

Chemical Analysis Report

NE-DIST-2021-06-24-01

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

Event Description: **Nassau North 2 2021**

Request ID: **RQ-2021-06-21-11**

Customer: **NE-DIST**

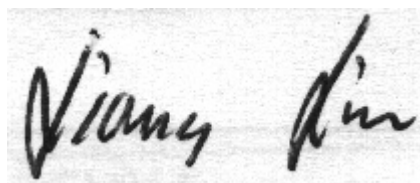
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 20-JUL-2021 15:30

A handwritten signature in black ink, appearing to read "Liang Lin", 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: Escambia Slough at Escambia St.

Collection Date/Time: 06/23/2021 09:50

Field ID: G4NE0287

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256923	EPA 180.1 Rev. 2.0	Turbidity	9.5		NTU	P400180	
	SM 2320 B-2011	Total Alkalinity	125	Q	mg CaCO3/L	P400618	
	SM 2540 D-2011	TSS	21	A	mg/L	P400610	
	SM 4500 F-C-2011	Fluoride	0.97		mg F/L	P400622	
2256924	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P400458	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P400519	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P400221	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P400338	
	SM 5310 B-2011	Organic Carbon	7.6		mg C/L	P400363	
2256925	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.092		mg P/L	P400189	
2256951	EPA 8321B	2,4-D	0.0052	I	ug/L	P400315	
		Acesulfame K	0.10	U	ug/L	P400090	RPD
		AMPA	1.0	U	ug/L	P400090	
		2,4,5-T	0.0040	U	ug/L	P400315	
		Acetaminophen	0.0080	U	ug/L	P400315	
		Endothall	0.25	U	ug/L	P400090	
		Acetamiprid	0.0020	U	ug/L	P400315	
		Glufosinate	1.0	U	ug/L	P400090	
		Glyphosate	1.0	U	ug/L	P400090	
		Afidopyropen	0.0020	U	ug/L	P400315	
		Sucralose	0.067		ug/L	P400090	
		Bentazon	0.012		ug/L	P400315	
		Benzovindiflupyr	0.0020	U	ug/L	P400315	
		Carbamazepine	8.0E-04	U	ug/L	P400315	
		Clothianidin	0.0020	U	ug/L	P400315	
		Dinotefuran	0.0020	U	ug/L	P400315	
		Diuron	0.0020	U	ug/L	P400315	
		Fenuron	0.016	U	ug/L	P400315	
		Fluridone	8.0E-04	U	ug/L	P400315	
		Imazapyr	0.014	I	ug/L	P400315	MS
		Hydrocodone	0.0020	U	ug/L	P400315	
		Ibuprofen	0.020	U	ug/L	P400315	
		Imidacloprid	0.018		ug/L	P400315	
		Linuron	0.0040	U	ug/L	P400315	
		Mandestrobin	0.0020	U	ug/L	P400315	
		MCP	0.0020	U	ug/L	P400315	
		Naproxen	0.0080	U	ug/L	P400315	
		Primidone	0.0040	U	ug/L	P400315	
		Pyraclostrobin	0.0020	U	ug/L	P400315	
		Thiamethoxam	0.0020	U	ug/L	P400315	
		Tolfenpyrad	0.0020	U	ug/L	P400315	
		Triclopyr	0.0040	U	ug/L	P400315	
2256953	EPA 200.7 Rev. 4.4	Calcium	309		mg/L	P400399	

Field ID: G4NE0287

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256953	EPA 200.7 Rev. 4.4	Iron	380		ug/L	P400399	
		Magnesium	924		mg/L	P400399	
		Manganese	39	I	ug/L	P400399	
		Zinc	50	U	ug/L	P400399	
	EPA 200.8 Rev. 5.4	Aluminum	440		ug/L	P400399	
		Antimony	0.22	I	ug/L	P400399	
		Arsenic	2.63		ug/L	P400399	
		Beryllium	0.040	U	ug/L	P400399	
		Cadmium	0.080	U	ug/L	P400399	
		Chromium	1.6	U	ug/L	P400399	
		Copper	1.6	U	ug/L	P400399	
		Lead	1.1	I	ug/L	P400399	
		Nickel	2.0	U	ug/L	P400399	
		Selenium	0.80	U	ug/L	P400399	
		Silver	0.040	U	ug/L	P400399	
		Thallium	0.40	U	ug/L	P400399	

Ref. Method and Comment:

SM 2320 B-2011: Sample analyzed out of holding time because of analytical difficulties.

