

Chemical Analysis Report

SW-DIST-2020-02-06-01

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

Event Description: **Salt Springs, GOM, Anclote**
Request ID: **RQ-2020-02-03-51**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Judy Ashton

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

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

Date Certified: 02-MAR-2020 10:33

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Salt Springs #1

Collection Date/Time: 02/05/2020 13:20

Field ID: G5SW0158

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2155233	EPA 180.1 Rev. 2.0	Turbidity	6.3	A	NTU	P378460	
	EPA 300.0 Rev. 2.1	Bromide	14		mg Br/L	P378844	
	SM 2320 B-2011	Total Alkalinity	177		mg CaCO3/L	P378743	
	SM 2540 D-2011	TSS	6	I	mg/L	P379043	
	SM 4500 F-C-2011	Fluoride	0.22		mg F/L	P378835	
2155235	EPA 350.1 Rev. 2.0	Ammonia-N	0.060		mg N/L	P378887	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P379026	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P379223	
	EPA 365.1 Rev. 2.0	Total-P	0.055		mg P/L	P378818	
	SM 5310 B-2011	Organic Carbon	6.2		mg C/L	P378685	
2155237	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.018		mg P/L	P378451	

Sample Location: Anclothe Anchorage North

Collection Date/Time: 02/05/2020 11:00

Field ID: G5SW0160

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2155234	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P378460	
	EPA 300.0 Rev. 2.1	Bromide	40		mg Br/L	P378844	
	SM 2320 B-2011	Total Alkalinity	153		mg CaCO3/L	P378743	
	SM 2540 D-2011	TSS	3	U	mg/L	P379043	
	SM 4500 F-C-2011	Fluoride	0.73		mg F/L	P378746	
2155236	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P379057	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P378837	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P379223	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P379046	
	SM 5310 B-2011	Organic Carbon	4.9		mg C/L	P378685	
2155238	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P378451	

Sample Location: Gulf of Mexico Pasco

Collection Date/Time: 02/05/2020 14:15

Field ID: G5SW0159

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2155224	EPA 180.1 Rev. 2.0	Turbidity	0.50		NTU	P378460	
	EPA 300.0 Rev. 2.1	Bromide	35		mg Br/L	P378844	
	SM 2320 B-2011	Total Alkalinity	158	A	mg CaCO3/L	P378743	
	SM 2540 D-2011	TSS	3	U	mg/L	P379043	
	SM 4500 F-C-2011	Fluoride	0.64		mg F/L	P378746	
2155227	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P378887	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P379026	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P379223	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P378818	
	SM 5310 B-2011	Organic Carbon	4.4		mg C/L	P378685	
2155230	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P378451	
2155295	EPA 8321B	2,4-D	0.0020	U	ug/L	P378510	
		Acesulfame K**	0.10	U	ug/L	P378544	MS
		AMPA**	0.10	UJ	ug/L	P378544	SUR
		Sucralose**	0.071		ug/L	P378544	
		Acetaminophen**	0.0080	U	ug/L	P378510	
		Acetamiprid**	0.0020	U	ug/L	P378510	
		Endothall**	0.25	U	ug/L	P378544	
		Glufosinate**	0.10	UJ	ug/L	P378544	SUR
		Glyphosate**	0.10	UJ	ug/L	P378544	SUR
		Afidopyropen**	0.0020	UJ	ug/L	P378510	
		Bentazon	0.0015	I	ug/L	P378510	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378510	
		Carbamazepine**	8.0E-04	U	ug/L	P378510	
		Clothianidin**	0.0020	U	ug/L	P378510	
		Dinotefuran**	0.0020	U	ug/L	P378510	
		Diuron	0.0020	U	ug/L	P378510	
		Fenuron	0.016	U	ug/L	P378510	
		Fluridone**	8.0E-04	U	ug/L	P378510	
		Imazapyr**	0.0040	U	ug/L	P378510	
		Hydrocodone**	0.0020	U	ug/L	P378510	
		Ibuprofen**	0.020	U	ug/L	P378510	
		Imidacloprid	0.0020	U	ug/L	P378510	
		Linuron	0.0040	U	ug/L	P378510	
		Mandestrobin**	0.0020	UJ	ug/L	P378510	
		MCP	0.0020	U	ug/L	P378510	
		Naproxen**	0.0080	U	ug/L	P378510	
		Primidone**	0.0040	U	ug/L	P378510	
		Pyraclostrobin**	0.0020	U	ug/L	P378510	
		Thiamethoxam**	0.0020	U	ug/L	P378510	
		Tolfenpyrad**	0.0020	U	ug/L	P378510	
		Triclopyr**	0.0040	U	ug/L	P378510	

Field ID: G5SW0159

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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. Results confirmed in re-analysis.
EPA 8321B: Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.
EPA 8321B: Results confirmed.

