

Chemical Analysis Report

NE-DIST-2021-10-13-01

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

Event Description: **LSJR Lake 2021**
Request ID: **RQ-2021-09-13-16**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 03-NOV-2021 15:29

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: Lake Broward North

Collection Date/Time: 10/12/2021 10:40

Field ID: G2NE1219

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2283075	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P405011	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P405157	
		Sulfate	9.4		mg SO4/L	P405160	
	SM 2120 B-2011	Color (true)	9.3	A	PCU	P405014	
	SM 2320 B-2011	Total Alkalinity	1.9	I	mg CaCO3/L	P405148	
	SM 2540 C-2011	TDS	43		mg/L	P405532	
	SM 2540 D-2011	TSS	2	U	mg/L	P405407	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P405154	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P405436	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36		mg N/L	P405474	
2283077	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P405173	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P405210	
	SM 5310 B-2011	Organic Carbon	5.2		mg C/L	P405420	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P405006	
	dissolved						
2283085	EPA 8321B	2,4-D	0.18		ug/L	P405187	
		Acesulfame K	0.10	U	ug/L	P405138	
		2,4,5-T	0.0040	U	ug/L	P405187	
		AMPA	0.10	U	ug/L	P405138	
		Acetaminophen	0.0080	U	ug/L	P405187	
		Acetamiprid	0.0020	U	ug/L	P405187	
		Endothall	0.25	U	ug/L	P405138	
		Glufosinate	0.10	U	ug/L	P405138	
		Glyphosate	0.10	U	ug/L	P405138	
		Afidopyropen	0.0020	U	ug/L	P405187	
		Bentazon	8.0E-04	U	ug/L	P405187	
		Sucralose	0.34		ug/L	P405138	
		Benzovindiflupyr	0.0020	U	ug/L	P405187	
		Carbamazepine	8.0E-04	U	ug/L	P405187	
		Clothianidin	0.0020	U	ug/L	P405187	
		Dinotefuran	0.0020	U	ug/L	P405187	
		Diuron	0.0020	U	ug/L	P405187	
		Fenuron	0.016	U	ug/L	P405187	
		Fluridone	9.3E-04	I	ug/L	P405187	
		Imazapyr	0.048		ug/L	P405187	
		Hydrocodone	0.0020	U	ug/L	P405187	
		Ibuprofen	0.020	U	ug/L	P405187	
		Imidacloprid	0.0020	UJ	ug/L	P405187	MS
		Linuron	0.0040	U	ug/L	P405187	
		Mandestrobin	0.0020	U	ug/L	P405187	
		MCP	0.0020	U	ug/L	P405187	
		Naproxen	0.0080	U	ug/L	P405187	
		Primidone	0.0040	U	ug/L	P405187	
		Pyraclostrobin	0.0020	U	ug/L	P405187	

Field ID: G2NE1219

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2283085	EPA 8321B	Thiamethoxam	0.0020	UJ	ug/L	P405187	MS
		Tolfenpyrad	0.0020	U	ug/L	P405187	
		Triclopyr	0.0040	U	ug/L	P405187	
2283087	EPA 200.7 Rev. 4.4	Barium	8.1		ug/L	P405069	
		Calcium	3.60		mg/L	P405069	
		Iron	30	U	ug/L	P405069	
		Magnesium	1.45		mg/L	P405069	
		Manganese	2.8	I	ug/L	P405069	
		Potassium	0.94	I	mg/L	P405069	
		Sodium	8.3		mg/L	P405069	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P405069	
		Aluminum	33		ug/L	P405069	
		Antimony	0.077	I	ug/L	P405069	
		Arsenic	2.59		ug/L	P405069	
		Beryllium	0.010	I	ug/L	P405069	
		Boron**	33.1		ug/L	P405069	
		Cadmium	0.020	U	ug/L	P405069	
		Chromium	0.40	U	ug/L	P405069	
		Copper	0.40	U	ug/L	P405069	
		Lead	0.20	U	ug/L	P405069	
		Nickel	0.50	U	ug/L	P405069	
		Selenium	0.20	U	ug/L	P405069	
		Silver	0.010	U	ug/L	P405069	
		Thallium	0.10	U	ug/L	P405069	
	SM 2340B	Hardness	15.0		mg/L	P405069	

