

Chemical Analysis Report

NW-DIST-2019-10-23-01

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

Event Description: **Dune Lakes**
Request ID: **RQ-2019-10-21-25**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Chery Bunch

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 15-NOV-2019 13:58

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: Eastern Lake off of Center Avenue

Collection Date/Time: 10/22/2019 10:40

Field ID: G3NW0124

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130570	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P373059	
	EPA 300.0	Bromide	41		mg Br/L	P373399	
	SM 2320 B-97	Total Alkalinity	93		mg CaCO3/L	P373215	
	SM 2540 D-97	TSS	5	IA	mg/L	P373652	
	SM 4500 F-C-97	Fluoride	0.70		mg F/L	P373220	
2130571	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P373265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P373236	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P373324	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P373140	MS
	SM 5310 B-00	Organic Carbon	5.7		mg C/L	P373177	
2130572	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P373030	

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: Irwin Creek

Collection Date/Time: 10/22/2019 11:25

Field ID: G3NW0175

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130561	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P373058	
	EPA 300.0 Rev. 2.1	Chloride	21		mg Cl/L	P373693	
		Sulfate	4.4		mg SO4/L	P373696	
	SM 2120 B	Color (true)	450		PCU	P373099	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P373214	
	SM 2540 C-97	TDS	116		mg/L	P373594	
	SM 2540 D-97	TSS	4	I	mg/L	P373649	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P373219	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P373268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P373135	
2130564	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P373125	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P373142	
	SM 5310 B-00	Organic Carbon	36		mg C/L	P373175	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.11		mg P/L	P373029	
	dissolved						
2130567	EPA 8321B	2,4-D	0.0020	U	ug/L	P372914	
2130584		Acesulfame K**	0.10	U	ug/L	P373022	
		AMPA**	0.10	U	ug/L	P373022	
		Sucralose**	0.034	I	ug/L	P373022	
		Acetaminophen**	0.0080	U	ug/L	P372914	
		Acetamiprid**	0.0020	U	ug/L	P372914	
		Endothall**	0.25	U	ug/L	P373022	
		Glufosinate**	0.10	U	ug/L	P373022	
		Glyphosate**	0.10	U	ug/L	P373022	
		Afidopyropen**	0.0020	UJ	ug/L	P372914	
		Bentazon	8.0E-04	U	ug/L	P372914	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372914	
		Carbamazepine**	8.0E-04	U	ug/L	P372914	
		Clothianidin**	0.0020	U	ug/L	P372914	
		Dinotefuran**	0.0020	U	ug/L	P372914	
		Diuron	0.0020	U	ug/L	P372914	
		Fenuron	0.016	U	ug/L	P372914	
		Fluridone**	8.0E-04	U	ug/L	P372914	
		Imazapyr**	0.0040	U	ug/L	P372914	
		Hydrocodone**	0.0020	U	ug/L	P372914	
		Ibuprofen**	0.020	U	ug/L	P372914	
		Imidacloprid	0.061		ug/L	P372914	MS
		Linuron	0.0040	U	ug/L	P372914	
		Mandestrobin**	0.0020	UJ	ug/L	P372914	
		MCP	0.0034	I	ug/L	P372914	
		Naproxen**	0.0080	U	ug/L	P372914	
		Primidone**	0.0040	U	ug/L	P372914	
		Pyraclostrobin**	0.0020	U	ug/L	P372914	
		Thiamethoxam**	0.0020	U	ug/L	P372914	

Field ID: G3NW0175

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130584	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P372914	
		Triclopyr**	0.0040	U	ug/L	P372914	

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.

