

Chemical Analysis Report

NE-DIST-2019-12-11-03

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

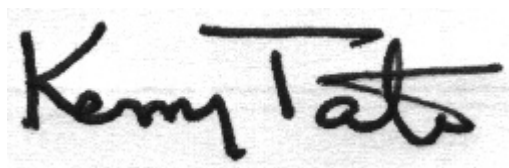
Event Description: **LSJR North Boat**
Request ID: **RQ-2019-12-09-23**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 02-JAN-2020 10:06

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: Trout R @ I-95 Burt Maxwell Dock

Collection Date/Time: 12/10/2019 11:30

Field ID: 20030121

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2142617	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P375713	
	EPA 300.0	Bromide	25		mg Br/L	P375750	
	SM 2320 B-97	Total Alkalinity	96		mg CaCO3/L	P376367	
	SM 2540 D-97	TSS	9	I A	mg/L	P376329	
	SM 4500 F-C-97	Fluoride	0.49	I	mg F/L	P376255	
2142619	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P376136	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P375794	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P376148	
	EPA 365.1 Rev. 2.0	Total-P	0.091		mg P/L	P375827	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P375947	
2142621	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P375640	

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: Moncrief CR Lem Turner Rd BR/Norwood Ave Collection Date/Time: 12/10/2019 11:55

Field ID: 20030114

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2142618	EPA 180.1 Rev. 2.0	Turbidity	6.9	A	NTU	P375713	
	EPA 300.0	Bromide	8.4		mg Br/L	P375750	
	SM 2320 B-97	Total Alkalinity	141		mg CaCO3/L	P375874	
	SM 2540 D-97	TSS	8	I	mg/L	P376324	
	SM 4500 F-C-97	Fluoride	0.28		mg F/L	P375878	
2142620	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P376136	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P375839	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P376148	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P375827	
	SM 5310 B-00	Organic Carbon	8.7		mg C/L	P375848	
2142622	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.079		mg P/L	P375640	

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: Ribault River at US-1

Collection Date/Time: 12/10/2019 10:15

Field ID: 20030133

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2142636	EPA 8321B	2,4-D	0.0029	I	ug/L	P375653	
		Acesulfame K**	1.0	U	ug/L	P375590	
		AMPA**	0.24	I	ug/L	P375590	
		Sucralose**	0.30		ug/L	375590	
		Acetaminophen**	0.20		ug/L	P375653	
		Acetamiprid**	0.0020	U	ug/L	P375653	
		Endothall**	2.5	U	ug/L	P375590	MS
		Glufosinate**	0.10	U	ug/L	P375590	
		Glyphosate**	1.3		ug/L	P375590	
		Afidopyropen**	0.0020	UJ	ug/L	P375653	
		Bentazon	0.0023	I	ug/L	P375653	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P375653	
		Carbamazepine**	8.0E-04	U	ug/L	P375653	
		Clothianidin**	0.0020	U	ug/L	P375653	
		Dinotefuran**	0.0020	U	ug/L	P375653	
		Diuron	0.0037	I	ug/L	P375653	
		Fenuron	0.016	U	ug/L	P375653	
		Fluridone**	0.013		ug/L	P375653	
		Imazapyr**	0.26		ug/L	P375653	
		Hydrocodone**	0.0020	U	ug/L	P375653	
		Ibuprofen**	0.020	U	ug/L	P375653	
		Imidacloprid	0.0031	I	ug/L	P375653	MS
		Linuron	0.0040	U	ug/L	P375653	
		Mandestrobin**	0.0020	UJ	ug/L	P375653	
		MCPP	0.0037	I	ug/L	P375653	
		Naproxen**	0.018	I	ug/L	P375653	
		Primidone**	0.0040	U	ug/L	P375653	
		Pyraclostrobin**	0.0020	U	ug/L	P375653	
		Thiamethoxam**	0.0020	U	ug/L	P375653	
		Tolfenpyrad**	0.0020	U	ug/L	P375653	
		Triclopyr**	0.0040	U	ug/L	P375653	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