Sample Location: Gulf of Mexico Pasco

Collection Date/Time: 02/05/2020 14:20

Field ID: G5SW0159_DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2155225	EPA 180.1 Rev. 2.0	Turbidity	0.55		NTU	P378460	
	EPA 300.0 Rev. 2.1	Bromide	35		mg Br/L	P378844	
	SM 2320 B-2011	Total Alkalinity	157		mg CaCO3/L	P378743	
	SM 2540 D-2011	TSS	3	U	mg/L	P379043	
	SM 4500 F-C-2011	Fluoride	0.64		mg F/L	P378746	
2155228	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P378887	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P379026	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P379223	
	EPA 365.1 Rev. 2.0	Total-P	0.007	I	mg P/L	P378818	
	SM 5310 B-2011	Organic Carbon	4.3		mg C/L	P378685	
2155231	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P378451	
2155296	EPA 8321B	2,4-D	0.0026	I	ug/L	P378510	
		Acesulfame K**	0.10	U	ug/L	P378544	MS
		AMPA**	0.10	UJ	ug/L	P378544	SUR
		Sucralose**	0.036	I	ug/L	P378544	
		Acetaminophen**	0.0080	U	ug/L	P378510	
		Acetamiprid**	0.0020	U	ug/L	P378510	
		Endothall**	0.25	U	ug/L	P378544	
		Glufosinate**	0.10	UJ	ug/L	P378544	SUR
		Glyphosate**	0.10	UJ	ug/L	P378544	SUR
		Afidopyropen**	0.0020	UJ	ug/L	P378510	
		Bentazon	0.0017	I	ug/L	P378510	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378510	
		Carbamazepine**	8.0E-04	U	ug/L	P378510	
		Clothianidin**	0.0020	U	ug/L	P378510	
		Dinotefuran**	0.0020	U	ug/L	P378510	
		Diuron	0.0020	U	ug/L	P378510	
		Fenuron	0.016	U	ug/L	P378510	
		Fluridone**	8.0E-04	U	ug/L	P378510	
		Imazapyr**	0.0040	U	ug/L	P378510	
		Hydrocodone**	0.0020	U	ug/L	P378510	
		Ibuprofen**	0.020	U	ug/L	P378510	
		Imidacloprid	0.0020	U	ug/L	P378510	
		Linuron	0.0040	U	ug/L	P378510	
		Mandestrobin**	0.0020	UJ	ug/L	P378510	
		MCP	0.0020	U	ug/L	P378510	
		Naproxen**	0.0080	U	ug/L	P378510	
		Primidone**	0.0040	U	ug/L	P378510	
		Pyraclostrobin**	0.0020	U	ug/L	P378510	
		Thiamethoxam**	0.0020	U	ug/L	P378510	
		Tolfenpyrad**	0.0020	U	ug/L	P378510	
		Triclopyr**	0.0040	U	ug/L	P378510	

Field ID: G5SW0159_DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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. Results confirmed in re-analysis.
EPA 8321B: Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.
EPA 8321B: Results confirmed.

