

Chemical Analysis Report

CEN-DIST-2019-11-20-01

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

Event Description: **Lk Hatch Drain / Lk Cypress**
Request ID: **RQ-2019-11-11-52**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 09-DEC-2019 10:09



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: Lake Hatchineha Drain downstream of drainage field

Collection Date/Time: 11/19/2019 10:34

Field ID: G4CE0168

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2137367	EPA 180.1 Rev. 2.0	Turbidity	5.2		NTU	P374540	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P375157	
		Sulfate	11		mg SO4/L	P375161	
	SM 2120 B	Color (true)	110		PCU	P374545	
	SM 2320 B-97	Total Alkalinity	32		mg CaCO3/L	P374899	
	SM 2540 C-97	TDS	108		mg/L	P375015	
	SM 2540 D-97	TSS	6	I	mg/L	P375106	
	SM 4500 F-C-97	Fluoride	0.065	I	mg F/L	P374903	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P374835	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P374785	
2137368	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020		mg N/L	P374698	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P374958	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P374730	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P374574	
	EPA 8321B	2,4-D	0.010		ug/L	P374481	
2137386		Acesulfame K**	0.10	U	ug/L	P374550	
		AMPA**	0.26	I	ug/L	P374550	
		Sucralose**	0.029	I	ug/L	P374550	
		Acetaminophen**	0.0080	U	ug/L	P374481	
		Acetamiprid**	0.0020	U	ug/L	P374481	
		Endothall**	0.25	U	ug/L	P374550	
		Glufosinate**	0.10	U	ug/L	P374550	
		Glyphosate**	0.10	U	ug/L	P374550	
		Afidopyropen**	0.0020	UJ	ug/L	P374481	
		Bentazon	0.010		ug/L	P374481	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P374481	
		Carbamazepine**	8.0E-04	U	ug/L	P374481	
		Clothianidin**	0.0020	U	ug/L	P374481	
		Dinotefuran**	0.0020	U	ug/L	P374481	
		Diuron	0.0020	U	ug/L	P374481	
		Fenuron	0.016	U	ug/L	P374481	
		Fluridone**	0.0077		ug/L	P374481	
		Imazapyr**	0.069		ug/L	P374481	
		Hydrocodone**	0.0020	U	ug/L	P374481	
		Ibuprofen**	0.020	U	ug/L	P374481	
		Imidacloprid	0.0092		ug/L	P374481	
		Linuron	0.0040	U	ug/L	P374481	
		Mandestrobin**	0.0020	UJ	ug/L	P374481	
		MCP	0.0020	U	ug/L	P374481	
		Naproxen**	0.0080	U	ug/L	P374481	
		Primidone**	0.0040	U	ug/L	P374481	
		Pyraclostrobin**	0.0020	U	ug/L	P374481	

Field ID: G4CE0168

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2137386	EPA 8321B	Thiamethoxam**	0.0020	U	ug/L	P374481	
		Tolfenpyrad**	0.0020	U	ug/L	P374481	
		Triclopyr**	0.0040	U	ug/L	P374481	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Lake Cypress @ Center

Collection Date/Time: 11/19/2019 10:59

Field ID: G4CE0166

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2137370	EPA 180.1 Rev. 2.0	Turbidity	9.2		NTU	P374540	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P375157	
		Sulfate	7.0		mg SO4/L	P375161	
	SM 2120 B	Color (true)	80		PCU	P374545	
	SM 2320 B-97	Total Alkalinity	32		mg CaCO3/L	P374899	
	SM 2540 C-97	TDS	112		mg/L	P375015	
	SM 2540 D-97	TSS	12	I	mg/L	P375106	
	SM 4500 F-C-97	Fluoride	0.079	I	mg F/L	P374903	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P374835	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P374785	
2137371	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P374698	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P374958	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P374730	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P374574	
	dissolved						

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The PQL was elevated because of sample matrix interference.

