

Chemical Analysis Report

NW-DIST-2019-12-04-01

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

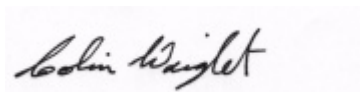
Event Description: **Perdido/Bridge**
Request ID: **RQ-2019-11-25-10**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
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Certified by: Colin Wright, Program Administrator

Date Certified: 20-DEC-2019 16:11

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored rectangular 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: BAYOU CHICO

Collection Date/Time: 12/03/2019 10:30

Field ID: G4NW0483

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140329	EPA 8321B	2,4-D	0.0020	U	ug/L	P375140	
		Acesulfame K**	0.10	UJ	ug/L	P375209	SUR
		AMPA**	1.0	U	ug/L	P375209	
		Sucralose**	0.24		ug/L	P375209	MS
		Acetaminophen**	0.0080	U	ug/L	P375140	
		Acetamiprid**	0.0020	U	ug/L	P375140	
		Endothall**	0.25	UJ	ug/L	P375209	SUR
		Glufosinate**	1.0	U	ug/L	P375209	
		Glyphosate**	1.0	U	ug/L	P375209	
		Afidopyropen**	0.0020	UJ	ug/L	P375140	
		Bentazon	8.0E-04	U	ug/L	P375140	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P375140	
		Carbamazepine**	0.0016	I	ug/L	P375140	
		Clothianidin**	0.0020	U	ug/L	P375140	
		Dinotefuran**	0.0020	U	ug/L	P375140	
		Diuron	0.0020	U	ug/L	P375140	
		Fenuron	0.016	U	ug/L	P375140	
		Fluridone**	8.0E-04	U	ug/L	P375140	
		Imazapyr**	0.0040	U	ug/L	P375140	
		Hydrocodone**	0.0020	U	ug/L	P375140	
		Ibuprofen**	0.020	U	ug/L	P375140	
		Imidacloprid	0.0059	I	ug/L	P375140	
		Linuron	0.0040	U	ug/L	P375140	
		Mandestrobin**	0.0020	UJ	ug/L	P375140	
		MCPP	0.0020	U	ug/L	P375140	
		Naproxen**	0.0080	U	ug/L	P375140	
		Primidone**	0.0040	U	ug/L	P375140	
		Pyraclostrobin**	0.0020	U	ug/L	P375140	
		Thiamethoxam**	0.0020	U	ug/L	P375140	
		Tolfenpyrad**	0.0020	U	ug/L	P375140	
		Triclopyr**	0.0040	U	ug/L	P375140	

Ref. Method and Comment:

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

EPA 8321B: MDL for some parameters elevated due to matrix interference. Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Sanders Beach off I Street Dock

Collection Date/Time: 12/03/2019 11:20

Field ID: G4NW0492

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140330	EPA 8321B	2,4-D	0.0020	U	ug/L	P375248	
		Acesulfame K**	0.10	UJ	ug/L	P375209	SUR
		AMPA**	1.0	U	ug/L	P375209	
		Sucralose**	0.056		ug/L	P375209	MS
		Acetaminophen**	0.0080	U	ug/L	P375248	
		Acetamiprid**	0.0020	U	ug/L	P375248	
		Endothall**	0.25	UJ	ug/L	P375209	SUR
		Glufosinate**	1.0	U	ug/L	P375209	
		Glyphosate**	1.0	U	ug/L	P375209	
		Afidopyropen**	0.0020	UJ	ug/L	P375248	
		Bentazon	8.0E-04	U	ug/L	P375248	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P375248	
		Carbamazepine**	8.0E-04	U	ug/L	P375248	
		Clothianidin**	0.0020	U	ug/L	P375248	
		Dinotefuran**	0.0020	U	ug/L	P375248	
		Diuron	0.0020	U	ug/L	P375248	
		Fenuron	0.016	U	ug/L	P375248	
		Fluridone**	8.0E-04	U	ug/L	P375248	
		Imazapyr**	0.0040	U	ug/L	P375248	
		Hydrocodone**	0.0020	U	ug/L	P375248	
		Ibuprofen**	0.020	U	ug/L	P375248	
		Imidacloprid	0.0020	U	ug/L	P375248	
		Linuron	0.0040	U	ug/L	P375248	
		Mandestrobin**	0.0020	UJ	ug/L	P375248	
		MCPP	0.0020	U	ug/L	P375248	
		Naproxen**	0.0080	U	ug/L	P375248	
		Primidone**	0.0040	U	ug/L	P375248	
		Pyraclostrobin**	0.0020	U	ug/L	P375248	
		Thiamethoxam**	0.0020	U	ug/L	P375248	
		Tolfenpyrad**	0.0020	U	ug/L	P375248	
		Triclopyr**	0.0040	U	ug/L	P375248	

