

Chemical Analysis Report

SE-DIST-2019-10-22-01

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

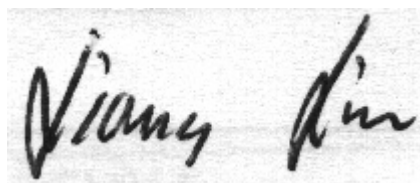
Event Description: **SMP-Greasy 2**
Request ID: **RQ-2019-10-14-49**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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FL Dept. of Environmental Protection
2199 South Rock Road
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 13-NOV-2019 10:29

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

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: West Lake @ Sheridan

Collection Date/Time: 10/21/2019 11:30

Field ID: G4SE0037

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130395	EPA 180.1 Rev. 2.0	Turbidity	12	A	NTU	P372960	
	EPA 300.0	Bromide	60		mg Br/L	P373399	
	SM 2320 B-97	Total Alkalinity	153		mg CaCO3/L	P373215	
	SM 2540 D-97	TSS	18		mg/L	P373652	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P373220	
2130397	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P373265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P373129	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.042		mg N/L	P373323	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P373138	
	SM 5310 B-00	Organic Carbon	4.1		mg C/L	P373168	
2130399	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P372951	

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: West Lake @ Sheridan

Collection Date/Time: 10/21/2019 11:35

Field ID: G4SE0037_DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130396	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P372960	
	EPA 300.0	Bromide	59		mg Br/L	P373399	
	SM 2320 B-97	Total Alkalinity	154		mg CaCO3/L	P373215	
	SM 2540 D-97	TSS	17		mg/L	P373652	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P373220	
2130398	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P373265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P373129	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.042		mg N/L	P373323	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P373138	
	SM 5310 B-00	Organic Carbon	4.1		mg C/L	P373168	
2130400	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P372954	

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: North Fork Snake Creek @ Sunshine Reach

Collection Date/Time: 10/21/2019 12:40

Field ID: G4SE0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130389	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P372960	
	EPA 300.0 Rev. 2.1	Chloride	63		mg Cl/L	P373692	
		Sulfate	2.2		mg SO4/L	P373695	
	SM 2120 B	Color (true)	41	A	PCU	P372944	
	SM 2320 B-97	Total Alkalinity	224		mg CaCO3/L	P373213	
	SM 2540 C-97	TDS	347	A	mg/L	P373592	
	SM 2540 D-97	TSS	2	UA	mg/L	P373647	
2130391	SM 4500 F-C-97	Fluoride	0.23		mg F/L	P373218	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.059		mg N/L	P373266	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P373134	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.071		mg N/L	P373124	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P373139	
2130393	SM 5310 B-00	Organic Carbon	14		mg C/L	P373167	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P372953	
2130422	EPA 8321B	2,4-D	0.044		ug/L	P372914	
		Acesulfame K**	0.10	U	ug/L	P373022	
		AMPA**	0.10	U	ug/L	P373022	
		Sucralose**	0.010	U	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	0.016		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	0.0026	I	ug/L	P372914	
		Fenuron	0.016	U	ug/L	P372914	
		Fluridone**	0.044		ug/L	P372914	
		Imazapyr**	9.2		ug/L	P372914	
		Hydrocodone**	0.0020	U	ug/L	P372914	
		Ibuprofen**	0.020	U	ug/L	P372914	
		Imidacloprid	0.0029	I	ug/L	P372914	MS
		Linuron	0.0040	U	ug/L	P372914	
		Mandestrobin**	0.0020	UJ	ug/L	P372914	
		MCPP	0.0089		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: G4SE0116

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130422	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: Snake Creek Canal (North Fork) @ Stirling