Sample Location: Lake Hatchineha Drain downstream of drainage field

Collection Date/Time: 11/19/2019 10:41

Field ID: G4CE0168_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2137373	EPA 180.1 Rev. 2.0	Turbidity	5.1		NTU	P374540	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P375157	
		Sulfate	11		mg SO4/L	P375161	
	SM 2120 B	Color (true)	110		PCU	P374546	
	SM 2320 B-97	Total Alkalinity	32		mg CaCO3/L	P374899	
	SM 2540 C-97	TDS	101		mg/L	P375016	
	SM 2540 D-97	TSS	5	I	mg/L	P375107	
	SM 4500 F-C-97	Fluoride	0.066	I	mg F/L	P374903	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P374835	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P374785	
2137374	EPA 353.2 Rev. 2.0	NO2NO3-N	0.020		mg N/L	P374698	
	EPA 365.1 Rev. 2.0	Total-P	0.046		mg P/L	P374958	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P374730	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P374574	
	EPA 8321B	2,4-D	0.0092		ug/L	P374481	
2137387		Acesulfame K**	0.10	U	ug/L	P374550	
		AMPA**	0.26	I	ug/L	P374550	
		Sucralose**	0.029	I	ug/L	P374550	
		Acetaminophen**	0.0080	U	ug/L	P374481	
		Acetamiprid**	0.0020	U	ug/L	P374481	
		Endothall**	0.25	U	ug/L	P374550	
		Glufosinate**	0.10	U	ug/L	P374550	
		Glyphosate**	0.10	I	ug/L	P374550	
		Afidopyropen**	0.0020	UJ	ug/L	P374481	
		Bentazon	0.0093		ug/L	P374481	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P374481	
		Carbamazepine**	8.0E-04	U	ug/L	P374481	
		Clothianidin**	0.0020	U	ug/L	P374481	
		Dinotefuran**	0.0020	U	ug/L	P374481	
		Diuron	0.0020	U	ug/L	P374481	
		Fenuron	0.016	U	ug/L	P374481	
		Fluridone**	0.0074		ug/L	P374481	
		Imazapyr**	0.069		ug/L	P374481	
		Hydrocodone**	0.0020	U	ug/L	P374481	
		Ibuprofen**	0.020	U	ug/L	P374481	
		Imidacloprid	0.0086		ug/L	P374481	
		Linuron	0.0040	U	ug/L	P374481	
		Mandestrobin**	0.0020	UJ	ug/L	P374481	
		MCP	0.0020	U	ug/L	P374481	
		Naproxen**	0.0080	U	ug/L	P374481	
		Primidone**	0.0040	U	ug/L	P374481	
		Pyraclostrobin**	0.0020	U	ug/L	P374481	

Field ID: G4CE0168_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2137387	EPA 8321B	Thiamethoxam**	0.0020	U	ug/L	P374481	
		Tolfenpyrad**	0.0020	U	ug/L	P374481	
		Triclopyr**	0.0040	U	ug/L	P374481	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: FB_11192019

Collection Date/Time: 11/19/2019 11:24

Field ID: FB_11192019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2137376	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P374538	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P375157	
		Sulfate	0.20	U	mg SO4/L	P375161	
	SM 2120 B	Color (true)	2.5	U	PCU	P374546	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P374899	
	SM 2540 C-97	TDS	15	U	mg/L	P375012	
	SM 2540 D-97	TSS	2	U	mg/L	P375103	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P374903	
2137377	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P374835	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P374845	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P374698	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P374958	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P375005	
2137378	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P374574	
2137388	EPA 8321B	2,4-D	0.0020	U	ug/L	P374481	
		Acesulfame K**	0.10	U	ug/L	P374550	
		AMPA**	0.10	U	ug/L	P374550	
		Sucralose**	0.010	U	ug/L	P374550	
		Acetaminophen**	0.0080	U	ug/L	P374481	
		Acetamiprid**	0.0020	U	ug/L	P374481	
		Endothall**	0.25	U	ug/L	P374550	
		Glufosinate**	0.10	U	ug/L	P374550	
		Glyphosate**	0.10	U	ug/L	P374550	
		Afidopyropen**	0.0020	UJ	ug/L	P374481	
		Bentazon	8.0E-04	U	ug/L	P374481	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P374481	
		Carbamazepine**	8.0E-04	U	ug/L	P374481	
		Clothianidin**	0.0020	U	ug/L	P374481	
		Dinotefuran**	0.0020	U	ug/L	P374481	
		Diuron	0.0020	U	ug/L	P374481	
		Fenuron	0.016	U	ug/L	P374481	
		Fluridone**	8.0E-04	U	ug/L	P374481	
		Imazapyr**	0.0040	U	ug/L	P374481	
		Hydrocodone**	0.0020	U	ug/L	P374481	
		Ibuprofen**	0.020	U	ug/L	P374481	
		Imidacloprid	0.0020	U	ug/L	P374481	
		Linuron	0.0040	U	ug/L	P374481	
		Mandestrobin**	0.0020	UJ	ug/L	P374481	
		MCPD	0.0020	U	ug/L	P374481	
		Naproxen**	0.0080	U	ug/L	P374481	
		Primidone**	0.0040	U	ug/L	P374481	
		Pyraclostrobin**	0.0020	U	ug/L	P374481	
		Thiamethoxam**	0.0020	U	ug/L	P374481	

