad	2.13	23.2	F/F	40 - 160
2118309	Triclopyr	100	88.9	P/P	30 - 160

Reference Method: SM 4500 F-C-97
Batch ID: P371107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2117596	Fluoride	93.6	96.2	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P371510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119000	Fluoride	98.1	98.1	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P371519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119124	Fluoride	95.1	95.1	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P370754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118256	Organic Carbon	103	104	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P371023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2118626	Organic Carbon	94.4	96.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370589

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118320	Turbidity	0.494	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P370689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117129	Bromide	0.738	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P370690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118899	Bromide	0.308	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118616	Ammonia-N	0.345	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118616	Kjeldahl Nitrogen	0.143	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118616	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370713

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118668	NO2NO3-N	0.504	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118563	Total-P	1.08	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370582

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118630	O-Phosphate-P	0.987	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P370612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118309	Acesulfame K	3.60	Spike	P	0 - 30
2118309	Endothall	0.0455	Spike	P	0 - 30
2118309	Sucralose	0.548	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P370625

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118309	2,4-D	9.18	Spike	P	0 - 30
2118309	Acetaminophen	1.55	Spike	P	0 - 30
2118309	Acetamiprid	14.0	Spike	P	0 - 30
2118309	Afidopyropen	2.93	Spike	P	0 - 30
2118309	Bentazon	1.31	Spike	P	0 - 30
2118309	Benzovindiflupyr	47.5	Spike	F	0 - 30
2118309	Carbamazepine	2.37	Spike	P	0 - 30
2118309	Clothianidin	0.551	Spike	P	0 - 30
2118309	Dinotefuran	0.391	Spike	P	0 - 30
2118309	Diuron	7.38	Spike	P	0 - 30
2118309	Fenuron	2.67	Spike	P	0 - 30
2118309	Fluridone	2.67	Spike	P	0 - 30
2118309	Hydrocodone	1.74	Spike	P	0 - 30
2118309	Ibuprofen	9.11	Spike	P	0 - 30
2118309	Imazapyr	4.82	Spike	P	0 - 30
2118309	Imidacloprid	5.12	Spike	P	0 - 30
2118309	Linuron	0.554	Spike	P	0 - 30
2118309	Mandestrobin	5.18	Spike	P	0 - 30
2118309	MCPP	8.08	Spike	P	0 - 30
2118309	Naproxen	44.2	Spike	F	0 - 30
2118309	Primidone	0.586	Spike	P	0 - 30
2118309	Pyraclostrobin	55.4	Spike	F	0 - 30
2118309	Thiamethoxam	1.23	Spike	P	0 - 30
2118309	Triclopyr	11.8	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P371032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119000	Total Alkalinity	0.777	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
 Batch ID: P371102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118624	Total Alkalinity	0.706	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
 Batch ID: P371103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117596	Total Alkalinity	0.228	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
 Batch ID: P371107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2117596	Fluoride	1.95	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
 Batch ID: P371510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119000	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
 Batch ID: P371519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119124	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P370754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118256	Organic Carbon	0.378	Spike	P	0 - 20

Reference Method: SM 5310 B-00
 Batch ID: P371023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2118626	Organic Carbon	1.89	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: 2118644
Field Sample ID: G5CE0088

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	141	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.8	P	30 - 160
EPA 8321B	Diuron-d6	104	P	30 - 160
EPA 8321B	Endothall-d6	108	P	30 - 160
EPA 8321B	Endothall-d6	108	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	42.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	42.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.8	P	30 - 160
EPA 8321B	Primidone-d5	89.1	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	30 - 160

Lab Sample ID: 2118645
Field Sample ID: G5CE0096

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	160	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.5	P	30 - 160
EPA 8321B	Diuron-d6	103	P	30 - 160
EPA 8321B	Endothall-d6	305	F	30 - 160
EPA 8321B	Endothall-d6	305	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	72.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	72.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.8	P	30 - 160
EPA 8321B	Primidone-d5	93.2	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	30 - 160

Lab Sample ID: 2118646
Field Sample ID: G5CE0097

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	130	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.6	P	30 - 160
EPA 8321B	Diuron-d6	106	P	30 - 160
EPA 8321B	Endothall-d6	325	F	30 - 160
EPA 8321B	Endothall-d6	325	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	68.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	68.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	59.7	P	30 - 160
EPA 8321B	Primidone-d5	100	P	30 - 160
EPA 8321B	Sucralose-d6	125	P	30 - 160
EPA 8321B	Sucralose-d6	125	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A94097