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: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Lake Broward South

Collection Date/Time: 10/12/2021 11:00

Field ID: G2NE1218

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2283076	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P405011	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P405157	
		Sulfate	7.8		mg SO4/L	P405160	
	SM 2120 B-2011	Color (true)	25		PCU	P405014	
	SM 2320 B-2011	Total Alkalinity	4.7		mg CaCO3/L	P405148	
	SM 2540 C-2011	TDS	55		mg/L	P405533	
	SM 2540 D-2011	TSS	2	I	mg/L	P405408	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P405154	
2283078	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P405437	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.52		mg N/L	P405474	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P405173	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P405210	
	SM 5310 B-2011	Organic Carbon	7.0		mg C/L	P405420	
2283080	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P405007	
2283086	EPA 8321B	2,4-D	0.077		ug/L	P405187	
		Acesulfame K	0.10	U	ug/L	P405138	
		2,4,5-T	0.0040	U	ug/L	P405187	
		AMPA	0.10	U	ug/L	P405138	
		Acetaminophen	0.019	I	ug/L	P405187	
		Acetamiprid	0.0020	U	ug/L	P405187	
		Endothall	0.25	U	ug/L	P405138	
		Glufosinate	0.10	U	ug/L	P405138	
		Glyphosate	0.10	U	ug/L	P405138	
		Afidopyropen	0.0020	U	ug/L	P405187	
		Bentazon	8.0E-04	U	ug/L	P405187	
		Sucralose	0.22		ug/L	P405138	
		Benzovindiflupyr	0.0020	U	ug/L	P405187	
		Carbamazepine	8.0E-04	U	ug/L	P405187	
		Clothianidin	0.0020	U	ug/L	P405187	
		Dinotefuran	0.0020	U	ug/L	P405187	
		Diuron	0.0020	U	ug/L	P405187	
		Fenuron	0.016	U	ug/L	P405187	
		Fluridone	0.0086		ug/L	P405187	
		Imazapyr	0.55		ug/L	P405187	
		Hydrocodone	0.0020	U	ug/L	P405187	
		Ibuprofen	0.020	U	ug/L	P405187	
		Imidacloprid	0.0020	U	ug/L	P405187	MS
		Linuron	0.0040	U	ug/L	P405187	
		Mandestrobin	0.0020	U	ug/L	P405187	
		MCP	0.0020	U	ug/L	P405187	
		Naproxen	0.0080	U	ug/L	P405187	
		Primidone	0.010	I	ug/L	P405187	
		Pyraclostrobin	0.0020	U	ug/L	P405187	

Field ID: G2NE1218

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2283086	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P405187	MS
		Tolfenpyrad	0.0020	U	ug/L	P405187	
		Triclopyr	0.0040	U	ug/L	P405187	
2283088	EPA 200.7 Rev. 4.4	Barium	10.1		ug/L	P405069	
		Calcium	4.47		mg/L	P405069	
		Iron	45	I	ug/L	P405069	
		Magnesium	1.38		mg/L	P405069	
		Manganese	5.2		ug/L	P405069	
		Potassium	0.99	I	mg/L	P405069	
		Sodium	8.0		mg/L	P405069	
		Zinc	5.0	U	ug/L	P405069	
	EPA 200.8 Rev. 5.4	Aluminum	38		ug/L	P405069	
		Antimony	0.055	I	ug/L	P405069	
		Arsenic	3.11		ug/L	P405069	
		Beryllium	0.013	I	ug/L	P405069	
		Boron**	34.2		ug/L	P405069	
		Cadmium	0.020	U	ug/L	P405069	
		Chromium	0.40	U	ug/L	P405069	
		Copper	0.57	I	ug/L	P405069	
		Lead	0.20	U	ug/L	P405069	
		Nickel	0.50	U	ug/L	P405069	
		Selenium	0.20	U	ug/L	P405069	
		Silver	0.010	U	ug/L	P405069	
		Thallium	0.10	U	ug/L	P405069	
	SM 2340B	Hardness	16.8		mg/L	P405069	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405011

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P405069

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
Manganese	1.0	U	ug/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: P405069

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
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: P405157

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P405160

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405436

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405437

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405474

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405173

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405210

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405006

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405007

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

Reference Method: EPA 8321B
Batch ID: P405138

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: P405187

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P405187

Component	Result	Code	Units
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 2120 B-2011