Ref. Method and Comment:

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

EPA 8321B: MDL for some parameters elevated due to matrix interference. Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Weekly Bayou Creek @ County Rd 293

Collection Date/Time: 12/03/2019 12:05

Field ID: G4NW0482

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140307	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P375263	
	EPA 300.0	Bromide	0.36		mg Br/L	P375479	
	EPA 300.0 Rev. 2.1	Chloride	96		mg Cl/L	P375474	
		Sulfate	16		mg SO4/L	P375476	
	SM 2120 B	Color (true)	52		PCU	P375294	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P375319	
	SM 2540 C-97	TDS	211		mg/L	P375774	
	SM 2540 D-97	TSS	2	I	mg/L	P375886	
2140309	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P375322	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P375582	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P375386	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P375430	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P375339	
2140311	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P375412	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P375233	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Weekly Bayou Creek @ County Rd 293

Collection Date/Time: 12/03/2019 12:10

Field ID: G4NW0482_Dup

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140308	EPA 180.1 Rev. 2.0	Turbidity	0.55		NTU	P375263	
	EPA 300.0	Bromide	0.34		mg Br/L	P375479	
	EPA 300.0 Rev. 2.1	Chloride	96		mg Cl/L	P375474	
		Sulfate	16		mg SO4/L	P375476	
	SM 2120 B	Color (true)	52		PCU	P375294	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P375319	
	SM 2540 C-97	TDS	203		mg/L	P375774	
	SM 2540 D-97	TSS	2	I	mg/L	P375886	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P375322	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P375582	
2140310	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24		mg N/L	P375386	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P375430	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P375339	
	SM 5310 B-00	Organic Carbon	8.1		mg C/L	P375412	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P375233	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Weekly Bayou Creek @ County Rd 293

Collection Date/Time: 12/03/2019 12:15

Field ID: FB_03122019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2140313	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P375263	
	EPA 300.0	Bromide	0.013	U	mg Br/L	P375479	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P375474	
		Sulfate	0.20	U	mg SO4/L	P375476	
	SM 2120 B	Color (true)	2.5	U	PCU	P375294	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P375319	
	SM 2540 C-97	TDS	15	U	mg/L	P375771	
	SM 2540 D-97	TSS	2	U	mg/L	P375883	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P375322	
2140314	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P375582	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P375386	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P375431	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P375339	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P375412	
2140315	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P375233	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P375263

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P375479

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375474

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375476

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375582

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375386

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375430

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375431

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375339

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: P375233

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

Reference Method: EPA 8321B
Batch ID: P375140

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: P375209

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

Reference Method: EPA 8321B
Batch ID: P375248

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P375248

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

Reference Method: SM 2120 B
Batch ID: P375294

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P375319

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

Reference Method: SM 2540 C-97
Batch ID: P375771

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P375774

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P375883

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P375886

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P375322

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P375412

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: P375479

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P375474

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P375476

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P375582

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P375386

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P375430

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	99.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P375431

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P375339

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P375233

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P375140

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	139		P	40 - 160
Acetaminophen	65.9		P	30 - 160
Acetamiprid	89.7		P	40 - 160
Afidopyropen	91.5		P	40 - 160
Bentazon	84.8		P	30 - 160
Benzovindiflupyr	74.2		P	40 - 160
Carbamazepine	94.3		P	40 - 160
Clothianidin	77.6		P	40 - 160
Dinotefuran	81.7		P	40 - 160
Diuron	85.3		P	40 - 160
Fenuron	102		P	40 - 160
Fluridone	104		P	40 - 160
Hydrocodone	83.1		P	40 - 160
Ibuprofen	80.0		P	30 - 160
Imazapyr	93.9		P	40 - 160
Imidacloprid	104		P	40 - 160
Linuron	67.4		P	40 - 160
Mandestrobin	96.0		P	40 - 160
MCPP	140		P	40 - 160
Naproxen	77.8		P	40 - 160
Primidone	75.2		P	40 - 160
Pyraclostrobin	79.7		P	30 - 160
Thiamethoxam	91.9		P	40 - 160
Tolfenpyrad	54.6		P	40 - 160
Triclopyr	92.1		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P375209