Sample Location: Field_Blank

Collection Date/Time: 02/05/2020 14:25

Field ID: FB 02052020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2155226	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P378460	
	EPA 300.0 Rev. 2.1	Bromide	0.013	U	mg Br/L	P378844	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P378558	
	SM 2540 D-2011	TSS	2	U	mg/L	P379039	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P378834	
2155229	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P379055	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P378758	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P379425	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P378817	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P378683	
2155232	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P378444	
2155297	EPA 8321B	2,4-D	0.0020	U	ug/L	P378510	
		Acesulfame K**	0.10	U	ug/L	P378544	MS
		AMPA**	0.10	U	ug/L	P378544	
		Sucralose**	0.010	U	ug/L	P378544	
		Acetaminophen**	0.0080	U	ug/L	P378510	
		Acetamiprid**	0.0020	U	ug/L	P378510	
		Endothall**	0.25	U	ug/L	P378544	
		Glufosinate**	0.10	U	ug/L	P378544	
		Glyphosate**	0.10	U	ug/L	P378544	
		Afidopyropen**	0.0020	UJ	ug/L	P378510	
		Bentazon	8.0E-04	U	ug/L	P378510	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378510	
		Carbamazepine**	8.0E-04	U	ug/L	P378510	
		Clothianidin**	0.0020	U	ug/L	P378510	
		Dinotefuran**	0.0020	U	ug/L	P378510	
		Diuron	0.0020	U	ug/L	P378510	
		Fenuron	0.016	U	ug/L	P378510	
		Fluridone**	8.0E-04	U	ug/L	P378510	
		Imazapyr**	0.0040	U	ug/L	P378510	
		Hydrocodone**	0.0020	U	ug/L	P378510	
		Ibuprofen**	0.020	U	ug/L	P378510	
		Imidacloprid	0.0020	U	ug/L	P378510	
		Linuron	0.0040	U	ug/L	P378510	
		Mandestrobin**	0.0020	UJ	ug/L	P378510	
		MCP	0.0020	U	ug/L	P378510	
		Naproxen**	0.0080	U	ug/L	P378510	
		Primidone**	0.0040	U	ug/L	P378510	
		Pyraclostrobin**	0.0020	U	ug/L	P378510	
		Thiamethoxam**	0.0020	U	ug/L	P378510	
		Tolfenpyrad**	0.0020	U	ug/L	P378510	
		Triclopyr**	0.0040	U	ug/L	P378510	

Field ID: FB 02052020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378460

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378844

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378887

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379055

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379057

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378758

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378837

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379026

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379223

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379425

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378817

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378818

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379046

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378444

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378451

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

Reference Method: EPA 8321B
Batch ID: P378510

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: P378510

Component	Result	Code	Units
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCP	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: P378544

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 2320 B-2011
Batch ID: P378558

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

Reference Method: SM 2320 B-2011
Batch ID: P378743

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

Reference Method: SM 2540 D-2011
Batch ID: P379039

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P379043

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P378746

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-2011
Batch ID: P378834

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P378835

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P378683

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

Reference Method: SM 5310 B-2011
Batch ID: P378685

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: P378844

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378887

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379055

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379057

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378758

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378837

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379026

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379223

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379425

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P378817

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P378818

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379046

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P378444

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P378451

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

Reference Method: EPA 8321B
 Batch ID: P378510

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	142		P	30 - 160
Acetaminophen	84.7		P	30 - 160
Acetamiprid	77.6		P	30 - 160
Afidopyropen	85.3		P	30 - 160
Bentazon	75.0		P	30 - 160
Benzovindiflupyr	76.7		P	30 - 160
Carbamazepine	88.8		P	30 - 160
Clothianidin	82.4		P	30 - 160
Dinotefuran	80.6		P	30 - 160
Diuron	85.3		P	30 - 160
Fenuron	101		P	30 - 160
Fluridone	92.1		P	30 - 160
Hydrocodone	86.9		P	30 - 160
Ibuprofen	86.7		P	30 - 160
Imazapyr	86.4		P	30 - 160
Imidacloprid	88.8		P	30 - 160
Linuron	69.3		P	30 - 160
Mandestrobin	83.5		P	30 - 160
MCPP	139		P	30 - 160
Naproxen	104		P	30 - 160
Primidone	78.4		P	30 - 160
Pyraclostrobin	73.6		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P378510

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Thiamethoxam	84.4		P	30 - 160
Tolfenpyrad	48.9		P	30 - 160
Triclopyr	110		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P378544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	87.8		P	40 - 150
AMPA	88.7		P	40 - 150
Endothall	96.9		P	40 - 150
Glufosinate	137		P	40 - 150
Glyphosate	115		P	40 - 140
Sucralose	99.1		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P378558

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

Reference Method: SM 2320 B-2011
Batch ID: P378743

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P378746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	92 - 103

Reference Method: SM 4500 F-C-2011
Batch ID: P378834

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	92 - 103

Reference Method: SM 4500 F-C-2011
Batch ID: P378835

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P378683

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P378685

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154804	Bromide	101		P	90 - 110
2155120	Bromide	100	99.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154621	Ammonia-N	105	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155011	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379057

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155236	Ammonia-N	104	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378758

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155121	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378837

