

Chemical Analysis Report

SW-DIST-2020-12-01-02

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

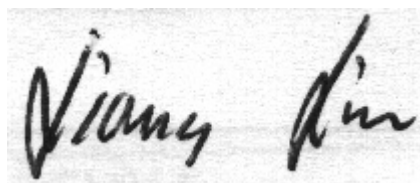
Event Description: **Run 7**
Request ID: **RQ-2020-11-09-03**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 23-DEC-2020 10:59

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

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Island Park Boat Basin Off Dock

Collection Date/Time: 11/30/2020 12:50

Field ID: G3SW0061

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2209606	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P390575	
	EPA 300.0 Rev. 2.1	Bromide	58		mg Br/L	P390929	
	SM 2320 B-2011	Total Alkalinity	113		mg CaCO3/L	P390628	
	SM 2540 D-2011	TSS	4	IA	mg/L	P390957	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P390701	
2209607	EPA 350.1 Rev. 2.0	Ammonia-N	0.099		mg N/L	P390726	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P390707	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.035		mg N/L	P390646	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P390664	
	SM 5310 B-2011	Organic Carbon	3.4		mg C/L	P390755	
2209608	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.040		mg P/L	P390580	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Phillipi Tributary @ Cattlemen Rd

Collection Date/Time: 11/30/2020 11:35

Field ID: G3SW0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2209603	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P390575	
	EPA 300.0 Rev. 2.1	Chloride	52		mg Cl/L	P390744	
		Sulfate	93		mg SO4/L	P390746	
	SM 2120 B-2011	Color (true)	80		PCU	P390566	
	SM 2320 B-2011	Total Alkalinity	160		mg CaCO3/L	P390627	
	SM 2540 C-2011	TDS	402		mg/L	P391143	
	SM 2540 D-2011	TSS	4	I	mg/L	P390952	
	SM 4500 F-C-2011	Fluoride	0.39		mg F/L	P390629	
2209604	EPA 350.1 Rev. 2.0	Ammonia-N	0.056		mg N/L	P390725	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P390658	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.77		mg N/L	P390594	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P390665	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P390753	
2209605	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.078		mg P/L	P390578	MS

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Phillipi Tributary @ Cattlemen Rd

Collection Date/Time: 11/30/2020 11:35

Field ID: G3SW0065

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2209614	EPA 8321B	2,4-D	0.0057	I	ug/L	P390561	
		Acesulfame K**	0.10	U	ug/L	P390593	MS
		AMPA**	0.51		ug/L	P390593	
		Sucralose**	1.3		ug/L	P390593	
		Acetaminophen**	0.0080	U	ug/L	P390561	
		Acetamiprid**	0.0020	U	ug/L	P390561	
		Endothall**	0.25	U	ug/L	P390593	
		Glufosinate**	0.10	U	ug/L	P390593	
		Glyphosate**	0.75		ug/L	P390593	
		Afidopyropen**	0.0020	U	ug/L	P390561	
		Bentazon	0.060		ug/L	P390561	
		Benzovindiflupyr**	0.0020	U	ug/L	P390561	
		Carbamazepine**	0.0013	I	ug/L	P390561	
		Clothianidin**	0.0033	I	ug/L	P390561	
		Dinotefuran**	0.0020	U	ug/L	P390561	
		Diuron	0.0024	I	ug/L	P390561	
		Fenuron	0.016	U	ug/L	P390561	
		Fluridone**	0.024		ug/L	P390561	
		Imazapyr**	0.18		ug/L	P390561	
		Hydrocodone**	0.0020	U	ug/L	P390561	
		Ibuprofen**	0.020	U	ug/L	P390561	
		Imidacloprid	0.026		ug/L	P390561	
		Linuron	0.0040	U	ug/L	P390561	
		Mandestrobin**	0.0020	U	ug/L	P390561	
		MCPP	0.0027	I	ug/L	P390561	
		Naproxen**	0.0080	U	ug/L	P390561	
		Primidone**	0.0080	I	ug/L	P390561	
		Pyraclostrobin**	0.0020	U	ug/L	P390561	
		Thiamethoxam**	0.0020	U	ug/L	P390561	
		Tolfenpyrad**	0.0020	U	ug/L	P390561	RPD
		Triclopyr**	0.0040	U	ug/L	P390561	

