

Chemical Analysis Report

NE-DIST-2020-06-19-01

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

Event Description: **LSJR Palatka 2020**

Request ID: **RQ-2020-06-15-16**

Customer: **NE-DIST**

Project ID: **SMP**

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Date Certified: 10-JUL-2020 10:53



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: Moccassin Branch at Winford Masters Rd

Collection Date/Time: 06/18/2020 11:55

Field ID: 20030557

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2177752	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P383460	
	EPA 300.0 Rev. 2.1	Chloride	120		mg Cl/L	P383738	
		Sulfate	220		mg SO4/L	P383741	
	SM 2120 B-2011	Color (true)	59	A	PCU	P383463	
	SM 2320 B-2011	Total Alkalinity	116		mg CaCO3/L	P383552	
	SM 2540 C-2011	TDS	612		mg/L	P383858	
	SM 2540 D-2011	TSS	2	U	mg/L	P383821	
	SM 4500 F-C-2011	Fluoride	0.40		mg F/L	P383556	
2177754	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P383477	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P383545	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P383495	
	EPA 365.1 Rev. 2.0	Total-P	0.41		mg P/L	P383508	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P383708	
2177756	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.26		mg P/L	P383488	

Ref. Method and Comment:

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

Sample Location: Mill Br. @ Old San Mateo Rd.

Collection Date/Time: 06/18/2020 10:05

Field ID: 20030577

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2177746	EPA 180.1 Rev. 2.0	Turbidity	5.5		NTU	P383459	
	EPA 300.0 Rev. 2.1	Chloride	280		mg Cl/L	P383738	
		Sulfate	120		mg SO4/L	P383741	
		Color (true)	120		PCU	P383462	
	SM 2320 B-2011	Total Alkalinity	101		mg CaCO3/L	P383552	
	SM 2540 C-2011	TDS	706		mg/L	P383858	
	SM 2540 D-2011	TSS	3	I	mg/L	P383821	
	SM 4500 F-C-2011	Fluoride	0.38		mg F/L	P383556	
2177747	EPA 350.1 Rev. 2.0	Ammonia-N	0.047		mg N/L	P383476	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P383545	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.60		mg N/L	P383494	
	EPA 365.1 Rev. 2.0	Total-P	0.39		mg P/L	P383508	
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P383708	
2177748	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.25		mg P/L	P383488	
2177769	EPA 200.7 Rev. 4.4	Barium	24.1		ug/L	P383574	
		Calcium	87.4		mg/L	P383574	
		Iron	1.42E+03		ug/L	P383574	
		Magnesium	32.4		mg/L	P383574	
		Potassium	8.6		mg/L	P383574	
		Sodium	119		mg/L	P383574	
		Zinc	5.0	U	ug/L	P383574	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P383574	
		Antimony	0.050	U	ug/L	P383574	
		Arsenic	0.050	U	ug/L	P383574	
		Boron**	2.0	U	ug/L	P383574	
		Cadmium	0.027	I	ug/L	P383845	
		Chromium	0.40	U	ug/L	P383574	
		Copper	0.40	U	ug/L	P383574	
		Lead	0.30	I	ug/L	P383845	
		Nickel	0.50	U	ug/L	P383574	
		Selenium	0.20	U	ug/L	P383574	
		Silver	0.010	U	ug/L	P383574	
		Thallium	0.10	U	ug/L	P383574	
		Hardness	352		mg/L	P383574	
	SM 2340B						

Ref. Method and Comment:

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

Sample Location: Dunn Creek 0.4miles upstream of US-17

Collection Date/Time: 06/18/2020 09:40

Field ID: G2NE1187

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2177753	EPA 180.1 Rev. 2.0	Turbidity	3.2	A	NTU	P383460	
	EPA 300.0 Rev. 2.1	Chloride	220		mg Cl/L	P383738	
		Sulfate	85		mg SO4/L	P383741	
	SM 2120 B-2011	Color (true)	52		PCU	P383463	
	SM 2320 B-2011	Total Alkalinity	97		mg CaCO3/L	P383552	
	SM 2540 C-2011	TDS	528		mg/L	P383858	
	SM 2540 D-2011	TSS	9	I	mg/L	P383821	
	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P383556	
2177755	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P383477	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P383545	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P383495	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P383508	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P383708	
2177757	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P383488	

Ref. Method and Comment:

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

Sample Location: Unnamed Ditch 250m upstream of Deep Cr.