EPA 8321B: MDL for some parameters elevated due to matrix interference.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium and magnesium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Egans Creek at N 14th

Collection Date/Time: 06/23/2021 11:30

Field ID: G4NE0290

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256929	EPA 180.1 Rev. 2.0	Turbidity	20		NTU	P400181	
	SM 2320 B-2011	Total Alkalinity	120		mg CaCO3/L	P400618	
	SM 2540 D-2011	TSS	45		mg/L	P400610	
	SM 4500 F-C-2011	Fluoride	1.1		mg F/L	P400622	
2256931	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P400458	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80	J	mg N/L	P400388	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P400221	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P400338	
	SM 5310 B-2011	Organic Carbon	5.6		mg C/L	P400363	
2256933	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P400189	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Egan Creek at Atlantic

Collection Date/Time: 06/23/2021 12:50

Field ID: G4NE0285

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256926	EPA 180.1 Rev. 2.0	Turbidity	32		NTU	P400180	
	SM 2320 B-2011	Total Alkalinity	112	A	mg CaCO3/L	P400618	
	SM 2540 D-2011	TSS	95		mg/L	P400609	
	SM 4500 F-C-2011	Fluoride	0.57		mg F/L	P400622	
2256927	EPA 350.1 Rev. 2.0	Ammonia-N	0.26		mg N/L	P400458	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P400321	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.027		mg N/L	P400221	
	EPA 365.1 Rev. 2.0	Total-P	0.62		mg P/L	P400338	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P400822	
2256928	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.36		mg P/L	P400189	
2256952	EPA 8321B	2,4-D	0.018		ug/L	P400315	
		Acesulfame K	0.10	U	ug/L	P400090	RPD
		AMPA	1.0	U	ug/L	P400090	
		2,4,5-T	0.0040	U	ug/L	P400315	
		Acetaminophen	0.0080	U	ug/L	P400315	
		Endothall	0.25	U	ug/L	P400090	
		Acetamiprid	0.0020	U	ug/L	P400315	
		Glufosinate	1.0	U	ug/L	P400090	
		Glyphosate	1.0	U	ug/L	P400090	
		Afidopyropen	0.0020	U	ug/L	P400315	
		Sucralose	0.20		ug/L	P400090	
		Bentazon	0.020		ug/L	P400315	
		Benzovindiflupyr	0.0020	U	ug/L	P400315	
		Carbamazepine	8.0E-04	U	ug/L	P400315	
		Clothianidin	0.0059	I	ug/L	P400315	
		Dinotefuran	0.0020	U	ug/L	P400315	
		Diuron	0.013		ug/L	P400315	
		Fenuron	0.016	U	ug/L	P400315	
		Fluridone	0.0037		ug/L	P400315	
		Imazapyr	0.17		ug/L	P400315	MS
		Hydrocodone	0.0020	U	ug/L	P400315	
		Ibuprofen	0.020	U	ug/L	P400315	
		Imidacloprid	0.0097		ug/L	P400315	
		Linuron	0.0040	U	ug/L	P400315	
		Mandestrobin	0.0020	U	ug/L	P400315	
		MCP	0.0039	I	ug/L	P400315	
		Naproxen	0.0080	U	ug/L	P400315	
		Primidone	0.0040	U	ug/L	P400315	
		Pyraclostrobin	0.0020	U	ug/L	P400315	
		Thiamethoxam	0.0038	I	ug/L	P400315	
		Tolfenpyrad	0.0020	U	ug/L	P400315	
		Triclopyr	0.0040	U	ug/L	P400315	

Field ID: G4NE0285

Matrix: W-SURF-SLT

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: MDL for some parameters elevated due to matrix interference.

Sample Location: Egans Creek at Jasmine St.

Collection Date/Time: 06/23/2021 13:25

Field ID: G4NE0305

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2256930	EPA 180.1 Rev. 2.0	Turbidity	4.8	A	NTU	P400181	
	SM 2320 B-2011	Total Alkalinity	88		mg CaCO3/L	P400616	
	SM 2540 D-2011	TSS	13		mg/L	P400609	
	SM 4500 F-C-2011	Fluoride	0.35		mg F/L	P400620	
2256932	EPA 350.1 Rev. 2.0	Ammonia-N	0.20		mg N/L	P400572	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P400474	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.053		mg N/L	P400235	
	EPA 365.1 Rev. 2.0	Total-P	0.54		mg P/L	P400337	
	SM 5310 B-2011	Organic Carbon	23		mg C/L	P400534	
2256934	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.43		mg P/L	P400188	