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

Sample Location: Ribault R Moncrief Rd BR

Collection Date/Time: 12/10/2019 12:25

Field ID: 20030129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2142623	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P375713	
	EPA 300.0	Bromide	1.6		mg Br/L	P375750	
	SM 2320 B-97	Total Alkalinity	128		mg CaCO3/L	P375875	
	SM 2540 D-97	TSS	6	I	mg/L	P376324	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P375879	
2142624	EPA 350.1 Rev. 2.0	Ammonia-N	0.053		mg N/L	P376137	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P375761	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P375687	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P375823	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P375833	
2142625	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.085		mg P/L	P375641	
2142635	EPA 8321B	2,4-D	0.0023	I	ug/L	P375653	
		Acesulfame K**	1.0	U	ug/L	P375590	
		AMPA**	0.15	I	ug/L	P375590	
		Sucralose**	0.32		ug/L	375590	
		Acetaminophen**	0.11		ug/L	P375653	
		Acetamiprid**	0.0020	U	ug/L	P375653	
		Endothall**	2.5	U	ug/L	P375590	MS
		Glufosinate**	0.10	U	ug/L	P375590	
		Glyphosate**	1.0		ug/L	P375590	
		Afidopyropen**	0.0020	UJ	ug/L	P375653	
		Bentazon	0.0026	I	ug/L	P375653	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P375653	
		Carbamazepine**	8.0E-04	U	ug/L	P375653	
		Clothianidin**	0.0020	U	ug/L	P375653	
		Dinotefuran**	0.0020	U	ug/L	P375653	
		Diuron	0.0052	I	ug/L	P375653	
		Fenuron	0.016	U	ug/L	P375653	
		Fluridone**	0.012		ug/L	P375653	
		Imazapyr**	0.28		ug/L	P375653	
		Hydrocodone**	0.0020	U	ug/L	P375653	
		Ibuprofen**	0.020	U	ug/L	P375653	
		Imidacloprid	0.0037	I	ug/L	P375653	MS
		Linuron	0.0040	U	ug/L	P375653	
		Mandestrobin**	0.0020	UJ	ug/L	P375653	
		MCP	0.0040	I	ug/L	P375653	
		Naproxen**	0.021	I	ug/L	P375653	
		Primidone**	0.0040	U	ug/L	P375653	
		Pyraclostrobin**	0.0020	U	ug/L	P375653	
		Thiamethoxam**	0.0020	U	ug/L	P375653	
		Tolfenpyrad**	0.0020	U	ug/L	P375653	
		Triclopyr**	0.0040	U	ug/L	P375653	

Field ID: 20030129

Matrix: W-SURF-FRH

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.
EPA 8321B: 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: P375713

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P375750

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376136

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376137

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375761

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375794

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375839

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375687

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: P376148

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375823

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375827

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375640

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375641

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

Reference Method: EPA 8321B
Batch ID: 375590

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P375590

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

Reference Method: EPA 8321B
Batch ID: P375653

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P375653

Component	Result	Code	Units
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: P375874

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

Reference Method: SM 2320 B-97
Batch ID: P375875

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

Reference Method: SM 2320 B-97
Batch ID: P376367

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

Reference Method: SM 2540 D-97
Batch ID: P376324

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P376329

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P375878

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P375879

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P376255

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P375833

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

Reference Method: SM 5310 B-00
Batch ID: P375848

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

Reference Method: SM 5310 B-00
Batch ID: P375947

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: P375750

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376136

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376137

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375761

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375794

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375839

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375687

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376148

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375823

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375827

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375640

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: P375641

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

Reference Method: EPA 8321B
Batch ID: 375590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	124		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P375590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	94.3		P	40 - 150
AMPA	101		P	40 - 150
Endothall	142		P	40 - 150
Glufosinate	99.5		P	40 - 150
Glyphosate	125		P	40 - 140