Sample Location: FB_113020

Collection Date/Time: 11/30/2020 15:30

Field ID: FB O113020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2209615	EPA 8321B	2,4-D	0.0020	U	ug/L	P390561	MS
		Acesulfame K**	0.10	U	ug/L	P390593	
		AMPA**	0.10	U	ug/L	P390593	
		Sucralose**	0.010	U	ug/L	P390593	
		Acetaminophen**	0.0080	U	ug/L	P390561	
		Acetamiprid**	0.0020	U	ug/L	P390561	
		Endothall**	0.25	U	ug/L	P390593	
		Glufosinate**	0.10	U	ug/L	P390593	
		Glyphosate**	0.10	U	ug/L	P390593	
		Afidopyropen**	0.0020	U	ug/L	P390561	
		Bentazon	8.0E-04	U	ug/L	P390561	
		Benzovindiflupyr**	0.0020	U	ug/L	P390561	
		Carbamazepine**	8.0E-04	U	ug/L	P390561	
		Clothianidin**	0.0020	U	ug/L	P390561	
		Dinotefuran**	0.0020	U	ug/L	P390561	
		Diuron	0.0020	U	ug/L	P390561	
		Fenuron	0.016	U	ug/L	P390561	
		Fluridone**	8.0E-04	U	ug/L	P390561	
		Imazapyr**	0.0040	U	ug/L	P390561	
		Hydrocodone**	0.0020	U	ug/L	P390561	
		Ibuprofen**	0.020	U	ug/L	P390561	
		Imidacloprid	0.0020	U	ug/L	P390561	
		Linuron	0.0040	U	ug/L	P390561	
		Mandestrobin**	0.0020	U	ug/L	P390561	
		MCPP	0.0020	U	ug/L	P390561	
		Naproxen**	0.0080	U	ug/L	P390561	
		Primidone**	0.0040	U	ug/L	P390561	
		Pyraclostrobin**	0.0020	U	ug/L	P390561	
		Thiamethoxam**	0.0020	U	ug/L	P390561	
		Tolfenpyrad**	0.0020	U	ug/L	P390561	RPD
		Triclopyr**	0.0040	U	ug/L	P390561	
2209627	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P390575	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P390744	
		Sulfate	0.20	U	mg SO4/L	P390746	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P390566	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P390627	
	SM 2540 C-2011	TDS	15	U	mg/L	P391143	
	SM 2540 D-2011	TSS	2	U	mg/L	P390952	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P390629	
2209628	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P390725	MS
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P391455	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P390594	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P390665	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P390753	

Field ID: FB O113020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2209629	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P390578	MS

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Clarke Lake Drainage Above Proctor Rd.

Collection Date/Time: 11/30/2020 12:05

Field ID: G3SW0067

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2209616	EPA 8321B	2,4-D	0.0031	I	ug/L	P390561	
		Acesulfame K**	0.10	U	ug/L	P390593	MS
		AMPA**	1.0		ug/L	P390593	
		Sucralose**	3.3		ug/L	P390593	
		Acetaminophen**	0.0080	U	ug/L	P390561	
		Acetamiprid**	0.0020	U	ug/L	P390561	
		Endothall**	0.25	U	ug/L	P390593	
		Glufosinate**	0.10	U	ug/L	P390593	
		Glyphosate**	1.6		ug/L	P390593	
		Afidopyropen**	0.0020	U	ug/L	P390561	
		Bentazon	0.084		ug/L	P390561	
		Benzovindiflupyr**	0.0020	U	ug/L	P390561	
		Carbamazepine**	0.0018	I	ug/L	P390561	
		Clothianidin**	0.0020	I	ug/L	P390561	
		Dinotefuran**	0.0038	I	ug/L	P390561	
		Diuron	0.026		ug/L	P390561	
		Fenuron	0.016	U	ug/L	P390561	
		Fluridone**	0.0068		ug/L	P390561	
		Imazapyr**	0.23		ug/L	P390561	
		Hydrocodone**	0.0020	U	ug/L	P390561	
		Ibuprofen**	0.020	U	ug/L	P390561	
		Imidacloprid	0.038		ug/L	P390561	
		Linuron	0.0040	U	ug/L	P390561	
		Mandestrobin**	0.0020	U	ug/L	P390561	
		MCPP	0.0020	U	ug/L	P390561	
		Naproxen**	0.0080	U	ug/L	P390561	
		Primidone**	0.0040	U	ug/L	P390561	
		Pyraclostrobin**	0.0020	U	ug/L	P390561	
		Thiamethoxam**	0.0020	U	ug/L	P390561	
		Tolfenpyrad**	0.0020	U	ug/L	P390561	RPD
		Triclopyr**	0.0040	U	ug/L	P390561	