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	105		P	40 - 150
AMPA	113		P	40 - 150
Endothall	81.0		P	40 - 150
Glufosinate	125		P	40 - 150
Glyphosate	124		P	40 - 140
Sucralose	90.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P375248

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	134		P	40 - 160
Acetaminophen	86.8		P	30 - 160
Acetamiprid	99.0		P	40 - 160
Afidopyropen	89.2		P	40 - 160
Bentazon	91.3		P	30 - 160
Benzovindiflupyr	82.1		P	40 - 160
Carbamazepine	95.2		P	40 - 160
Clothianidin	99.6		P	40 - 160
Dinotefuran	84.8		P	40 - 160
Diuron	78.7		P	40 - 160
Fenuron	99.8		P	40 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P375248

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluridone	97.2		P	40 - 160
Hydrocodone	87.3		P	40 - 160
Ibuprofen	80.7		P	30 - 160
Imazapyr	104		P	40 - 160
Imidacloprid	105		P	40 - 160
Linuron	69.1		P	40 - 160
Mandestrobin	90.2		P	40 - 160
MCPP	139		P	40 - 160
Naproxen	81.3		P	40 - 160
Primidone	83.9		P	40 - 160
Pyraclostrobin	81.1		P	30 - 160
Thiamethoxam	107		P	40 - 160
Tolfenpyrad	56.8		P	40 - 160
Triclopyr	88.6		P	30 - 160

Reference Method: SM 2120 B
Batch ID: P375294

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P375319

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

Reference Method: SM 4500 F-C-97
Batch ID: P375322

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P375412

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0

Batch ID: P375479

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140215	Bromide	99.6	97.9	P/P	90 - 110
2140307	Bromide	91.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P375474

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140401	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P375476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140283	Sulfate	98.4		P	90 - 110
2140401	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P375582

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139556	Ammonia-N	98.3	106	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P375386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140403	Kjeldahl Nitrogen	95.2	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P375430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140246	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P375431

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140341	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P375339

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140250	Total-P	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P375233

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140219	O-Phosphate-P	96.9	97.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P375140

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140108	2,4-D	114	119	P/P	40 - 160
2140108	Acetaminophen	76.3	69.1	P/P	30 - 160
2140108	Acetamiprid	92.1	100	P/P	40 - 160
2140108	Afidopyropen	100	96.3	P/P	40 - 160
2140108	Benzovindiflupyr	69.4	80.6	P/P	40 - 160
2140108	Carbamazepine	76.9	72.4	P/P	40 - 160
2140108	Clothianidin	78.4	81.8	P/P	40 - 160
2140108	Dinotefuran	106	116	P/P	40 - 160
2140108	Diuron	59.8	65.0	P/P	40 - 160
2140108	Fenuron	92.0	89.9	P/P	40 - 160
2140108	Fluridone	84.4	89.6	P/P	40 - 160
2140108	Hydrocodone	95.6	83.0	P/P	40 - 160
2140108	Ibuprofen	62.5	65.7	P/P	30 - 160
2140108	Imazapyr	72.4	84.0	P/P	40 - 160
2140108	Imidacloprid	151	159	P/P	40 - 160
2140108	Linuron	57.4	54.0	P/P	40 - 160
2140108	Mandestrobin	87.2	95.3	P/P	40 - 160
2140108	MCP	120	126	P/P	40 - 160
2140108	Naproxen	79.2	92.9	P/P	40 - 160
2140108	Primidone	87.2	79.5	P/P	40 - 160
2140108	Pyraclostrobin	75.3	91.0	P/P	30 - 160
2140108	Thiamethoxam	118	117	P/P	40 - 160
2140108	Tolfenpyrad	54.1	54.2	P/P	40 - 160
2140108	Triclopyr	95.8	85.9	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P375209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140044	Acesulfame K	145	140	P/P	40 - 150
2140044	AMPA	141	115	P/P	40 - 150
2140044	Endothall	97.2	108	P/P	40 - 150
2140044	Glufosinate	135	124	P/P	40 - 150
2140044	Glyphosate	82.7	72.3	P/P	40 - 140
2140044	Sucralose	16.1	17.2	F/F	40 - 150