Sample Location: Allen Lake Input

Collection Date/Time: 10/22/2019 12:00

Field ID: G3NW0177

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130562	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P373058	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P373693	
		Sulfate	16		mg SO4/L	P373696	
	SM 2120 B	Color (true)	190		PCU	P373099	
	SM 2320 B-97	Total Alkalinity	3.6		mg CaCO3/L	P373214	
	SM 2540 C-97	TDS	101		mg/L	P373594	
	SM 2540 D-97	TSS	2	I	mg/L	P373649	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P373219	
2130565	EPA 350.1 Rev. 2.0	Ammonia-N	0.10		mg N/L	P373268	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P373135	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P373125	
	EPA 365.1 Rev. 2.0	Total-P	0.046		mg P/L	P373142	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P373175	
2130568	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.028		mg P/L	P373029	
2130585	EPA 8321B	2,4-D	0.0020	U	ug/L	P372914	
		Acesulfame K**	0.10	U	ug/L	P373022	
		AMPA**	0.10	U	ug/L	P373022	
		Sucralose**	0.018	I	ug/L	P373022	
		Acetaminophen**	0.0080	U	ug/L	P372914	
		Acetamiprid**	0.0020	U	ug/L	P372914	
		Endothall**	0.25	U	ug/L	P373022	
		Glufosinate**	0.10	U	ug/L	P373022	
		Glyphosate**	0.10	U	ug/L	P373022	
		Afidopyropen**	0.0020	UJ	ug/L	P372914	
		Bentazon	8.0E-04	U	ug/L	P372914	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372914	
		Carbamazepine**	8.0E-04	U	ug/L	P372914	
		Clothianidin**	0.0020	U	ug/L	P372914	
		Dinotefuran**	0.0020	U	ug/L	P372914	
		Diuron	0.0020	U	ug/L	P372914	
		Fenuron	0.016	U	ug/L	P372914	
		Fluridone**	8.0E-04	U	ug/L	P372914	
		Imazapyr**	0.0040	U	ug/L	P372914	
		Hydrocodone**	0.0020	U	ug/L	P372914	
		Ibuprofen**	0.020	U	ug/L	P372914	
		Imidacloprid	0.048		ug/L	P372914	MS
		Linuron	0.0040	U	ug/L	P372914	
		Mandestrobin**	0.0020	UJ	ug/L	P372914	
		MCP	0.0020	U	ug/L	P372914	
		Naproxen**	0.0080	U	ug/L	P372914	
		Primidone**	0.0040	U	ug/L	P372914	
		Pyraclostrobin**	0.0020	U	ug/L	P372914	
		Thiamethoxam**	0.0020	U	ug/L	P372914	

Field ID: G3NW0177

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130585	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P372914	
		Triclopyr**	0.0040	U	ug/L	P372914	

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.

Sample Location: STALWORTH LAKE INPUT

Collection Date/Time: 10/22/2019 12:20

Field ID: G3NW0174

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130563	EPA 180.1 Rev. 2.0	Turbidity	8.3	A	NTU	P373059	
	EPA 300.0 Rev. 2.1	Chloride	2.8E+03		mg Cl/L	P373693	
		Sulfate	400		mg SO4/L	P373696	
	SM 2120 B	Color (true)	66		PCU	P373099	
	SM 2320 B-97	Total Alkalinity	3.1		mg CaCO3/L	P373215	
	SM 2540 C-97	TDS	4.62E+03		mg/L	P373594	
	SM 2540 D-97	TSS	16		mg/L	P373649	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P373446	
2130566	EPA 350.1 Rev. 2.0	Ammonia-N	0.093		mg N/L	P373265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P373235	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P373327	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P373140	MS
	SM 5310 B-00	Organic Carbon	12		mg C/L	P373175	
2130569	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P373029	
2130586	EPA 8321B	2,4-D	0.0020	U	ug/L	P372914	
		Acesulfame K**	0.10	U	ug/L	P373022	
		AMPA**	1.0	U	ug/L	P373022	
		Sucralose**	0.20	I	ug/L	P373022	
		Acetaminophen**	0.0080	U	ug/L	P372914	
		Acetamiprid**	0.0020	U	ug/L	P372914	
		Endothall**	0.25	U	ug/L	P373022	
		Glufosinate**	1.0	U	ug/L	P373022	
		Glyphosate**	1.0	U	ug/L	P373022	
		Afidopyropen**	0.0020	UJ	ug/L	P372914	
		Bentazon	8.0E-04	U	ug/L	P372914	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372914	
		Carbamazepine**	8.0E-04	U	ug/L	P372914	
		Clothianidin**	0.0020	U	ug/L	P372914	
		Dinotefuran**	0.0020	U	ug/L	P372914	
		Diuron	0.0020	U	ug/L	P372914	
		Fenuron	0.016	U	ug/L	P372914	
		Fluridone**	8.0E-04	U	ug/L	P372914	
		Imazapyr**	0.0040	U	ug/L	P372914	
		Hydrocodone**	0.0020	U	ug/L	P372914	
		Ibuprofen**	0.020	U	ug/L	P372914	
		Imidacloprid	0.0058	I	ug/L	P372914	MS
		Linuron	0.0040	U	ug/L	P372914	
		Mandestrobin**	0.0020	UJ	ug/L	P372914	
		MCPD	0.0020	U	ug/L	P372914	
		Naproxen**	0.0080	U	ug/L	P372914	
		Primidone**	0.0040	U	ug/L	P372914	
		Pyraclostrobin**	0.0020	U	ug/L	P372914	
		Thiamethoxam**	0.0020	U	ug/L	P372914	