Batch ID: P405014

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P405148

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

Reference Method: SM 2540 C-2011

Batch ID: P405532

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011

Batch ID: P405533

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P405407

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P405408

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P405154

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P405420

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: P405069

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	101		P	85 - 115
Calcium	96.2		P	85 - 115
Iron	102		P	85 - 115
Magnesium	95.3		P	85 - 115
Manganese	100		P	85 - 115
Potassium	96.3		P	85 - 115
Sodium	100		P	85 - 115
Zinc	98.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405069

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	113		P	85 - 115
Antimony	106		P	85 - 115
Arsenic	102		P	85 - 115
Beryllium	100		P	85 - 115
Boron	112		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	98.9		P	85 - 115
Copper	99.4		P	85 - 115
Lead	97.9		P	85 - 115
Nickel	99.8		P	85 - 115
Selenium	101		P	85 - 115
Silver	101		P	85 - 115
Thallium	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405157

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405160

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P405436

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P405437

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.4		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P405474

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405173

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405210

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405006

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405007

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

Reference Method: EPA 8321B

Batch ID: P405138

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	114		P	40 - 150
AMPA	86.2		P	40 - 160
Endothall	84.0		P	40 - 150
Glufosinate	111		P	40 - 160
Glyphosate	78.0		P	40 - 160
Sucralose	107		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P405187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.6		P	40 - 150
2,4,5-T	56.2		P	40 - 150
Acetaminophen	85.9		P	30 - 150
Acetamiprid	87.4		P	40 - 150
Afidopyropen	91.2		P	40 - 150
Bentazon	89.3		P	30 - 150
Benzovindiflupyr	87.7		P	40 - 150
Carbamazepine	94.6		P	40 - 150
Clothianidin	82.9		P	40 - 150
Dinotefuran	91.3		P	40 - 150
Diuron	88.1		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P405187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	92.2		P	40 - 150
Fluridone	94.6		P	40 - 150
Hydrocodone	85.3		P	40 - 150
Ibuprofen	65.2		P	40 - 150
Imazapyr	90.0		P	40 - 150
Imidacloprid	94.6		P	40 - 150
Linuron	88.0		P	40 - 150
Mandestrobin	89.6		P	40 - 150
MCP	91.2		P	40 - 150
Naproxen	62.7		P	40 - 150
Primidone	87.0		P	40 - 150
Pyraclostrobin	74.1		P	40 - 150
Thiamethoxam	88.2		P	40 - 150
Tolfenpyrad	45.5		P	30 - 150
Triclopyr	53.3		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P405014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.2		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P405148

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

Reference Method: SM 4500 F-C-2011
Batch ID: P405154

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

Reference Method: SM 5310 B-2011
Batch ID: P405420

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405069

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282860	Barium	99.6	101	P/P	80 - 120
2282860	Calcium	98.0		P	80 - 120
2282860	Iron	101	103	P/P	80 - 120
2282860	Magnesium	97.6		P	80 - 120
2282860	Manganese	99.5	101	P/P	80 - 120
2282860	Potassium	103	104	P/P	80 - 120
2282860	Sodium	101	101	P/P	80 - 120
2282860	Zinc	98.2	99.3	P/P	80 - 120
2283194	Barium	98.8		P	80 - 120
2283194	Calcium	101		P	80 - 120
2283194	Iron	102		P	80 - 120
2283194	Magnesium	101		P	80 - 120
2283194	Manganese	98.5		P	80 - 120
2283194	Potassium	103		P	80 - 120
2283194	Sodium	97.1		P	80 - 120
2283194	Zinc	99.1		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405069