Reference Method: EPA 8321B
Batch ID: P375248

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140614	2,4-D	121	131	P/P	40 - 160
2140614	Acetaminophen	98.5	92.4	P/P	30 - 160
2140614	Acetamiprid	78.2	96.0	P/P	40 - 160
2140614	Afidopyropen	76.9	93.7	P/P	40 - 160
2140614	Bentazon	68.7	70.1	P/P	30 - 160
2140614	Benzovindiflupyr	85.3	79.4	P/P	40 - 160
2140614	Carbamazepine	92.4	95.4	P/P	40 - 160
2140614	Clothianidin	71.6	88.7	P/P	40 - 160
2140614	Dinotefuran	88.3	94.3	P/P	40 - 160
2140614	Diuron	67.8	71.8	P/P	40 - 160
2140614	Fenuron	87.4	91.3	P/P	40 - 160
2140614	Fluridone	90.3	93.9	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P375248

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140614	Hydrocodone	92.9	95.3	P/P	40 - 160
2140614	Ibuprofen	75.4	80.8	P/P	30 - 160
2140614	Imazapyr	110	126	P/P	40 - 160
2140614	Imidacloprid	141	134	P/P	40 - 160
2140614	Linuron	63.6	62.2	P/P	40 - 160
2140614	Mandestrobin	85.9	84.4	P/P	40 - 160
2140614	MCP	130	142	P/P	40 - 160
2140614	Naproxen	64.5	72.3	P/P	40 - 160
2140614	Primidone	82.1	83.0	P/P	40 - 160
2140614	Pyraclostrobin	89.4	86.7	P/P	30 - 160
2140614	Thiamethoxam	128	139	P/P	40 - 160
2140614	Tolfenpyrad	55.5	55.5	P/P	40 - 160
2140614	Triclopyr	99.8	107	P/P	30 - 160

Reference Method: SM 4500 F-C-97
Batch ID: P375322

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140216	Fluoride	98.0	98.0	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P375412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140341	Organic Carbon	98.2	98.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P375263

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140283	Turbidity	6.32	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P375479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140215	Bromide	1.63	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140283	Chloride	0.173	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P375476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140283	Sulfate	0.00508	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375582

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139556	Ammonia-N	5.13	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140403	Kjeldahl Nitrogen	6.53	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140246	NO2NO3-N	0.318	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375431

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140341	NO2NO3-N	0.480	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375339