Field ID: G3NW0174

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130586	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P372914	
		Triclopyr**	0.0040	U	ug/L	P372914	

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.

EPA 8321B: MDL elevated due to matrix interference.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373058

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373059

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P373399

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373693

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373696

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373265

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373268

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373135

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373235

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: P373236

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373125

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373324

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373327

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373140

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373142

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373029

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373030

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

Reference Method: EPA 8321B
Batch ID: P372914

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P372914

Component	Result	Code	Units
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: EPA 8321B
Batch ID: P373022

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: P373099

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P373214

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

Reference Method: SM 2320 B-97
Batch ID: P373215

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P373594

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373649

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373652

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P373219

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P373220

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P373446

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P373175

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

Reference Method: SM 5310 B-00
Batch ID: P373177

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: P373399

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373693

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373696

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373265

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373268

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373135

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373235

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373236

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373125

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373324

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373327

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373140

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373142

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: P373029

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373030

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

Reference Method: EPA 8321B
Batch ID: P372914

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	126		P	40 - 160
Acetaminophen	81.3		P	30 - 160
Acetamiprid	88.8		P	40 - 160
Afidopyropen	74.1		P	40 - 160
Bentazon	78.8		P	30 - 160
Benzovindiflupyr	81.5		P	40 - 160
Carbamazepine	95.6		P	40 - 160
Clothianidin	74.0		P	40 - 160
Dinotefuran	88.1		P	40 - 160
Diuron	89.5		P	40 - 160
Fenuron	97.8		P	40 - 160
Fluridone	90.7		P	40 - 160
Hydrocodone	94.8		P	40 - 160
Ibuprofen	79.8		P	30 - 160
Imazapyr	97.7		P	40 - 160
Imidacloprid	89.4		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P372914

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	70.5		P	40 - 160
Mandestrobin	88.7		P	40 - 160
MCP	101		P	40 - 160
Naproxen	76.2		P	40 - 160
Primidone	93.0		P	40 - 160
Pyraclostrobin	82.8		P	30 - 160
Thiamethoxam	96.4		P	40 - 160
Tolfeprad	52.0		P	40 - 160
Triclopyr	93.8		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P373022

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	103		P	40 - 150
AMPA	107		P	40 - 150
Endothall	96.7		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	111		P	40 - 140
Sucralose	80.7		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P373099

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.5		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P373214

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

Reference Method: SM 2320 B-97
Batch ID: P373215

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P373219

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.3		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P373220

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.2		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P373446

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P373175

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

Reference Method: SM 5310 B-00
Batch ID: P373177

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: P373399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130885	Bromide	97.1	98.9	P/P	90 - 110
2131089	Bromide	94.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P373693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130490	Chloride	102		P	90 - 110
2130539	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P373696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130490	Sulfate	101		P	90 - 110
2130539	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P373265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130271	Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P373268

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130540	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P373135

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130541	Kjeldahl Nitrogen	96.8	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P373235

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130436	Kjeldahl Nitrogen	98.8	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P373236

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130777	Kjeldahl Nitrogen	99.3	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P373125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130515	NO2NO3-N	99.5	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P373324

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130437	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P373327

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131685	NO2NO3-N	98.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P373140

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130436	Total-P	84.1	89.3	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P373142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130543	Total-P	99.8	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P373029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130544	O-Phosphate-P	96.4	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P373030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130572	O-Phosphate-P	99.6	99.9	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P372914