Ref. Method and Comment:

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

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

EPA 365.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400180

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400181

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400399

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400399

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	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 350.1 Rev. 2.0
Batch ID: P400458

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400572

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400321

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400388

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400474

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400519

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400221

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400235

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400337

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400338

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400188

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400189

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P400090

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: P400315

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P400616

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

Reference Method: SM 2320 B-2011

Batch ID: P400618

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P400609

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P400610

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400620

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400622

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P400363

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

Reference Method: SM 5310 B-2011
Batch ID: P400534

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

Reference Method: SM 5310 B-2011
Batch ID: P400822

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: P400399

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	107		P	85 - 115
Magnesium	101		P	85 - 115
Manganese	98.9		P	85 - 115
Zinc	95.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400399

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	109		P	85 - 115
Antimony	109		P	85 - 115
Arsenic	105		P	85 - 115
Beryllium	102		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	103		P	85 - 115
Copper	104		P	85 - 115
Lead	103		P	85 - 115
Nickel	101		P	85 - 115
Selenium	105		P	85 - 115
Silver	101		P	85 - 115
Thallium	108		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400458

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400572

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400321

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400388

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: P400474

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400519

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400221

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400235

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: P400337

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400338

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400188

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400189

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

Reference Method: EPA 8321B
Batch ID: P400090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	83.9		P	40 - 150
AMPA	97.9		P	40 - 150
Endothall	72.9		P	40 - 150
Glufosinate	96.7		P	40 - 150
Glyphosate	102		P	40 - 140
Sucralose	92.1		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P400315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	120		P	30 - 160
2,4,5-T	128		P	30 - 160
Acetaminophen	83.0		P	30 - 160
Acetamiprid	90.6		P	30 - 160
Afidopyropen	73.6		P	30 - 160
Bentazon	92.3		P	30 - 160
Benzovindiflupyr	92.8		P	30 - 160
Carbamazepine	92.0		P	30 - 160
Clothianidin	92.2		P	30 - 160
Dinotefuran	88.1		P	30 - 160
Diuron	73.7		P	30 - 160
Fenuron	99.7		P	30 - 160
Fluridone	87.6		P	30 - 160
Hydrocodone	94.6		P	30 - 160
Ibuprofen	86.0		P	30 - 160
Imazapyr	101		P	30 - 160
Imidacloprid	92.6		P	30 - 160
Linuron	73.3		P	30 - 160
Mandestrobin	94.1		P	30 - 160
MCPP	125		P	30 - 160
Naproxen	82.1		P	30 - 160
Primidone	93.3		P	30 - 160
Pyraclostrobin	81.1		P	30 - 160
Thiamethoxam	91.7		P	30 - 160
Tolfenpyrad	47.4		P	30 - 160
Triclopyr	122		P	30 - 160

Reference Method: SM 2320 B-2011
Batch ID: P400616

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P400618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P400620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P400622

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P400363

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

Reference Method: SM 5310 B-2011
Batch ID: P400534

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.3		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P400822

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257880	Iron	106	107	P/P	70 - 130
2257880	Manganese	97.9	96.6	P/P	70 - 130
2257880	Zinc	103	99.4	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257880	Aluminum	113	118	P/P	70 - 130
2257880	Antimony	113	111	P/P	70 - 130
2257880	Arsenic	117	115	P/P	70 - 130
2257880	Beryllium	120	119	P/P	70 - 130
2257880	Cadmium	99.0	97.7	P/P	70 - 130
2257880	Chromium	106	114	P/P	70 - 130
2257880	Copper	119	117	P/P	70 - 130
2257880	Lead	112	109	P/P	70 - 130
2257880	Nickel	100	105	P/P	70 - 130
2257880	Selenium	109	106	P/P	70 - 130
2257880	Silver	94.3	93.0	P/P	70 - 130
2257880	Thallium	117	114	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P400458

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256136	Ammonia-N	97.0	96.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P400572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256913	Ammonia-N	96.6	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P400321

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255577	Kjeldahl Nitrogen	105	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P400388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256931	Kjeldahl Nitrogen	117	106	F/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P400519

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257309	Kjeldahl Nitrogen	97.5	108	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400221

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256924	NO2NO3-N	98.6	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400235