Field ID: FB_11192019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2137388	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P374481	
		Triclopyr**	0.0040	U	ug/L	P374481	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374538

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374540

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375157

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375161

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374835

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374785

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374845

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374698

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P374958

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374574

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

Reference Method: EPA 8321B
Batch ID: P374481

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P374550

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: P374545

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P374546

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P374899

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

Reference Method: SM 2540 C-97
Batch ID: P375012

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P375015

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P375016

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P375103

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P375106

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P375107

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P374903

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P374730

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

Reference Method: SM 5310 B-00
Batch ID: P375005

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375157

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375161

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374835

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374785

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374845

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374698

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: P374958

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374574

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

Reference Method: EPA 8321B
Batch ID: P374481

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	82.9		P	40 - 160
Acetaminophen	79.0		P	30 - 160
Acetamiprid	95.5		P	40 - 160
Afidopyropen	87.2		P	40 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P374481

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	77.1		P	30 - 160
Benzovindiflupyr	85.7		P	40 - 160
Carbamazepine	111		P	40 - 160
Clothianidin	78.7		P	40 - 160
Dinotefuran	75.2		P	40 - 160
Diuron	84.5		P	40 - 160
Fenuron	107		P	40 - 160
Fluridone	98.9		P	40 - 160
Hydrocodone	94.6		P	40 - 160
Ibuprofen	51.2		P	30 - 160
Imazapyr	53.8		P	40 - 160
Imidacloprid	103		P	40 - 160
Linuron	79.0		P	40 - 160
Mandestrobin	100		P	40 - 160
MCPP	80.5		P	40 - 160
Naproxen	60.3		P	40 - 160
Primidone	80.1		P	40 - 160
Pyraclostrobin	85.4		P	30 - 160
Thiamethoxam	98.1		P	40 - 160
Tolfenpyrad	62.2		P	40 - 160
Triclopyr	68.2		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P374550

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	91.1		P	40 - 150
AMPA	145		P	40 - 150
Endothall	98.9		P	40 - 150
Glufosinate	99.0		P	40 - 150
Glyphosate	112		P	40 - 140
Sucralose	121		P	40 - 150

Reference Method: SM 2120 B

Batch ID: P374545

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.4		P	85 - 115

Reference Method: SM 2120 B

Batch ID: P374546

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

Reference Method: SM 2320 B-97

Batch ID: P374899

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P374903

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P374730

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	106		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P375005

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	105		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137195	Chloride	95.8		P	90 - 110
2137255	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137195	Sulfate	99.5		P	90 - 110
2137255	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374835

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137568	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374785

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137259	Kjeldahl Nitrogen	101	110	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374845

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137571	Kjeldahl Nitrogen	104	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374698

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137263	NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P374958

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137368	Total-P	98.1	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374574

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137218	O-Phosphate-P	95.9	96.5	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P374481

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137170	2,4-D	74.5	72.2	P/P	40 - 160
2137170	Acetaminophen	76.1	69.7	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P374481