Collection Date/Time: 10/21/2019 13:10

Field ID: G4SE0049

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130390	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P372960	
	EPA 300.0 Rev. 2.1	Chloride	63		mg Cl/L	P373692	
		Sulfate	2.2		mg SO4/L	P373695	
	SM 2120 B	Color (true)	41		PCU	P372944	
	SM 2320 B-97	Total Alkalinity	225		mg CaCO3/L	P373213	
	SM 2540 C-97	TDS	343		mg/L	P373592	
	SM 2540 D-97	TSS	2	I	mg/L	P373647	
	SM 4500 F-C-97	Fluoride	0.23		mg F/L	P373218	
2130392	EPA 350.1 Rev. 2.0	Ammonia-N	0.067		mg N/L	P373267	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P373134	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.098		mg N/L	P373124	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P373139	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P373167	
2130394	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P372953	
2130423	EPA 8321B	2,4-D	0.052		ug/L	P372914	
		Acesulfame K**	0.10	U	ug/L	P373022	
		AMPA**	0.10	U	ug/L	P373022	
		Sucralose**	0.028	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	
		Afidopyproden**	0.0020	UJ	ug/L	P372914	
		Bentazon	0.017		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**	0.038		ug/L	P372914	
		Imazapyr**	7.8		ug/L	P372914	
		Hydrocodone**	0.0020	U	ug/L	P372914	
		Ibuprofen**	0.020	U	ug/L	P372914	
		Imidacloprid	0.0034	I	ug/L	P372914	MS
		Linuron	0.0040	U	ug/L	P372914	
		Mandestrobin**	0.0020	UJ	ug/L	P372914	
		MCP	0.0027	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: G4SE0049

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2130423	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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372960

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: P373692

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373695

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: P373266

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373267

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373129

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373134

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373124

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373323

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373138

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373139

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372951

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372953

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372954

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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P372914

Component	Result	Code	Units
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: P372944

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P373213

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

Reference Method: SM 2540 C-97
Batch ID: P373592

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P373647

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: P373218

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 5310 B-00
Batch ID: P373167

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

Reference Method: SM 5310 B-00
Batch ID: P373168

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: P373692

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P373695

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.6		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: P373266

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P373267

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P373129

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: P373134

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: P373124

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373323

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373138

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373139

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372951

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372953

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372954

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.6		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
Tolfenpyrad	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: P372944

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P373213

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		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: P373218

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.8		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 5310 B-00
Batch ID: P373167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P373168

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		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: P373692

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130301	Chloride	99.7	100	P/P	90 - 110
2130456	Chloride	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373695

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130301	Sulfate	98.4	99.4	P/P	90 - 110
2130456	Sulfate	98.7		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: P373266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130377	Ammonia-N	99.7	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373267

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130494	Ammonia-N	99.8	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373129

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130135	Kjeldahl Nitrogen	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373134

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130496	Kjeldahl Nitrogen	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373124

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130391	NO2NO3-N	101	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130269	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373138

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130269	Total-P	91.8	94.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373139

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130363	Total-P	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372951

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130136	O-Phosphate-P	96.6	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372953

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130393	O-Phosphate-P	96.8	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372954

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130400	O-Phosphate-P	97.1	98.7	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: P373218

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130203	Fluoride	96.7	95.9	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 5310 B-00
Batch ID: P373167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130327	Organic Carbon	95.6	103	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P373168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130134	Organic Carbon	96.7	96.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372960

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130395	Turbidity	10.9	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: P373692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130301	Chloride	0.507	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373695

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130301	Sulfate	0.971	Spike	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: P373266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130377	Ammonia-N	2.44	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130494	Ammonia-N	0.502	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130135	Kjeldahl Nitrogen	0.892	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373134

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130496	Kjeldahl Nitrogen	1.93	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373124

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130391	NO2NO3-N	0.368	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130269	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130269	Total-P	2.72	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P373139

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130363	Total-P	2.09	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372951

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130136	O-Phosphate-P	0.413	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130393	O-Phosphate-P	0.207	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372954

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130400	O-Phosphate-P	1.63	Spike	P	0 - 20

Quality Assurance Report Precision

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	Afidopyropen	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: P372944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130389	Color (true)	0.964	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P373213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130203	Total Alkalinity	0.276	Sample	P	0 - 2.8

Quality Assurance Report Precision

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: P373592

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130389	TDS	2.88	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P373218

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130203	Fluoride	0.520	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 5310 B-00
 Batch ID: P373167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130327	Organic Carbon	5.17	Spike	P	0 - 20

Reference Method: SM 5310 B-00
 Batch ID: P373168

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130134	Organic Carbon	0.0	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2130422
Field Sample ID: G4SE0116

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	112	P	30 - 160
EPA 8321B	Acetaminophen-d4	61.2	P	30 - 160
EPA 8321B	Bentazon-d7	57.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.0	P	30 - 160
EPA 8321B	Diuron-d6	82.0	P	30 - 160
EPA 8321B	Endothall-d6	92.4	P	30 - 160
EPA 8321B	Endothall-d6	92.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.5	P	30 - 160
EPA 8321B	Primidone-d5	95.9	P	30 - 160
EPA 8321B	Sucralose-d6	34.8	P	30 - 160
EPA 8321B	Sucralose-d6	34.8	P	30 - 160