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130063	2,4-D	140	136	P/P	40 - 160
2130063	Acetaminophen	89.5	83.5	P/P	30 - 160
2130063	Acetamiprid	115	109	P/P	40 - 160
2130063	Afidopyropen	91.1	87.0	P/P	40 - 160
2130063	Bentazon	76.5	74.6	P/P	30 - 160
2130063	Benzovindiflupyr	97.1	90.9	P/P	40 - 160
2130063	Carbamazepine	108	107	P/P	40 - 160
2130063	Clothianidin	99.7	99.5	P/P	40 - 160
2130063	Dinotefuran	114	112	P/P	40 - 160
2130063	Diuron	98.1	92.1	P/P	40 - 160
2130063	Fenuron	103	104	P/P	40 - 160
2130063	Fluridone	94.1	91.7	P/P	40 - 160
2130063	Hydrocodone	116	114	P/P	40 - 160
2130063	Ibuprofen	96.5	86.3	P/P	30 - 160
2130063	Imazapyr	122	124	P/P	40 - 160
2130063	Imidacloprid	166	158	F/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P372914

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130063	Linuron	82.9	83.1	P/P	40 - 160
2130063	Mandestrobin	101	95.3	P/P	40 - 160
2130063	MCCP	114	111	P/P	40 - 160
2130063	Naproxen	92.8	106	P/P	40 - 160
2130063	Primidone	98.0	111	P/P	40 - 160
2130063	Pyraclostrobin	96.4	94.7	P/P	30 - 160
2130063	Thiamethoxam	152	150	P/P	40 - 160
2130063	Tolfenpyrad	63.4	58.3	P/P	40 - 160
2130063	Triclopyr	116	110	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P373022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130063	Acesulfame K	52.8	59.7	P/P	40 - 150
2130063	AMPA	89.4	86.6	P/P	40 - 150
2130063	Endothall	95.4	96.1	P/P	40 - 150
2130063	Glufosinate	106	102	P/P	40 - 150
2130063	Glyphosate	97.7	93.5	P/P	40 - 140
2130063	Sucralose	102	123	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P373219

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130536	Fluoride	95.2	94.7	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P373220

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129383	Fluoride	93.5	95.2	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P373446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131953	Fluoride	96.2	95.1	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P373175

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130496	Organic Carbon	99.3	100	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P373177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2131133	Organic Carbon	98.2	99.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130514	Turbidity	2.87	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P373059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130563	Turbidity	4.44	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P373399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130885	Bromide	1.78	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130490	Chloride	0.664	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373696

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130490	Sulfate	0.730	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130271	Ammonia-N	0.368	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373268

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130540	Ammonia-N	0.823	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373135

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130541	Kjeldahl Nitrogen	7.42	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373235

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130436	Kjeldahl Nitrogen	1.42	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130777	Kjeldahl Nitrogen	0.184	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130515	NO2NO3-N	1.00	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373324

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130437	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373327

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131685	NO2NO3-N	0.169	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130436	Total-P	5.73	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130543	Total-P	1.08	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130544	O-Phosphate-P	0.969	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P373030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130572	O-Phosphate-P	0.301	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P372914

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130063	2,4-D	3.19	Spike	P	0 - 30
2130063	Acetaminophen	6.98	Spike	P	0 - 30
2130063	Acetamiprid	5.18	Spike	P	0 - 30
2130063	Afidopyrophen	4.65	Spike	P	0 - 30
2130063	Bentazon	2.34	Spike	P	0 - 30
2130063	Benzovindiflupyr	6.66	Spike	P	0 - 30
2130063	Carbamazepine	0.602	Spike	P	0 - 30
2130063	Clothianidin	0.195	Spike	P	0 - 30
2130063	Dinotefuran	1.54	Spike	P	0 - 30
2130063	Diuron	6.41	Spike	P	0 - 30
2130063	Fenuron	1.17	Spike	P	0 - 30
2130063	Fluridone	2.65	Spike	P	0 - 30
2130063	Hydrocodone	1.46	Spike	P	0 - 30
2130063	Ibuprofen	11.2	Spike	P	0 - 30
2130063	Imazapyr	1.74	Spike	P	0 - 30
2130063	Imidacloprid	3.65	Spike	P	0 - 30
2130063	Linuron	0.212	Spike	P	0 - 30
2130063	Mandestrobin	5.37	Spike	P	0 - 30
2130063	MCPP	3.00	Spike	P	0 - 30
2130063	Naproxen	13.6	Spike	P	0 - 30
2130063	Primidone	12.1	Spike	P	0 - 30
2130063	Pyraclostrobin	1.86	Spike	P	0 - 30
2130063	Thiamethoxam	1.36	Spike	P	0 - 30
2130063	Tolfenpyrad	8.44	Spike	P	0 - 30
2130063	Triclopyr	5.62	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P373022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130063	Acesulfame K	12.3	Spike	P	0 - 30
2130063	AMPA	3.19	Spike	P	0 - 30
2130063	Endothall	0.692	Spike	P	0 - 30
2130063	Glufosinate	4.38	Spike	P	0 - 30
2130063	Glyphosate	4.31	Spike	P	0 - 30
2130063	Sucralose	17.1	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P373099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130538	Color (true)	3.18	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P373214