Reference Method: EPA 8321B
Batch ID: P375653

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	139		P	30 - 160
Acetaminophen	97.4		P	30 - 150
Acetamiprid	101		P	30 - 160
Afidopyropen	99.8		P	30 - 160
Bentazon	85.3		P	30 - 150
Benzovindiflupyr	94.8		P	30 - 160
Carbamazepine	107		P	30 - 160
Clothianidin	97.8		P	30 - 160
Dinotefuran	103		P	30 - 160
Diuron	80.0		P	30 - 160
Fenuron	103		P	30 - 160
Fluridone	97.2		P	30 - 160
Hydrocodone	94.7		P	30 - 160
Ibuprofen	77.9		P	30 - 160
Imazapyr	96.5		P	30 - 160
Imidacloprid	110		P	30 - 160
Linuron	81.2		P	30 - 160
Mandestrobin	84.7		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P375653

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
MCP	132		P	30 - 160
Naproxen	63.9		P	30 - 160
Primidone	98.5		P	30 - 160
Pyraclostrobin	84.7		P	30 - 160
Thiamethoxam	102		P	30 - 160
Tolfenpyrad	52.8		P	30 - 160
Triclopyr	106		P	30 - 160

Reference Method: SM 2320 B-97
Batch ID: P375874

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P375875

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

Reference Method: SM 2320 B-97
Batch ID: P376367

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

Reference Method: SM 4500 F-C-97
Batch ID: P375878

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.0		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P375879

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P376255

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P375833

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P375848

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

Reference Method: SM 5310 B-00
Batch ID: P375947

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P375750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142623	Bromide	96.0	96.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142526	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142642	Ammonia-N	98.7	98.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142642	Kjeldahl Nitrogen	94.5	94.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142560	Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143199	Kjeldahl Nitrogen	103	95.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142296	NO2NO3-N	98.5	97.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376148

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142463	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375823

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2141647	Total-P	104	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375827

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142565	Total-P	107	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142557	O-Phosphate-P	95.3	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142297	O-Phosphate-P	95.8	96.4	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: 375590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142065	Sucralose	88.8	103	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P375590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142065	Acesulfame K	71.7	73.4	P/P	40 - 150
2142065	AMPA	82.2	83.4	P/P	40 - 150
2142065	Endothall	138	152	P/F	40 - 150
2142065	Glufosinate	102	97.2	P/P	40 - 150
2142065	Glyphosate	126	131	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P375653

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142333	2,4-D	107	107	P/P	30 - 160
2142333	Acetaminophen	95.4	101	P/P	30 - 150
2142333	Acetamiprid	99.2	107	P/P	30 - 160
2142333	Afidopyropen	96.0	98.2	P/P	30 - 160
2142333	Bentazon	40.1	46.3	P/P	30 - 150
2142333	Benzovindiflupyr	90.7	96.2	P/P	30 - 160
2142333	Carbamazepine	82.0	81.4	P/P	30 - 160
2142333	Clothianidin	89.4	94.8	P/P	30 - 160
2142333	Dinotefuran	115	121	P/P	30 - 160
2142333	Diuron	63.9	66.3	P/P	30 - 160
2142333	Fenuron	73.1	78.9	P/P	30 - 160
2142333	Fluridone	87.1	90.5	P/P	30 - 160
2142333	Hydrocodone	80.8	88.8	P/P	30 - 160
2142333	Ibuprofen	70.1	70.8	P/P	30 - 160
2142333	Imazapyr	76.5	78.7	P/P	30 - 160
2142333	Imidacloprid	156	160	P/F	30 - 160
2142333	Linuron	71.0	69.2	P/P	30 - 160
2142333	Mandestrobin	81.1	81.7	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P375653

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142333	MCP	124	131	P/P	30 - 160
2142333	Naproxen	82.2	81.5	P/P	30 - 160
2142333	Primidone	98.1	102	P/P	30 - 160
2142333	Pyraclostrobin	87.3	88.7	P/P	30 - 160
2142333	Thiamethoxam	116	122	P/P	30 - 160
2142333	Tolfenpyrad	56.0	54.7	P/P	30 - 160
2142333	Triclopyr	129	122	P/P	30 - 160