Lab Sample ID: 2130423
Field Sample ID: G4SE0049

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	116	P	30 - 160
EPA 8321B	Acetaminophen-d4	58.0	P	30 - 160
EPA 8321B	Bentazon-d7	50.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.2	P	30 - 160
EPA 8321B	Diuron-d6	75.9	P	30 - 160
EPA 8321B	Endothall-d6	92.6	P	30 - 160
EPA 8321B	Endothall-d6	92.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	55.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	55.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.0	P	30 - 160
EPA 8321B	Primidone-d5	92.6	P	30 - 160
EPA 8321B	Sucralose-d6	35.9	P	30 - 160
EPA 8321B	Sucralose-d6	35.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A95155

Included Lab Sample IDs: 2130389, 2130390

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.1	99.5	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95157

Included Lab Sample IDs: 2130393, 2130394, 2130399, 2130400

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	100	P/P	90 - 110
O-Phosphate-P	99.4	99.6	P/P	90 - 110
O-Phosphate-P	99.6	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95160

Included Lab Sample IDs: 2130389, 2130390, 2130395, 2130396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A95233

Included Lab Sample IDs: 2130422, 2130423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.6	85.9	P/P	50 - 150
2,4-D	97.2	88.6	P/P	50 - 150
Acetaminophen	89.3	91.7	P/P	60 - 160
Acetaminophen	94.3	89.3	P/P	60 - 160
Acetamiprid	102	103	P/P	50 - 150
Acetamiprid	103	102	P/P	50 - 150
Afidopyropen	94.1	86.5	P/P	50 - 150
Afidopyropen	97.3	94.1	P/P	50 - 150
Bentazon	101	98.3	P/P	50 - 160
Bentazon	99.4	101	P/P	50 - 160
Benzovindiflupyr	101	100	P/P	50 - 150
Benzovindiflupyr	99.7	101	P/P	50 - 150
Carbamazepine	102	98.4	P/P	60 - 150
Carbamazepine	105	102	P/P	60 - 150
Clothianidin	95.5	97.1	P/P	60 - 150
Clothianidin	97.1	90.9	P/P	60 - 150
Dinotefuran	91.9	98.3	P/P	50 - 150
Dinotefuran	98.3	84.7	P/P	50 - 150
Diuron	105	106	P/P	60 - 150
Diuron	106	104	P/P	60 - 150
Fenuron	104	104	P/P	60 - 150
Fenuron	104	104	P/P	60 - 150
Fluridone	109	110	P/P	60 - 160
Fluridone	110	110	P/P	60 - 160
Hydrocodone	101	100	P/P	60 - 150
Hydrocodone	105	101	P/P	60 - 150
Ibuprofen	84.6	86.3	P/P	50 - 160
Ibuprofen	87.3	84.6	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A95233

Included Lab Sample IDs: 2130422, 2130423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	101	99.5	P/P	50 - 150
Imidacloprid	91.1	96.2	P/P	60 - 150
Imidacloprid	96.2	92.5	P/P	60 - 150
Linuron	102	108	P/P	60 - 150
Linuron	108	97.6	P/P	60 - 150
Mandestrobin	94.0	98.7	P/P	50 - 150
Mandestrobin	99.1	94.0	P/P	50 - 150
MCP	83.9	90.6	P/P	50 - 150
MCP	90.6	93.5	P/P	50 - 150
Naproxen	103	110	P/P	50 - 160
Naproxen	110	106	P/P	50 - 160
Primidone	100	90.4	P/P	60 - 150
Primidone	94.3	100	P/P	60 - 150
Pyraclostrobin	107	97.1	P/P	60 - 150
Pyraclostrobin	97.1	104	P/P	60 - 150
Thiamethoxam	91.9	94.1	P/P	50 - 150
Thiamethoxam	94.1	74.4	P/P	50 - 150
Tolfenpyrad	96.0	96.2	P/P	60 - 150
Tolfenpyrad	96.2	95.4	P/P	60 - 150
Triclopyr	102	97.5	P/P	50 - 150
Triclopyr	98.5	102	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95239

Included Lab Sample IDs: 2130391, 2130392

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO ₂ NO ₃ -N	101	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A95256

