

Chemical Analysis Report

NE-DIST-2020-03-26-01

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

Event Description: **LSJR West 2020**
Request ID: **RQ-2020-03-23-08**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 15-APR-2020 14:57

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: Metals, 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: Yellow River CR at SR 228

Collection Date/Time: 03/25/2020 09:20

Field ID: 20030549

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2168117	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P381945	
		Sulfate	2.6		mg SO4/L	P381949	
	SM 2320 B-2011	Total Alkalinity	41		mg CaCO3/L	P381658	
	SM 2540 C-2011	TDS	101		mg/L	P381718	
	SM 2540 D-2011	TSS	3	I	mg/L	P381711	
	SM 4500 F-C-2011	Fluoride	0.063	I J	mg F/L	P381822	RPD
2168118	EPA 350.1 Rev. 2.0	Ammonia-N	0.043		mg N/L	P381442	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.51		mg N/L	P381598	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P381691	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P381539	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P381644	
2168129	EPA 200.7 Rev. 4.4	Barium	28.9		ug/L	P381478	
		Calcium	15.4		mg/L	P381478	
		Iron	1.44E+03		ug/L	P381478	
		Magnesium	2.93		mg/L	P381478	
		Potassium	0.82	I	mg/L	P381478	
		Sodium	8.8		mg/L	P381478	
		Zinc	5.0	U	ug/L	P381478	
	EPA 200.8 Rev. 5.4	Aluminum	135		ug/L	P381478	
		Antimony	0.050	U	ug/L	P381478	
		Arsenic	0.40		ug/L	P381478	
		Boron**	17.9		ug/L	P381478	
		Cadmium	0.020	U	ug/L	P381478	
		Chromium	0.54	I	ug/L	P381478	
		Copper	0.84		ug/L	P381478	
		Lead	0.63		ug/L	P381478	
		Nickel	0.62	I	ug/L	P381478	
		Selenium	0.20	U	ug/L	P381478	
		Silver	0.010	U	ug/L	P381478	
		Thallium	0.10	U	ug/L	P381478	
	SM 2340B	Hardness	50.4		mg/L	P381478	

Ref. Method and Comment:

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

SM 4500 F-C-2011: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Trout River at Garden St

Collection Date/Time: 03/25/2020 10:10

Field ID: 20030751

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2168115	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P381945	
		Sulfate	12		mg SO4/L	P381949	
	SM 2320 B-2011	Total Alkalinity	21		mg CaCO3/L	P381658	
	SM 2540 C-2011	TDS	100		mg/L	P381718	
	SM 2540 D-2011	TSS	2	U	mg/L	P381711	
	SM 4500 F-C-2011	Fluoride	0.044	I	mg F/L	P381823	
2168116	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P381442	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P381598	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.076		mg N/L	P381691	
	EPA 365.1 Rev. 2.0	Total-P	0.053		mg P/L	P381539	
	SM 5310 B-2011	Organic Carbon	8.8		mg C/L	P381644	
2168125	EPA 8321B	2,4-D	0.0020	U	ug/L	P381314	
		Acesulfame K**	0.10	U	ug/L	P381172	
		AMPA**	0.10	U	ug/L	P381172	
		Sucralose**	0.18		ug/L	P381172	
		Acetaminophen**	0.0080	U	ug/L	P381314	
		Acetamiprid**	0.0020	U	ug/L	P381314	
		Endothall**	0.25	U	ug/L	P381172	
		Glufosinate**	0.10	U	ug/L	P381172	
		Glyphosate**	0.30	I	ug/L	P381172	
		Afidopyropen**	0.0020	UJ	ug/L	P381314	
		Bentazon	8.0E-04	U	ug/L	P381314	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P381314	
		Carbamazepine**	8.0E-04	U	ug/L	P381314	
		Clothianidin**	0.0020	U	ug/L	P381314	
		Dinotefuran**	0.0020	U	ug/L	P381314	
		Diuron	0.0020	U	ug/L	P381314	
		Fenuron	0.016	U	ug/L	P381314	
		Fluridone**	8.0E-04	U	ug/L	P381314	
		Imazapyr**	0.081		ug/L	P381314	
		Hydrocodone**	0.0020	U	ug/L	P381314	
		Ibuprofen**	0.020	U	ug/L	P381314	
		Imidacloprid	0.0020	U	ug/L	P381314	
		Linuron	0.0040	U	ug/L	P381314	
		Mandestrobin**	0.0020	UJ	ug/L	P381314	
		MCP	0.0020	U	ug/L	P381314	
		Naproxen**	0.0080	U	ug/L	P381314	
		Primidone**	0.0040	U	ug/L	P381314	
		Pyraclostrobin**	0.0020	U	ug/L	P381314	
		Thiamethoxam**	0.0020	U	ug/L	P381314	
		Tolfenpyrad**	0.0020	U	ug/L	P381314	
		Triclopyr**	0.0040	U	ug/L	P381314	
2168128	EPA 200.7 Rev. 4.4	Barium	37.0		ug/L	P381478	
		Calcium	10.2		mg/L	P381478	