Included Lab Sample IDs: 2118623, 2118624, 2118625

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A94166

Included Lab Sample IDs: 2118629, 2118630, 2118631

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.3	P/P	90 - 110
O-Phosphate-P	99.7	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94168

Included Lab Sample IDs: 2118623, 2118624, 2118625

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94233

Included Lab Sample IDs: 2118626, 2118627, 2118628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110
NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94238

Included Lab Sample IDs: 2118644, 2118645, 2118646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	83.5	92.9	P/P	60 - 160
Glufosinate	90.8	90.4	P/P	60 - 160
Glyphosate	107	84.7	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A94255

Included Lab Sample IDs: 2118628

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

Reference Method: EPA 8321B

Run ID: A94290

Included Lab Sample IDs: 2118644, 2118645, 2118646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	87.6	96.7	P/P	60 - 160
Endothall	132	151	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94295

Included Lab Sample IDs: 2118626, 2118627, 2118628

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94318

Included Lab Sample IDs: 2118626, 2118627, 2118628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.1	93.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94333

Included Lab Sample IDs: 2118644, 2118645, 2118646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	85.2	83.3	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A94349

Included Lab Sample IDs: 2118626, 2118627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	95.1	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A94353

Included Lab Sample IDs: 2118625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	103	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A94392

Included Lab Sample IDs: 2118623, 2118624

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

Reference Method: SM 4500 F-C-97

Run ID: A94392

Included Lab Sample IDs: 2118623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	98.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94400

Included Lab Sample IDs: 2118644, 2118645, 2118646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A94400

Included Lab Sample IDs: 2118644, 2118645, 2118646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	97.7	P/P	50 - 150
2,4-D	86.5	105	P/P	50 - 150
Acetaminophen	116	99.9	P/P	60 - 160
Acetaminophen	99.4	116	P/P	60 - 160
Acetamiprid	110	111	P/P	50 - 150
Acetamiprid	111	112	P/P	50 - 150
Afidopyropen	114	121	P/P	50 - 150
Afidopyropen	122	114	P/P	50 - 150
Bentazon	75.8	80.5	P/P	50 - 160
Bentazon	80.5	82.3	P/P	50 - 160
Benzovindiflupyr	104	106	P/P	50 - 150
Benzovindiflupyr	97.3	104	P/P	50 - 150
Carbamazepine	100	109	P/P	60 - 150
Carbamazepine	109	104	P/P	60 - 150
Clothianidin	104	101	P/P	60 - 150
Clothianidin	97.7	104	P/P	60 - 150
Dinotefuran	90.3	97.3	P/P	50 - 150
Dinotefuran	97.3	98.1	P/P	50 - 150
Diuron	121	135	P/P	60 - 150
Diuron	135	130	P/P	60 - 150
Fenuron	104	111	P/P	60 - 150
Fenuron	111	111	P/P	60 - 150
Fluridone	104	114	P/P	60 - 160
Fluridone	109	104	P/P	60 - 160
Hydrocodone	105	111	P/P	60 - 150
Hydrocodone	111	106	P/P	60 - 150
Ibuprofen	85.8	80.7	P/P	50 - 160
Ibuprofen	88.5	85.8	P/P	50 - 160
Imazapyr	91.8	92.1	P/P	50 - 150
Imazapyr	92.1	85.5	P/P	50 - 150
Imidacloprid	96.7	101	P/P	60 - 150
Imidacloprid	96.7	96.7	P/P	60 - 150
Linuron	91.7	93.7	P/P	60 - 150
Linuron	93.7	93.8	P/P	60 - 150
Mandestrobin	105	112	P/P	50 - 150
Mandestrobin	112	112	P/P	50 - 150
MCPP	88.9	91.5	P/P	50 - 150
MCPP	92.3	88.9	P/P	50 - 150
Naproxen	60.8	82.8	P/P	50 - 160
Naproxen	83.8	60.8	P/P	50 - 160
Primidone	86.3	90.6	P/P	60 - 150
Primidone	90.6	70.7	P/P	60 - 150
Pyraclostrobin	104	109	P/P	60 - 150
Pyraclostrobin	109	110	P/P	60 - 150
Thiamethoxam	103	107	P/P	50 - 150
Thiamethoxam	105	103	P/P	50 - 150
Tolfenpyrad	110	116	P/P	60 - 150
Tolfenpyrad	116	115	P/P	60 - 150
Triclopyr	88.1	89.6	P/P	50 - 150
Triclopyr	89.6	103	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94517