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282860	Aluminum	109	111	P/P	80 - 120
2282860	Antimony	109	110	P/P	80 - 120
2282860	Arsenic	103	102	P/P	80 - 120
2282860	Beryllium	102	103	P/P	80 - 120
2282860	Boron	108	110	P/P	80 - 120
2282860	Cadmium	106	107	P/P	80 - 120
2282860	Chromium	103	104	P/P	80 - 120
2282860	Copper	98.8	100	P/P	80 - 120
2282860	Lead	99.9	100	P/P	80 - 120
2282860	Nickel	99.2	99.6	P/P	80 - 120
2282860	Selenium	100	103	P/P	80 - 120
2282860	Silver	103	102	P/P	80 - 120
2282860	Thallium	108	109	P/P	80 - 120
2283194	Aluminum	112		P	80 - 120
2283194	Antimony	107		P	80 - 120
2283194	Arsenic	99.1		P	80 - 120
2283194	Beryllium	98.3		P	80 - 120
2283194	Boron	118		P	80 - 120
2283194	Cadmium	102		P	80 - 120
2283194	Chromium	100		P	80 - 120
2283194	Copper	96.1		P	80 - 120
2283194	Lead	97.7		P	80 - 120
2283194	Nickel	97.0		P	80 - 120
2283194	Selenium	95.8		P	80 - 120
2283194	Silver	99.2		P	80 - 120
2283194	Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P405157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283050	Chloride	100		P	90 - 110
2283112	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P405160

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283050	Sulfate	101		P	90 - 110
2283112	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405436

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283051	Ammonia-N	98.8	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405437

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283078	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405474

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283054	Kjeldahl Nitrogen	101	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405173

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283077	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283396	Total-P	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405006

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283055	O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283189	O-Phosphate-P	101	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P405138

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283085	AMPA	89.3	86.4	P/P	40 - 160
2283085	Glufosinate	103	101	P/P	40 - 160
2283085	Glyphosate	70.4	68.1	P/P	40 - 160
2283086	Acesulfame K	142	132	P/P	40 - 150
2283086	Endothall	91.8	92.6	P/P	40 - 150
2283086	Sucralose	107	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P405187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283085	2,4-D	145	125	P/P	40 - 150
2283085	2,4,5-T	81.8	108	P/P	40 - 150
2283085	Acetaminophen	114	109	P/P	30 - 150
2283085	Acetamiprid	111	103	P/P	40 - 150
2283085	Afidopyropen	99.5	83.4	P/P	40 - 150
2283085	Bentazon	82.6	85.1	P/P	30 - 150
2283085	Benzovindiflupyr	97.9	79.2	P/P	40 - 150
2283085	Carbamazepine	121	116	P/P	40 - 150
2283085	Clothianidin	121	111	P/P	40 - 150
2283085	Dinotefuran	124	116	P/P	40 - 150
2283085	Diuron	89.4	78.2	P/P	40 - 150
2283085	Fenuron	107	103	P/P	40 - 150
2283085	Fluridone	107	96.4	P/P	40 - 150
2283085	Hydrocodone	106	115	P/P	40 - 150
2283085	Ibuprofen	73.6	80.3	P/P	40 - 150
2283085	Imazapyr	141	112	P/P	40 - 150
2283085	Imidacloprid	160	154	F/F	40 - 150
2283085	Linuron	105	95.3	P/P	40 - 150
2283085	Mandestrobin	98.1	90.5	P/P	40 - 150
2283085	MCPP	114	121	P/P	40 - 150
2283085	Naproxen	90.5	66.9	P/P	40 - 150
2283085	Primidone	136	105	P/P	40 - 150
2283085	Pyraclostrobin	90.7	81.9	P/P	40 - 150
2283085	Thiamethoxam	165	161	F/F	40 - 150
2283085	Tolfenpyrad	59.6	55.6	P/P	30 - 150
2283085	Triclopyr	83.6	85.1	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P405154

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282443	Fluoride	102	101	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P405420

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2282776	Organic Carbon	97.5	97.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P405011

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282936	Turbidity	1.91	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405069

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282860	Barium	0.913	Spike	P	0 - 20
2282860	Calcium	0.183	Spike	P	0 - 20
2282860	Iron	1.38	Spike	P	0 - 20
2282860	Magnesium	1.13	Spike	P	0 - 20
2282860	Manganese	0.959	Spike	P	0 - 20
2282860	Potassium	0.969	Spike	P	0 - 20
2282860	Sodium	0.367	Spike	P	0 - 20
2282860	Zinc	1.06	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405069