Sample Location: Clarke Lake Drainage @ Brookside

Collection Date/Time: 11/30/2020 12:25

Field ID: G3SW0066

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2209633	EPA 8321B	2,4-D	0.029		ug/L	P390561	
		Acesulfame K**	0.10	U	ug/L	P390593	MS
		AMPA**	0.55		ug/L	P390593	
		Sucralose**	2.0		ug/L	P390593	
		Acetaminophen**	0.040		ug/L	P390561	
		Acetamiprid**	0.0020	U	ug/L	P390561	
		Endothall**	0.25	U	ug/L	P390593	
		Glufosinate**	0.10	U	ug/L	P390593	
		Glyphosate**	2.0		ug/L	P390593	
		Afidopyropen**	0.0020	U	ug/L	P390561	
		Bentazon	0.030		ug/L	P390561	
		Benzovindiflupyr**	0.0020	U	ug/L	P390561	
		Carbamazepine**	0.0026	I	ug/L	P390561	
		Clothianidin**	0.0020	U	ug/L	P390561	
		Dinotefuran**	0.0021	I	ug/L	P390561	
		Diuron	0.0089		ug/L	P390561	
		Fenuron	0.016	U	ug/L	P390561	
		Fluridone**	0.0031	I	ug/L	P390561	
		Imazapyr**	0.092		ug/L	P390561	
		Hydrocodone**	0.0020	U	ug/L	P390561	
		Ibuprofen**	0.020	U	ug/L	P390561	
		Imidacloprid	0.029		ug/L	P390561	
		Linuron	0.0040	U	ug/L	P390561	
		Mandestrobin**	0.0020	U	ug/L	P390561	
		MCP	0.0061	I	ug/L	P390561	
		Naproxen**	0.0080	U	ug/L	P390561	
		Primidone**	0.0040	U	ug/L	P390561	
		Pyraclostrobin**	0.0020	U	ug/L	P390561	
		Thiamethoxam**	0.0020	U	ug/L	P390561	
		Tolfenpyrad**	0.0020	U	ug/L	P390561	RPD
		Triclopyr**	0.0040	U	ug/L	P390561	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P390575

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390744

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390746

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390929

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390725

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390726

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390658

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390707

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391455

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390594

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390646

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390664

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390665

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390578

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390580

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

Reference Method: EPA 8321B
Batch ID: P390561

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P390561

Component	Result	Code	Units
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: P390593

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-2011
Batch ID: P390566

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P390627

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

Reference Method: SM 2320 B-2011
Batch ID: P390628

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

Reference Method: SM 2540 C-2011
Batch ID: P391143

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P390952

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P390957

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P390629

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P390701

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P390753

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

Reference Method: SM 5310 B-2011
Batch ID: P390755

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: P390744

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390746

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390929

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390725

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390726

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390658

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390707

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391455

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390594

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390646

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: P390664

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390665

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390578

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390580

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

Reference Method: EPA 8321B
Batch ID: P390561

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	81.4		P	30 - 160
Acetaminophen	69.6		P	30 - 150
Acetamiprid	79.3		P	30 - 160
Afidopyropen	67.9		P	30 - 160
Bentazon	31.2		P	30 - 150
Benzovindiflupyr	82.1		P	30 - 160
Carbamazepine	66.2		P	30 - 160
Clothianidin	76.2		P	30 - 160
Dinotefuran	74.6		P	30 - 160
Diuron	49.6		P	30 - 160
Fenuron	87.2		P	30 - 160
Fluridone	81.0		P	30 - 160
Hydrocodone	84.7		P	30 - 160
Ibuprofen	55.3		P	30 - 160
Imazapyr	65.0		P	30 - 160
Imidacloprid	79.4		P	30 - 160
Linuron	66.7		P	30 - 160
Mandestrobin	84.6		P	30 - 160
MCPP	89.2		P	30 - 160
Naproxen	51.3		P	30 - 160
Primidone	65.1		P	30 - 160
Pyraclostrobin	57.3		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P390561

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Thiamethoxam	83.9		P	30 - 160
Tolfenpyrad	45.2		P	30 - 160
Triclopyr	55.9		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P390593

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	84.9		P	40 - 150
AMPA	102		P	40 - 150
Endothall	108		P	40 - 150
Glufosinate	98.0		P	40 - 150
Glyphosate	111		P	40 - 140
Sucralose	102		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P390566

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

Reference Method: SM 2320 B-2011
Batch ID: P390627

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.3		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P390628