Field ID: 20030751

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2168128	EPA 200.7 Rev. 4.4	Iron	540		ug/L	P381478	
		Magnesium	2.86		mg/L	P381478	
		Potassium	1.7		mg/L	P381478	
		Sodium	11.7		mg/L	P381478	
		Zinc	5.0	I	ug/L	P381478	
	EPA 200.8 Rev. 5.4	Aluminum	190		ug/L	P381478	
		Antimony	0.050	U	ug/L	P381478	
		Arsenic	0.38		ug/L	P381478	
		Boron**	28.4		ug/L	P381478	
		Cadmium	0.020	U	ug/L	P381478	
		Chromium	0.40	U	ug/L	P381478	
		Copper	0.40	U	ug/L	P381478	
		Lead	0.21	I	ug/L	P381478	
		Nickel	0.50	U	ug/L	P381478	
		Selenium	0.20	U	ug/L	P381478	
		Silver	0.010	U	ug/L	P381478	
		Thallium	0.10	U	ug/L	P381478	
	SM 2340B	Hardness	37.3		mg/L	P381478	

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.

Sample Location: Wills BR at Watergate rd.

Collection Date/Time: 03/25/2020 11:00

Field ID: G2NE1183

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2168119	EPA 300.0 Rev. 2.1	Chloride	490		mg Cl/L	P381945	
		Sulfate	84		mg SO4/L	P381949	
	SM 2320 B-2011	Total Alkalinity	101		mg CaCO3/L	P381658	
	SM 2540 C-2011	TDS	1.03E+03		mg/L	P381718	
	SM 2540 D-2011	TSS	4	I	mg/L	P381711	
	SM 4500 F-C-2011	Fluoride	0.16		mg F/L	P381822	RPD
2168120	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P381443	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P381598	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P381691	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P381539	
	SM 5310 B-2011	Organic Carbon	9.5		mg C/L	P381644	
2168126	EPA 8321B	2,4-D	0.21		ug/L	P381314	
		Acesulfame K**	0.10	U	ug/L	P381172	
		AMPA**	0.14	I	ug/L	P381172	
		Sucralose**	0.95		ug/L	P381172	
		Acetaminophen**	0.0080	U	ug/L	P381314	
		Acetamiprid**	0.0020	U	ug/L	P381314	
		Endothall**	0.25	U	ug/L	P381172	
		Glufosinate**	0.10	U	ug/L	P381172	
		Glyphosate**	0.10	U	ug/L	P381172	
		Afidopyropen**	0.0020	UJ	ug/L	P381314	
		Bentazon	0.014		ug/L	P381314	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P381314	
		Carbamazepine**	0.0017	I	ug/L	P381314	
		Clothianidin**	0.0020	U	ug/L	P381314	
		Dinotefuran**	0.0024	I	ug/L	P381314	
		Diuron	0.073		ug/L	P381314	
		Fenuron	0.016	U	ug/L	P381314	
		Fluridone**	0.012		ug/L	P381314	
		Imazapyr**	0.30		ug/L	P381314	
		Hydrocodone**	0.0020	U	ug/L	P381314	
		Ibuprofen**	0.020	U	ug/L	P381314	
		Imidacloprid	0.011		ug/L	P381314	
		Linuron	0.0040	U	ug/L	P381314	
		Mandestrobin**	0.0020	UJ	ug/L	P381314	
		MCP	0.0050	I	ug/L	P381314	
		Naproxen**	0.0080	U	ug/L	P381314	
		Primidone**	0.0080	I	ug/L	P381314	
		Pyraclostrobin**	0.0020	U	ug/L	P381314	
		Thiamethoxam**	0.0020	U	ug/L	P381314	
		Tolfenpyrad**	0.0020	U	ug/L	P381314	
		Triclopyr**	0.0040	U	ug/L	P381314	

Field ID: G2NE1183

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 C-2011: The reported result is consistent with the laboratory conductivity, 2010 umhos/cm.
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.

Sample Location: Wills BR at Watergate rd.

Collection Date/Time: 03/25/2020 11:05

Field ID: FB 03252020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2168121	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P381945	
		Sulfate	0.20	U	mg SO4/L	P381949	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P381658	
	SM 2540 C-2011	TDS	15	U	mg/L	P381714	
	SM 2540 D-2011	TSS	2	U	mg/L	P381707	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P381822	RPD
2168122	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P381443	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P381598	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381691	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P381539	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P381644	
2168127	EPA 8321B	2,4-D	0.0020	U	ug/L	P381314	
		Acesulfame K**	0.10	U	ug/L	P381172	
		AMPA**	0.10	U	ug/L	P381172	
		Sucralose**	0.010	U	ug/L	P381172	
		Acetaminophen**	0.0080	U	ug/L	P381314	
		Acetamiprid**	0.0020	U	ug/L	P381314	
		Endothall**	0.25	U	ug/L	P381172	
		Glufosinate**	0.10	U	ug/L	P381172	
		Glyphosate**	0.10	U	ug/L	P381172	
		Afidopyropen**	0.0020	UJ	ug/L	P381314	
		Bentazon	8.0E-04	U	ug/L	P381314	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P381314	
		Carbamazepine**	8.0E-04	U	ug/L	P381314	
		Clothianidin**	0.0020	U	ug/L	P381314	
		Dinotefuran**	0.0020	U	ug/L	P381314	
		Diuron	0.0020	U	ug/L	P381314	
		Fenuron	0.016	U	ug/L	P381314	
		Fluridone**	8.0E-04	U	ug/L	P381314	
		Imazapyr**	0.0040	U	ug/L	P381314	
		Hydrocodone**	0.0020	U	ug/L	P381314	
		Ibuprofen**	0.020	U	ug/L	P381314	
		Imidacloprid	0.0020	U	ug/L	P381314	
		Linuron	0.0040	U	ug/L	P381314	
		Mandestrobin**	0.0020	UJ	ug/L	P381314	
		MCPD	0.0020	U	ug/L	P381314	
		Naproxen**	0.0080	U	ug/L	P381314	
		Primidone**	0.0040	U	ug/L	P381314	
		Pyraclostrobin**	0.0020	U	ug/L	P381314	
		Thiamethoxam**	0.0020	U	ug/L	P381314	
		Tolfenpyrad**	0.0020	U	ug/L	P381314	
		Triclopyr**	0.0040	U	ug/L	P381314	
2168130	EPA 200.7 Rev. 4.4	Barium	1.0	U	ug/L	P381478	
		Calcium	0.075	U	mg/L	P381478	