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155236	Kjeldahl Nitrogen	99.6	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2156503	Kjeldahl Nitrogen	95.6	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379223

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155075	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379425

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155214	NO2NO3-N	100	99.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378817

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155058	Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P378818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155227	Total-P	102	97.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154453	Total-P	96.5	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378444

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155031	O-Phosphate-P	95.4	95.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155128	O-Phosphate-P	95.9	96.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P378510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155318	2,4-D	144	145	P/P	30 - 160
2155318	Acetaminophen	83.1	95.2	P/P	30 - 160
2155318	Acetamiprid	92.6	88.9	P/P	30 - 160
2155318	Afidopyropen	92.8	84.1	P/P	30 - 160
2155318	Benzovindiflupyr	75.8	77.5	P/P	30 - 160
2155318	Carbamazepine	82.8	74.9	P/P	30 - 160
2155318	Clothianidin	102	100	P/P	30 - 160
2155318	Dinotefuran	99.9	100	P/P	30 - 160
2155318	Diuron	77.0	73.1	P/P	30 - 160
2155318	Fenuron	91.6	90.0	P/P	30 - 160
2155318	Fluridone	74.7	84.1	P/P	30 - 160
2155318	Hydrocodone	100	100	P/P	30 - 160
2155318	Ibuprofen	81.6	85.4	P/P	30 - 160
2155318	Imazapyr	106	113	P/P	30 - 160
2155318	Imidacloprid	137	132	P/P	30 - 160
2155318	Linuron	59.4	51.7	P/P	30 - 160
2155318	Mandestrobin	82.1	83.6	P/P	30 - 160
2155318	MCCP	117	136	P/P	30 - 160
2155318	Naproxen	108	103	P/P	30 - 160
2155318	Primidone	87.0	87.2	P/P	30 - 160
2155318	Pyraclostrobin	78.9	80.1	P/P	30 - 160
2155318	Thiamethoxam	122	126	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P378510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155318	Tolfenpyrad	51.4	52.7	P/P	30 - 160
2155318	Triclopyr	111	109	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P378544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2154942	Acesulfame K	36.5	40.2	F/P	40 - 150
2154942	AMPA	102	91.2	P/P	40 - 150
2154942	Endothall	92.8	95.5	P/P	40 - 150
2154942	Glufosinate	121	125	P/P	40 - 150
2154942	Glyphosate	112	118	P/P	40 - 140
2154942	Sucralose	57.2	60.4	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P378746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155130	Fluoride	98.6	99.2	P/P	89 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P378834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155347	Fluoride	98.0	97.4	P/P	89 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P378835

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155233	Fluoride	96.7	97.3	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P378683

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155131	Organic Carbon	101	99.9	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P378685

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2155236	Organic Carbon	98.6	98.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155233	Turbidity	1.11	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P378844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155120	Bromide	0.584	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P378887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154621	Ammonia-N	0.265	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155011	Ammonia-N	0.387	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155236	Ammonia-N	2.89	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378758

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155121	Kjeldahl Nitrogen	0.134	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P378837

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155236	Kjeldahl Nitrogen	1.95	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2156503	Kjeldahl Nitrogen	5.15	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P379223

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155075	NO2NO3-N	0.425	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P379425

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155214	NO2NO3-N	0.409	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P378817

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155058	Total-P	1.24	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P378818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155227	Total-P	4.85	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P379046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154453	Total-P	1.62	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P378444

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155031	O-Phosphate-P	0.364	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P378451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155128	O-Phosphate-P	0.145	Spike	P	0 - 20