Collection Date/Time: 06/18/2020 11:10

Field ID: G2NE1211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2177749	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P383460	
	EPA 300.0 Rev. 2.1	Chloride	470		mg Cl/L	P384102	
		Sulfate	400		mg SO4/L	P384106	
	SM 2120 B-2011	Color (true)	51		PCU	P383462	
	SM 2320 B-2011	Total Alkalinity	139		mg CaCO3/L	P383552	
	SM 2540 C-2011	TDS	1.31E+03		mg/L	P383858	
	SM 2540 D-2011	TSS	4	I	mg/L	P383821	
2177750	SM 4500 F-C-2011	Fluoride	0.59		mg F/L	P383556	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.060		mg N/L	P383476	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P383545	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P383494	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P383508	
2177751	SM 5310 B-2011	Organic Carbon	15		mg C/L	P383708	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.088		mg P/L	P383488	
2177768	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P383480	
		2,4-D	14		ug/L	P383442	
		AMPA**	0.92	J	ug/L	P383480	MS
		Sucralose**	0.010	U	ug/L	P383480	
		Acetaminophen**	0.0080	U	ug/L	P383442	
		Endothall**	0.25	U	ug/L	P383480	
		Acetamiprid**	0.0020	U	ug/L	P383442	
		Glufosinate**	0.10	U	ug/L	P383480	
		Glyphosate**	4.8		ug/L	P383480	
		Afidopyropen**	0.0020	U	ug/L	P383442	
		Bentazon	0.0016	I	ug/L	P383442	
		Benzovindiflupyr**	0.0020	U	ug/L	P383442	
		Carbamazepine**	8.0E-04	U	ug/L	P383442	
		Clothianidin**	0.0082		ug/L	P383442	
		Dinotefuran**	0.0020	U	ug/L	P383442	
		Diuron	0.0020	U	ug/L	P383442	
		Fenuron	0.016	U	ug/L	P383442	
		Fluridone**	8.0E-04	U	ug/L	P383442	
		Imazapyr**	0.11		ug/L	P383442	
		Hydrocodone**	0.0020	U	ug/L	P383442	
		Ibuprofen**	0.020	U	ug/L	P383442	
		Imidacloprid	0.045		ug/L	P383442	
		Linuron	0.0040	U	ug/L	P383442	
		Mandestrobin**	0.0020	U	ug/L	P383442	
		MCP	0.0020	U	ug/L	P383442	
		Naproxen**	0.0080	U	ug/L	P383442	
		Primidone**	0.0040	U	ug/L	P383442	
		Pyraclostrobin**	0.0020	U	ug/L	P383442	
		Thiamethoxam**	0.026		ug/L	P383442	

Field ID: G2NE1211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2177768	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P383442	
		Triclopyr**	0.0040	U	ug/L	P383442	

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.

EPA 8321B: The surrogate 2,4-D-d3 recovery could not be assessed due to an elevated level of 2,4-D in the sample matrix.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383459

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383460

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383574

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383574

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	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 200.8 Rev. 5.4
Batch ID: P383845

Component	Result	Code	Units
Cadmium	0.020	U	ug/L
Lead	0.20	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383738

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383741

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383741

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384102

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384106

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383476

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383477

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383545

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383494

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383495

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383508

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383488

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

Reference Method: EPA 8321B
Batch ID: P383442

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

Reference Method: EPA 8321B
Batch ID: P383480

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

Reference Method: SM 2120 B-2011
Batch ID: P383462

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B-2011
Batch ID: P383463

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P383552

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

Reference Method: SM 2540 C-2011
Batch ID: P383858

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P383821

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P383556

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P383708

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: P383574

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	105		P	85 - 115
Iron	102		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	99.1		P	85 - 115
Sodium	103		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383574

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.1		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	101		P	85 - 115
Boron	96.0		P	85 - 115
Chromium	100		P	85 - 115
Copper	101		P	85 - 115
Nickel	100		P	85 - 115
Selenium	98.5		P	85 - 115
Silver	104		P	85 - 115
Thallium	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383845

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cadmium	101		P	85 - 115
Lead	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383738