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130536	Total Alkalinity	0.201	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P373215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130693	Total Alkalinity	1.58	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P373594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130538	TDS	3.65	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P373219

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130536	Fluoride	0.477	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P373220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129383	Fluoride	1.00	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P373446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131953	Fluoride	0.963	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P373175

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130496	Organic Carbon	0.892	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P373177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2131133	Organic Carbon	0.892	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2130584
Field Sample ID: G3NW0175

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	100	P	30 - 160
EPA 8321B	Acetaminophen-d4	60.1	P	30 - 160
EPA 8321B	Bentazon-d7	36.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.5	P	30 - 160
EPA 8321B	Diuron-d6	63.2	P	30 - 160
EPA 8321B	Endothall-d6	92.2	P	30 - 160
EPA 8321B	Endothall-d6	92.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	82.7	P	30 - 160
EPA 8321B	Primidone-d5	69.3	P	30 - 160
EPA 8321B	Sucralose-d6	132	P	30 - 160
EPA 8321B	Sucralose-d6	132	P	30 - 160

Lab Sample ID: 2130585
Field Sample ID: G3NW0177

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	122	P	30 - 160
EPA 8321B	Acetaminophen-d4	72.5	P	30 - 160
EPA 8321B	Bentazon-d7	46.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	90.8	P	30 - 160
EPA 8321B	Diuron-d6	79.3	P	30 - 160
EPA 8321B	Endothall-d6	96.3	P	30 - 160
EPA 8321B	Endothall-d6	96.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	70.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	70.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	85.6	P	30 - 160
EPA 8321B	Primidone-d5	92.2	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	30 - 160

Lab Sample ID: 2130586
Field Sample ID: G3NW0174

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	109	P	30 - 160
EPA 8321B	Acetaminophen-d4	69.1	P	30 - 160
EPA 8321B	Bentazon-d7	58.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.2	P	30 - 160
EPA 8321B	Diuron-d6	77.5	P	30 - 160
EPA 8321B	Endothall-d6	76.8	P	30 - 160
EPA 8321B	Endothall-d6	76.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	47.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	47.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	83.7	P	30 - 160
EPA 8321B	Primidone-d5	85.6	P	30 - 160
EPA 8321B	Sucralose-d6	74.0	P	30 - 160
EPA 8321B	Sucralose-d6	74.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95195

Included Lab Sample IDs: 2130567, 2130568, 2130569, 2130572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	98.9	P/P	90 - 110
O-Phosphate-P	98.7	99.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95209

Included Lab Sample IDs: 2130561, 2130562, 2130563, 2130570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	99.5	100	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A95227

Included Lab Sample IDs: 2130561, 2130562, 2130563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 115
Color (true)	99.9	100	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A95233