Reference Method: EPA 8321B
 Batch ID: P378510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155318	2,4-D	0.649	Spike	P	0 - 30
2155318	Acetaminophen	9.93	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P378510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155318	Acetamiprid	4.06	Spike	P	0 - 30
2155318	Afidopyropen	9.86	Spike	P	0 - 30
2155318	Bentazon	6.15	Spike	P	0 - 30
2155318	Benzovindiflupyr	2.30	Spike	P	0 - 30
2155318	Carbamazepine	6.82	Spike	P	0 - 30
2155318	Clothianidin	1.74	Spike	P	0 - 30
2155318	Dinotefuran	0.224	Spike	P	0 - 30
2155318	Diuron	4.68	Spike	P	0 - 30
2155318	Fenuron	1.78	Spike	P	0 - 30
2155318	Fluridone	9.87	Spike	P	0 - 30
2155318	Hydrocodone	0.161	Spike	P	0 - 30
2155318	Ibuprofen	4.51	Spike	P	0 - 30
2155318	Imazapyr	3.86	Spike	P	0 - 30
2155318	Imidacloprid	4.14	Spike	P	0 - 30
2155318	Linuron	13.8	Spike	P	0 - 30
2155318	Mandestrobin	1.78	Spike	P	0 - 30
2155318	MCPP	15.7	Spike	P	0 - 30
2155318	Naproxen	4.60	Spike	P	0 - 30
2155318	Primidone	0.257	Spike	P	0 - 30
2155318	Pyraclostrobin	1.46	Spike	P	0 - 30
2155318	Thiamethoxam	3.12	Spike	P	0 - 30
2155318	Tolfenpyrad	2.40	Spike	P	0 - 30
2155318	Triclopyr	1.80	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P378544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2154942	Acesulfame K	9.74	Spike	P	0 - 30
2154942	AMPA	11.2	Spike	P	0 - 30
2154942	Endothall	2.94	Spike	P	0 - 30
2154942	Glufosinate	3.12	Spike	P	0 - 30
2154942	Glyphosate	5.30	Spike	P	0 - 30
2154942	Sucralose	4.99	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P378558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155347	Total Alkalinity	0.0387	Sample	P	0 - 2.8

Reference Method: SM 2320 B-2011
Batch ID: P378743

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155224	Total Alkalinity	0.0612	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2540 D-2011
 Batch ID: P379043

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155126	TSS	0.0	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P378746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155130	Fluoride	0.506	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-2011
 Batch ID: P378834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155347	Fluoride	0.514	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-2011
 Batch ID: P378835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155233	Fluoride	0.474	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
 Batch ID: P378683

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155131	Organic Carbon	0.592	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
 Batch ID: P378685

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2155236	Organic Carbon	0.0451	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2155295
Field Sample ID: G5SW0159

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	98.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.9	P	30 - 160
EPA 8321B	Diuron-d6	72.8	P	30 - 160
EPA 8321B	Endothall-d6	32.4	P	30 - 160
EPA 8321B	Endothall-d6	32.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Ibuprofen-d3	102	P	30 - 160
EPA 8321B	Primidone-d5	91.1	P	30 - 160
EPA 8321B	Sucralose-d6	63.3	P	30 - 160
EPA 8321B	Sucralose-d6	63.3	P	30 - 160

Lab Sample ID: 2155296
Field Sample ID: G5SW0159_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	95.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.0	P	30 - 160
EPA 8321B	Diuron-d6	77.9	P	30 - 160
EPA 8321B	Endothall-d6	30.9	P	30 - 160
EPA 8321B	Endothall-d6	30.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Ibuprofen-d3	96.1	P	30 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160
EPA 8321B	Sucralose-d6	70.8	P	30 - 160
EPA 8321B	Sucralose-d6	70.8	P	30 - 160

Lab Sample ID: 2155297
Field Sample ID: FB 02052020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	107	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	104	P	30 - 160
EPA 8321B	Diuron-d6	85.9	P	30 - 160
EPA 8321B	Endothall-d6	95.2	P	30 - 160
EPA 8321B	Endothall-d6	95.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	74.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	104	P	30 - 160
EPA 8321B	Primidone-d5	102	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97361

Included Lab Sample IDs: 2155230, 2155231, 2155232, 2155237, 2155238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	96.9	P/P	90 - 110
O-Phosphate-P	99.9	98.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A97366

Included Lab Sample IDs: 2155224, 2155225, 2155226, 2155233, 2155234

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

Reference Method: SM 2320 B-2011

Run ID: A97407

Included Lab Sample IDs: 2155226

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

Reference Method: SM 5310 B-2011

Run ID: A97440

Included Lab Sample IDs: 2155227, 2155228, 2155229, 2155235, 2155236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	102	P/P	90 - 110
Organic Carbon	98.8	98.2	P/P	90 - 110
Organic Carbon	99.4	98.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A97465

Included Lab Sample IDs: 2155224, 2155225, 2155233, 2155234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A97465

Included Lab Sample IDs: 2155224, 2155225, 2155234

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	95.4	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A97496