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282860	Aluminum	2.30	Spike	P	0 - 20
2282860	Antimony	0.721	Spike	P	0 - 20
2282860	Arsenic	0.270	Spike	P	0 - 20
2282860	Beryllium	0.938	Spike	P	0 - 20
2282860	Boron	2.13	Spike	P	0 - 20
2282860	Cadmium	0.816	Spike	P	0 - 20
2282860	Chromium	1.14	Spike	P	0 - 20
2282860	Copper	1.16	Spike	P	0 - 20
2282860	Lead	0.482	Spike	P	0 - 20
2282860	Nickel	0.355	Spike	P	0 - 20
2282860	Selenium	2.30	Spike	P	0 - 20
2282860	Silver	0.598	Spike	P	0 - 20
2282860	Thallium	0.440	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405157

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283050	Chloride	0.435	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405160

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283050	Sulfate	1.22	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405436

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283051	Ammonia-N	0.686	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283078	Ammonia-N	0.197	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283054	Kjeldahl Nitrogen	2.23	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283077	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283396	Total-P	1.02	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283055	O-Phosphate-P	0.198	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283189	O-Phosphate-P	0.492	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P405138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283085	AMPA	3.27	Spike	P	0 - 30
2283085	Glufosinate	1.22	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P405138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283085	Glyphosate	3.32	Spike	P	0 - 30
2283086	Acesulfame K	6.95	Spike	P	0 - 30
2283086	Endothall	0.963	Spike	P	0 - 30
2283086	Sucralose	0.546	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P405187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283085	2,4-D	5.56	Spike	P	0 - 30
2283085	2,4,5-T	27.4	Spike	P	0 - 30
2283085	Acetaminophen	4.31	Spike	P	0 - 30
2283085	Acetamiprid	7.72	Spike	P	0 - 30
2283085	Afidopyropen	17.5	Spike	P	0 - 30
2283085	Bentazon	2.97	Spike	P	0 - 30
2283085	Benzovindiflupyr	21.1	Spike	P	0 - 30
2283085	Carbamazepine	3.42	Spike	P	0 - 30
2283085	Clothianidin	9.22	Spike	P	0 - 30
2283085	Dinotefuran	6.64	Spike	P	0 - 30
2283085	Diuron	13.3	Spike	P	0 - 30
2283085	Fenuron	4.14	Spike	P	0 - 30
2283085	Fluridone	10.1	Spike	P	0 - 30
2283085	Hydrocodone	8.29	Spike	P	0 - 30
2283085	Ibuprofen	8.68	Spike	P	0 - 30
2283085	Imazapyr	15.2	Spike	P	0 - 30
2283085	Imidacloprid	3.66	Spike	P	0 - 30
2283085	Linuron	9.46	Spike	P	0 - 30
2283085	Mandestrobin	8.01	Spike	P	0 - 30
2283085	MCPP	5.53	Spike	P	0 - 30
2283085	Naproxen	30.0	Spike	P	0 - 30
2283085	Primidone	25.6	Spike	P	0 - 30
2283085	Pyraclostrobin	10.2	Spike	P	0 - 30
2283085	Thiamethoxam	2.28	Spike	P	0 - 30
2283085	Tolfenpyrad	6.93	Spike	P	0 - 30
2283085	Triclopyr	1.81	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P405014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283075	Color (true)	17.2	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P405148

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282443	Total Alkalinity	4.87	Sample	P	0 - 5.2

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P405532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282662	TDS	2.51	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P405533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283153	TDS	5.95	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P405154

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282443	Fluoride	0.513	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P405420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2282776	Organic Carbon	0.341	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2283085
Field Sample ID: G2NE1219

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Diuron-d6	86.8	P	30 - 160
EPA 8321B	Endothall-d6	81.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	78.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	71.5	P	30 - 160
EPA 8321B	Primidone-d5	99.8	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160

Lab Sample ID: 2283086
Field Sample ID: G2NE1218

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	111	P	30 - 160
EPA 8321B	Carbamazepine-d10	117	P	30 - 160
EPA 8321B	Diuron-d6	81.3	P	30 - 160
EPA 8321B	Endothall-d6	81.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.7	P	30 - 160
EPA 8321B	Primidone-d5	124	P	30 - 160
EPA 8321B	Sucralose-d6	110	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A108279

Included Lab Sample IDs: 2283075, 2283076

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108313

Included Lab Sample IDs: 2283079, 2283080

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A108314

Included Lab Sample IDs: 2283075, 2283076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	98.5	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A108315

Included Lab Sample IDs: 2283075, 2283076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.5	101	P/P	90 - 115