Reference Method: SM 4500 F-C-97
Batch ID: P375878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142100	Fluoride	99.6	98.3	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P375879

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142641	Fluoride	102	100	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P376255

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2141767	Fluoride	99.5	102	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P375833

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142318	Organic Carbon	100	99.2	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P375848

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2143351	Organic Carbon	99.2	99.2	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P375947

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2142619	Organic Carbon	100	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P375713

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142618	Turbidity	2.91	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P375750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142623	Bromide	0.0471	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142526	Ammonia-N	1.38	Spike	P	0 - 15

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142642	Ammonia-N	0.0282	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142642	Kjeldahl Nitrogen	0.0924	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142560	Kjeldahl Nitrogen	2.10	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143199	Kjeldahl Nitrogen	6.19	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142296	NO2NO3-N	1.02	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142463	NO2NO3-N	0.484	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2141647	Total-P	0.562	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375827

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142565	Total-P	3.05	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142557	O-Phosphate-P	0.718	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142297	O-Phosphate-P	0.573	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: 375590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142065	Sucralose	8.72	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P375590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142065	Acesulfame K	2.35	Spike	P	0 - 30
2142065	AMPA	1.35	Spike	P	0 - 30
2142065	Endothall	9.50	Spike	P	0 - 30
2142065	Glufosinate	4.61	Spike	P	0 - 30
2142065	Glyphosate	3.75	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P375653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142333	2,4-D	0.583	Spike	P	0 - 30
2142333	Acetaminophen	5.80	Spike	P	0 - 30
2142333	Acetamiprid	7.79	Spike	P	0 - 30
2142333	Afidopyropen	2.25	Spike	P	0 - 30
2142333	Bentazon	6.65	Spike	P	0 - 30
2142333	Benzovindiflupyr	5.87	Spike	P	0 - 30
2142333	Carbamazepine	0.758	Spike	P	0 - 30
2142333	Clothianidin	5.73	Spike	P	0 - 30
2142333	Dinotefuran	4.65	Spike	P	0 - 30
2142333	Diuron	3.51	Spike	P	0 - 30
2142333	Fenuron	7.60	Spike	P	0 - 30
2142333	Fluridone	2.96	Spike	P	0 - 30
2142333	Hydrocodone	9.50	Spike	P	0 - 30
2142333	Ibuprofen	1.03	Spike	P	0 - 30
2142333	Imazapyr	2.04	Spike	P	0 - 30
2142333	Imidacloprid	2.84	Spike	P	0 - 30
2142333	Linuron	2.59	Spike	P	0 - 30
2142333	Mandestrobin	0.752	Spike	P	0 - 30
2142333	MCPP	5.67	Spike	P	0 - 30
2142333	Naproxen	0.875	Spike	P	0 - 30
2142333	Primidone	3.39	Spike	P	0 - 30
2142333	Pyraclostrobin	1.61	Spike	P	0 - 30
2142333	Thiamethoxam	4.67	Spike	P	0 - 30
2142333	Tolfenpyrad	2.25	Spike	P	0 - 30
2142333	Triclopyr	4.98	Spike	P	0 - 30

Reference Method: SM 2320 B-97
 Batch ID: P375874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142100	Total Alkalinity	0.385	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
 Batch ID: P375875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142641	Total Alkalinity	0.640	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
 Batch ID: P376367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142558	Total Alkalinity	0.00765	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P375878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142100	Fluoride	0.940	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P375879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142641	Fluoride	0.979	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P376255

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2141767	Fluoride	2.00	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P375833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142318	Organic Carbon	0.512	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P375848

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2143351	Organic Carbon	0.0853	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P375947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2142619	Organic Carbon	1.39	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2142635
Field Sample ID: 20030129

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	92.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.4	P	30 - 160
EPA 8321B	Diuron-d6	67.9	P	30 - 160
EPA 8321B	Endothall-d6	79.9	P	30 - 160
EPA 8321B	Endothall-d6	79.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	137	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	137	P	30 - 160
EPA 8321B	Ibuprofen-d3	58.3	P	30 - 160
EPA 8321B	Primidone-d5	88.9	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	30 - 160