Field ID: FB 03252020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2168130	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P381478	
		Magnesium	0.040	U	mg/L	P381478	
		Potassium	0.30	U	mg/L	P381478	
		Sodium	0.50	U	mg/L	P381478	
		Zinc	5.0	U	ug/L	P381478	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P381478	
		Antimony	0.050	U	ug/L	P381478	
		Arsenic	0.050	U	ug/L	P381478	
		Boron**	2.0	U	ug/L	P381478	
		Cadmium	0.020	U	ug/L	P381478	
		Chromium	0.40	U	ug/L	P381478	
		Copper	0.40	U	ug/L	P381478	
		Lead	0.20	U	ug/L	P381478	
		Nickel	0.50	U	ug/L	P381478	
		Selenium	0.20	U	ug/L	P381478	
		Silver	0.010	U	ug/L	P381478	
		Thallium	0.10	U	ug/L	P381478	
	SM 2340B	Hardness	0.35	U	mg/L	P381478	

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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P381478

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P381478

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381945

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381949

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381442

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381443

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381598

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381691

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381539

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

Reference Method: EPA 8321B
Batch ID: P381172

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

Reference Method: EPA 8321B
Batch ID: P381314

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P381314

Component	Result	Code	Units
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P381658

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 C-2011
Batch ID: P381714

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P381718

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P381707

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P381711

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P381822

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P381823

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P381644

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P381478

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	103		P	85 - 115
Calcium	101		P	85 - 115
Iron	104		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	101		P	85 - 115
Sodium	101		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P381478

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.0		P	85 - 115
Antimony	96.2		P	85 - 115
Arsenic	101		P	85 - 115
Boron	97.0		P	85 - 115
Cadmium	99.5		P	85 - 115
Chromium	101		P	85 - 115
Copper	102		P	85 - 115
Lead	99.9		P	85 - 115
Nickel	100		P	85 - 115
Selenium	98.7		P	85 - 115
Silver	102		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381945

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381949

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381442

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381443

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P381598

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: P381691

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P381539

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

Reference Method: EPA 8321B
 Batch ID: P381172

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	112		P	40 - 150
AMPA	109		P	40 - 150
Endothall	78.3		P	40 - 150
Glufosinate	112		P	40 - 150
Glyphosate	123		P	40 - 140
Sucralose	92.3		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P381314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	30 - 160
Acetaminophen	75.1		P	30 - 160
Acetamiprid	98.8		P	30 - 160
Afidopyropen	98.3		P	30 - 160
Bentazon	59.2		P	30 - 160
Benzovindiflupyr	80.5		P	30 - 160
Carbamazepine	117		P	30 - 160
Clothianidin	94.6		P	30 - 160
Dinotefuran	87.2		P	30 - 160
Diuron	105		P	30 - 160
Fenuron	102		P	30 - 160
Fluridone	84.6		P	30 - 160
Hydrocodone	87.4		P	30 - 160
Ibuprofen	73.2		P	30 - 160
Imazapyr	91.8		P	30 - 160
Imidacloprid	121		P	30 - 160
Linuron	69.9		P	30 - 160
Mandestrobin	86.7		P	30 - 160
MCPP	119		P	30 - 160
Naproxen	68.8		P	30 - 160
Primidone	102		P	30 - 160
Pyraclostrobin	78.8		P	30 - 160
Thiamethoxam	101		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P381314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Tolfenpyrad	51.4		P	30 - 160
Triclopyr	93.9		P	30 - 160

Reference Method: SM 2320 B-2011
Batch ID: P381658

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.9		P	98 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P381822

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P381823

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.1		P	92 - 104

Reference Method: SM 5310 B-2011
Batch ID: P381644

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P381478

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168128	Barium	100		P	80 - 120
2168128	Calcium	97.9		P	80 - 120
2168128	Iron	99.9		P	80 - 120
2168128	Magnesium	98.0		P	80 - 120
2168128	Potassium	96.1		P	80 - 120
2168128	Sodium	99.9		P	80 - 120
2168128	Zinc	103		P	80 - 120
2168169	Barium	101	97.6	P/P	80 - 120
2168169	Calcium	104		P	80 - 120
2168169	Iron	101	102	P/P	80 - 120
2168169	Magnesium	99.6	101	P/P	80 - 120
2168169	Potassium	98.9	101	P/P	80 - 120
2168169	Sodium	98.0	101	P/P	80 - 120
2168169	Zinc	103	99.2	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P381478