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P390629

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P390701

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	92.7		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P390753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.7		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P390755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209572	Chloride	102		P	90 - 110
2209782	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209572	Sulfate	102		P	90 - 110
2209782	Sulfate	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390929

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2210358	Bromide	97.2	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390725

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209710	Ammonia-N	97.6	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390658

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209436	Kjeldahl Nitrogen	92.6	91.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2211368	Kjeldahl Nitrogen	70.6	70.2	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390594

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209574	NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390646

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209583	NO2NO3-N	98.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209373	Total-P	103	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209604	Total-P	105	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209596	O-Phosphate-P	89.5	89.5	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390580

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209608	O-Phosphate-P	99.7	101	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P390561

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209599	2,4-D	97.1	80.2	P/P	30 - 160
2209599	Acetaminophen	39.3	41.0	P/P	30 - 150
2209599	Acetamiprid	51.2	49.5	P/P	30 - 160
2209599	Afidopyropen	63.9	62.1	P/P	30 - 160
2209599	Bentazon	79.7	68.9	P/P	30 - 150
2209599	Benzovindiflupyr	82.7	69.1	P/P	30 - 160
2209599	Carbamazepine	43.9	40.8	P/P	30 - 160
2209599	Clothianidin	38.1	36.4	P/P	30 - 160
2209599	Dinotefuran	59.4	56.2	P/P	30 - 160
2209599	Diuron	37.5	44.9	P/P	30 - 160
2209599	Fenuron	56.8	54.2	P/P	30 - 160
2209599	Fluridone	77.9	75.1	P/P	30 - 160
2209599	Hydrocodone	83.9	81.4	P/P	30 - 160
2209599	Ibuprofen	60.5	46.5	P/P	30 - 160
2209599	Imazapyr	75.1	63.1	P/P	30 - 160
2209599	Imidacloprid	75.4	68.4	P/P	30 - 160
2209599	Linuron	62.3	55.9	P/P	30 - 160
2209599	Mandestrobin	87.9	77.5	P/P	30 - 160
2209599	MCP	116	94.6	P/P	30 - 160
2209599	Naproxen	52.5	39.4	P/P	30 - 160
2209599	Primidone	42.0	39.2	P/P	30 - 160
2209599	Pyraclostrobin	56.0	47.7	P/P	30 - 160
2209599	Thiamethoxam	69.2	64.4	P/P	30 - 160
2209599	Tolfenpyrad	63.3	44.3	P/P	30 - 160
2209599	Triclopyr	102	79.9	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P390593

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209745	Acesulfame K	17.9	18.9	F/F	40 - 150
2209745	AMPA	99.1	91.1	P/P	40 - 150
2209745	Endothall	134	135	P/P	40 - 150
2209745	Glufosinate	110	108	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P390593

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209745	Glyphosate	97.9	96.1	P/P	40 - 140
2209745	Sucralose	103	109	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P390629

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209572	Fluoride	102	99.3	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P390701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209582	Fluoride	101	101	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P390753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2209871	Organic Carbon	101	100	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P390755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2210058	Organic Carbon	97.1	96.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P390575

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209573	Turbidity	9.13	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209572	Chloride	1.25	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209572	Sulfate	0.856	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P390929

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2210358	Bromide	2.28	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390725

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209710	Ammonia-N	1.75	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P390726

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209607	Ammonia-N	0.131	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209436	Kjeldahl Nitrogen	0.763	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P390707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209859	Kjeldahl Nitrogen	3.59	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P391455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2211368	Kjeldahl Nitrogen	0.342	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209574	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P390646

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209583	NO2NO3-N	0.851	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209373	Total-P	0.214	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P390665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209604	Total-P	1.64	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209596	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P390580