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256893	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257205	Total-P	93.7	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256840	O-Phosphate-P	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256933	O-Phosphate-P	98.9	101	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P400090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256374	Acesulfame K	105	77.0	P/P	40 - 150
2256374	AMPA	79.8	84.1	P/P	40 - 150
2256374	Endothall	102	99.8	P/P	40 - 150
2256374	Glufosinate	94.5	100	P/P	40 - 150
2256374	Glyphosate	100	100	P/P	40 - 140
2256374	Sucralose	94.2	101	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P400315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256868	2,4-D	122	124	P/P	30 - 160
2256868	2,4,5-T	113	116	P/P	30 - 160
2256868	Acetaminophen	112	112	P/P	30 - 160
2256868	Acetamiprid	82.4	74.6	P/P	30 - 160
2256868	Afidopyrophen	71.1	57.7	P/P	30 - 160
2256868	Bentazon	79.5	74.5	P/P	30 - 160
2256868	Benzovindiflupyr	84.5	91.2	P/P	30 - 160
2256868	Carbamazepine	85.2	87.3	P/P	30 - 160
2256868	Clothianidin	114	107	P/P	30 - 160
2256868	Dinotefuran	125	123	P/P	30 - 160
2256868	Diuron	75.7	68.5	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P400315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256868	Fenuron	83.1	79.1	P/P	30 - 160
2256868	Fluridone	79.7	81.1	P/P	30 - 160
2256868	Hydrocodone	108	107	P/P	30 - 160
2256868	Ibuprofen	84.8	67.3	P/P	30 - 160
2256868	Imazapyr	168	159	F/P	30 - 160
2256868	Imidacloprid	148	155	P/P	30 - 160
2256868	Linuron	70.6	70.0	P/P	30 - 160
2256868	Mandestrobin	94.0	90.3	P/P	30 - 160
2256868	MCPP	113	112	P/P	30 - 160
2256868	Naproxen	97.4	75.5	P/P	30 - 160
2256868	Primidone	122	111	P/P	30 - 160
2256868	Pyraclostrobin	88.6	80.2	P/P	30 - 160
2256868	Thiamethoxam	145	148	P/P	30 - 160
2256868	Tolfenpyrad	53.7	55.9	P/P	30 - 160
2256868	Triclopyr	121	113	P/P	30 - 160

Reference Method: SM 4500 F-C-2011

Batch ID: P400620

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256854	Fluoride	101	101	P/P	92 - 107

Reference Method: SM 4500 F-C-2011

Batch ID: P400622

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256926	Fluoride	100	100	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P400363

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2255144	Organic Carbon	95.7	95.1	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P400534

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257170	Organic Carbon	96.2	98.6	P/P	85 - 115

Reference Method: SM 5310 B-2011

Batch ID: P400822

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2258043	Organic Carbon	100	99.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400180

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256852	Turbidity	1.89	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400181

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256930	Turbidity	2.07	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257880	Calcium	0.677	Spike	P	0 - 20
2257880	Iron	0.736	Spike	P	0 - 20
2257880	Magnesium	1.22	Spike	P	0 - 20
2257880	Manganese	1.28	Spike	P	0 - 20
2257880	Zinc	3.08	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257880	Aluminum	3.87	Spike	P	0 - 20
2257880	Antimony	2.30	Spike	P	0 - 20
2257880	Arsenic	2.24	Spike	P	0 - 20
2257880	Beryllium	0.692	Spike	P	0 - 20
2257880	Cadmium	1.34	Spike	P	0 - 20
2257880	Chromium	7.86	Spike	P	0 - 20
2257880	Copper	1.36	Spike	P	0 - 20
2257880	Lead	1.96	Spike	P	0 - 20
2257880	Nickel	3.27	Spike	P	0 - 20
2257880	Selenium	2.97	Spike	P	0 - 20
2257880	Silver	1.37	Spike	P	0 - 20
2257880	Thallium	2.57	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400458

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256136	Ammonia-N	0.233	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256913	Ammonia-N	0.998	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255577	Kjeldahl Nitrogen	3.65	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256931	Kjeldahl Nitrogen	7.52	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256913	Kjeldahl Nitrogen	2.60	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400519

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257309	Kjeldahl Nitrogen	7.73	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256924	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400235

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256893	NO2NO3-N	0.501	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400337

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256932	Total-P	0.800	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257205	Total-P	1.32	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400188

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256840	O-Phosphate-P	0.486	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400189

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256933	O-Phosphate-P	1.24	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P400090