Included Lab Sample IDs: 2155226, 2155233

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97501

Included Lab Sample IDs: 2155224, 2155225, 2155226, 2155233, 2155234

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97523

Included Lab Sample IDs: 2155229

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97525

Included Lab Sample IDs: 2155227, 2155228, 2155235

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

Reference Method: EPA 8321B

Run ID: A97533

Included Lab Sample IDs: 2155295, 2155296, 2155297

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.7	96.5	P/P	50 - 150
Acetaminophen	86.4	112	P/P	60 - 160
Acetamiprid	88.4	107	P/P	50 - 150
Afidopyropen	103	105	P/P	50 - 150
Bentazon	110	105	P/P	50 - 160
Benzovindiflupyr	105	102	P/P	50 - 150
Carbamazepine	105	110	P/P	60 - 150
Clothianidin	108	106	P/P	60 - 150
Dinotefuran	101	109	P/P	50 - 150
Diuron	89.7	121	P/P	60 - 150
Fenuron	88.0	105	P/P	60 - 150
Fluridone	103	99.4	P/P	60 - 160
Hydrocodone	104	106	P/P	60 - 150
Ibuprofen	77.9	106	P/P	50 - 160
Imazapyr	96.1	96.3	P/P	50 - 150
Imidacloprid	102	115	P/P	60 - 150
Linuron	91.1	102	P/P	60 - 150
Mandestrobin	105	103	P/P	50 - 150
MCPP	100	90.7	P/P	50 - 150
Naproxen	110	116	P/P	50 - 160
Primidone	91.5	98.4	P/P	60 - 150
Pyraclostrobin	102	104	P/P	60 - 150
Thiamethoxam	104	108	P/P	50 - 150
Tolfenpyrad	92.8	99.2	P/P	60 - 150
Triclopyr	92.0	91.4	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97563

Included Lab Sample IDs: 2155236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	109	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97585

Included Lab Sample IDs: 2155229, 2155236

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97594

Included Lab Sample IDs: 2155227, 2155228, 2155229, 2155235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	100	P/P	90 - 110
Total-P	99.2	99.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A97597

Included Lab Sample IDs: 2155295, 2155296, 2155297

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	88.6	P/P	60 - 160
Glufosinate	136	123	P/P	60 - 160
Glyphosate	112	106	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A97601

Included Lab Sample IDs: 2155295, 2155296, 2155297

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	109	93.0	P/P	60 - 160
Acesulfame K	93.0	68.8	P/P	60 - 160
Endothall	93.9	96.8	P/P	60 - 160
Endothall	95.0	93.9	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97615

Included Lab Sample IDs: 2155227, 2155228, 2155235

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.8	97.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97623

Included Lab Sample IDs: 2155227, 2155228, 2155235, 2155236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97643

Included Lab Sample IDs: 2155236

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97741

Included Lab Sample IDs: 2155229

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

Reference Method: EPA 8321B

Run ID: A97805

Included Lab Sample IDs: 2155295, 2155296, 2155297

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	108	P/P	60 - 160
Sucralose	94.0	103	P/P	60 - 160