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209608	O-Phosphate-P	0.786	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P390561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209599	2,4-D	19.1	Spike	P	0 - 30
2209599	Acetaminophen	4.34	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P390561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209599	Acetamiprid	3.43	Spike	P	0 - 30
2209599	Afidopyropen	2.90	Spike	P	0 - 30
2209599	Bentazon	12.0	Spike	P	0 - 30
2209599	Benzovindiflupyr	17.9	Spike	P	0 - 30
2209599	Carbamazepine	7.37	Spike	P	0 - 30
2209599	Clothianidin	4.45	Spike	P	0 - 30
2209599	Dinotefuran	5.59	Spike	P	0 - 30
2209599	Diuron	17.9	Spike	P	0 - 30
2209599	Fenuron	4.71	Spike	P	0 - 30
2209599	Fluridone	3.62	Spike	P	0 - 30
2209599	Hydrocodone	3.07	Spike	P	0 - 30
2209599	Ibuprofen	26.1	Spike	P	0 - 30
2209599	Imazapyr	17.4	Spike	P	0 - 30
2209599	Imidacloprid	6.55	Spike	P	0 - 30
2209599	Linuron	10.9	Spike	P	0 - 30
2209599	Mandestrobin	12.6	Spike	P	0 - 30
2209599	MCPP	20.5	Spike	P	0 - 30
2209599	Naproxen	28.7	Spike	P	0 - 30
2209599	Primidone	6.91	Spike	P	0 - 30
2209599	Pyraclostrobin	16.0	Spike	P	0 - 30
2209599	Thiamethoxam	6.90	Spike	P	0 - 30
2209599	Tolfenpyrad	35.4	Spike	F	0 - 30
2209599	Triclopyr	24.3	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P390593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209745	Acesulfame K	5.38	Spike	P	0 - 30
2209745	AMPA	8.45	Spike	P	0 - 30
2209745	Endothall	0.718	Spike	P	0 - 30
2209745	Glufosinate	2.43	Spike	P	0 - 30
2209745	Glyphosate	1.85	Spike	P	0 - 30
2209745	Sucralose	6.17	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P390566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209572	Color (true)	3.78	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P390627

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209572	Total Alkalinity	0.572	Sample	P	0 - 8.1

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P390628

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209582	Total Alkalinity	1.26	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P391143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209594	TDS	6.35	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P390629

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209572	Fluoride	2.01	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P390701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209582	Fluoride	0.0	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P390753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2209871	Organic Carbon	0.290	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P390755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2210058	Organic Carbon	0.461	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2209614
Field Sample ID: G3SW0065

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	75.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	52.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	45.4	P	30 - 160
EPA 8321B	Diuron-d6	39.4	P	30 - 160
EPA 8321B	Endothall-d6	132	P	40 - 160
EPA 8321B	Endothall-d6	132	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	97.8	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	97.8	P	40 - 160
EPA 8321B	Ibuprofen-d3	56.7	P	30 - 160
EPA 8321B	Primidone-d5	56.4	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160

Lab Sample ID: 2209615
Field Sample ID: FB O113020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	63.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	69.4	P	30 - 160
EPA 8321B	Diuron-d6	64.1	P	30 - 160
EPA 8321B	Endothall-d6	104	P	40 - 160
EPA 8321B	Endothall-d6	104	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	119	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	119	P	40 - 160
EPA 8321B	Ibuprofen-d3	38.0	P	30 - 160
EPA 8321B	Primidone-d5	86.6	P	30 - 160
EPA 8321B	Sucralose-d6	89.0	P	30 - 160
EPA 8321B	Sucralose-d6	89.0	P	30 - 160

Lab Sample ID: 2209616
Field Sample ID: G3SW0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	54.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	42.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	38.2	P	30 - 160
EPA 8321B	Diuron-d6	37.4	P	30 - 160
EPA 8321B	Endothall-d6	125	P	40 - 160
EPA 8321B	Endothall-d6	125	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	118	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	118	P	40 - 160
EPA 8321B	Ibuprofen-d3	54.5	P	30 - 160
EPA 8321B	Primidone-d5	41.8	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Lab Sample ID: 2209633
Field Sample ID: G3SW0066

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	57.8	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2209633
Field Sample ID: G3SW0066

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	36.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	35.3	P	30 - 160
EPA 8321B	Diuron-d6	33.0	P	30 - 160
EPA 8321B	Endothall-d6	123	P	40 - 160
EPA 8321B	Endothall-d6	123	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	131	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	131	P	40 - 160
EPA 8321B	Ibuprofen-d3	46.1	P	30 - 160
EPA 8321B	Primidone-d5	42.9	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A102353

Included Lab Sample IDs: 2209603, 2209627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	103	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A102354

Included Lab Sample IDs: 2209603, 2209606, 2209627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	103	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A102355

Included Lab Sample IDs: 2209605, 2209608, 2209629

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	99.8	P/P	90 - 110
O-Phosphate-P	99.1	99.3	P/P	90 - 110
O-Phosphate-P	99.8	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102364

Included Lab Sample IDs: 2209604, 2209628

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

Reference Method: SM 2320 B-2011

Run ID: A102378

Included Lab Sample IDs: 2209603, 2209606, 2209627

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	98.7	P/P	90 - 110
Total Alkalinity	98.7	99.7	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A102378