Reference Method: SM 2320 B-2011

Run ID: A108368

Included Lab Sample IDs: 2283075, 2283076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.2	99.9	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A108368

Included Lab Sample IDs: 2283075, 2283076

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108378

Included Lab Sample IDs: 2283077, 2283078

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

Reference Method: EPA 8321B

Run ID: A108379

Included Lab Sample IDs: 2283085, 2283086

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	83.0	94.0	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A108379

Included Lab Sample IDs: 2283085, 2283086

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glufosinate	108	108	P/P	60 - 160
Glyphosate	77.7	81.4	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A108384

Included Lab Sample IDs: 2283085, 2283086

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	128	112	P/P	60 - 160
Endothall	91.3	85.0	P/P	60 - 160
Sucralose	109	102	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A108399

Included Lab Sample IDs: 2283087, 2283088

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.1	96.6	P/P	90 - 110
Calcium	97.5	98.9	P/P	90 - 110
Iron	97.2	98.7	P/P	90 - 110
Magnesium	99.8	101	P/P	90 - 110
Manganese	98.1	98.8	P/P	90 - 110
Potassium	93.1	93.6	P/P	90 - 110
Sodium	97.7	98.1	P/P	90 - 110
Zinc	95.1	97.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108417

Included Lab Sample IDs: 2283087, 2283088

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	106	106	P/P	90 - 110
Arsenic	98.9	98.1	P/P	90 - 110
Beryllium	97.8	95.6	P/P	90 - 110
Cadmium	102	103	P/P	90 - 110
Chromium	98.2	98.1	P/P	90 - 110
Copper	95.3	93.6	P/P	90 - 110
Lead	94.6	94.1	P/P	90 - 110
Nickel	94.9	94.0	P/P	90 - 110
Selenium	100	100	P/P	90 - 110
Silver	98.7	98.2	P/P	90 - 110
Thallium	101	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108447

Included Lab Sample IDs: 2283087, 2283088

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	108	107	P/P	90 - 110
Boron	109	107	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108451

Included Lab Sample IDs: 2283077, 2283078

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.2	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A108471

Included Lab Sample IDs: 2283077, 2283078

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.0	95.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108476

Included Lab Sample IDs: 2283077, 2283078

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.1	P/P	90 - 110
Ammonia-N	99.1	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108513

Included Lab Sample IDs: 2283077, 2283078

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.9	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A108578

Included Lab Sample IDs: 2283085, 2283086

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.7	108	P/P	50 - 150
2,4,5-T	98.0	83.8	P/P	50 - 150
Acetaminophen	99.6	97.3	P/P	60 - 160
Acetamiprid	104	104	P/P	50 - 150
Afidopyropen	100	110	P/P	50 - 150
Bentazon	103	103	P/P	50 - 160
Benzovindiflupyr	108	112	P/P	50 - 150
Carbamazepine	107	104	P/P	60 - 150
Clothianidin	98.2	109	P/P	60 - 150
Dinotefuran	108	99.1	P/P	50 - 150
Diuron	110	113	P/P	60 - 160
Fenuron	98.0	97.1	P/P	60 - 150
Fluridone	103	110	P/P	60 - 160
Hydrocodone	100	100	P/P	60 - 150
Ibuprofen	74.9	90.1	P/P	50 - 160
Imazapyr	79.5	86.8	P/P	50 - 150
Imidacloprid	93.9	98.9	P/P	60 - 150
Linuron	102	112	P/P	60 - 150
Mandestrobin	101	104	P/P	50 - 150
MCPP	87.4	92.0	P/P	50 - 150
Naproxen	107	76.8	P/P	50 - 160
Primidone	96.8	86.0	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A108578