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137170	Acetamiprid	115	103	P/P	40 - 160
2137170	Afidopyropen	108	87.1	P/P	40 - 160
2137170	Benzovindiflupyr	85.5	78.4	P/P	40 - 160
2137170	Carbamazepine	106	90.8	P/P	40 - 160
2137170	Clothianidin	91.8	77.9	P/P	40 - 160
2137170	Dinotefuran	97.7	86.6	P/P	40 - 160
2137170	Diuron	72.1	65.5	P/P	40 - 160
2137170	Fenuron	102	92.8	P/P	40 - 160
2137170	Hydrocodone	98.4	88.5	P/P	40 - 160
2137170	Ibuprofen	54.9	46.9	P/P	30 - 160
2137170	Imazapyr	68.7	50.6	P/P	40 - 160
2137170	Linuron	72.8	62.8	P/P	40 - 160
2137170	Mandestrobin	99.8	88.6	P/P	40 - 160
2137170	MCP	74.1	67.9	P/P	40 - 160
2137170	Naproxen	54.7	64.1	P/P	40 - 160
2137170	Primidone	91.8	81.3	P/P	40 - 160
2137170	Pyraclostrobin	90.2	79.8	P/P	30 - 160
2137170	Thiamethoxam	140	123	P/P	40 - 160
2137170	Tolfenpyrad	60.3	51.2	P/P	40 - 160
2137170	Triclopyr	63.6	62.6	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P374550

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137386	Acesulfame K	113	109	P/P	40 - 150
2137386	AMPA	135	136	P/P	40 - 150
2137386	Endothall	101	136	P/P	40 - 150
2137386	Glufosinate	92.1	86.6	P/P	40 - 150
2137386	Glyphosate	102	103	P/P	40 - 140
2137386	Sucralose	87.4	64.4	P/P	40 - 150

Reference Method: SM 4500 F-C-97
 Batch ID: P374903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137401	Fluoride	105	104	P/P	89 - 106

Reference Method: SM 5310 B-00
 Batch ID: P374730

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137263	Organic Carbon	102	105	P/P	85 - 115

Reference Method: SM 5310 B-00
 Batch ID: P375005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2137612	Organic Carbon	103	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374538

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137214	Turbidity	1.60	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P374540

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137524	Turbidity	0.239	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137195	Chloride	0.682	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137195	Sulfate	1.10	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P374835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137568	Ammonia-N	0.609	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374785

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137259	Kjeldahl Nitrogen	7.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P374845

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137571	Kjeldahl Nitrogen	0.499	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P374698

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137263	NO2NO3-N	0.499	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P374958

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137368	Total-P	1.66	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137218	O-Phosphate-P	0.583	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P374481

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137170	2,4-D	2.35	Spike	P	0 - 30
2137170	Acetaminophen	8.71	Spike	P	0 - 30
2137170	Acetamiprid	11.5	Spike	P	0 - 30
2137170	Afidopyropen	21.7	Spike	P	0 - 30
2137170	Bentazon	9.06	Spike	P	0 - 30
2137170	Benzovindiflupyr	8.59	Spike	P	0 - 30
2137170	Carbamazepine	13.5	Spike	P	0 - 30
2137170	Clothianidin	16.4	Spike	P	0 - 30
2137170	Dinotefuran	11.5	Spike	P	0 - 30
2137170	Diuron	8.75	Spike	P	0 - 30
2137170	Fenuron	9.47	Spike	P	0 - 30
2137170	Fluridone	12.1	Spike	P	0 - 30
2137170	Hydrocodone	10.6	Spike	P	0 - 30
2137170	Ibuprofen	15.8	Spike	P	0 - 30
2137170	Imazapyr	7.21	Spike	P	0 - 30
2137170	Imidacloprid	11.2	Spike	P	0 - 30
2137170	Linuron	14.7	Spike	P	0 - 30
2137170	Mandestrobin	11.9	Spike	P	0 - 30
2137170	MCP	7.96	Spike	P	0 - 30
2137170	Naproxen	15.7	Spike	P	0 - 30
2137170	Primidone	12.1	Spike	P	0 - 30
2137170	Pyraclostrobin	12.2	Spike	P	0 - 30
2137170	Thiamethoxam	12.9	Spike	P	0 - 30
2137170	Tolfenpyrad	16.4	Spike	P	0 - 30
2137170	Triclopyr	1.52	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P374550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137386	Acesulfame K	3.83	Spike	P	0 - 30
2137386	AMPA	0.769	Spike	P	0 - 30
2137386	Endothall	29.5	Spike	P	0 - 30
2137386	Glufosinate	6.14	Spike	P	0 - 30
2137386	Glyphosate	0.780	Spike	P	0 - 30
2137386	Sucralose	29.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P374545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137257	Color (true)	1.25	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P374546