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.11	
EPA 300.0 Rev. 2.1	Bromide	102	100	99.7	101			0.584
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	105	105				0.265
	Ammonia-N	99.2	100	100				0.387
	Ammonia-N	101	104	108				2.89
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.8	102	102				0.134
	Kjeldahl Nitrogen	103	99.6	102				1.95
	Kjeldahl Nitrogen	104	95.6	101				5.15
EPA 353.2 Rev. 2.0	NO2NO3-N	102	103	103				0.425
	NO2NO3-N	100	100	99.8				0.409
EPA 365.1 Rev. 2.0	Total-P	104	105	103				1.24
	Total-P	108	102	97.1				4.85
	Total-P	108	96.5	98.1				1.62
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9	95.4	95.9				0.364
	O-Phosphate-P	101	95.9	96.1				0.145
EPA 8321B	2,4-D	142	144	145				0.649
	Acesulfame K	87.8	36.5	40.2				9.74
	Acetaminophen	84.7	83.1	95.2				9.93
	Acetamiprid	77.6	92.6	88.9				4.06
	Afidopyropen	85.3	92.8	84.1				9.86
	AMPA	88.7	102	91.2				11.2
	Bentazon	75.0						6.15
	Benzovindiflupyr	76.7	75.8	77.5				2.30
	Carbamazepine	88.8	82.8	74.9				6.82
	Clothianidin	82.4	102	100				1.74
	Dinotefuran	80.6	99.9	100				0.224
	Diuron	85.3	77.0	73.1				4.68
	Endothall	96.9	92.8	95.5				2.94
	Fenuron	101	91.6	90.0				1.78
	Fluridone	92.1	74.7	84.1				9.87
	Glufosinate	137	121	125				3.12
	Glyphosate	115	112	118				5.30
	Hydrocodone	86.9	100	100				0.161
	Ibuprofen	86.7	81.6	85.4				4.51
	Imazapyr	86.4	106	113				3.86
	Imidacloprid	88.8	137	132				4.14
	Linuron	69.3	59.4	51.7				13.8
	Mandestrobin	83.5	82.1	83.6				1.78
	MCPP	139	117	136				15.7
	Naproxen	104	108	103				4.60
	Primidone	78.4	87.0	87.2				0.257
	Pyraclostrobin	73.6	78.9	80.1				1.46
	Sucralose	99.1	60.4	57.2				4.99
	Thiamethoxam	84.4	122	126				3.12
	Tolfenpyrad	48.9	51.4	52.7				2.40
	Triclopyr	110	111	109				1.80
SM 2320 B-2011	Total Alkalinity	103					0.0387	
	Total Alkalinity	102					0.0612	
SM 2540 D-2011	TSS						0.0	
SM 4500 F-C-2011	Fluoride	98.5	98.6	99.2				0.506
	Fluoride	98.2	98.0	97.4				0.514
	Fluoride	98.2	96.7	97.3				0.474
SM 5310 B-2011	Organic Carbon	98.0	101	99.9				0.592
	Organic Carbon	98.0	98.6	98.7				0.0451

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2155224, 2155225, 2155226, 2155233, 2155234
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2155224, 2155225, 2155226, 2155233, 2155234
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2155227, 2155228, 2155229, 2155235, 2155236
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2155227, 2155228, 2155229, 2155235, 2155236
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2155227, 2155228, 2155229, 2155235, 2155236
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2155227, 2155228, 2155229, 2155235, 2155236
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2155230, 2155231, 2155232, 2155237, 2155238
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2155295, 2155296, 2155297
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2155295, 2155296, 2155297
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2155224, 2155225, 2155226, 2155233, 2155234
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2155224, 2155225, 2155226, 2155233, 2155234
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2155224, 2155225, 2155226, 2155233, 2155234
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2155227, 2155228, 2155229, 2155235, 2155236