Included Lab Sample IDs: 2283085, 2283086

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	104	106	P/P	60 - 150
Thiamethoxam	110	100	P/P	50 - 150
Tolfenpyrad	91.3	103	P/P	60 - 150
Triclopyr	94.9	87.1	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			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity								1.91	
EPA 200.7 Rev. 4.4	Barium	101			99.6	101	98.8			0.913
	Calcium	96.2			98.0	101				0.183
	Iron	102			101	103	102			1.38
	Magnesium	95.3			97.6	101				1.13
	Manganese	100			99.5	101	98.5			0.959
	Potassium	96.3			103	104	103			0.969
	Sodium	100			101	101	97.1			0.367
	Zinc	98.1			98.2	99.3	99.1			1.06
EPA 200.8 Rev. 5.4	Aluminum	113			109	111	112			2.30
	Antimony	106			109	110	107			0.721
	Arsenic	102			103	102	99.1			0.270
	Beryllium	100			102	103	98.3			0.938
	Boron	112			108	110	118			2.13
	Cadmium	103			106	107	102			0.816
	Chromium	98.9			103	104	100			1.14
	Copper	99.4			98.8	100	96.1			1.16
	Lead	97.9			99.9	100	97.7			0.482
	Nickel	99.8			99.2	99.6	97.0			0.355
	Selenium	101			100	103	95.8			2.30
	Silver	101			103	102	99.2			0.598
	Thallium	104			108	109	103			0.440
EPA 300.0 Rev. 2.1	Chloride	101			100	101			0.435	
	Sulfate	102			101	102			1.22	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6			98.8	100				0.686
	Ammonia-N	95.4			101	101				0.197
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107			101	98.5				2.23
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102			102	101				0.494
EPA 365.1 Rev. 2.0	Total-P	104			105	104				1.02
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.1			101	101				0.198
	O-Phosphate-P	98.0			101	102				0.492
EPA 8321B	2,4-D	86.6			145	125				5.56
	2,4,5-T	56.2			81.8	108				27.4
	Acesulfame K	114			142	132				6.95
	Acetaminophen	85.9			114	109				4.31
	Acetamiprid	87.4			111	103				7.72
	Afidopyropen	91.2			99.5	83.4				17.5
	AMPA	86.2			89.3	86.4				3.27
	Bentazon	89.3			82.6	85.1				2.97
	Benzovindiflupyr	87.7			97.9	79.2				21.1
	Carbamazepine	94.6			121	116				3.42
	Clothianidin	82.9			121	111				9.22
	Dinotefuran	91.3			124	116				6.64
	Diuron	88.1			89.4	78.2				13.3
	Endothall	84.0			91.8	92.6				0.963
	Fenuron	92.2			107	103				4.14
	Fluridone	94.6			107	96.4				10.1
	Glufosinate	111			103	101				1.22
	Glyphosate	78.0			70.4	68.1				3.32
	Hydrocodone	85.3			106	115				8.29
	Ibuprofen	65.2			73.6	80.3				8.68
	Imazapyr	90.0			141	112				15.2
	Imidacloprid	94.6			160	154				3.66
	Linuron	88.0			105	95.3				9.46

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Mandestrobin	89.6	98.1	90.5			8.01
	MCCP	91.2	114	121			5.53
	Naproxen	62.7	90.5	66.9			30.0
	Primidone	87.0	136	105			25.6
	Pyraclostrobin	74.1	90.7	81.9			10.2
	Sucralose	107	107	108			0.546
	Thiamethoxam	88.2	165	161			2.28
	Tolfenpyrad	45.5	59.6	55.6			6.93
	Triclopyr	53.3	83.6	85.1			1.81
SM 2120 B-2011	Color (true)	99.2				17.2	
SM 2320 B-2011	Total Alkalinity	102				4.87	
SM 2540 C-2011	TDS					2.51	
	TDS					5.95	
SM 4500 F-C-2011	Fluoride	103	102	101			0.513
SM 5310 B-2011	Organic Carbon	98.2	97.5	97.1			0.341

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2283075, 2283076
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2283087, 2283088
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2283087, 2283088
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2283075, 2283076
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2283075, 2283076
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2283077, 2283078
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2283077, 2283078
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2283077, 2283078
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2283077, 2283078
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2283079, 2283080
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2283085, 2283086
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2283075, 2283076
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2283075, 2283076
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2283087, 2283088
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2283075, 2283076
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2283075, 2283076
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2283075, 2283076
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2283077, 2283078