Lab Sample ID: 2142636
Field Sample ID: 20030133

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	111	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.9	P	30 - 160
EPA 8321B	Diuron-d6	72.4	P	30 - 160
EPA 8321B	Endothall-d6	81.3	P	30 - 160
EPA 8321B	Endothall-d6	81.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	141	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	141	P	30 - 160
EPA 8321B	Ibuprofen-d3	59.1	P	30 - 160
EPA 8321B	Primidone-d5	94.5	P	30 - 160
EPA 8321B	Sucralose-d6	98.4	P	30 - 160
EPA 8321B	Sucralose-d6	98.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A96206

Included Lab Sample IDs: 2142617, 2142618, 2142623

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	102	102	P/P	90 - 110
Bromide	98.9	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A96266

Included Lab Sample IDs: 2142621, 2142622, 2142625

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	95.9	95.8	P/P	90 - 110
O-Phosphate-P	96.1	95.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96284

Included Lab Sample IDs: 2142624

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A96288

Included Lab Sample IDs: 2142617, 2142618, 2142623

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

Reference Method: EPA 8321B

Run ID: A96308

Included Lab Sample IDs: 2142635, 2142636

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	77.5	82.9	P/P	60 - 160
Glufosinate	94.0	96.4	P/P	60 - 160
Glyphosate	115	107	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A96329

Included Lab Sample IDs: 2142624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	95.9	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A96344

Included Lab Sample IDs: 2142620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	94.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A96352

Included Lab Sample IDs: 2142618, 2142623

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

Reference Method: SM 4500 F-C-97

Run ID: A96352

Included Lab Sample IDs: 2142618, 2142623

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96361

Included Lab Sample IDs: 2142620, 2142624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	100	P/P	90 - 110
Total-P	103	99.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96365

Included Lab Sample IDs: 2142619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	95.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A96367

Included Lab Sample IDs: 2142635, 2142636

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	127	156	P/P	60 - 160
Endothall	93.5	93.5	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96370

Included Lab Sample IDs: 2142624

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

Reference Method: SM 5310 B-00

Run ID: A96375

Included Lab Sample IDs: 2142619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	97.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96395

Included Lab Sample IDs: 2142620

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.3	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96409

Included Lab Sample IDs: 2142619

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	99.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A96420

Included Lab Sample IDs: 2142635, 2142636

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	108	97.5	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96459

Included Lab Sample IDs: 2142619, 2142620, 2142624

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.7	P/P	90 - 110
Ammonia-N	99.9	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96466

Included Lab Sample IDs: 2142619, 2142620

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

Reference Method: SM 4500 F-C-97

Run ID: A96509

Included Lab Sample IDs: 2142617

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

Reference Method: SM 2320 B-97

Run ID: A96556

Included Lab Sample IDs: 2142617

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

Reference Method: EPA 8321B

Run ID: A96566

Included Lab Sample IDs: 2142635, 2142636

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	80.7	81.8	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A96566

Included Lab Sample IDs: 2142635, 2142636

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	107	110	P/P	60 - 160
Acetamiprid	98.8	105	P/P	60 - 160
Afidopyropen	106	101	P/P	50 - 150
Bentazon	94.2	77.5	P/P	50 - 160
Benzovindiflupyr	104	112	P/P	60 - 150
Carbamazepine	96.4	93.2	P/P	60 - 150
Clothianidin	101	100	P/P	50 - 150
Dinotefuran	104	107	P/P	50 - 150
Diuron	93.3	95.6	P/P	60 - 150
Fenuron	103	106	P/P	60 - 150
Fluridone	108	109	P/P	60 - 160
Hydrocodone	101	104	P/P	60 - 150
Ibuprofen	76.4	79.4	P/P	50 - 160
Imazapyr	91.5	94.0	P/P	50 - 150
Imidacloprid	91.6	96.9	P/P	60 - 150
Linuron	107	103	P/P	60 - 150
Mandestrobin	94.9	96.3	P/P	50 - 150
MCPP	75.4	63.5	P/P	50 - 150
Naproxen	94.0	85.3	P/P	50 - 160
Primidone	97.9	102	P/P	60 - 150
Pyraclostrobin	105	103	P/P	60 - 150
Thiamethoxam	104	104	P/P	60 - 150
Tolfenpyrad	98.2	98.3	P/P	50 - 150
Triclopyr	90.8	64.9	P/P	50 - 150