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137603	Color (true)	0.0126	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P374899

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137401	Total Alkalinity	0.214	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P375012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2136910	TDS	7.23	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P375015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137253	TDS	3.54	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P375016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137524	TDS	2.87	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P374903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137401	Fluoride	0.984	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P374730

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137263	Organic Carbon	1.54	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P375005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2137612	Organic Carbon	0.423	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2137386
Field Sample ID: G4CE0168

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	93.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.2	P	30 - 160
EPA 8321B	Diuron-d6	66.8	P	30 - 160
EPA 8321B	Endothall-d6	124	P	30 - 160
EPA 8321B	Endothall-d6	124	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.7	P	30 - 160
EPA 8321B	Primidone-d5	81.7	P	30 - 160
EPA 8321B	Sucralose-d6	59.2	P	30 - 160
EPA 8321B	Sucralose-d6	59.2	P	30 - 160

Lab Sample ID: 2137387
Field Sample ID: G4CE0168_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	75.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.5	P	30 - 160
EPA 8321B	Diuron-d6	74.6	P	30 - 160
EPA 8321B	Endothall-d6	127	P	30 - 160
EPA 8321B	Endothall-d6	127	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	105	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	105	P	30 - 160
EPA 8321B	Ibuprofen-d3	60.1	P	30 - 160
EPA 8321B	Primidone-d5	80.1	P	30 - 160
EPA 8321B	Sucralose-d6	67.8	P	30 - 160
EPA 8321B	Sucralose-d6	67.8	P	30 - 160

Lab Sample ID: 2137388
Field Sample ID: FB_11192019

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	80.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	72.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	103	P	30 - 160
EPA 8321B	Diuron-d6	82.5	P	30 - 160
EPA 8321B	Endothall-d6	100	P	30 - 160
EPA 8321B	Endothall-d6	100	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	119	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	119	P	30 - 160
EPA 8321B	Ibuprofen-d3	57.6	P	30 - 160
EPA 8321B	Primidone-d5	79.1	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95857

Included Lab Sample IDs: 2137367, 2137370, 2137373, 2137376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105
Turbidity	101	101	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A95858

Included Lab Sample IDs: 2137367, 2137370, 2137373, 2137376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 115
Color (true)	104	102	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95869

Included Lab Sample IDs: 2137369, 2137372, 2137375, 2137378

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.8	P/P	90 - 110
O-Phosphate-P	99.8	99.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95909

Included Lab Sample IDs: 2137368, 2137371, 2137374, 2137377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110
NO2NO3-N	103	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A95923

Included Lab Sample IDs: 2137368, 2137371, 2137374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	103	105	P/P	90 - 110
Organic Carbon	105	108	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95927

Included Lab Sample IDs: 2137386, 2137387, 2137388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	78.8	77.6	P/P	50 - 150
2,4-D	80.3	78.8	P/P	50 - 150
Acetaminophen	90.7	92.0	P/P	60 - 160
Acetaminophen	95.1	90.7	P/P	60 - 160
Acetamiprid	104	99.1	P/P	50 - 150
Acetamiprid	99.1	100	P/P	50 - 150
Afidopyropen	106	92.9	P/P	50 - 150
Afidopyropen	92.9	92.3	P/P	50 - 150
Bentazon	73.6	74.9	P/P	50 - 160
Bentazon	74.8	73.6	P/P	50 - 160
Benzovindiflupyr	102	104	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A95927