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	10/13/2021			10/13/2021 15:31	Khloe J Berg	2283075, 2283076
EPA 200.7 Rev. 4.4	10/13/2021	10/15/2021 10:00	Emily M Philpot	10/18/2021 14:21	Josef B Mick	2283087
	10/13/2021	10/15/2021 10:00	Emily M Philpot	10/18/2021 14:29	Josef B Mick	2283088
EPA 200.8 Rev. 5.4	10/13/2021	10/15/2021 10:00	Emily M Philpot	10/19/2021 16:30	Alexander Thompson	2283087
	10/13/2021	10/15/2021 10:00	Emily M Philpot	10/19/2021 16:39	Alexander Thompson	2283088
	10/13/2021	10/15/2021 10:00	Emily M Philpot	10/20/2021 13:20	Alexander Thompson	2283087
	10/13/2021	10/15/2021 10:00	Emily M Philpot	10/20/2021 13:26	Alexander Thompson	2283088
	10/13/2021	10/15/2021 10:00	Emily M Philpot	10/20/2021 15:04	Alexander Thompson	2283087
	10/13/2021	10/15/2021 10:00	Emily M Philpot	10/20/2021 15:10	Alexander Thompson	2283088
EPA 300.0 Rev. 2.1	10/13/2021			10/15/2021 19:00	Roberta Tatti	2283075
	10/13/2021			10/15/2021 19:12	Roberta Tatti	2283076
EPA 350.1 Rev. 2.0	10/13/2021			10/21/2021 11:51	Ping Hua	2283077
	10/13/2021			10/21/2021 12:05	Ping Hua	2283078
EPA 351.2 Rev. 2.0	10/13/2021	10/22/2021 11:54	Benjamin T. Nordmann	10/25/2021 10:55	Alexandra J Mattheus	2283077
	10/13/2021	10/22/2021 11:54	Benjamin T. Nordmann	10/25/2021 10:57	Alexandra J Mattheus	2283078
EPA 353.2 Rev. 2.0	10/13/2021			10/18/2021 10:33	Beverly Y. Sanders	2283077
	10/13/2021			10/18/2021 10:41	Beverly Y. Sanders	2283078
EPA 365.1 Rev. 2.0	10/13/2021	10/19/2021 16:46	Simonne.V. Calhoun	10/20/2021 15:45	Lipi Saha	2283077
	10/13/2021	10/19/2021 16:46	Simonne.V. Calhoun	10/20/2021 15:46	Lipi Saha	2283078
EPA 365.1 Rev. 2.0 dissolved	10/13/2021			10/13/2021 15:17	James L Waggeberby	2283079
	10/13/2021			10/13/2021 15:23	James L Waggeberby	2283080
EPA 8321B	10/13/2021	10/18/2021 09:30	Juyoung Kim	10/18/2021 11:37	Juyoung Kim	2283085
	10/13/2021	10/18/2021 09:30	Juyoung Kim	10/18/2021 11:50	Manjita Shrestha	2283085
	10/13/2021	10/18/2021 09:30	Juyoung Kim	10/18/2021 11:59	Juyoung Kim	2283086
	10/13/2021	10/18/2021 09:30	Juyoung Kim	10/18/2021 12:05	Manjita Shrestha	2283086
	10/13/2021	10/19/2021 09:00	Manjita Shrestha	10/27/2021 06:31	Juyoung Kim	2283085
	10/13/2021	10/19/2021 09:00	Manjita Shrestha	10/27/2021 07:06	Juyoung Kim	2283086
SM 2120 B-2011	10/13/2021			10/13/2021 17:14	Benjamin T. Nordmann	2283075
	10/13/2021			10/13/2021 17:15	Benjamin T. Nordmann	2283076
SM 2320 B-2011	10/13/2021			10/16/2021 17:28	Dale L. Simmons	2283075
	10/13/2021			10/16/2021 17:37	Dale L. Simmons	2283076
SM 2340B	10/13/2021			10/18/2021 14:21	Josef B Mick	2283087
	10/13/2021			10/18/2021 14:29	Josef B Mick	2283088
SM 2540 C-2011	10/13/2021			10/14/2021 15:39	Yijie Li	2283075, 2283076
SM 2540 D-2011	10/13/2021			10/14/2021 15:39	Yijie Li	2283075, 2283076
SM 4500 F-C-2011	10/13/2021			10/16/2021 17:28	Dale L. Simmons	2283075
	10/13/2021			10/16/2021 17:37	Dale L. Simmons	2283076
SM 5310 B-2011	10/13/2021			10/21/2021 03:38	Khloe J Berg	2283077
	10/13/2021			10/21/2021 03:56	Khloe J Berg	2283078