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256374	Acesulfame K	31.2	Spike	F	0 - 30
2256374	AMPA	5.21	Spike	P	0 - 30
2256374	Endothall	1.71	Spike	P	0 - 30
2256374	Glufosinate	5.98	Spike	P	0 - 30
2256374	Glyphosate	0.0759	Spike	P	0 - 30
2256374	Sucralose	6.69	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P400315

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256868	2,4-D	1.26	Spike	P	0 - 30
2256868	2,4,5-T	3.02	Spike	P	0 - 30
2256868	Acetaminophen	0.0414	Spike	P	0 - 30
2256868	Acetamiprid	10.0	Spike	P	0 - 30
2256868	Afidopyropen	20.9	Spike	P	0 - 30
2256868	Bentazon	4.42	Spike	P	0 - 30
2256868	Benzovindiflupyr	7.62	Spike	P	0 - 30
2256868	Carbamazepine	2.49	Spike	P	0 - 30
2256868	Clothianidin	6.72	Spike	P	0 - 30
2256868	Dinotefuran	1.79	Spike	P	0 - 30
2256868	Diuron	9.87	Spike	P	0 - 30
2256868	Fenuron	4.91	Spike	P	0 - 30
2256868	Fluridone	1.73	Spike	P	0 - 30
2256868	Hydrocodone	1.10	Spike	P	0 - 30
2256868	Ibuprofen	23.0	Spike	P	0 - 30
2256868	Imazapyr	5.53	Spike	P	0 - 30
2256868	Imidacloprid	3.73	Spike	P	0 - 30
2256868	Linuron	0.884	Spike	P	0 - 30
2256868	Mandestrobin	4.05	Spike	P	0 - 30
2256868	MCPP	0.487	Spike	P	0 - 30
2256868	Naproxen	25.3	Spike	P	0 - 30
2256868	Primidone	9.27	Spike	P	0 - 30
2256868	Pyraclostrobin	9.94	Spike	P	0 - 30
2256868	Thiamethoxam	2.44	Spike	P	0 - 30
2256868	Tolfenpyrad	4.05	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P400315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256868	Triclopyr	6.44	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P400616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256854	Total Alkalinity	3.03	Sample	P	0 - 5.2

Reference Method: SM 2320 B-2011
Batch ID: P400618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256926	Total Alkalinity	0.750	Sample	P	0 - 5.2

Reference Method: SM 2540 D-2011
Batch ID: P400610

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256923	TSS	3.77	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P400620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256854	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 4500 F-C-2011
Batch ID: P400622

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256926	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P400363

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2255144	Organic Carbon	0.523	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P400534

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257170	Organic Carbon	1.46	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: SM 5310 B-2011
Batch ID: P400822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2258043	Organic Carbon	0.401	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2256951
Field Sample ID: G4NE0287

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	121	P	30 - 160
EPA 8321B	Acetaminophen-d4	118	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.4	P	30 - 160
EPA 8321B	Diuron-d6	60.2	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	34.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	82.2	P	30 - 160
EPA 8321B	Primidone-d5	99.5	P	30 - 160
EPA 8321B	Sucralose-d6	96.9	P	30 - 160

Lab Sample ID: 2256952
Field Sample ID: G4NE0285

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	119	P	30 - 160
EPA 8321B	Acetaminophen-d4	123	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.4	P	30 - 160
EPA 8321B	Diuron-d6	46.8	P	30 - 160
EPA 8321B	Endothall-d6	87.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	115	P	40 - 160
EPA 8321B	Ibuprofen-d3	80.7	P	30 - 160
EPA 8321B	Primidone-d5	91.1	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106265

Included Lab Sample IDs: 2256923, 2256926, 2256929, 2256930

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	98.0	P/P	95 - 105
Turbidity	99.0	99.0	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106267

Included Lab Sample IDs: 2256925, 2256928, 2256933, 2256934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.9	98.4	P/P	90 - 110
O-Phosphate-P	99.8	98.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106292

Included Lab Sample IDs: 2256924, 2256927, 2256931

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106296

Included Lab Sample IDs: 2256932

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

Reference Method: EPA 8321B

Run ID: A106300

Included Lab Sample IDs: 2256951, 2256952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	98.4	101	P/P	60 - 160
Glufosinate	104	104	P/P	60 - 160
Glyphosate	105	104	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A106301