Included Lab Sample IDs: 2137386, 2137387, 2137388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Benzovindiflupyr	104	104	P/P	50 - 150
Carbamazepine	106	109	P/P	60 - 150
Carbamazepine	109	105	P/P	60 - 150
Clothianidin	84.3	85.5	P/P	60 - 150
Clothianidin	95.9	84.3	P/P	60 - 150
Dinotefuran	83.2	79.8	P/P	50 - 150
Dinotefuran	84.5	83.2	P/P	50 - 150
Diuron	90.5	87.9	P/P	60 - 150
Diuron	92.1	90.5	P/P	60 - 150
Fenuron	102	101	P/P	60 - 150
Fenuron	104	102	P/P	60 - 150
Fluridone	104	111	P/P	60 - 160
Fluridone	115	104	P/P	60 - 160
Hydrocodone	103	105	P/P	60 - 150
Hydrocodone	105	99.3	P/P	60 - 150
Ibuprofen	86.0	79.3	P/P	50 - 160
Ibuprofen	89.9	86.0	P/P	50 - 160
Imazapyr	84.7	85.3	P/P	50 - 150
Imazapyr	85.3	86.2	P/P	50 - 150
Imidacloprid	103	99.3	P/P	60 - 150
Imidacloprid	99.3	95.1	P/P	60 - 150
Linuron	86.9	91.3	P/P	60 - 150
Linuron	95.4	86.9	P/P	60 - 150
Mandestrobin	111	112	P/P	50 - 150
Mandestrobin	112	108	P/P	50 - 150
MCPP	75.9	76.1	P/P	50 - 150
MCPP	79.4	75.9	P/P	50 - 150
Naproxen	100	108	P/P	50 - 160
Naproxen	109	100	P/P	50 - 160
Primidone	84.1	81.4	P/P	60 - 150
Primidone	84.9	84.1	P/P	60 - 150
Pyraclostrobin	100	97.5	P/P	60 - 150
Pyraclostrobin	97.8	100	P/P	60 - 150
Thiamethoxam	102	103	P/P	50 - 150
Thiamethoxam	106	102	P/P	50 - 150
Tolfenpyrad	75.2	76.5	P/P	60 - 150
Tolfenpyrad	80.9	75.2	P/P	60 - 150
Triclopyr	85.2	90.7	P/P	50 - 150
Triclopyr	90.7	85.6	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A95944

Included Lab Sample IDs: 2137386, 2137387, 2137388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	116	100	P/P	60 - 160
Glufosinate	103	106	P/P	60 - 160
Glyphosate	121	106	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95959

Included Lab Sample IDs: 2137368, 2137371, 2137374, 2137377

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

Reference Method: EPA 8321B

Run ID: A95967

Included Lab Sample IDs: 2137386, 2137387, 2137388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	93.5	96.5	P/P	60 - 160
Endothall	98.5	108	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A95978

Included Lab Sample IDs: 2137367, 2137370, 2137373, 2137376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	98.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A95978

Included Lab Sample IDs: 2137367, 2137370, 2137373, 2137376

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95999

Included Lab Sample IDs: 2137368, 2137371, 2137374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96013