Included Lab Sample IDs: 2130584, 2130585, 2130586

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.6	85.9	P/P	50 - 150
Acetaminophen	89.3	91.7	P/P	60 - 160
Acetamiprid	103	102	P/P	50 - 150
Afidopyropen	94.1	86.5	P/P	50 - 150
Bentazon	101	98.3	P/P	50 - 160
Benzovindiflupyr	101	100	P/P	50 - 150
Carbamazepine	102	98.4	P/P	60 - 150
Clothianidin	97.1	90.9	P/P	60 - 150
Dinotefuran	98.3	84.7	P/P	50 - 150
Diuron	106	104	P/P	60 - 150
Fenuron	104	104	P/P	60 - 150
Fluridone	110	110	P/P	60 - 160
Hydrocodone	101	100	P/P	60 - 150
Ibuprofen	84.6	86.3	P/P	50 - 160
Imazapyr	104	101	P/P	50 - 150
Imidacloprid	96.2	92.5	P/P	60 - 150
Linuron	108	97.6	P/P	60 - 150
Mandestrobin	94.0	98.7	P/P	50 - 150
MCPP	90.6	93.5	P/P	50 - 150
Naproxen	110	106	P/P	50 - 160
Primidone	100	90.4	P/P	60 - 150
Pyraclostrobin	97.1	104	P/P	60 - 150
Thiamethoxam	94.1	74.4	P/P	50 - 150
Tolfenpyrad	96.2	95.4	P/P	60 - 150
Triclopyr	102	97.5	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95239

Included Lab Sample IDs: 2130564, 2130565

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

Reference Method: SM 5310 B-00

Run ID: A95259

Included Lab Sample IDs: 2130564, 2130565, 2130566, 2130571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	103	100	P/P	90 - 110
Organic Carbon	97.4	99.6	P/P	90 - 110
Organic Carbon	99.6	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95270

Included Lab Sample IDs: 2130584, 2130585, 2130586

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	106	99.6	P/P	60 - 160
AMPA	96.7	103	P/P	60 - 160
Glufosinate	103	92.5	P/P	60 - 160
Glufosinate	100	107	P/P	60 - 160
Glyphosate	105	118	P/P	60 - 160
Glyphosate	106	107	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A95273

Included Lab Sample IDs: 2130584, 2130585, 2130586

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	95.6	93.3	P/P	60 - 160
Endothall	111	114	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A95274

Included Lab Sample IDs: 2130561, 2130562, 2130563, 2130570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	105	P/P	90 - 110
Total Alkalinity	104	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A95274

Included Lab Sample IDs: 2130561, 2130562, 2130570

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	99.1	P/P	90 - 110
Fluoride	99.0	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95287

Included Lab Sample IDs: 2130564, 2130565

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95288

Included Lab Sample IDs: 2130564, 2130565, 2130566, 2130571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	101	P/P	90 - 110
Ammonia-N	101	101	P/P	90 - 110
Ammonia-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95303

Included Lab Sample IDs: 2130566, 2130571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95305

Included Lab Sample IDs: 2130564

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95312

Included Lab Sample IDs: 2130565, 2130566, 2130571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.5	P/P	90 - 110
Total-P	99.5	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95324

Included Lab Sample IDs: 2130566, 2130571

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

Reference Method: EPA 300.0

Run ID: A95332

Included Lab Sample IDs: 2130570

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A95356

Included Lab Sample IDs: 2130563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	99.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A95482

Included Lab Sample IDs: 2130561, 2130562, 2130563

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	105	105	P/P	90 - 110
Sulfate	104	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95575

Included Lab Sample IDs: 2130584, 2130585, 2130586

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	131	98.8	P/P	60 - 160
Sucralose	97.0	87.9	P/P	60 - 160