Included Lab Sample IDs: 2256951, 2256952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	90.0	83.9	P/P	60 - 160
Endothall	86.2	74.9	P/P	60 - 160
Sucralose	94.1	95.9	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A106360

Included Lab Sample IDs: 2256924, 2256931

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.9	97.6	P/P	90 - 110
Organic Carbon	97.6	95.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106368

Included Lab Sample IDs: 2256924, 2256927, 2256931, 2256932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	102	P/P	90 - 110
Total-P	102	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A106390

Included Lab Sample IDs: 2256951, 2256952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.1	94.7	P/P	50 - 150
2,4,5-T	96.6	104	P/P	50 - 150
Acetaminophen	102	111	P/P	60 - 160
Acetamiprid	103	104	P/P	50 - 150
Afidopyropen	112	97.1	P/P	50 - 150
Bentazon	104	105	P/P	50 - 160
Benzovindiflupyr	113	113	P/P	50 - 160
Carbamazepine	105	111	P/P	60 - 150
Clothianidin	127	116	P/P	60 - 150
Dinotefuran	97.9	109	P/P	50 - 150
Diuron	113	105	P/P	60 - 160
Fenuron	101	99.6	P/P	60 - 150
Fluridone	97.5	101	P/P	60 - 160
Hydrocodone	107	109	P/P	60 - 150
Ibuprofen	96.7	96.7	P/P	50 - 160
Imazapyr	96.9	108	P/P	50 - 160
Imidacloprid	95.5	94.3	P/P	60 - 150
Linuron	104	114	P/P	60 - 150
Mandestrobin	113	107	P/P	50 - 150
MCPP	107	105	P/P	50 - 150
Naproxen	89.8	91.9	P/P	50 - 160
Primidone	113	101	P/P	60 - 150
Pyraclostrobin	105	104	P/P	60 - 150
Thiamethoxam	97.2	106	P/P	50 - 150
Tolfenpyrad	101	107	P/P	60 - 150
Triclopyr	109	103	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106396

Included Lab Sample IDs: 2256924, 2256927, 2256931

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.5	96.6	P/P	90 - 110
Ammonia-N	98.8	97.3	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A106418

Included Lab Sample IDs: 2256953

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	99.0	P/P	90 - 110
Iron	102	100	P/P	90 - 110
Magnesium	101	99.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106429

Included Lab Sample IDs: 2256931

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	90.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A106432

Included Lab Sample IDs: 2256932

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A106441

Included Lab Sample IDs: 2256953

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Manganese	102	103	P/P	90 - 110
Zinc	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106443

Included Lab Sample IDs: 2256927

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.0	96.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106445

Included Lab Sample IDs: 2256953

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	104	106	P/P	90 - 110
Arsenic	101	100	P/P	90 - 110
Beryllium	96.3	98.1	P/P	90 - 110
Cadmium	99.8	100	P/P	90 - 110
Chromium	98.7	98.8	P/P	90 - 110
Copper	102	101	P/P	90 - 110
Lead	96.8	96.5	P/P	90 - 110
Nickel	99.3	97.8	P/P	90 - 110
Selenium	99.2	100	P/P	90 - 110
Silver	97.3	96.8	P/P	90 - 110
Thallium	97.3	96.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106456

Included Lab Sample IDs: 2256932

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106462

Included Lab Sample IDs: 2256953

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106466

Included Lab Sample IDs: 2256924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.3	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106468

Included Lab Sample IDs: 2256932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.4	96.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A106477

Included Lab Sample IDs: 2256923, 2256926, 2256929, 2256930

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.3	P/P	90 - 110
Total Alkalinity	98.5	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A106477