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383741

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384102

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384106

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383476

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383477

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383545

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383494

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383495

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383508

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383488

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	93.4		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P383442

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	124		P	30 - 160
Acetaminophen	85.6		P	30 - 160
Acetamiprid	82.4		P	30 - 160
Afidopyropen	82.4		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P383442

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	64.0		P	30 - 160
Benzovindiflupyr	75.2		P	30 - 160
Carbamazepine	72.5		P	30 - 160
Clothianidin	85.7		P	30 - 160
Dinotefuran	89.4		P	30 - 160
Diuron	58.7		P	30 - 160
Fenuron	99.0		P	30 - 160
Fluridone	90.1		P	30 - 160
Hydrocodone	93.8		P	30 - 160
Ibuprofen	64.0		P	30 - 160
Imazapyr	78.9		P	30 - 160
Imidacloprid	99.1		P	30 - 160
Linuron	61.3		P	30 - 160
Mandestrobin	79.9		P	30 - 160
MCPP	126		P	30 - 160
Naproxen	67.0		P	30 - 160
Primidone	79.0		P	30 - 160
Pyraclostrobin	75.8		P	30 - 160
Thiamethoxam	73.7		P	30 - 160
Tolfenpyrad	50.8		P	30 - 160
Triclopyr	107		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P383480

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	97.0		P	40 - 150
AMPA	90.1		P	40 - 150
Endothall	73.7		P	40 - 150
Glufosinate	102		P	40 - 150
Glyphosate	79.9		P	40 - 140
Sucralose	81.0		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P383462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.5		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P383463

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.8		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P383552

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.2		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P383556

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P383708

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383574

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177348	Barium	105		P	80 - 120
2177348	Calcium	102		P	80 - 120
2177348	Iron	102		P	80 - 120
2177348	Magnesium	103		P	80 - 120
2177348	Potassium	98.6		P	80 - 120
2177348	Sodium	100		P	80 - 120
2177348	Zinc	105		P	80 - 120
2177938	Barium	104	103	P/P	80 - 120
2177938	Calcium	108	107	P/P	80 - 120
2177938	Iron	104	105	P/P	80 - 120
2177938	Magnesium	104	106	P/P	80 - 120
2177938	Potassium	105	105	P/P	80 - 120
2177938	Sodium	103	103	P/P	80 - 120
2177938	Zinc	105	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383574

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177348	Aluminum	98.6		P	80 - 120
2177348	Antimony	100		P	80 - 120
2177348	Arsenic	101		P	80 - 120
2177348	Boron	100		P	80 - 120
2177348	Chromium	103		P	80 - 120
2177348	Copper	103		P	80 - 120
2177348	Nickel	99.0		P	80 - 120
2177348	Selenium	99.8		P	80 - 120
2177348	Silver	105		P	80 - 120
2177348	Thallium	103		P	80 - 120
2177938	Aluminum	96.7	94.6	P/P	80 - 120
2177938	Antimony	98.9	99.1	P/P	80 - 120
2177938	Arsenic	99.8	99.0	P/P	80 - 120
2177938	Boron	95.7	94.9	P/P	80 - 120
2177938	Chromium	98.9	100	P/P	80 - 120
2177938	Copper	101	102	P/P	80 - 120
2177938	Nickel	98.3	98.8	P/P	80 - 120
2177938	Selenium	95.7	95.6	P/P	80 - 120
2177938	Silver	103	103	P/P	80 - 120
2177938	Thallium	99.2	100	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383845

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177311	Cadmium	103	105	P/P	80 - 120
2177311	Lead	107	110	P/P	80 - 120
2177347	Cadmium	101		P	80 - 120
2177347	Lead	106		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383738

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177725	Chloride	103		P	90 - 110
2177789	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383741

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177725	Sulfate	103		P	90 - 110
2177789	Sulfate	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180035	Chloride	101		P	90 - 110
2180165	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180035	Sulfate	99.4		P	90 - 110
2180165	Sulfate	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177727	Ammonia-N	104	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177784	Ammonia-N	104	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177784	Kjeldahl Nitrogen	97.2	98.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177690	NO2NO3-N	97.0	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383495

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383495

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177754	NO2NO3-N	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383508

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177733	Total-P	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383488

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177728	O-Phosphate-P	90.5	92.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P383442