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140250	Total-P	1.11	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140219	O-Phosphate-P	0.0661	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P375140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140108	2,4-D	3.90	Spike	P	0 - 30
2140108	Acetaminophen	9.96	Spike	P	0 - 30
2140108	Acetamiprid	8.50	Spike	P	0 - 30
2140108	Afidopyropen	3.80	Spike	P	0 - 30
2140108	Bentazon	18.4	Spike	P	0 - 30
2140108	Benzovindiflupyr	14.9	Spike	P	0 - 30
2140108	Carbamazepine	5.20	Spike	P	0 - 30
2140108	Clothianidin	4.21	Spike	P	0 - 30
2140108	Dinotefuran	8.05	Spike	P	0 - 30
2140108	Diuron	7.89	Spike	P	0 - 30
2140108	Fenuron	2.33	Spike	P	0 - 30
2140108	Fluridone	3.38	Spike	P	0 - 30
2140108	Hydrocodone	14.1	Spike	P	0 - 30
2140108	Ibuprofen	4.94	Spike	P	0 - 30
2140108	Imazapyr	8.53	Spike	P	0 - 30
2140108	Imidacloprid	5.14	Spike	P	0 - 30
2140108	Linuron	6.09	Spike	P	0 - 30
2140108	Mandestrobin	8.87	Spike	P	0 - 30
2140108	MCP	4.80	Spike	P	0 - 30
2140108	Naproxen	16.0	Spike	P	0 - 30
2140108	Primidone	7.41	Spike	P	0 - 30
2140108	Pyraclostrobin	18.9	Spike	P	0 - 30
2140108	Thiamethoxam	1.21	Spike	P	0 - 30
2140108	Tolfenpyrad	0.163	Spike	P	0 - 30
2140108	Triclopyr	10.9	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P375209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140044	Acesulfame K	3.77	Spike	P	0 - 30
2140044	AMPA	15.2	Spike	P	0 - 30
2140044	Endothall	10.5	Spike	P	0 - 30
2140044	Glufosinate	8.38	Spike	P	0 - 30
2140044	Glyphosate	3.84	Spike	P	0 - 30
2140044	Sucralose	4.29	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P375248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140614	2,4-D	7.95	Spike	P	0 - 30
2140614	Acetaminophen	6.47	Spike	P	0 - 30
2140614	Acetamiprid	20.4	Spike	P	0 - 30
2140614	Afidopyropen	19.7	Spike	P	0 - 30
2140614	Bentazon	1.98	Spike	P	0 - 30
2140614	Benzovindiflupyr	7.20	Spike	P	0 - 30
2140614	Carbamazepine	3.21	Spike	P	0 - 30
2140614	Clothianidin	21.3	Spike	P	0 - 30
2140614	Dinotefuran	6.54	Spike	P	0 - 30
2140614	Diuron	5.69	Spike	P	0 - 30
2140614	Fenuron	4.41	Spike	P	0 - 30
2140614	Fluridone	3.91	Spike	P	0 - 30
2140614	Hydrocodone	2.51	Spike	P	0 - 30
2140614	Ibuprofen	6.97	Spike	P	0 - 30
2140614	Imazapyr	13.2	Spike	P	0 - 30
2140614	Imidacloprid	4.93	Spike	P	0 - 30
2140614	Linuron	2.26	Spike	P	0 - 30
2140614	Mandestrobin	1.73	Spike	P	0 - 30
2140614	MCPP	8.61	Spike	P	0 - 30
2140614	Naproxen	11.4	Spike	P	0 - 30
2140614	Primidone	1.04	Spike	P	0 - 30
2140614	Pyraclostrobin	3.01	Spike	P	0 - 30
2140614	Thiamethoxam	7.83	Spike	P	0 - 30
2140614	Tolfenpyrad	0.0339	Spike	P	0 - 30
2140614	Triclopyr	6.73	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P375294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140340	Color (true)	7.93	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P375319

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140216	Total Alkalinity	0.0597	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P375771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139970	TDS	6.28	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P375774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140445	TDS	2.41	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P375322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140216	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P375412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140341	Organic Carbon	0.229	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2140329
Field Sample ID: G4NW0483

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.7	P	30 - 160
EPA 8321B	Diuron-d6	88.3	P	30 - 160
EPA 8321B	Endothall-d6	224	F	30 - 160
EPA 8321B	Endothall-d6	224	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	94.2	P	30 - 160
EPA 8321B	Primidone-d5	81.3	P	30 - 160
EPA 8321B	Sucralose-d6	83.2	P	30 - 160
EPA 8321B	Sucralose-d6	83.2	P	30 - 160

Lab Sample ID: 2140330
Field Sample ID: G4NW0492

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	111	P	30 - 160
EPA 8321B	Acetaminophen-d4	67.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.5	P	30 - 160
EPA 8321B	Diuron-d6	70.0	P	30 - 160
EPA 8321B	Endothall-d6	237	F	30 - 160
EPA 8321B	Endothall-d6	237	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	77.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	82.4	P	30 - 160
EPA 8321B	Primidone-d5	77.5	P	30 - 160
EPA 8321B	Sucralose-d6	62.4	P	30 - 160
EPA 8321B	Sucralose-d6	62.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A96104
Included Lab Sample IDs: 2140329

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.5	100	P/P	50 - 150
Acetaminophen	85.8	78.5	P/P	60 - 160
Acetamiprid	103	98.9	P/P	50 - 150
Afidopyropen	99.9	94.0	P/P	50 - 150
Bentazon	75.2	77.5	P/P	50 - 160
Benzovindiflupyr	105	105	P/P	50 - 150
Carbamazepine	94.5	98.3	P/P	60 - 150
Clothianidin	92.6	83.0	P/P	60 - 150
Dinotefuran	89.8	87.7	P/P	50 - 150
Diuron	103	100	P/P	60 - 150
Fenuron	80.7	85.3	P/P	60 - 150
Fluridone	117	114	P/P	60 - 160
Hydrocodone	89.4	87.3	P/P	60 - 150
Ibuprofen	84.6	78.5	P/P	50 - 160
Imazapyr	97.9	97.5	P/P	50 - 150
Imidacloprid	97.7	86.1	P/P	60 - 150
Linuron	91.8	94.1	P/P	60 - 150
Mandestrobin	109	107	P/P	50 - 150
MCPP	98.7	106	P/P	50 - 150
Naproxen	69.5	111	P/P	50 - 160
Primidone	87.8	75.5	P/P	60 - 150
Pyraclostrobin	103	96.7	P/P	60 - 150
Thiamethoxam	93.3	86.2	P/P	50 - 150
Tolfenpyrad	104	95.1	P/P	60 - 150
Triclopyr	99.2	93.5	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A96116
Included Lab Sample IDs: 2140311, 2140312, 2140315