Included Lab Sample IDs: 2209603, 2209627

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A102389

Included Lab Sample IDs: 2209607

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A102397

Included Lab Sample IDs: 2209614, 2209615, 2209616, 2209633

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	108	105	P/P	60 - 160
Sucralose	122	108	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102409

Included Lab Sample IDs: 2209603, 2209627

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102412

Included Lab Sample IDs: 2209604

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.3	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A102415

Included Lab Sample IDs: 2209606

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

Reference Method: EPA 8321B

Run ID: A102417

Included Lab Sample IDs: 2209614, 2209615, 2209616, 2209633

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	102	94.9	P/P	60 - 160
Acesulfame K	94.9	80.4	P/P	60 - 160
AMPA	95.0	101	P/P	60 - 160
AMPA	95.4	95.0	P/P	60 - 160
Endothall	108	117	P/P	60 - 160
Endothall	117	108	P/P	60 - 160
Glufosinate	105	99.9	P/P	60 - 160
Glufosinate	97.6	105	P/P	60 - 160
Glyphosate	127	136	P/P	60 - 160
Glyphosate	136	118	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102421

Included Lab Sample IDs: 2209604

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A102422

Included Lab Sample IDs: 2209607, 2209628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A102429

Included Lab Sample IDs: 2209604, 2209607, 2209628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.1	98.7	P/P	90 - 110
Ammonia-N	98.3	97.1	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A102441

Included Lab Sample IDs: 2209604, 2209607, 2209628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.6	P/P	90 - 110
Organic Carbon	98.3	93.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A102456

Included Lab Sample IDs: 2209606

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

Reference Method: EPA 8321B

Run ID: A102481

Included Lab Sample IDs: 2209614, 2209615, 2209616, 2209633

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	135	67.4	P/P	50 - 150
2,4-D	67.4	62.4	P/P	50 - 150
Acetaminophen	102	115	P/P	60 - 160
Acetaminophen	115	115	P/P	60 - 160
Acetamiprid	102	104	P/P	50 - 150
Acetamiprid	104	102	P/P	50 - 150
Afidopyropen	112	96.5	P/P	50 - 150
Afidopyropen	90.3	112	P/P	50 - 150
Bentazon	69.0	92.0	P/P	50 - 160
Bentazon	75.5	74.1	P/P	50 - 160
Bentazon	83.9	75.5	P/P	50 - 160
Benzovindiflupyr	107	111	P/P	50 - 150
Benzovindiflupyr	130	107	P/P	50 - 150
Carbamazepine	105	98.8	P/P	60 - 150
Carbamazepine	98.8	105	P/P	60 - 150
Clothianidin	114	98.9	P/P	60 - 150
Clothianidin	94.1	114	P/P	60 - 150
Dinotefuran	87.9	99.4	P/P	50 - 150
Dinotefuran	99.4	102	P/P	50 - 150
Diuron	89.8	80.2	P/P	60 - 160
Diuron	96.7	89.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A102481

Included Lab Sample IDs: 2209614, 2209615, 2209616, 2209633

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	103	108	P/P	60 - 150
Fenuron	108	100	P/P	60 - 150
Fluridone	106	115	P/P	60 - 160
Fluridone	115	110	P/P	60 - 160
Hydrocodone	102	106	P/P	60 - 150
Hydrocodone	98.8	102	P/P	60 - 150
Ibuprofen	108	108	P/P	50 - 160
Ibuprofen	108	78.7	P/P	50 - 160
Imazapyr	80.6	93.8	P/P	50 - 150
Imazapyr	87.9	80.6	P/P	50 - 150
Imidacloprid	89.4	91.1	P/P	60 - 150
Imidacloprid	91.1	95.8	P/P	60 - 150
Linuron	105	106	P/P	60 - 150
Linuron	92.4	105	P/P	60 - 150
Mandestrobin	107	112	P/P	50 - 150
Mandestrobin	118	107	P/P	50 - 150
MCPP	76.6	80.1	P/P	50 - 150
MCPP	80.1	77.6	P/P	50 - 150
Naproxen	53.9	67.1	P/P	50 - 160
Naproxen	67.1	75.3	P/P	50 - 160
Primidone	100	96.7	P/P	60 - 150
Primidone	99.1	100	P/P	60 - 150
Pyraclostrobin	91.1	88.0	P/P	60 - 150
Pyraclostrobin	91.8	91.1	P/P	60 - 150
Thiamethoxam	100	95.4	P/P	50 - 150
Thiamethoxam	102	100	P/P	50 - 150
Tolfenpyrad	104	105	P/P	60 - 150
Tolfenpyrad	105	99.4	P/P	60 - 150
Triclopyr	85.8	81.7	P/P	50 - 150
Triclopyr	94.1	85.8	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102501