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168128	Aluminum	97.6		P	80 - 120
2168128	Antimony	97.6		P	80 - 120
2168128	Arsenic	103		P	80 - 120
2168128	Boron	102		P	80 - 120
2168128	Cadmium	100		P	80 - 120
2168128	Chromium	104		P	80 - 120
2168128	Copper	103		P	80 - 120
2168128	Lead	101		P	80 - 120
2168128	Nickel	101		P	80 - 120
2168128	Selenium	98.8		P	80 - 120
2168128	Silver	102		P	80 - 120
2168128	Thallium	105		P	80 - 120
2168169	Aluminum	96.9	97.3	P/P	80 - 120
2168169	Antimony	97.3	98.0	P/P	80 - 120
2168169	Arsenic	101	102	P/P	80 - 120
2168169	Boron	101	102	P/P	80 - 120
2168169	Cadmium	100	102	P/P	80 - 120
2168169	Chromium	103	104	P/P	80 - 120
2168169	Copper	101	102	P/P	80 - 120
2168169	Lead	101	99.9	P/P	80 - 120
2168169	Nickel	99.4	99.6	P/P	80 - 120
2168169	Selenium	97.1	97.9	P/P	80 - 120
2168169	Silver	102	102	P/P	80 - 120
2168169	Thallium	106	105	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381945

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168057	Chloride	99.3		P	90 - 110
2168135	Chloride	100		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381949

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168057	Sulfate	98.8		P	90 - 110
2168135	Sulfate	99.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381442

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168060	Ammonia-N	99.7	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381443

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168176	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381598

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168108	Kjeldahl Nitrogen	106	97.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2167946	NO2NO3-N	95.5	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381539

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168087	Total-P	107	108	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P381172

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2167436	Acesulfame K	87.6	86.0	P/P	40 - 150
2167436	AMPA	122	116	P/P	40 - 150
2167436	Endothall	98.8	93.5	P/P	40 - 150
2167436	Glufosinate	113	114	P/P	40 - 150
2167436	Glyphosate	118	116	P/P	40 - 140
2167436	Sucralose	88.9	82.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P381314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2167754	2,4-D	115	114	P/P	30 - 160
2167754	Acetaminophen	102	101	P/P	30 - 160
2167754	Acetamiprid	98.0	89.3	P/P	30 - 160
2167754	Afidopyropen	84.5	90.8	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P381314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2167754	Bentazon	39.9	42.2	P/P	30 - 160
2167754	Benzovindiflupyr	82.9	74.8	P/P	30 - 160
2167754	Carbamazepine	89.3	89.0	P/P	30 - 160
2167754	Clothianidin	91.0	87.7	P/P	30 - 160
2167754	Dinotefuran	117	114	P/P	30 - 160
2167754	Diuron	89.0	85.9	P/P	30 - 160
2167754	Fenuron	67.0	65.3	P/P	30 - 160
2167754	Fluridone	82.2	81.6	P/P	30 - 160
2167754	Hydrocodone	89.8	87.2	P/P	30 - 160
2167754	Ibuprofen	74.2	67.1	P/P	30 - 160
2167754	Imazapyr	112	113	P/P	30 - 160
2167754	Imidacloprid	140	138	P/P	30 - 160
2167754	Linuron	60.8	62.5	P/P	30 - 160
2167754	Mandestrobin	87.2	80.8	P/P	30 - 160
2167754	MCPP	115	112	P/P	30 - 160
2167754	Naproxen	85.0	86.8	P/P	30 - 160
2167754	Primidone	85.6	78.5	P/P	30 - 160
2167754	Pyraclostrobin	85.2	81.2	P/P	30 - 160
2167754	Thiamethoxam	126	120	P/P	30 - 160
2167754	Tolfenpyrad	59.3	53.7	P/P	30 - 160
2167754	Triclopyr	103	104	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P381822

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168117	Fluoride	98.6	95.2	P/P	91 - 105

Reference Method: SM 4500 F-C-2011
Batch ID: P381823

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168543	Fluoride	96.8	96.8	P/P	91 - 105

Reference Method: SM 5310 B-2011
Batch ID: P381644

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2168029	Organic Carbon	98.9	97.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P381478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168169	Barium	2.97	Spike	P	0 - 20
2168169	Calcium	0.133	Spike	P	0 - 20
2168169	Iron	0.862	Spike	P	0 - 20
2168169	Magnesium	1.17	Spike	P	0 - 20
2168169	Potassium	1.30	Spike	P	0 - 20
2168169	Sodium	1.43	Spike	P	0 - 20
2168169	Zinc	3.31	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P381478

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168169	Aluminum	0.401	Spike	P	0 - 20
2168169	Antimony	0.751	Spike	P	0 - 20
2168169	Arsenic	1.14	Spike	P	0 - 20
2168169	Boron	0.880	Spike	P	0 - 20
2168169	Cadmium	1.59	Spike	P	0 - 20
2168169	Chromium	1.07	Spike	P	0 - 20
2168169	Copper	1.36	Spike	P	0 - 20
2168169	Lead	1.02	Spike	P	0 - 20
2168169	Nickel	0.238	Spike	P	0 - 20
2168169	Selenium	0.774	Spike	P	0 - 20
2168169	Silver	0.105	Spike	P	0 - 20
2168169	Thallium	0.707	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168057	Chloride	1.61	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381949