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	96.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A96120
Included Lab Sample IDs: 2140307, 2140308, 2140313

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A96122
Included Lab Sample IDs: 2140309, 2140310, 2140314

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A96139

Included Lab Sample IDs: 2140307, 2140308, 2140313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115

Reference Method: SM 2320 B-97

Run ID: A96148

Included Lab Sample IDs: 2140307, 2140308, 2140313

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

Reference Method: SM 4500 F-C-97

Run ID: A96148

Included Lab Sample IDs: 2140307, 2140308, 2140313

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	99.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A96190

Included Lab Sample IDs: 2140309, 2140310, 2140314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.4	97.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A96195

Included Lab Sample IDs: 2140329, 2140330

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	112	119	P/P	60 - 160
Glufosinate	114	141	P/P	60 - 160
Glyphosate	129	121	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A96196

Included Lab Sample IDs: 2140329, 2140330

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	105	98.7	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96197

Included Lab Sample IDs: 2140309, 2140310, 2140314

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A96205

Included Lab Sample IDs: 2140307, 2140308, 2140313

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

Reference Method: EPA 300.0

Run ID: A96206

Included Lab Sample IDs: 2140307, 2140308, 2140313

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

Reference Method: EPA 8321B

Run ID: A96215

Included Lab Sample IDs: 2140329, 2140330

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	83.0	P/P	60 - 160
Endothall	95.2	95.5	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96228

Included Lab Sample IDs: 2140309, 2140310, 2140314

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.0	95.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96246

Included Lab Sample IDs: 2140309, 2140310, 2140314

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

Reference Method: EPA 8321B

Run ID: A96343

Included Lab Sample IDs: 2140330

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	148	98.0	P/P	50 - 150
Acetaminophen	129	105	P/P	60 - 160
Acetamiprid	108	98.4	P/P	50 - 150
Afidopyropen	115	106	P/P	50 - 150
Bentazon	74.9	78.6	P/P	50 - 160
Benzovindiflupyr	106	101	P/P	50 - 150
Carbamazepine	102	95.5	P/P	60 - 150
Clothianidin	118	115	P/P	60 - 150
Dinotefuran	102	101	P/P	50 - 150
Diuron	102	85.2	P/P	60 - 150
Fenuron	107	100	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A96343

Included Lab Sample IDs: 2140330

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluridone	95.3	91.2	P/P	60 - 160
Hydrocodone	103	91.9	P/P	60 - 150
Ibuprofen	103	102	P/P	50 - 160
Imazapyr	107	97.6	P/P	50 - 150
Imidacloprid	111	94.4	P/P	60 - 150
Linuron	97.9	91.5	P/P	60 - 150
Mandestrobin	103	98.6	P/P	50 - 150
MCP	104	95.5	P/P	50 - 150
Naproxen	80.0	101	P/P	50 - 160
Primidone	98.8	92.4	P/P	60 - 150
Pyraclostrobin	110	91.1	P/P	60 - 150
Thiamethoxam	119	121	P/P	50 - 150
Tolfenpyrad	109	104	P/P	60 - 150
Triclopyr	107	104	P/P	50 - 150