Included Lab Sample IDs: 2209607

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A102694

Included Lab Sample IDs: 2209628

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.9	103	P/P	90 - 110

* 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				9.13	
EPA 300.0 Rev. 2.1	Bromide	99.2	97.2	99.5		2.28
	Chloride	101	102	101	1.25	
	Sulfate	102	102	102	0.856	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	97.6	95.8		1.75
	Ammonia-N	97.4				0.131
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	92.6	91.8		0.763
	Kjeldahl Nitrogen	99.4				3.59
	Kjeldahl Nitrogen	107	70.6	70.2		0.342
EPA 353.2 Rev. 2.0	NO2NO3-N	101	99.5	99.5		0.0
	NO2NO3-N	100	98.2			0.851
EPA 365.1 Rev. 2.0	Total-P	105	103	104		0.214
	Total-P	104	105	108		1.64
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	89.5	89.5		0.0
	O-Phosphate-P	99.4	99.7	101		0.786
EPA 8321B	2,4-D	81.4	97.1	80.2		19.1
	Acesulfame K	84.9	17.9	18.9		5.38
	Acetaminophen	69.6	39.3	41.0		4.34
	Acetamiprid	79.3	51.2	49.5		3.43
	Afidopyropen	67.9	63.9	62.1		2.90
	AMPA	102	99.1	91.1		8.45
	Bentazon	31.2	79.7	68.9		12.0
	Benzovindiflupyr	82.1	82.7	69.1		17.9
	Carbamazepine	66.2	43.9	40.8		7.37
	Clothianidin	76.2	38.1	36.4		4.45
	Dinotefuran	74.6	59.4	56.2		5.59
	Diuron	49.6	37.5	44.9		17.9
	Endothall	108	134	135		0.718
	Fenuron	87.2	56.8	54.2		4.71
	Fluridone	81.0	77.9	75.1		3.62
	Glufosinate	98.0	110	108		2.43
	Glyphosate	111	97.9	96.1		1.85
	Hydrocodone	84.7	83.9	81.4		3.07
	Ibuprofen	55.3	60.5	46.5		26.1
	Imazapyr	65.0	75.1	63.1		17.4
	Imidacloprid	79.4	75.4	68.4		6.55
	Linuron	66.7	62.3	55.9		10.9
	Mandestrobin	84.6	87.9	77.5		12.6
	MCPP	89.2	116	94.6		20.5
	Naproxen	51.3	52.5	39.4		28.7
	Primidone	65.1	42.0	39.2		6.91
	Pyraclostrobin	57.3	56.0	47.7		16.0
	Sucralose	102	103	109		6.17
	Thiamethoxam	83.9	69.2	64.4		6.90
	Tolfenpyrad	45.2	63.3	44.3		35.4
	Triclopyr	55.9	102	79.9		24.3
SM 2120 B-2011	Color (true)	102			3.78	
SM 2320 B-2011	Total Alkalinity	99.3			0.572	
	Total Alkalinity	103			1.26	
SM 2540 C-2011	TDS				6.35	
SM 4500 F-C-2011	Fluoride	98.8	102	99.3		2.01
	Fluoride	92.7	101	101		0.0
SM 5310 B-2011	Organic Carbon	98.7	101	100		0.290
	Organic Carbon	97.3	97.1	96.6		0.461

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2209603, 2209606, 2209627
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2209606
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2209603, 2209627
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2209603, 2209627
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2209604, 2209607, 2209628
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2209604, 2209607, 2209628
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2209604, 2209607, 2209628
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2209604, 2209607, 2209628
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2209605, 2209608, 2209629
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2209614, 2209615, 2209616, 2209633
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2209614, 2209615, 2209616, 2209633
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2209603, 2209627
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2209603, 2209606, 2209627
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2209603, 2209627
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2209603, 2209606, 2209627
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2209603, 2209606, 2209627
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2209604, 2209607, 2209628