Included Lab Sample IDs: 2118628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94532

Included Lab Sample IDs: 2118626, 2118627

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

Reference Method: SM 4500 F-C-97

Run ID: A94568

Included Lab Sample IDs: 2118625

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

Reference Method: SM 4500 F-C-97

Run ID: A94575

Included Lab Sample IDs: 2118624

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						0.494	
EPA 300.0	Bromide	94.8	92.6	93.4	92.5			0.738
	Bromide	96.8	95.6	96.0				0.308
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	100	101				0.345
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.3	93.7	93.6				0.143
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	101				0.494
	NO2NO3-N	100	99.5	99.0				0.504
EPA 365.1 Rev. 2.0	Total-P	97.8	94.6	93.5				1.08
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.7	96.7	97.7				0.987
EPA 8321B	2,4-D	74.6	132	119				9.18
	Acesulfame K	46.3	21.0	21.8				3.60
	Acetaminophen	83.7	88.0	89.4				1.55
	Acetamiprid	96.7	127	110				14.0
	Afidopyropen	79.9	117	114				2.93
	AMPA	106	0.0	0.0				
	Bentazon	93.6	73.0	75.1				1.31
	Benzovindiflupyr	50.5	45.1	73.3				47.5
	Carbamazepine	97.5	116	114				2.37
	Clothianidin	95.6	117	116				0.551
	Dinotefuran	89.5	123	123				0.391
	Diuron	103	115	106				7.38
	Endothall	87.5	212	212				0.0455
	Fenuron	119	100	103				2.67
	Fluridone	88.8						2.67
	Glufosinate	115	0.0	0.0				
	Glyphosate	111	0.0	0.0				
	Hydrocodone	98.6	110	108				1.74
	Ibuprofen	49.3	70.2	76.9				9.11
	Imazapyr	86.7						4.82
	Imidacloprid	100	222	210				5.12
	Linuron	66.3	72.3	71.9				0.554
	Mandestrobin	73.0	86.0	90.6				5.18
	MCPP	75.3	141	130				8.08
	Naproxen	60.1	116	74.0				44.2
	Primidone	84.4	102	101				0.586
	Pyraclostrobin	41.1	36.8	65.1				55.4
	Sucralose	87.0	142	141				0.548
	Thiamethoxam	108	174	176				1.23
	Tolfenpyrad	14.2	2.13	23.2				
	Triclopyr	50.7	100	88.9				11.8
SM 2320 B-97	Total Alkalinity	104					0.777	
	Total Alkalinity	103					0.706	
	Total Alkalinity	104					0.228	
SM 4500 F-C-97	Fluoride	96.6	93.6	96.2				1.95
	Fluoride	96.1	98.1	98.1				0.0
	Fluoride	96.1	95.1	95.1				0.0
SM 5310 B-00	Organic Carbon	102	103	104				0.378
	Organic Carbon	94.6	94.4	96.8				1.89

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	2118623, 2118624, 2118625
EPA 300.0 / E31780	Bromide in aqueous matrices	2118623, 2118624, 2118625
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2118626, 2118627, 2118628
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2118626, 2118627, 2118628
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2118626, 2118627, 2118628
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2118626, 2118627, 2118628
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2118629, 2118630, 2118631
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2118644, 2118645, 2118646
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2118644, 2118645, 2118646
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2118623, 2118624, 2118625
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2118623, 2118624, 2118625
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2118623, 2118624, 2118625
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2118626, 2118627, 2118628