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					6.32	
EPA 300.0	Bromide	101	99.6	97.9	91.4		1.63
EPA 300.0 Rev. 2.1	Chloride	102	102			0.173	
	Sulfate	102	98.4	102		0.0050	
EPA 350.1 Rev. 2.0	Ammonia-N	102	98.3	106			5.13
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	95.2	103			6.53
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	99.5	100			0.318
	NO2NO3-N	101	101	100			0.480
EPA 365.1 Rev. 2.0	Total-P	105	101	102			1.11
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5	96.9	97.0			0.0661
EPA 8321B	2,4-D	139	119	114			3.90
	2,4-D	134	121	131			7.95
	Acesulfame K	105	145	140			3.77
	Acetaminophen	65.9	76.3	69.1			9.96
	Acetaminophen	86.8	98.5	92.4			6.47
	Acetamiprid	89.7	92.1	100			8.50
	Acetamiprid	99.0	78.2	96.0			20.4
	Afidopyropen	91.5	100	96.3			3.80
	Afidopyropen	89.2	76.9	93.7			19.7
	AMPA	113	141	115			15.2
	Bentazon	84.8					18.4
	Bentazon	91.3	68.7	70.1			1.98
	Benzovindiflupyr	74.2	69.4	80.6			14.9
	Benzovindiflupyr	82.1	85.3	79.4			7.20
	Carbamazepine	94.3	76.9	72.4			5.20
	Carbamazepine	95.2	92.4	95.4			3.21
	Clothianidin	77.6	78.4	81.8			4.21
	Clothianidin	99.6	71.6	88.7			21.3
	Dinotefuran	81.7	106	116			8.05
	Dinotefuran	84.8	88.3	94.3			6.54
	Diuron	85.3	59.8	65.0			7.89
	Diuron	78.7	67.8	71.8			5.69
	Endothall	81.0	97.2	108			10.5
	Fenuron	102	92.0	89.9			2.33
	Fenuron	99.8	87.4	91.3			4.41
	Fluridone	104	84.4	89.6			3.38
	Fluridone	97.2	90.3	93.9			3.91
	Glufosinate	125	135	124			8.38
	Glyphosate	124	82.7	72.3			3.84
	Hydrocodone	83.1	95.6	83.0			14.1
	Hydrocodone	87.3	92.9	95.3			2.51
	Ibuprofen	80.0	65.7	62.5			4.94
	Ibuprofen	80.7	75.4	80.8			6.97
	Imazapyr	93.9	84.0	72.4			8.53
	Imazapyr	104	110	126			13.2
	Imidacloprid	104	151	159			5.14
	Imidacloprid	105	141	134			4.93
	Linuron	67.4	57.4	54.0			6.09
	Linuron	69.1	63.6	62.2			2.26
	Mandestrobin	96.0	87.2	95.3			8.87
	Mandestrobin	90.2	85.9	84.4			1.73
	MCPP	140	126	120			4.80
	MCPP	139	130	142			8.61
	Naproxen	77.8	92.9	79.2			16.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8321B	Naproxen	81.3	64.5	72.3		11.4
	Primidone	75.2	87.2	79.5		7.41
	Primidone	83.9	82.1	83.0		1.04
	Pyraclostrobin	79.7	75.3	91.0		18.9
	Pyraclostrobin	81.1	89.4	86.7		3.01
	Sucralose	90.1	16.1	17.2		4.29
	Thiamethoxam	91.9	118	117		1.21
	Thiamethoxam	107	128	139		7.83
	Tolfenpyrad	54.6	54.2	54.1		0.163
	Tolfenpyrad	56.8	55.5	55.5		0.0339
	Triclopyr	92.1	85.9	95.8		10.9
	Triclopyr	88.6	99.8	107		6.73
SM 2120 B	Color (true)	101				7.93
SM 2320 B-97	Total Alkalinity	103				0.0597
SM 2540 C-97	TDS					6.28
	TDS					2.41
SM 4500 F-C-97	Fluoride	97.2	98.0	98.0		0.0
SM 5310 B-00	Organic Carbon	99.0	98.2	98.6		0.229

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2140307, 2140308, 2140313
EPA 300.0 / E31780	Bromide in aqueous matrices	2140307, 2140308, 2140313
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2140307, 2140308, 2140313
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2140307, 2140308, 2140313
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2140309, 2140310, 2140314
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2140309, 2140310, 2140314
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2140309, 2140310, 2140314
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2140309, 2140310, 2140314
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2140311, 2140312, 2140315
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2140329, 2140330
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2140329, 2140330
SM 2120 B / E31780	True Color measured at 450 nm	2140307, 2140308, 2140313
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2140307, 2140308, 2140313
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2140307, 2140308, 2140313
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2140307, 2140308, 2140313
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2140307, 2140308, 2140313
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2140309, 2140310, 2140314