* 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 SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					2.87	
	Turbidity					4.44	
EPA 300.0	Bromide	97.3	97.1	98.9	94.3		1.78
EPA 300.0 Rev. 2.1	Chloride	102	102	102		0.664	
	Sulfate	101	101	100		0.730	
EPA 350.1 Rev. 2.0	Ammonia-N	99.1	103	103			0.368
	Ammonia-N	100	100	101			0.823
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.2	96.8	109			7.42
	Kjeldahl Nitrogen	101	98.8	101			1.42
	Kjeldahl Nitrogen	103	99.3	99.5			0.184
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.5	100			1.00
	NO2NO3-N	100	101	101			0.0
	NO2NO3-N	102	98.8				0.169
EPA 365.1 Rev. 2.0	Total-P	104	84.1	89.3			5.73
	Total-P	97.8	99.8	98.5			1.08
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.7	96.4	97.6			0.969
	O-Phosphate-P	102	99.6	99.9			0.301
EPA 8321B	2,4-D	126	140	136			3.19
	Acesulfame K	103	52.8	59.7			12.3
	Acetaminophen	81.3	89.5	83.5			6.98
	Acetamiprid	88.8	115	109			5.18
	Afidopyropen	74.1	91.1	87.0			4.65
	AMPA	107	89.4	86.6			3.19
	Bentazon	78.8	76.5	74.6			2.34
	Benzovindiflupyr	81.5	97.1	90.9			6.66
	Carbamazepine	95.6	108	107			0.602
	Clothianidin	74.0	99.7	99.5			0.195
	Dinotefuran	88.1	114	112			1.54
	Diuron	89.5	98.1	92.1			6.41
	Endothall	96.7	95.4	96.1			0.692
	Fenuron	97.8	103	104			1.17
	Fluridone	90.7	94.1	91.7			2.65
	Glufosinate	101	106	102			4.38
	Glyphosate	111	97.7	93.5			4.31
	Hydrocodone	94.8	116	114			1.46
	Ibuprofen	79.8	96.5	86.3			11.2
	Imazapyr	97.7	122	124			1.74
	Imidacloprid	89.4	166	158			3.65
	Linuron	70.5	82.9	83.1			0.212
	Mandestrobin	88.7	101	95.3			5.37
	MCPD	101	114	111			3.00
	Naproxen	76.2	92.8	106			13.6
	Primidone	93.0	98.0	111			12.1
	Pyraclostrobin	82.8	96.4	94.7			1.86
	Sucralose	80.7	102	123			17.1
	Thiamethoxam	96.4	152	150			1.36
	Tolfenpyrad	52.0	63.4	58.3			8.44
	Triclopyr	93.8	116	110			5.62
SM 2120 B	Color (true)	99.5				3.18	
SM 2320 B-97	Total Alkalinity	104				0.201	
	Total Alkalinity	105				1.58	
SM 2540 C-97	TDS					3.65	
SM 4500 F-C-97	Fluoride	95.3	95.2	94.7			0.477
	Fluoride	96.2	93.5	95.2			1.00

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
			LCS		SMP	MS
SM 4500 F-C-97	Fluoride	96.9	96.2	95.1		0.963
SM 5310 B-00	Organic Carbon	103	99.3	100		0.892
	Organic Carbon	103	98.2	99.4		0.892

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2130561, 2130562, 2130563, 2130570
EPA 300.0 / E31780	Bromide in aqueous matrices	2130570
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2130561, 2130562, 2130563
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2130561, 2130562, 2130563
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2130564, 2130565, 2130566, 2130571
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2130564, 2130565, 2130566, 2130571
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2130564, 2130565, 2130566, 2130571
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2130564, 2130565, 2130566, 2130571
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2130567, 2130568, 2130569, 2130572
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2130584, 2130585, 2130586
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2130584, 2130585, 2130586
SM 2120 B / E31780	True Color measured at 450 nm	2130561, 2130562, 2130563
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2130561, 2130562, 2130563, 2130570
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2130561, 2130562, 2130563
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2130561, 2130562, 2130563, 2130570
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2130561, 2130562, 2130563, 2130570
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2130564, 2130565, 2130566, 2130571