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168057	Sulfate	0.454	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168060	Ammonia-N	1.43	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381443

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168176	Ammonia-N	0.202	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168108	Kjeldahl Nitrogen	5.79	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381691

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2167946	NO2NO3-N	0.515	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168087	Total-P	1.15	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P381172

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2167436	Acesulfame K	1.72	Spike	P	0 - 30
2167436	AMPA	4.65	Spike	P	0 - 30
2167436	Endothall	5.49	Spike	P	0 - 30
2167436	Glufosinate	0.680	Spike	P	0 - 30
2167436	Glyphosate	1.41	Spike	P	0 - 30
2167436	Sucralose	2.64	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P381314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2167754	2,4-D	0.926	Spike	P	0 - 30
2167754	Acetaminophen	1.01	Spike	P	0 - 30
2167754	Acetamiprid	9.26	Spike	P	0 - 30
2167754	Afidopyropen	7.14	Spike	P	0 - 30
2167754	Bentazon	5.67	Spike	P	0 - 30
2167754	Benzovindiflupyr	10.2	Spike	P	0 - 30
2167754	Carbamazepine	0.342	Spike	P	0 - 30
2167754	Clothianidin	3.73	Spike	P	0 - 30
2167754	Dinotefuran	2.79	Spike	P	0 - 30
2167754	Diuron	3.57	Spike	P	0 - 30
2167754	Fenuron	2.66	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P381314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2167754	Fluridone	0.734	Spike	P	0 - 30
2167754	Hydrocodone	2.95	Spike	P	0 - 30
2167754	Ibuprofen	10.1	Spike	P	0 - 30
2167754	Imazapyr	0.307	Spike	P	0 - 30
2167754	Imidacloprid	1.01	Spike	P	0 - 30
2167754	Linuron	2.75	Spike	P	0 - 30
2167754	Mandestrobin	7.65	Spike	P	0 - 30
2167754	MCP	2.67	Spike	P	0 - 30
2167754	Naproxen	2.10	Spike	P	0 - 30
2167754	Primidone	8.67	Spike	P	0 - 30
2167754	Pyraclostrobin	4.81	Spike	P	0 - 30
2167754	Thiamethoxam	4.76	Spike	P	0 - 30
2167754	Tolfenpyrad	9.91	Spike	P	0 - 30
2167754	Triclopyr	0.577	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P381658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168101	Total Alkalinity	0.0219	Sample	P	0 - 3.3

Reference Method: SM 2540 C-2011
Batch ID: P381714

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2167731	TDS	4.83	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P381718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168058	TDS	1.87	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P381822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168117	Fluoride	2.98	Spike	F	0 - 2.0

Reference Method: SM 4500 F-C-2011
Batch ID: P381823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168543	Fluoride	0.0	Spike	P	0 - 2.0

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P381644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2168029	Organic Carbon	1.12	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2168125
Field Sample ID: 20030751

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	109	P	30 - 160
EPA 8321B	Diuron-d6	117	P	30 - 160
EPA 8321B	Endothall-d6	106	P	30 - 200
EPA 8321B	Endothall-d6	106	P	30 - 200
EPA 8321B	Glyphosate 13C 15N	124	P	30 - 200
EPA 8321B	Glyphosate 13C 15N	124	P	30 - 200
EPA 8321B	Ibuprofen-d3	91.6	P	30 - 160
EPA 8321B	Primidone-d5	94.6	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Lab Sample ID: 2168126
Field Sample ID: G2NE1183

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	102	P	30 - 160
EPA 8321B	Diuron-d6	113	P	30 - 160
EPA 8321B	Endothall-d6	76.4	P	30 - 200
EPA 8321B	Endothall-d6	76.4	P	30 - 200
EPA 8321B	Glyphosate 13C 15N	143	P	30 - 200
EPA 8321B	Glyphosate 13C 15N	143	P	30 - 200
EPA 8321B	Ibuprofen-d3	86.1	P	30 - 160
EPA 8321B	Primidone-d5	102	P	30 - 160
EPA 8321B	Sucralose-d6	98.4	P	30 - 160
EPA 8321B	Sucralose-d6	98.4	P	30 - 160

Lab Sample ID: 2168127
Field Sample ID: FB 03252020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	Acetaminophen-d4	79.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	135	P	30 - 160
EPA 8321B	Diuron-d6	133	P	30 - 160
EPA 8321B	Endothall-d6	85.6	P	30 - 200
EPA 8321B	Endothall-d6	85.6	P	30 - 200
EPA 8321B	Glyphosate 13C 15N	141	P	30 - 200
EPA 8321B	Glyphosate 13C 15N	141	P	30 - 200
EPA 8321B	Ibuprofen-d3	86.3	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98465

Included Lab Sample IDs: 2168125, 2168126, 2168127

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	87.5	92.9	P/P	40 - 200
Endothall	70.9	65.1	P/P	40 - 200

Reference Method: EPA 8321B

Run ID: A98468

Included Lab Sample IDs: 2168125, 2168126, 2168127

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	99.6	101	P/P	40 - 200
Glufosinate	119	130	P/P	40 - 200
Glyphosate	128	130	P/P	40 - 200