Included Lab Sample IDs: 2130391, 2130392, 2130397, 2130398

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

Reference Method: EPA 8321B

Run ID: A95270

Included Lab Sample IDs: 2130422, 2130423

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

Reference Method: EPA 8321B

Run ID: A95273

Included Lab Sample IDs: 2130422, 2130423

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

Reference Method: EPA 8321B

Run ID: A95273

Included Lab Sample IDs: 2130422, 2130423

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: 2130389, 2130390, 2130395, 2130396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	102	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: 2130389, 2130390, 2130395, 2130396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	98.6	P/P	90 - 110
Fluoride	99.0	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95286

Included Lab Sample IDs: 2130391, 2130392, 2130397, 2130398

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.4	99.2	P/P	90 - 110
Kjeldahl Nitrogen	99.2	97.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95288

Included Lab Sample IDs: 2130391, 2130392, 2130397, 2130398

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	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95289

Included Lab Sample IDs: 2130391, 2130392, 2130397, 2130398

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95303

Included Lab Sample IDs: 2130397, 2130398

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A95332

Included Lab Sample IDs: 2130395, 2130396

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A95482

Included Lab Sample IDs: 2130389, 2130390

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

Reference Method: EPA 8321B

Run ID: A95575

Included Lab Sample IDs: 2130422, 2130423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	131	98.8	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			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						10.9	
EPA 300.0	Bromide	97.3	97.1	98.9	94.3			1.78
EPA 300.0 Rev. 2.1	Chloride	99.3	99.7	100	99.7			0.507
	Sulfate	98.6	98.4	99.4	98.7			0.971
EPA 350.1 Rev. 2.0	Ammonia-N	99.1	103	103				0.368
	Ammonia-N	99.0	99.7	102				2.44
	Ammonia-N	99.9	99.8	100				0.502
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	100	101				0.892
	Kjeldahl Nitrogen	103	101	104				1.93
EPA 353.2 Rev. 2.0	NO2NO3-N	100	101	100				0.368
	NO2NO3-N	100	101	101				0.0
EPA 365.1 Rev. 2.0	Total-P	97.9	91.8	94.4				2.72
	Total-P	98.4	104	106				2.09
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.7	96.6	97.0				0.413
	O-Phosphate-P	102	96.8	96.6				0.207
	O-Phosphate-P	98.6	97.1	98.7				1.63
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
	MCPP	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)	100					0.964	
SM 2320 B-97	Total Alkalinity	103					0.276	
	Total Alkalinity	105					1.58	
SM 2540 C-97	TDS						2.88	
SM 4500 F-C-97	Fluoride	94.8	96.7	95.9				0.520
	Fluoride	96.2	93.5	95.2				1.00
SM 5310 B-00	Organic Carbon	98.8	95.6	103				5.17

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision	MS
			LCS	SMP	
SM 5310 B-00	Organic Carbon	98.6	96.7 96.7		0.0

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2130389, 2130390, 2130395, 2130396
EPA 300.0 / E31780	Bromide in aqueous matrices	2130395, 2130396
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2130389, 2130390
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2130389, 2130390
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2130391, 2130392, 2130397, 2130398
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2130391, 2130392, 2130397, 2130398
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2130391, 2130392, 2130397, 2130398
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2130391, 2130392, 2130397, 2130398
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2130393, 2130394, 2130399, 2130400
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2130422, 2130423
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2130422, 2130423
SM 2120 B / E31780	True Color measured at 450 nm	2130389, 2130390
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2130389, 2130390, 2130395, 2130396
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2130389, 2130390
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2130389, 2130390, 2130395, 2130396
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2130389, 2130390, 2130395, 2130396
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2130391, 2130392, 2130397, 2130398