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	12/01/2020			12/01/2020 16:17	Yen Ta	2209603, 2209606, 2209627
EPA 300.0 Rev. 2.1	12/01/2020			12/04/2020 14:45	Lipi Saha	2209603
	12/01/2020			12/04/2020 14:58	Lipi Saha	2209627
	12/01/2020			12/08/2020 16:32	Lipi Saha	2209606
EPA 350.1 Rev. 2.0	12/01/2020			12/05/2020 15:04	Ping Hua	2209604
	12/01/2020			12/05/2020 15:18	Ping Hua	2209628
	12/01/2020			12/05/2020 15:22	Ping Hua	2209607
EPA 351.2 Rev. 2.0	12/01/2020	12/03/2020 16:30	David Boose	12/04/2020 09:36	Elliott Rodriguez	2209604
	12/01/2020	12/04/2020 13:24	David Boose	12/09/2020 14:34	Julia Storbeck	2209607
	12/01/2020	12/18/2020 14:40	David Boose	12/20/2020 20:42	Julia Storbeck	2209628
EPA 353.2 Rev. 2.0	12/01/2020			12/02/2020 09:59	Beverly Y. Sanders	2209604
	12/01/2020			12/02/2020 10:02	Beverly Y. Sanders	2209628
	12/01/2020			12/03/2020 10:50	Beverly Y. Sanders	2209607
EPA 365.1 Rev. 2.0	12/01/2020	12/03/2020 13:21	Yen Ta	12/04/2020 13:14	Benjamin T. Nordmann	2209604
	12/01/2020	12/03/2020 13:21	Yen Ta	12/04/2020 14:03	Shengyu Wang	2209607
	12/01/2020	12/03/2020 13:21	Yen Ta	12/04/2020 14:08	Shengyu Wang	2209628
EPA 365.1 Rev. 2.0 dissolved	12/01/2020			12/01/2020 16:13	Blanca Fach	2209605
	12/01/2020			12/01/2020 16:22	Blanca Fach	2209629
	12/01/2020			12/01/2020 16:39	Blanca Fach	2209608
EPA 8321B	12/01/2020	12/02/2020 11:00	Rebecca Ware	12/02/2020 21:47	Rebecca Ware	2209615
	12/01/2020	12/02/2020 11:00	Rebecca Ware	12/02/2020 23:09	Rebecca Ware	2209614
	12/01/2020	12/02/2020 11:00	Rebecca Ware	12/02/2020 23:33	Rebecca Ware	2209616
	12/01/2020	12/02/2020 11:00	Rebecca Ware	12/02/2020 23:45	Rebecca Ware	2209633
	12/01/2020	12/02/2020 11:00	Rebecca Ware	12/03/2020 21:45	Rebecca Ware	2209615
	12/01/2020	12/02/2020 11:00	Rebecca Ware	12/03/2020 23:22	Rebecca Ware	2209614
	12/01/2020	12/02/2020 11:00	Rebecca Ware	12/03/2020 23:49	Rebecca Ware	2209616
	12/01/2020	12/02/2020 11:00	Rebecca Ware	12/04/2020 00:03	Rebecca Ware	2209633
	12/01/2020	12/02/2020 14:00	Hoor Shaik	12/09/2020 21:43	Juyoung Kim	2209614
	12/01/2020	12/02/2020 14:00	Hoor Shaik	12/09/2020 22:17	Juyoung Kim	2209615
	12/01/2020	12/02/2020 14:00	Hoor Shaik	12/09/2020 22:52	Juyoung Kim	2209616
	12/01/2020	12/02/2020 14:00	Hoor Shaik	12/10/2020 00:02	Juyoung Kim	2209633
	12/01/2020	12/02/2020 14:00	Hoor Shaik	12/10/2020 10:27	Juyoung Kim	2209614
SM 2120 B-2011	12/01/2020			12/01/2020 14:56	Benjamin T. Nordmann	2209603, 2209627
SM 2320 B-2011	12/01/2020			12/02/2020 17:12	Dale L. Simmons	2209603
	12/01/2020			12/02/2020 17:21	Dale L. Simmons	2209627
	12/01/2020			12/02/2020 21:46	Dale L. Simmons	2209606
SM 2540 C-2011	12/01/2020			12/04/2020 15:10	Yijie Li	2209603, 2209627
SM 2540 D-2011	12/01/2020			12/04/2020 15:10	Yijie Li	2209603, 2209606, 2209627
SM 4500 F-C-2011	12/01/2020			12/02/2020 17:12	Dale L. Simmons	2209603
	12/01/2020			12/02/2020 17:21	Dale L. Simmons	2209627

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-2011	12/01/2020			12/03/2020 20:03	Dale L. Simmons	2209606
SM 5310 B-2011	12/01/2020			12/03/2020 19:33	Madeline Gruver	2209604
	12/01/2020			12/03/2020 19:45	Madeline Gruver	2209628
	12/01/2020			12/04/2020 05:47	Madeline Gruver	2209607