Reference Method: EPA 8321B

Run ID: A98487

Included Lab Sample IDs: 2168125, 2168126, 2168127

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	105	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A98492

Included Lab Sample IDs: 2168116, 2168118, 2168120, 2168122

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A98548

Included Lab Sample IDs: 2168118, 2168122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A98563

Included Lab Sample IDs: 2168116, 2168120

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A98569

Included Lab Sample IDs: 2168116, 2168118, 2168120, 2168122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.3	95.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A98574

Included Lab Sample IDs: 2168116, 2168118, 2168120, 2168122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.5	99.6	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A98581

Included Lab Sample IDs: 2168115, 2168117, 2168119, 2168121

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.6	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A98590

Included Lab Sample IDs: 2168116, 2168118, 2168120, 2168122

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A98626

Included Lab Sample IDs: 2168128, 2168129, 2168130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Barium	103	102	P/P	90 - 110
Calcium	101	100	P/P	90 - 110
Calcium	98.8	99.0	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Magnesium	103	102	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Potassium	102	102	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Sodium	102	102	P/P	90 - 110
Zinc	101	101	P/P	90 - 110
Zinc	102	99.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A98655

Included Lab Sample IDs: 2168115, 2168117, 2168119, 2168121

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.2	97.5	P/P	90 - 110
Fluoride	99.1	96.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A98661

Included Lab Sample IDs: 2168128, 2168129, 2168130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.8	98.6	P/P	90 - 110
Aluminum	98.0	96.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A98661

Included Lab Sample IDs: 2168128, 2168129, 2168130

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.6	97.9	P/P	90 - 110
Antimony	94.0	95.8	P/P	90 - 110
Antimony	94.9	94.0	P/P	90 - 110
Antimony	95.8	94.9	P/P	90 - 110
Arsenic	100	101	P/P	90 - 110
Arsenic	101	100	P/P	90 - 110
Arsenic	103	100	P/P	90 - 110
Boron	101	101	P/P	90 - 110
Boron	94.0	96.0	P/P	90 - 110
Boron	96.0	101	P/P	90 - 110
Cadmium	100	99.5	P/P	90 - 110
Cadmium	98.1	100	P/P	90 - 110
Cadmium	98.6	98.1	P/P	90 - 110
Chromium	96.8	98.5	P/P	90 - 110
Chromium	97.0	96.8	P/P	90 - 110
Chromium	98.5	97.9	P/P	90 - 110
Copper	100	98.5	P/P	90 - 110
Copper	98.6	97.9	P/P	90 - 110
Lead	98.3	99.7	P/P	90 - 110
Lead	99.2	98.3	P/P	90 - 110
Lead	99.7	99.3	P/P	90 - 110
Nickel	100	98.8	P/P	90 - 110
Nickel	98.5	98.3	P/P	90 - 110
Nickel	98.8	98.5	P/P	90 - 110
Selenium	100	98.9	P/P	90 - 110
Selenium	101	98.8	P/P	90 - 110
Selenium	98.9	101	P/P	90 - 110
Silver	95.6	97.0	P/P	90 - 110
Silver	96.3	95.6	P/P	90 - 110
Silver	97.0	96.7	P/P	90 - 110
Thallium	95.1	96.6	P/P	90 - 110
Thallium	96.6	95.8	P/P	90 - 110
Thallium	97.2	95.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A98678

Included Lab Sample IDs: 2168129

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	99.5	97.9	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A98686

Included Lab Sample IDs: 2168115, 2168117, 2168119, 2168121

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.6	99.5	P/P	90 - 110
Sulfate	99.6	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A98689

Included Lab Sample IDs: 2168125, 2168126, 2168127

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.5	100	P/P	50 - 150
Acetaminophen	93.2	90.3	P/P	60 - 160
Acetamiprid	98.7	97.1	P/P	50 - 150
Afidopyropen	98.6	115	P/P	50 - 150
Bentazon	81.1	90.9	P/P	50 - 160
Benzovindiflupyr	105	106	P/P	50 - 150
Carbamazepine	103	96.0	P/P	60 - 150
Clothianidin	98.1	85.6	P/P	60 - 150
Dinotefuran	97.9	80.0	P/P	50 - 150
Diuron	102	100	P/P	60 - 160
Fenuron	91.4	89.9	P/P	60 - 150
Fluridone	102	105	P/P	60 - 160
Hydrocodone	102	99.6	P/P	60 - 150
Ibuprofen	96.4	110	P/P	50 - 160
Imazapyr	91.6	105	P/P	50 - 150
Imidacloprid	95.0	94.9	P/P	60 - 150
Linuron	94.4	91.0	P/P	60 - 150
Mandestrobin	106	105	P/P	50 - 150
MCPP	93.9	93.4	P/P	50 - 150
Naproxen	84.9	130	P/P	50 - 160
Primidone	96.9	95.9	P/P	60 - 150
Pyraclostrobin	104	109	P/P	60 - 150
Thiamethoxam	94.9	101	P/P	50 - 150
Tolfenpyrad	102	112	P/P	60 - 150
Triclopyr	90.9	94.5	P/P	50 - 150