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	12/04/2019			12/04/2019 16:05	Yen Ta	2140307, 2140308, 2140313
EPA 300.0	12/04/2019			12/09/2019 21:42	Lipi Saha	2140307
	12/04/2019			12/10/2019 01:24	Lipi Saha	2140308
	12/04/2019			12/10/2019 01:41	Lipi Saha	2140313
EPA 300.0 Rev. 2.1	12/04/2019			12/09/2019 19:45	Lipi Saha	2140307
	12/04/2019			12/09/2019 19:57	Lipi Saha	2140308
	12/04/2019			12/09/2019 20:33	Lipi Saha	2140313
EPA 350.1 Rev. 2.0	12/04/2019			12/10/2019 12:58	Ping Hua	2140309
	12/04/2019			12/10/2019 12:59	Ping Hua	2140310
	12/04/2019			12/10/2019 13:07	Ping Hua	2140314
EPA 351.2 Rev. 2.0	12/04/2019	12/09/2019 12:48	Sima Feizi	12/10/2019 12:55	Jhamieka S. Greenwood	2140309
	12/04/2019	12/09/2019 12:48	Sima Feizi	12/10/2019 12:56	Jhamieka S. Greenwood	2140310
	12/04/2019	12/09/2019 12:48	Sima Feizi	12/10/2019 12:58	Jhamieka S. Greenwood	2140314
EPA 353.2 Rev. 2.0	12/04/2019			12/05/2019 11:25	Beverly Y. Sanders	2140309
	12/04/2019			12/05/2019 11:26	Beverly Y. Sanders	2140310
	12/04/2019			12/05/2019 11:39	Beverly Y. Sanders	2140314
EPA 365.1 Rev. 2.0	12/04/2019	12/06/2019 14:10	Lipi Saha	12/09/2019 16:20	Benjamin T. Nordmann	2140314
	12/04/2019	12/06/2019 14:10	Lipi Saha	12/09/2019 16:31	Benjamin T. Nordmann	2140309
	12/04/2019	12/06/2019 14:10	Lipi Saha	12/09/2019 16:32	Benjamin T. Nordmann	2140310
EPA 365.1 Rev. 2.0 dissolved	12/04/2019			12/04/2019 16:34	Samantha Davila	2140315
	12/04/2019			12/04/2019 16:35	Samantha Davila	2140311
	12/04/2019			12/04/2019 16:36	Samantha Davila	2140312
EPA 8321B	12/04/2019	12/04/2019 12:00	Hoor Shaik	12/05/2019 08:56	Juyoung Kim	2140329
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/05/2019 20:31	Rebecca Ware	2140329
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/05/2019 20:42	Rebecca Ware	2140330
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/06/2019 19:03	Rebecca Ware	2140329
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/06/2019 19:17	Rebecca Ware	2140330
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/07/2019 17:32	Rebecca Ware	2140329
	12/04/2019	12/05/2019 11:00	Rebecca Ware	12/07/2019 17:44	Rebecca Ware	2140330
	12/04/2019	12/06/2019 14:00	Hoor Shaik	12/12/2019 01:10	Juyoung Kim	2140330
SM 2120 B	12/04/2019			12/04/2019 18:34	Madeline Funaro	2140307
	12/04/2019			12/04/2019 18:35	Madeline Funaro	2140308
	12/04/2019			12/04/2019 18:36	Madeline Funaro	2140313
SM 2320 B-97	12/04/2019			12/06/2019 09:03	Dale L. Simmons	2140307
	12/04/2019			12/06/2019 09:12	Dale L. Simmons	2140308
	12/04/2019			12/06/2019 09:26	Dale L. Simmons	2140313
SM 2540 C-97	12/04/2019			12/05/2019 15:36	Yijie Li	2140307, 2140308, 2140313
SM 2540 D-97	12/04/2019			12/05/2019 15:36	Yijie Li	2140307, 2140308, 2140313
SM 4500 F-C-97	12/04/2019			12/06/2019 09:03	Dale L. Simmons	2140307
	12/04/2019			12/06/2019 09:12	Dale L. Simmons	2140308

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	12/04/2019			12/06/2019 09:26	Dale L. Simmons	2140313
SM 5310 B-00	12/04/2019			12/06/2019 22:59	Madeline Funaro	2140309
	12/04/2019			12/06/2019 23:12	Madeline Funaro	2140310
	12/04/2019			12/06/2019 23:25	Madeline Funaro	2140314