Included Lab Sample IDs: 2256923, 2256926, 2256929, 2256930

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

Reference Method: SM 5310 B-2011

Run ID: A106565

Included Lab Sample IDs: 2256927

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	100	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					1.89	
	Turbidity					2.07	
EPA 200.7 Rev. 4.4	Calcium	101					0.677
	Iron	107	106	107			0.736
	Magnesium	101					1.22
	Manganese	98.9	97.9	96.6			1.28
	Zinc	95.7	103	99.4			3.08
EPA 200.8 Rev. 5.4	Aluminum	109	113	118			3.87
	Antimony	109	113	111			2.30
	Arsenic	105	117	115			2.24
	Beryllium	102	120	119			0.692
	Cadmium	103	99.0	97.7			1.34
	Chromium	103	106	114			7.86
	Copper	104	119	117			1.36
	Lead	103	112	109			1.96
	Nickel	101	100	105			3.27
	Selenium	105	109	106			2.97
	Silver	101	94.3	93.0			1.37
	Thallium	108	117	114			2.57
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	97.0	96.6			0.233
	Ammonia-N	99.2	96.6	97.8			0.998
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	105	100			3.65
	Kjeldahl Nitrogen	103	117	106			7.52
	Kjeldahl Nitrogen	106					2.60
	Kjeldahl Nitrogen	99.8	97.5	108			7.73
EPA 353.2 Rev. 2.0	NO2NO3-N	98.5	98.6	98.6			0.0
	NO2NO3-N	99.5	99.5	100			0.501
EPA 365.1 Rev. 2.0	Total-P	102					0.800
	Total-P	102	93.7	95.0			1.32
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	103	103			0.486
	O-Phosphate-P	100	98.9	101			1.24
EPA 8321B	2,4-D	120	122	124			1.26
	2,4,5-T	128	113	116			3.02
	Acesulfame K	83.9	105	77.0			31.2
	Acetaminophen	83.0	112	112			0.0414
	Acetamiprid	90.6	82.4	74.6			10.0
	Afidopyropen	73.6	71.1	57.7			20.9
	AMPA	97.9	79.8	84.1			5.21
	Bentazon	92.3	79.5	74.5			4.42
	Benzovindiflupyr	92.8	84.5	91.2			7.62
	Carbamazepine	92.0	85.2	87.3			2.49
	Clothianidin	92.2	114	107			6.72
	Dinotefuran	88.1	125	123			1.79
	Diuron	73.7	75.7	68.5			9.87
	Endothall	72.9	102	99.8			1.71
	Fenuron	99.7	83.1	79.1			4.91
	Fluridone	87.6	79.7	81.1			1.73
	Glufosinate	96.7	94.5	100			5.98
	Glyphosate	102	100	100			0.0759
	Hydrocodone	94.6	108	107			1.10
	Ibuprofen	86.0	84.8	67.3			23.0
	Imazapyr	101	168	159			5.53
	Imidacloprid	92.6	148	155			3.73
	Linuron	73.3	70.6	70.0			0.884

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Mandestrobin	94.1	94.0	90.3			4.05
	MCP	125	113	112			0.487
	Naproxen	82.1	97.4	75.5			25.3
	Primidone	93.3	122	111			9.27
	Pyraclostrobin	81.1	88.6	80.2			9.94
	Sucralose	92.1	94.2	101			6.69
	Thiamethoxam	91.7	145	148			2.44
	Tolfenpyrad	47.4	53.7	55.9			4.05
	Triclopyr	122	121	113			6.44
SM 2320 B-2011	Total Alkalinity	102				3.03	
	Total Alkalinity	101				0.750	
SM 2540 D-2011	TSS					3.77	
SM 4500 F-C-2011	Fluoride	98.5	101	101			0.0
	Fluoride	100	100	100			0.0
SM 5310 B-2011	Organic Carbon	96.6	95.7	95.1			0.523
	Organic Carbon	95.3	96.2	98.6			1.46
	Organic Carbon	98.5	100	99.8			0.401

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2256923, 2256926, 2256929, 2256930
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2256953
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2256953
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2256924, 2256927, 2256931, 2256932
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2256924, 2256927, 2256931, 2256932
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2256924, 2256927, 2256931, 2256932
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2256924, 2256927, 2256931, 2256932
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2256925, 2256928, 2256933, 2256934
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2256951, 2256952
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2256923, 2256926, 2256929, 2256930
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2256923, 2256926, 2256929, 2256930
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2256923, 2256926, 2256929, 2256930
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2256924, 2256927, 2256931, 2256932