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	10/23/2019			10/23/2019 15:29	Blanca Fach	2130561, 2130562, 2130563, 2130570
EPA 300.0	10/23/2019			10/30/2019 06:37	Julia Storbeck	2130570
EPA 300.0 Rev. 2.1	10/23/2019			11/01/2019 10:03	Jhamieka S. Greenwood	2130561
	10/23/2019			11/01/2019 10:15	Jhamieka S. Greenwood	2130562
	10/23/2019			11/01/2019 10:27	Jhamieka S. Greenwood	2130563
EPA 350.1 Rev. 2.0	10/23/2019			10/28/2019 12:20	Ping Hua	2130566
	10/23/2019			10/28/2019 12:22	Ping Hua	2130571
	10/23/2019			10/28/2019 13:44	Ping Hua	2130564
	10/23/2019			10/28/2019 13:52	Ping Hua	2130565
EPA 351.2 Rev. 2.0	10/23/2019	10/25/2019 11:38	Sima Feizi	10/28/2019 16:43	Jhamieka S. Greenwood	2130564
	10/23/2019	10/25/2019 11:38	Sima Feizi	10/28/2019 16:45	Jhamieka S. Greenwood	2130565
	10/23/2019	10/28/2019 13:12	Sima Feizi	10/29/2019 17:02	Jhamieka S. Greenwood	2130566
	10/23/2019	10/28/2019 13:12	Sima Feizi	10/29/2019 17:20	Jhamieka S. Greenwood	2130571
EPA 353.2 Rev. 2.0	10/23/2019			10/25/2019 11:19	Beverly Y. Sanders	2130564
	10/23/2019			10/25/2019 11:21	Beverly Y. Sanders	2130565
	10/23/2019			10/29/2019 10:11	Beverly Y. Sanders	2130571
	10/23/2019			10/29/2019 11:19	Beverly Y. Sanders	2130566
EPA 365.1 Rev. 2.0	10/23/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 12:11	Lipi Saha	2130564
	10/23/2019	10/25/2019 14:30	Lipi Saha	10/29/2019 14:25	Lipi Saha	2130566
	10/23/2019	10/25/2019 14:30	Lipi Saha	10/29/2019 14:26	Lipi Saha	2130571
	10/23/2019	10/25/2019 14:30	Lipi Saha	10/29/2019 14:43	Lipi Saha	2130565
EPA 365.1 Rev. 2.0 dissolved	10/23/2019			10/23/2019 14:46	Virginia P. Brown	2130572
	10/23/2019			10/23/2019 15:10	Virginia P. Brown	2130567
	10/23/2019			10/23/2019 15:11	Virginia P. Brown	2130568
	10/23/2019			10/23/2019 15:12	Virginia P. Brown	2130569
EPA 8321B	10/23/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 05:26	Juyoung Kim	2130584
	10/23/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 06:00	Juyoung Kim	2130585
	10/23/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 06:35	Juyoung Kim	2130586
	10/23/2019	10/24/2019 11:00	Rebecca Ware	10/24/2019 15:54	Rebecca Ware	2130584
	10/23/2019	10/24/2019 11:00	Rebecca Ware	10/24/2019 16:08	Rebecca Ware	2130585
	10/23/2019	10/24/2019 11:00	Rebecca Ware	10/24/2019 16:22	Rebecca Ware	2130586
	10/23/2019	10/24/2019 11:00	Rebecca Ware	10/25/2019 13:18	Rebecca Ware	2130584
	10/23/2019	10/24/2019 11:00	Rebecca Ware	10/25/2019 13:29	Rebecca Ware	2130585
	10/23/2019	10/24/2019 11:00	Rebecca Ware	10/25/2019 16:48	Rebecca Ware	2130586
	10/23/2019	10/24/2019 11:00	Rebecca Ware	11/07/2019 10:27	Rebecca Ware	2130584
	10/23/2019	10/24/2019 11:00	Rebecca Ware	11/07/2019 10:39	Rebecca Ware	2130585
	10/23/2019	10/24/2019 11:00	Rebecca Ware	11/09/2019 14:32	Rebecca Ware	2130586
SM 2120 B	10/23/2019			10/23/2019 16:59	Madeline Funaro	2130563
	10/23/2019			10/23/2019 17:33	Madeline Funaro	2130561, 2130562
SM 2320 B-97	10/23/2019			10/26/2019 08:08	Dale L. Simmons	2130561

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-97	10/23/2019			10/26/2019 08:22	Dale L. Simmons	2130562
	10/23/2019			10/26/2019 15:58	Dale L. Simmons	2130563
	10/23/2019			10/26/2019 18:10	Dale L. Simmons	2130570
SM 2540 C-97	10/23/2019			10/25/2019 14:21	Yijie Li	2130561, 2130562, 2130563
SM 2540 D-97	10/23/2019			10/25/2019 14:21	Yijie Li	2130561, 2130562, 2130563, 2130570
SM 4500 F-C-97	10/23/2019			10/26/2019 08:08	Dale L. Simmons	2130561
	10/23/2019			10/26/2019 08:22	Dale L. Simmons	2130562
	10/23/2019			10/26/2019 14:25	Dale L. Simmons	2130570
	10/23/2019			10/30/2019 21:17	Dale L. Simmons	2130563
SM 5310 B-00	10/23/2019			10/25/2019 23:38	Madeline Funaro	2130564
	10/23/2019			10/26/2019 00:21	Madeline Funaro	2130565
	10/23/2019			10/26/2019 00:34	Madeline Funaro	2130566
	10/23/2019			10/26/2019 10:20	Madeline Funaro	2130571