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	09/12/2019			09/12/2019 17:00	Samantha Davila	2118623, 2118624, 2118625
EPA 300.0	09/12/2019			09/13/2019 19:45	Jhamieka S. Greenwood	2118623
	09/12/2019			09/13/2019 20:02	Jhamieka S. Greenwood	2118624
	09/12/2019			09/13/2019 22:18	Jhamieka S. Greenwood	2118625
EPA 350.1 Rev. 2.0	09/12/2019			09/17/2019 12:24	Ping Hua	2118626
	09/12/2019			09/17/2019 12:32	Ping Hua	2118627
	09/12/2019			09/17/2019 12:33	Ping Hua	2118628
EPA 351.2 Rev. 2.0	09/12/2019	09/17/2019 13:05	Sima Feizi	09/18/2019 14:44	Julia Storbeck	2118626
	09/12/2019	09/17/2019 13:05	Sima Feizi	09/18/2019 14:46	Julia Storbeck	2118627
	09/12/2019	09/17/2019 13:05	Sima Feizi	09/18/2019 14:47	Julia Storbeck	2118628
EPA 353.2 Rev. 2.0	09/12/2019			09/16/2019 12:11	Beverly Y. Sanders	2118626
	09/12/2019			09/16/2019 12:12	Beverly Y. Sanders	2118627
	09/12/2019			09/16/2019 12:25	Beverly Y. Sanders	2118628
EPA 365.1 Rev. 2.0	09/12/2019	09/25/2019 14:00	Lipi Saha	09/26/2019 10:35	Lipi Saha	2118628
	09/12/2019	09/25/2019 14:00	Lipi Saha	09/26/2019 13:31	Lipi Saha	2118626
	09/12/2019	09/25/2019 14:00	Lipi Saha	09/26/2019 13:32	Lipi Saha	2118627
EPA 365.1 Rev. 2.0 dissolved	09/12/2019			09/12/2019 15:21	Jhamieka S. Greenwood	2118630
	09/12/2019			09/12/2019 15:45	Jhamieka S. Greenwood	2118631
	09/12/2019			09/12/2019 15:48	Jhamieka S. Greenwood	2118629
EPA 8321B	09/12/2019	09/13/2019 11:00	Rebecca Ware	09/14/2019 01:45	Rebecca Ware	2118644
	09/12/2019	09/13/2019 11:00	Rebecca Ware	09/14/2019 01:55	Rebecca Ware	2118645
	09/12/2019	09/13/2019 11:00	Rebecca Ware	09/14/2019 02:06	Rebecca Ware	2118646
	09/12/2019	09/13/2019 11:00	Rebecca Ware	09/17/2019 09:08	Rebecca Ware	2118644
	09/12/2019	09/13/2019 11:00	Rebecca Ware	09/17/2019 09:22	Rebecca Ware	2118645
	09/12/2019	09/13/2019 11:00	Rebecca Ware	09/17/2019 09:36	Rebecca Ware	2118646
	09/12/2019	09/13/2019 11:00	Rebecca Ware	09/18/2019 19:22	Rebecca Ware	2118644
	09/12/2019	09/13/2019 11:00	Rebecca Ware	09/18/2019 19:34	Rebecca Ware	2118645
	09/12/2019	09/13/2019 11:00	Rebecca Ware	09/18/2019 19:46	Rebecca Ware	2118646
	09/12/2019	09/16/2019 09:00	Fe-Val Siddell	09/16/2019 20:01	Juyoung Kim	2118644
	09/12/2019	09/16/2019 09:00	Fe-Val Siddell	09/16/2019 21:10	Juyoung Kim	2118645
	09/12/2019	09/16/2019 09:00	Fe-Val Siddell	09/16/2019 21:44	Juyoung Kim	2118646
SM 2320 B-97	09/12/2019			09/18/2019 13:22	Dale L. Simmons	2118625
	09/12/2019			09/19/2019 06:30	Dale L. Simmons	2118624
	09/12/2019			09/19/2019 13:44	Dale L. Simmons	2118623
SM 2540 D-97	09/12/2019			09/13/2019 17:30	Blanca Fach	2118623, 2118624, 2118625
SM 4500 F-C-97	09/12/2019			09/19/2019 10:04	Dale L. Simmons	2118623
	09/12/2019			09/25/2019 21:32	Dale L. Simmons	2118625
	09/12/2019			09/27/2019 00:12	Dale L. Simmons	2118624
SM 5310 B-00	09/12/2019			09/16/2019 21:18	Madeline Funaro	2118628
	09/12/2019			09/19/2019 03:37	Madeline Funaro	2118626

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	09/12/2019			09/19/2019 04:54	Madeline Funaro	2118627