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					2.91	
EPA 300.0	Bromide	98.9	96.0	96.0			0.0471
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	101	103			1.38
	Ammonia-N	99.4	98.7	98.7			0.0282
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.9	94.5	94.4			0.0924
	Kjeldahl Nitrogen	98.2	102	105			2.10
	Kjeldahl Nitrogen	97.9	103	95.4			6.19
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	98.5	97.5			1.02
	NO2NO3-N	101	104	103			0.484
EPA 365.1 Rev. 2.0	Total-P	101	104	103			0.562
	Total-P	108	107	104			3.05
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.6	95.3	96.2			0.718
	O-Phosphate-P	100	95.8	96.4			0.573
EPA 8321B	2,4-D	139	107	107			0.583
	Acesulfame K	94.3	71.7	73.4			2.35
	Acetaminophen	97.4	101	95.4			5.80
	Acetamiprid	101	99.2	107			7.79
	Afidopyropen	99.8	96.0	98.2			2.25
	AMPA	101	82.2	83.4			1.35
	Bentazon	85.3	40.1	46.3			6.65
	Benzovindiflupyr	94.8	90.7	96.2			5.87
	Carbamazepine	107	82.0	81.4			0.758
	Clothianidin	97.8	89.4	94.8			5.73
	Dinotefuran	103	121	115			4.65
	Diuron	80.0	63.9	66.3			3.51
	Endothall	142	138	152			9.50
	Fenuron	103	73.1	78.9			7.60
	Fluridone	97.2	87.1	90.5			2.96
	Glufosinate	99.5	102	97.2			4.61
	Glyphosate	125	126	131			3.75
	Hydrocodone	94.7	88.8	80.8			9.50
	Ibuprofen	77.9	70.1	70.8			1.03
	Imazapyr	96.5	76.5	78.7			2.04
	Imidacloprid	110	156	160			2.84
	Linuron	81.2	71.0	69.2			2.59
	Mandestrobin	84.7	81.1	81.7			0.752
	MCPP	132	124	131			5.67
	Naproxen	63.9	82.2	81.5			0.875
	Primidone	98.5	102	98.1			3.39
	Pyraclostrobin	84.7	87.3	88.7			1.61
	Sucralose	124	88.8	103			8.72
	Thiamethoxam	102	122	116			4.67
	Tolfenpyrad	52.8	56.0	54.7			2.25
	Triclopyr	106	129	122			4.98
SM 2320 B-97	Total Alkalinity	102				0.385	
	Total Alkalinity	103				0.640	
	Total Alkalinity	103				0.0076	
SM 4500 F-C-97	Fluoride	98.0	99.6	98.3			0.940
	Fluoride	100	102	100			0.979
	Fluoride	97.9	99.5	102			2.00
SM 5310 B-00	Organic Carbon	96.7	100	99.2			0.512
	Organic Carbon	101	99.2	99.2			0.0853
	Organic Carbon	103	100	102			1.39

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2142617, 2142618, 2142623
EPA 300.0 / E31780	Bromide in aqueous matrices	2142617, 2142618, 2142623
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2142619, 2142620, 2142624
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2142619, 2142620, 2142624
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2142619, 2142620, 2142624
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2142619, 2142620, 2142624
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2142621, 2142622, 2142625
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2142635, 2142636
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2142635, 2142636
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2142617, 2142618, 2142623
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2142617, 2142618, 2142623
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2142617, 2142618, 2142623
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2142619, 2142620, 2142624