Included Lab Sample IDs: 2137377

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

Reference Method: SM 5310 B-00

Run ID: A96031

Included Lab Sample IDs: 2137377

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96048

Included Lab Sample IDs: 2137371

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96060

Included Lab Sample IDs: 2137368, 2137374, 2137377

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A96087

Included Lab Sample IDs: 2137367, 2137370, 2137373, 2137376

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

Reference Method: EPA 8321B

Run ID: A96127

Included Lab Sample IDs: 2137386, 2137387, 2137388

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	121	125	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					1.60	
	Turbidity					0.239	
EPA 300.0 Rev. 2.1	Chloride	103	95.8	102		0.682	
	Sulfate	102	99.5	100		1.10	
EPA 350.1 Rev. 2.0	Ammonia-N	101	101	101			0.609
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.5	101	110			7.06
	Kjeldahl Nitrogen	105	104	105			0.499
EPA 353.2 Rev. 2.0	NO2NO3-N	100	97.5				0.499
EPA 365.1 Rev. 2.0	Total-P	102	98.1	100			1.66
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.8	95.9	96.5			0.583
EPA 8321B	2,4-D	82.9	74.5	72.2			2.35
	Acesulfame K	91.1	113	109			3.83
	Acetaminophen	79.0	76.1	69.7			8.71
	Acetamiprid	95.5	115	103			11.5
	Afidopyropen	87.2	108	87.1			21.7
	AMPA	145	135	136			0.769
	Bentazon	77.1					9.06
	Benzovindiflupyr	85.7	85.5	78.4			8.59
	Carbamazepine	111	106	90.8			13.5
	Clothianidin	78.7	91.8	77.9			16.4
	Dinotefuran	75.2	97.7	86.6			11.5
	Diuron	84.5	72.1	65.5			8.75
	Endothall	98.9	101	136			29.5
	Fenuron	107	102	92.8			9.47
	Fluridone	98.9					12.1
	Glufosinate	99.0	92.1	86.6			6.14
	Glyphosate	112	102	103			0.780
	Hydrocodone	94.6	98.4	88.5			10.6
	Ibuprofen	51.2	54.9	46.9			15.8
	Imazapyr	53.8	68.7	50.6			7.21
	Imidacloprid	103					11.2
	Linuron	79.0	72.8	62.8			14.7
	Mandestrobin	100	99.8	88.6			11.9
	MCPP	80.5	74.1	67.9			7.96
	Naproxen	60.3	54.7	64.1			15.7
	Primidone	80.1	91.8	81.3			12.1
	Pyraclostrobin	85.4	90.2	79.8			12.2
	Sucralose	121	87.4	64.4			29.7
	Thiamethoxam	98.1	140	123			12.9
	Tolfenpyrad	62.2	60.3	51.2			16.4
	Triclopyr	68.2	63.6	62.6			1.52
SM 2120 B	Color (true)	99.4				1.25	
	Color (true)	102				0.0126	
SM 2320 B-97	Total Alkalinity	101				0.214	
SM 2540 C-97	TDS					7.23	
	TDS					3.54	
	TDS					2.87	
SM 4500 F-C-97	Fluoride	98.3	105	104			0.984
SM 5310 B-00	Organic Carbon	106	102	105			1.54
	Organic Carbon	105	103	103			0.423

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2137367, 2137370, 2137373, 2137376
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2137367, 2137370, 2137373, 2137376
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2137367, 2137370, 2137373, 2137376
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2137368, 2137371, 2137374, 2137377
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2137368, 2137371, 2137374, 2137377
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2137368, 2137371, 2137374, 2137377
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2137368, 2137371, 2137374, 2137377
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2137369, 2137372, 2137375, 2137378
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2137386, 2137387, 2137388
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2137386, 2137387, 2137388
SM 2120 B / E31780	True Color measured at 450 nm	2137367, 2137370, 2137373, 2137376
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2137367, 2137370, 2137373, 2137376
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2137367, 2137370, 2137373, 2137376
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2137367, 2137370, 2137373, 2137376
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2137367, 2137370, 2137373, 2137376
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2137368, 2137371, 2137374, 2137377