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 200.7 Rev. 4.4	Barium	103	100	101	97.6		2.97
	Calcium	101	97.9	104			0.133
	Iron	104	99.9	101	102		0.862
	Magnesium	106	98.0	99.6	101		1.17
	Potassium	101	96.1	98.9	101		1.30
	Sodium	101	99.9	98.0	101		1.43
	Zinc	104	103	103	99.2		3.31
EPA 200.8 Rev. 5.4	Aluminum	97.0	96.9	97.3	97.6		0.401
	Antimony	96.2	97.3	98.0	97.6		0.751
	Arsenic	101	101	102	103		1.14
	Boron	97.0	101	102	102		0.880
	Cadmium	99.5	100	102	100		1.59
	Chromium	101	103	104	104		1.07
	Copper	102	101	102	103		1.36
	Lead	99.9	101	99.9	101		1.02
	Nickel	100	99.4	99.6	101		0.238
	Selenium	98.7	97.1	97.9	98.8		0.774
	Silver	102	102	102	102		0.105
	Thallium	103	106	105	105		0.707
EPA 300.0 Rev. 2.1	Chloride	99.5	99.3	100		1.61	
	Sulfate	100	98.8	99.5		0.454	
EPA 350.1 Rev. 2.0	Ammonia-N	100	99.7	101			1.43
	Ammonia-N	101	102	102			0.202
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	106	97.8			5.79
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	95.5	96.5			0.515
EPA 365.1 Rev. 2.0	Total-P	107	107	108			1.15
EPA 8321B	2,4-D	111	115	114			0.926
	Acesulfame K	112	87.6	86.0			1.72
	Acetaminophen	75.1	102	101			1.01
	Acetamiprid	98.8	98.0	89.3			9.26
	Afidopyropen	98.3	84.5	90.8			7.14
	AMPA	109	122	116			4.65
	Bentazon	59.2	39.9	42.2			5.67
	Benzovindiflupyr	80.5	82.9	74.8			10.2
	Carbamazepine	117	89.3	89.0			0.342
	Clothianidin	94.6	91.0	87.7			3.73
	Dinotefuran	87.2	117	114			2.79
	Diuron	105	89.0	85.9			3.57
	Endothall	78.3	98.8	93.5			5.49
	Fenuron	102	67.0	65.3			2.66
	Fluridone	84.6	82.2	81.6			0.734
	Glufosinate	112	113	114			0.680
	Glyphosate	123	118	116			1.41
	Hydrocodone	87.4	89.8	87.2			2.95
	Ibuprofen	73.2	74.2	67.1			10.1
	Imazapyr	91.8	112	113			0.307
	Imidacloprid	121	140	138			1.01
	Linuron	69.9	60.8	62.5			2.75
	Mandestrobin	86.7	87.2	80.8			7.65
	MCPP	119	115	112			2.67
	Naproxen	68.8	85.0	86.8			2.10
	Primidone	102	85.6	78.5			8.67
	Pyraclostrobin	78.8	85.2	81.2			4.81
	Sucralose	92.3	88.9	82.6			2.64

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Thiamethoxam	101	126	120		4.76
	Tolfenpyrad	51.4	59.3	53.7		9.91
	Triclopyr	93.9	103	104		0.577
SM 2320 B-2011	Total Alkalinity	99.9			0.0219	
SM 2540 C-2011	TDS				4.83	
	TDS				1.87	
SM 4500 F-C-2011	Fluoride	97.5	98.6	95.2		2.98
	Fluoride	94.1	96.8	96.8		0.0
SM 5310 B-2011	Organic Carbon	99.9	98.9	97.7		1.12

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2168128, 2168129, 2168130
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2168128, 2168129, 2168130
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2168115, 2168117, 2168119, 2168121
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2168115, 2168117, 2168119, 2168121
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2168116, 2168118, 2168120, 2168122
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2168116, 2168118, 2168120, 2168122
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2168116, 2168118, 2168120, 2168122
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2168116, 2168118, 2168120, 2168122
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2168125, 2168126, 2168127
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2168125, 2168126, 2168127
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2168115, 2168117, 2168119, 2168121
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2168128, 2168129, 2168130
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2168115, 2168117, 2168119, 2168121
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2168115, 2168117, 2168119, 2168121
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2168115, 2168117, 2168119, 2168121
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2168116, 2168118, 2168120, 2168122