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	12/11/2019			12/11/2019 17:15	Yen Ta	2142617, 2142618, 2142623
EPA 300.0	12/11/2019			12/12/2019 15:57	Lipi Saha	2142623
	12/11/2019			12/12/2019 18:14	Lipi Saha	2142617
	12/11/2019			12/12/2019 19:05	Lipi Saha	2142618
EPA 350.1 Rev. 2.0	12/11/2019			12/17/2019 11:32	Ping Hua	2142619
	12/11/2019			12/17/2019 11:33	Ping Hua	2142620
	12/11/2019			12/17/2019 12:06	Ping Hua	2142624
EPA 351.2 Rev. 2.0	12/11/2019	12/13/2019 12:50	Sima Feizi	12/16/2019 13:11	Jhamieka S. Greenwood	2142619
	12/11/2019	12/13/2019 13:00	Sima Feizi	12/16/2019 14:43	Jhamieka S. Greenwood	2142624
	12/11/2019	12/16/2019 12:35	Sima Feizi	12/17/2019 12:14	Jhamieka S. Greenwood	2142620
EPA 353.2 Rev. 2.0	12/11/2019			12/12/2019 11:31	Beverly Y. Sanders	2142624
	12/11/2019			12/19/2019 09:59	Beverly Y. Sanders	2142619
	12/11/2019			12/19/2019 10:01	Beverly Y. Sanders	2142620
EPA 365.1 Rev. 2.0	12/11/2019	12/13/2019 14:35	Yen Ta	12/16/2019 13:28	Benjamin T. Nordmann	2142624
	12/11/2019	12/13/2019 14:35	Yen Ta	12/16/2019 14:39	Benjamin T. Nordmann	2142620
	12/11/2019	12/13/2019 14:35	Yen Ta	12/17/2019 17:05	Benjamin T. Nordmann	2142619
EPA 365.1 Rev. 2.0 dissolved	12/11/2019			12/11/2019 14:07	Samantha Davila	2142621
	12/11/2019			12/11/2019 14:08	Samantha Davila	2142622
	12/11/2019			12/11/2019 14:29	Samantha Davila	2142625
EPA 8321B	12/11/2019	12/11/2019 15:00	Rebecca Ware	12/12/2019 13:31	Rebecca Ware	2142635
	12/11/2019	12/11/2019 15:00	Rebecca Ware	12/12/2019 13:42	Rebecca Ware	2142636
	12/11/2019	12/11/2019 15:00	Rebecca Ware	12/16/2019 13:23	Rebecca Ware	2142635
	12/11/2019	12/11/2019 15:00	Rebecca Ware	12/16/2019 13:37	Rebecca Ware	2142636
	12/11/2019	12/11/2019 15:00	Rebecca Ware	12/18/2019 09:59	Mohammad Ghaffari	2142635
	12/11/2019	12/11/2019 15:00	Rebecca Ware	12/18/2019 10:13	Mohammad Ghaffari	2142636
	12/11/2019	12/13/2019 10:00	Hoor Shaik	12/23/2019 01:18	Juyoung Kim	2142635
	12/11/2019	12/13/2019 10:00	Hoor Shaik	12/23/2019 01:53	Juyoung Kim	2142636
SM 2320 B-97	12/11/2019			12/14/2019 09:50	Dale L. Simmons	2142618
	12/11/2019			12/14/2019 13:21	Dale L. Simmons	2142623
	12/11/2019			12/21/2019 11:26	Dale L. Simmons	2142617
SM 2540 D-97	12/11/2019			12/13/2019 16:21	Yijie Li	2142617, 2142618, 2142623
SM 4500 F-C-97	12/11/2019			12/14/2019 09:50	Dale L. Simmons	2142618
	12/11/2019			12/14/2019 13:21	Dale L. Simmons	2142623
	12/11/2019			12/17/2019 23:28	Dale L. Simmons	2142617
SM 5310 B-00	12/11/2019			12/12/2019 20:53	Madeline Funaro	2142624
	12/11/2019			12/13/2019 20:33	Madeline Funaro	2142620
	12/11/2019			12/16/2019 17:55	Madeline Funaro	2142619