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	10/22/2019			10/22/2019 17:00	Rosalyn Ballman	2130389, 2130390, 2130395, 2130396
EPA 300.0	10/22/2019			10/30/2019 05:12	Julia Storbeck	2130395
	10/22/2019			10/30/2019 05:29	Julia Storbeck	2130396
EPA 300.0 Rev. 2.1	10/22/2019			11/01/2019 05:37	Jhamieka S. Greenwood	2130389
	10/22/2019			11/01/2019 05:49	Jhamieka S. Greenwood	2130390
EPA 350.1 Rev. 2.0	10/22/2019			10/28/2019 12:17	Ping Hua	2130397
	10/22/2019			10/28/2019 12:19	Ping Hua	2130398
	10/22/2019			10/28/2019 12:35	Ping Hua	2130391
	10/22/2019			10/28/2019 13:13	Ping Hua	2130392
EPA 351.2 Rev. 2.0	10/22/2019	10/25/2019 11:38	Sima Feizi	10/28/2019 14:28	Jhamieka S. Greenwood	2130397
	10/22/2019	10/25/2019 11:38	Sima Feizi	10/28/2019 14:30	Jhamieka S. Greenwood	2130398
	10/22/2019	10/25/2019 11:38	Sima Feizi	10/28/2019 14:46	Jhamieka S. Greenwood	2130391
	10/22/2019	10/25/2019 11:38	Sima Feizi	10/28/2019 14:47	Jhamieka S. Greenwood	2130392
EPA 353.2 Rev. 2.0	10/22/2019			10/25/2019 10:43	Beverly Y. Sanders	2130391
	10/22/2019			10/25/2019 10:52	Beverly Y. Sanders	2130392
	10/22/2019			10/29/2019 09:53	Beverly Y. Sanders	2130397
	10/22/2019			10/29/2019 09:54	Beverly Y. Sanders	2130398
EPA 365.1 Rev. 2.0	10/22/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 16:46	Lipi Saha	2130397
	10/22/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 16:47	Lipi Saha	2130398
	10/22/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 17:01	Lipi Saha	2130391
	10/22/2019	10/25/2019 14:30	Lipi Saha	10/28/2019 17:02	Lipi Saha	2130392
EPA 365.1 Rev. 2.0 dissolved	10/22/2019			10/22/2019 15:05	Virginia P. Brown	2130393
	10/22/2019			10/22/2019 15:14	Virginia P. Brown	2130400
	10/22/2019			10/22/2019 15:52	Virginia P. Brown	2130394
	10/22/2019			10/22/2019 15:53	Virginia P. Brown	2130399
EPA 8321B	10/22/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 03:07	Juyoung Kim	2130422
	10/22/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 04:16	Juyoung Kim	2130423
	10/22/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 10:37	Juyoung Kim	2130422
	10/22/2019	10/23/2019 12:00	Hoor Shaik	10/25/2019 11:11	Juyoung Kim	2130423
	10/22/2019	10/24/2019 11:00	Rebecca Ware	10/24/2019 15:12	Rebecca Ware	2130422
	10/22/2019	10/24/2019 11:00	Rebecca Ware	10/24/2019 15:26	Rebecca Ware	2130423
	10/22/2019	10/24/2019 11:00	Rebecca Ware	10/25/2019 12:46	Rebecca Ware	2130422
	10/22/2019	10/24/2019 11:00	Rebecca Ware	10/25/2019 12:57	Rebecca Ware	2130423
	10/22/2019	10/24/2019 11:00	Rebecca Ware	11/07/2019 09:52	Rebecca Ware	2130422
	10/22/2019	10/24/2019 11:00	Rebecca Ware	11/07/2019 10:04	Rebecca Ware	2130423
SM 2120 B	10/22/2019			10/22/2019 18:33	Madeline Funaro	2130389
	10/22/2019			10/22/2019 18:34	Madeline Funaro	2130390
SM 2320 B-97	10/22/2019			10/26/2019 03:16	Dale L. Simmons	2130389
	10/22/2019			10/26/2019 03:30	Dale L. Simmons	2130390
	10/22/2019			10/26/2019 17:46	Dale L. Simmons	2130395

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-97	10/22/2019			10/26/2019 17:58	Dale L. Simmons	2130396
SM 2540 C-97	10/22/2019			10/25/2019 14:21	Yijie Li	2130389, 2130390
SM 2540 D-97	10/22/2019			10/25/2019 14:21	Yijie Li	2130389, 2130390, 2130395, 2130396
SM 4500 F-C-97	10/22/2019			10/26/2019 03:16	Dale L. Simmons	2130389
	10/22/2019			10/26/2019 03:30	Dale L. Simmons	2130390
	10/22/2019			10/26/2019 14:17	Dale L. Simmons	2130395
	10/22/2019			10/26/2019 14:21	Dale L. Simmons	2130396
	10/22/2019			10/25/2019 03:31	Madeline Funaro	2130391
SM 5310 B-00	10/22/2019			10/25/2019 03:45	Madeline Funaro	2130392
	10/22/2019			10/25/2019 08:55	Madeline Funaro	2130397
	10/22/2019			10/25/2019 09:08	Madeline Funaro	2130398