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	11/20/2019			11/20/2019 16:28	Samantha Davila	2137367, 2137370, 2137373, 2137376
EPA 300.0 Rev. 2.1	11/20/2019			12/03/2019 10:35	Lipi Saha	2137367
	11/20/2019			12/03/2019 10:47	Lipi Saha	2137370
	11/20/2019			12/03/2019 11:24	Lipi Saha	2137373
	11/20/2019			12/03/2019 11:36	Lipi Saha	2137376
EPA 350.1 Rev. 2.0	11/20/2019			11/25/2019 10:07	Ping Hua	2137368
	11/20/2019			11/25/2019 10:09	Ping Hua	2137371
	11/20/2019			11/25/2019 10:10	Ping Hua	2137374
	11/20/2019			11/25/2019 10:18	Ping Hua	2137377
EPA 351.2 Rev. 2.0	11/20/2019	11/25/2019 16:50	Jhamieka S. Greenwood	11/26/2019 18:44	Jhamieka S. Greenwood	2137368
	11/20/2019	11/25/2019 16:50	Jhamieka S. Greenwood	11/26/2019 18:45	Jhamieka S. Greenwood	2137371
	11/20/2019	11/25/2019 16:50	Jhamieka S. Greenwood	11/26/2019 18:47	Jhamieka S. Greenwood	2137374
	11/20/2019	11/26/2019 12:31	Sima Feizi	11/27/2019 12:41	Jhamieka S. Greenwood	2137377
EPA 353.2 Rev. 2.0	11/20/2019			11/22/2019 10:38	Beverly Y. Sanders	2137368
	11/20/2019			11/22/2019 10:39	Beverly Y. Sanders	2137374
	11/20/2019			11/22/2019 10:41	Beverly Y. Sanders	2137371
	11/20/2019			11/22/2019 12:47	Beverly Y. Sanders	2137377
EPA 365.1 Rev. 2.0	11/20/2019	11/27/2019 13:48	Yen Ta	12/02/2019 14:08	Benjamin T. Nordmann	2137371
	11/20/2019	11/27/2019 13:48	Yen Ta	12/02/2019 15:58	Benjamin T. Nordmann	2137377
	11/20/2019	11/27/2019 13:48	Yen Ta	12/02/2019 15:59	Benjamin T. Nordmann	2137368
	11/20/2019	11/27/2019 13:48	Yen Ta	12/02/2019 16:00	Benjamin T. Nordmann	2137374
EPA 365.1 Rev. 2.0 dissolved	11/20/2019			11/20/2019 15:03	Ping Hua	2137369
	11/20/2019			11/20/2019 15:08	Ping Hua	2137378
	11/20/2019			11/20/2019 15:09	Ping Hua	2137372
	11/20/2019			11/20/2019 15:10	Ping Hua	2137375
EPA 8321B	11/20/2019	11/21/2019 09:00	Hoor Shaik	11/24/2019 21:40	Juyoung Kim	2137386
	11/20/2019	11/21/2019 09:00	Hoor Shaik	11/24/2019 22:14	Juyoung Kim	2137387
	11/20/2019	11/21/2019 09:00	Hoor Shaik	11/24/2019 23:24	Juyoung Kim	2137388
	11/20/2019	11/21/2019 10:30	Rebecca Ware	11/21/2019 13:02	Rebecca Ware	2137386
	11/20/2019	11/21/2019 10:30	Rebecca Ware	11/21/2019 13:15	Rebecca Ware	2137387
	11/20/2019	11/21/2019 10:30	Rebecca Ware	11/21/2019 13:29	Rebecca Ware	2137388
	11/20/2019	11/21/2019 10:30	Rebecca Ware	11/23/2019 23:20	Rebecca Ware	2137386
	11/20/2019	11/21/2019 10:30	Rebecca Ware	11/23/2019 23:30	Rebecca Ware	2137387
	11/20/2019	11/21/2019 10:30	Rebecca Ware	11/23/2019 23:41	Rebecca Ware	2137388
	11/20/2019	11/21/2019 10:30	Rebecca Ware	12/03/2019 18:21	Rebecca Ware	2137386
	11/20/2019	11/21/2019 10:30	Rebecca Ware	12/03/2019 18:32	Rebecca Ware	2137387
	11/20/2019	11/21/2019 10:30	Rebecca Ware	12/03/2019 18:44	Rebecca Ware	2137388
SM 2120 B	11/20/2019			11/20/2019 18:07	Julia Storbeck	2137367
	11/20/2019			11/20/2019 18:08	Julia Storbeck	2137370
	11/20/2019			11/20/2019 18:13	Julia Storbeck	2137373

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B	11/20/2019			11/20/2019 18:14	Julia Storbeck	2137376
SM 2320 B-97	11/20/2019			11/26/2019 04:55	Dale L. Simmons	2137367
	11/20/2019			11/26/2019 05:06	Dale L. Simmons	2137370
	11/20/2019			11/26/2019 05:18	Dale L. Simmons	2137373
	11/20/2019			11/26/2019 05:30	Dale L. Simmons	2137376
	11/20/2019			11/22/2019 15:46	Yijie Li	2137367, 2137370, 2137373, 2137376
SM 2540 C-97	11/20/2019			11/22/2019 15:21	Yijie Li	2137367, 2137370, 2137373, 2137376
SM 2540 D-97	11/20/2019			11/26/2019 04:55	Dale L. Simmons	2137367
SM 4500 F-C-97	11/20/2019			11/26/2019 05:06	Dale L. Simmons	2137370
	11/20/2019			11/26/2019 05:18	Dale L. Simmons	2137373
	11/20/2019			11/26/2019 05:30	Dale L. Simmons	2137376
	11/20/2019			11/22/2019 18:56	Lauren Lees	2137371
	11/20/2019			11/22/2019 20:23	Lauren Lees	2137368
SM 5310 B-00	11/20/2019			11/22/2019 20:41	Lauren Lees	2137374
	11/20/2019			11/26/2019 21:04	Lauren Lees	2137377