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	06/24/2021			06/24/2021 15:19	Sarah A Nixon	2256923, 2256926, 2256929, 2256930
EPA 200.7 Rev. 4.4	06/24/2021	06/30/2021 13:05	Elliott D. Healy	07/01/2021 21:03	Josef B Mick	2256953
	06/24/2021	06/30/2021 13:05	Elliott D. Healy	07/01/2021 21:11	Josef B Mick	2256953
	06/24/2021	06/30/2021 13:05	Elliott D. Healy	07/02/2021 15:28	Betina Topolski	2256953
EPA 200.8 Rev. 5.4	06/24/2021	06/30/2021 13:05	Elliott D. Healy	07/02/2021 16:28	Alexander Thompson	2256953
	06/24/2021	06/30/2021 13:05	Elliott D. Healy	07/06/2021 14:24	Alexander Thompson	2256953
EPA 350.1 Rev. 2.0	06/24/2021			07/01/2021 12:45	Roberta Tatti	2256924
	06/24/2021			07/01/2021 14:41	Roberta Tatti	2256927
	06/24/2021			07/01/2021 14:42	Roberta Tatti	2256931
	06/24/2021			07/06/2021 12:13	Roberta Tatti	2256932
EPA 351.2 Rev. 2.0	06/24/2021	06/29/2021 12:58	Benjamin T. Nordmann	07/02/2021 19:13	Letuzia M De Oliveira	2256927
	06/24/2021	06/30/2021 12:28	Benjamin T. Nordmann	07/01/2021 15:14	Letuzia M De Oliveira	2256931
	06/24/2021	07/01/2021 14:00	Benjamin T. Nordmann	07/06/2021 19:24	Letuzia M De Oliveira	2256932
	06/24/2021	07/02/2021 12:58	Benjamin T. Nordmann	07/06/2021 13:40	Letuzia M De Oliveira	2256924
EPA 353.2 Rev. 2.0	06/24/2021			06/25/2021 09:35	Beverly Y. Sanders	2256932
	06/24/2021			06/25/2021 10:42	Beverly Y. Sanders	2256924
	06/24/2021			06/25/2021 10:48	Beverly Y. Sanders	2256927
	06/24/2021			06/25/2021 10:49	Beverly Y. Sanders	2256931
EPA 365.1 Rev. 2.0	06/24/2021	06/29/2021 13:16	Madeline Gruver	06/30/2021 11:12	Shengyu Ding	2256932
	06/24/2021	06/29/2021 13:16	Madeline Gruver	06/30/2021 11:24	Shengyu Ding	2256924
	06/24/2021	06/29/2021 13:16	Madeline Gruver	06/30/2021 11:25	Shengyu Ding	2256927
	06/24/2021	06/29/2021 13:16	Madeline Gruver	06/30/2021 11:26	Shengyu Ding	2256931
EPA 365.1 Rev. 2.0 dissolved	06/24/2021			06/24/2021 15:47	Ping Hua	2256934
	06/24/2021			06/24/2021 15:51	Ping Hua	2256933
	06/24/2021			06/24/2021 15:54	Ping Hua	2256925
	06/24/2021			06/24/2021 15:59	Ping Hua	2256928
EPA 8321B	06/24/2021	06/25/2021 08:00	Pramila Ghimire	06/25/2021 15:21	Juyoung Kim	2256951
	06/24/2021	06/25/2021 08:00	Pramila Ghimire	06/25/2021 15:32	Juyoung Kim	2256952
	06/24/2021	06/25/2021 08:00	Pramila Ghimire	06/25/2021 23:01	Pramila Ghimire	2256951
	06/24/2021	06/25/2021 08:00	Pramila Ghimire	06/25/2021 23:15	Pramila Ghimire	2256952
	06/24/2021	06/30/2021 09:00	Hoor Shaik	06/30/2021 22:47	Juyoung Kim	2256951
	06/24/2021	06/30/2021 09:00	Hoor Shaik	06/30/2021 23:21	Juyoung Kim	2256952
SM 2320 B-2011	06/24/2021			07/07/2021 01:35	Patrick M. Roche	2256930
	06/24/2021			07/07/2021 10:08	Patrick M. Roche	2256926
	06/24/2021			07/07/2021 10:23	Patrick M. Roche	2256923
	06/24/2021			07/07/2021 10:37	Patrick M. Roche	2256929
SM 2540 D-2011	06/24/2021			06/28/2021 14:25	Yijie Li	2256923, 2256926, 2256929, 2256930
SM 4500 F-C-2011	06/24/2021			07/07/2021 01:35	Patrick M. Roche	2256930
	06/24/2021			07/07/2021 09:21	Patrick M. Roche	2256926
	06/24/2021			07/07/2021 09:36	Patrick M. Roche	2256923

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-2011	06/24/2021			07/07/2021 09:41	Patrick M. Roche	2256929
SM 5310 B-2011	06/24/2021			06/29/2021 15:16	Madeline Gruver	2256924
	06/24/2021			06/29/2021 16:08	Madeline Gruver	2256931
	06/24/2021			07/01/2021 10:17	Madeline Gruver	2256932
	06/24/2021			07/09/2021 20:27	Madeline Gruver	2256927