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	02/06/2020			02/06/2020 16:32	Yen Ta	2155224, 2155225, 2155226, 2155233, 2155234
EPA 300.0 Rev. 2.1	02/06/2020			02/12/2020 09:52	Elliott Rodriguez	2155224
	02/06/2020			02/12/2020 10:09	Elliott Rodriguez	2155225
	02/06/2020			02/12/2020 10:27	Elliott Rodriguez	2155226
	02/06/2020			02/12/2020 10:44	Elliott Rodriguez	2155233
	02/06/2020			02/12/2020 11:01	Elliott Rodriguez	2155234
EPA 350.1 Rev. 2.0	02/06/2020			02/13/2020 11:23	Ping Hua	2155227
	02/06/2020			02/13/2020 11:24	Ping Hua	2155228
	02/06/2020			02/13/2020 11:26	Ping Hua	2155235
	02/06/2020			02/14/2020 10:53	Ping Hua	2155229
	02/06/2020			02/14/2020 11:31	Ping Hua	2155236
EPA 351.2 Rev. 2.0	02/06/2020	02/12/2020 12:30	Elliott Rodriguez	02/13/2020 14:14	Julia Storbeck	2155229
	02/06/2020	02/13/2020 10:45	Elliott Rodriguez	02/14/2020 13:13	Virginia P. Brown	2155236
	02/06/2020	02/17/2020 15:05	Sima Feizi	02/18/2020 12:16	Jhamieka S. Greenwood	2155227
	02/06/2020	02/17/2020 15:05	Sima Feizi	02/18/2020 12:17	Jhamieka S. Greenwood	2155228
	02/06/2020	02/17/2020 15:05	Sima Feizi	02/18/2020 12:19	Jhamieka S. Greenwood	2155235
EPA 353.2 Rev. 2.0	02/06/2020			02/18/2020 12:48	Beverly Y. Sanders	2155227
	02/06/2020			02/18/2020 12:50	Beverly Y. Sanders	2155228
	02/06/2020			02/18/2020 12:51	Beverly Y. Sanders	2155235
	02/06/2020			02/18/2020 12:52	Beverly Y. Sanders	2155236
	02/06/2020			02/20/2020 10:19	Beverly Y. Sanders	2155229
EPA 365.1 Rev. 2.0	02/06/2020	02/12/2020 14:34	Yen Ta	02/17/2020 15:56	Benjamin T. Nordmann	2155229
	02/06/2020	02/12/2020 14:34	Yen Ta	02/17/2020 16:10	Benjamin T. Nordmann	2155227
	02/06/2020	02/12/2020 14:34	Yen Ta	02/17/2020 16:11	Benjamin T. Nordmann	2155228
	02/06/2020	02/12/2020 14:34	Yen Ta	02/17/2020 16:12	Benjamin T. Nordmann	2155235
	02/06/2020	02/17/2020 17:00	Yen Ta	02/18/2020 17:01	Benjamin T. Nordmann	2155236
EPA 365.1 Rev. 2.0 dissolved	02/06/2020			02/06/2020 14:54	Carlos Miranda	2155230, 2155231
	02/06/2020			02/06/2020 14:55	Carlos Miranda	2155232
	02/06/2020			02/06/2020 15:14	Carlos Miranda	2155237
	02/06/2020			02/06/2020 15:15	Carlos Miranda	2155238
EPA 8321B	02/06/2020	02/10/2020 11:45	Rebecca Ware	02/10/2020 16:55	Rebecca Ware	2155295
	02/06/2020	02/10/2020 11:45	Rebecca Ware	02/10/2020 17:05	Rebecca Ware	2155296
	02/06/2020	02/10/2020 11:45	Rebecca Ware	02/10/2020 17:16	Rebecca Ware	2155297
	02/06/2020	02/10/2020 11:45	Rebecca Ware	02/11/2020 11:35	Rebecca Ware	2155297
	02/06/2020	02/10/2020 11:45	Rebecca Ware	02/11/2020 13:27	Rebecca Ware	2155295
	02/06/2020	02/10/2020 11:45	Rebecca Ware	02/11/2020 13:41	Rebecca Ware	2155296
	02/06/2020	02/10/2020 11:45	Rebecca Ware	02/22/2020 12:16	Rebecca Ware	2155297
	02/06/2020	02/10/2020 11:45	Rebecca Ware	02/22/2020 14:16	Rebecca Ware	2155295
	02/06/2020	02/10/2020 11:45	Rebecca Ware	02/22/2020 14:30	Rebecca Ware	2155296

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	02/06/2020	02/11/2020 10:00	Hoor Shaik	02/14/2020 08:06	Juyoung Kim	2155295
	02/06/2020	02/11/2020 10:00	Hoor Shaik	02/14/2020 09:16	Juyoung Kim	2155297
	02/06/2020	02/11/2020 10:00	Hoor Shaik	02/14/2020 11:34	Juyoung Kim	2155296
SM 2320 B-2011	02/06/2020			02/08/2020 15:19	Dale L. Simmons	2155226
	02/06/2020			02/11/2020 00:09	Dale L. Simmons	2155224
	02/06/2020			02/11/2020 00:58	Dale L. Simmons	2155225
	02/06/2020			02/11/2020 01:13	Dale L. Simmons	2155233
	02/06/2020			02/11/2020 01:25	Dale L. Simmons	2155234
SM 2540 D-2011	02/06/2020			02/11/2020 15:30	Sima Feizi	2155224, 2155225, 2155226, 2155233, 2155234
SM 4500 F-C-2011	02/06/2020			02/10/2020 23:35	Dale L. Simmons	2155224
	02/06/2020			02/10/2020 23:39	Dale L. Simmons	2155225
	02/06/2020			02/10/2020 23:47	Dale L. Simmons	2155234
	02/06/2020			02/13/2020 00:14	Dale L. Simmons	2155226
	02/06/2020			02/13/2020 02:24	Dale L. Simmons	2155233
SM 5310 B-2011	02/06/2020			02/11/2020 00:08	Madeline Funaro	2155229
	02/06/2020			02/11/2020 07:16	Madeline Funaro	2155236
	02/06/2020			02/11/2020 09:10	Madeline Funaro	2155227
	02/06/2020			02/11/2020 09:22	Madeline Funaro	2155228
	02/06/2020			02/11/2020 09:34	Madeline Funaro	2155235