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.7 Rev. 4.4	03/26/2020	03/30/2020 13:50	Elliott D. Healy	04/02/2020 18:03	Betina Topolski	2168130
	03/26/2020	03/30/2020 13:50	Elliott D. Healy	04/02/2020 20:50	Betina Topolski	2168128
	03/26/2020	03/30/2020 13:50	Elliott D. Healy	04/02/2020 21:11	Betina Topolski	2168129
EPA 200.8 Rev. 5.4	03/26/2020	03/30/2020 13:50	Elliott D. Healy	04/03/2020 14:47	Alexander Thompson	2168130
	03/26/2020	03/30/2020 13:50	Elliott D. Healy	04/03/2020 17:05	Alexander Thompson	2168129
	03/26/2020	03/30/2020 13:50	Elliott D. Healy	04/03/2020 19:13	Alexander Thompson	2168128
	03/26/2020	03/30/2020 13:50	Elliott D. Healy	04/06/2020 11:36	Alexander Thompson	2168129
EPA 300.0 Rev. 2.1	03/26/2020			04/07/2020 21:56	Jhamieka S. Greenwood	2168115
	03/26/2020			04/07/2020 22:09	Jhamieka S. Greenwood	2168117
	03/26/2020			04/07/2020 22:22	Jhamieka S. Greenwood	2168119
	03/26/2020			04/07/2020 22:35	Jhamieka S. Greenwood	2168121
EPA 350.1 Rev. 2.0	03/26/2020			03/29/2020 12:12	Ping Hua	2168116
	03/26/2020			03/29/2020 12:14	Ping Hua	2168118
	03/26/2020			03/29/2020 12:30	Ping Hua	2168120
	03/26/2020			03/29/2020 12:39	Ping Hua	2168122
EPA 351.2 Rev. 2.0	03/26/2020	03/31/2020 09:54	Sima Feizi	04/01/2020 08:59	Jhamieka S. Greenwood	2168116
	03/26/2020	03/31/2020 09:54	Sima Feizi	04/01/2020 09:00	Jhamieka S. Greenwood	2168118
	03/26/2020	03/31/2020 09:54	Sima Feizi	04/01/2020 09:02	Jhamieka S. Greenwood	2168120
	03/26/2020	03/31/2020 09:54	Sima Feizi	04/01/2020 09:04	Jhamieka S. Greenwood	2168122
EPA 353.2 Rev. 2.0	03/26/2020			04/02/2020 08:39	Beverly Y. Sanders	2168116
	03/26/2020			04/02/2020 08:40	Beverly Y. Sanders	2168118
	03/26/2020			04/02/2020 08:41	Beverly Y. Sanders	2168120
	03/26/2020			04/02/2020 08:42	Beverly Y. Sanders	2168122
EPA 365.1 Rev. 2.0	03/26/2020	03/30/2020 17:07	Yen Ta	03/31/2020 13:03	Lipi Saha	2168118
	03/26/2020	03/30/2020 17:07	Yen Ta	03/31/2020 13:04	Lipi Saha	2168122
	03/26/2020	03/30/2020 17:07	Yen Ta	03/31/2020 18:49	Lipi Saha	2168116
	03/26/2020	03/30/2020 17:07	Yen Ta	03/31/2020 18:50	Lipi Saha	2168120
EPA 8321B	03/26/2020	03/26/2020 12:00	Mohammad Ghaffari	03/26/2020 14:23	Mohammad Ghaffari	2168125
	03/26/2020	03/26/2020 12:00	Mohammad Ghaffari	03/26/2020 14:38	Mohammad Ghaffari	2168126
	03/26/2020	03/26/2020 12:00	Mohammad Ghaffari	03/26/2020 14:53	Mohammad Ghaffari	2168127
	03/26/2020	03/26/2020 12:00	Mohammad Ghaffari	03/26/2020 21:09	Mohammad Ghaffari	2168125
	03/26/2020	03/26/2020 12:00	Mohammad Ghaffari	03/26/2020 21:20	Mohammad Ghaffari	2168126
	03/26/2020	03/26/2020 12:00	Mohammad Ghaffari	03/26/2020 21:30	Mohammad Ghaffari	2168127
	03/26/2020	03/26/2020 12:00	Mohammad Ghaffari	03/27/2020 15:07	Mohammad Ghaffari	2168125
	03/26/2020	03/26/2020 12:00	Mohammad Ghaffari	03/27/2020 15:19	Mohammad Ghaffari	2168126
	03/26/2020	03/26/2020 12:00	Mohammad Ghaffari	03/27/2020 15:31	Mohammad Ghaffari	2168127
	03/26/2020	03/30/2020 10:00	Hoor Shaik	04/07/2020 07:04	Juyoung Kim	2168125
	03/26/2020	03/30/2020 10:00	Hoor Shaik	04/07/2020 07:39	Juyoung Kim	2168126
	03/26/2020	03/30/2020 10:00	Hoor Shaik	04/07/2020 08:13	Juyoung Kim	2168127
SM 2320 B-2011	03/26/2020			04/01/2020 08:07	Dale L. Simmons	2168115

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	03/26/2020			04/01/2020 08:17	Dale L. Simmons	2168117
	03/26/2020			04/01/2020 08:24	Dale L. Simmons	2168121
	03/26/2020			04/01/2020 08:35	Dale L. Simmons	2168119
SM 2340B	03/26/2020			04/02/2020 18:03	Betina Topolski	2168130
	03/26/2020			04/02/2020 20:50	Betina Topolski	2168128
	03/26/2020			04/02/2020 21:11	Betina Topolski	2168129
SM 2540 C-2011	03/26/2020			03/27/2020 15:36	Yijie Li	2168115, 2168117, 2168119, 2168121
SM 2540 D-2011	03/26/2020			03/27/2020 15:32	Yijie Li	2168115, 2168117, 2168119, 2168121
SM 4500 F-C-2011	03/26/2020			04/03/2020 18:46	Samantha Davila	2168117
	03/26/2020			04/03/2020 18:59	Samantha Davila	2168119
	03/26/2020			04/03/2020 19:04	Samantha Davila	2168121
SM 5310 B-2011	03/26/2020			04/03/2020 22:58	Samantha Davila	2168115
	03/26/2020			04/01/2020 08:09	Madeline Gruver	2168116
	03/26/2020			04/01/2020 08:23	Madeline Gruver	2168118
	03/26/2020			04/01/2020 08:36	Madeline Gruver	2168120
	03/26/2020			04/01/2020 08:51	Madeline Gruver	2168122