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2176881	2,4-D	109	116	P/P	30 - 160
2176881	Acetaminophen	75.9	82.5	P/P	30 - 160
2176881	Acetamiprid	39.5	42.6	P/P	30 - 160
2176881	Afidopyropen	56.6	62.5	P/P	30 - 160
2176881	Bentazon	32.1	31.2	P/P	30 - 160
2176881	Benzovindiflupyr	65.7	72.4	P/P	30 - 160
2176881	Carbamazepine	47.2	45.1	P/P	30 - 160
2176881	Clothianidin	51.0	52.7	P/P	30 - 160
2176881	Dinotefuran	70.2	71.4	P/P	30 - 160
2176881	Diuron	37.7	39.4	P/P	30 - 160
2176881	Fenuron	51.6	54.6	P/P	30 - 160
2176881	Fluridone	73.0	83.7	P/P	30 - 160
2176881	Hydrocodone	64.8	67.3	P/P	30 - 160
2176881	Ibuprofen	76.3	69.7	P/P	30 - 160
2176881	Imazapyr	74.9	86.7	P/P	30 - 160
2176881	Imidacloprid	82.1	86.5	P/P	30 - 160
2176881	Linuron	47.2	51.1	P/P	30 - 160
2176881	Mandestrobin	69.2	76.4	P/P	30 - 160
2176881	MCP	119	137	P/P	30 - 160
2176881	Naproxen	84.1	110	P/P	30 - 160
2176881	Primidone	54.5	56.8	P/P	30 - 160
2176881	Pyraclostrobin	70.8	79.5	P/P	30 - 160
2176881	Thiamethoxam	46.0	47.8	P/P	30 - 160
2176881	Tolfenpyrad	54.0	58.5	P/P	30 - 160
2176881	Triclopyr	114	134	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P383480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177768	Acesulfame K	44.0	47.0	P/P	40 - 150
2177768	AMPA	29.2	32.5	F/F	40 - 150
2177768	Endothall	58.2	64.4	P/P	40 - 150
2177768	Glufosinate	50.3	58.6	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P383480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177768	Glyphosate	54.7	62.4	P/P	40 - 140
2177768	Sucralose	87.9	90.1	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P383556

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177783	Fluoride	99.4	97.9	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P383708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2177691	Organic Carbon	96.0	98.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177682	Turbidity	1.23	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P383460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177753	Turbidity	16.9	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P383574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177938	Barium	0.658	Spike	P	0 - 20
2177938	Calcium	0.157	Spike	P	0 - 20
2177938	Iron	1.11	Spike	P	0 - 20
2177938	Magnesium	1.38	Spike	P	0 - 20
2177938	Potassium	0.489	Spike	P	0 - 20
2177938	Sodium	0.142	Spike	P	0 - 20
2177938	Zinc	0.525	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177938	Aluminum	1.98	Spike	P	0 - 20
2177938	Antimony	0.232	Spike	P	0 - 20
2177938	Arsenic	0.718	Spike	P	0 - 20
2177938	Boron	0.767	Spike	P	0 - 20
2177938	Chromium	1.17	Spike	P	0 - 20
2177938	Copper	0.998	Spike	P	0 - 20
2177938	Nickel	0.536	Spike	P	0 - 20
2177938	Selenium	0.171	Spike	P	0 - 20
2177938	Silver	0.497	Spike	P	0 - 20
2177938	Thallium	1.13	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P383845

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177311	Cadmium	2.52	Spike	P	0 - 20
2177311	Lead	2.20	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383738

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383738

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177725	Chloride	0.216	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P383741

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177725	Sulfate	0.110	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180165	Chloride	0.406	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180165	Sulfate	0.149	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177727	Ammonia-N	0.168	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P383477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177784	Ammonia-N	0.236	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P383545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177784	Kjeldahl Nitrogen	0.931	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177690	NO2NO3-N	1.53	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P383495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177754	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P383508

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177733	Total-P	0.216	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P383488

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177728	O-Phosphate-P	1.69	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P383442

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2176881	2,4-D	5.59	Spike	P	0 - 30
2176881	Acetaminophen	8.37	Spike	P	0 - 30
2176881	Acetamiprid	7.51	Spike	P	0 - 30
2176881	Afidopyropen	9.80	Spike	P	0 - 30
2176881	Bentazon	2.68	Spike	P	0 - 30
2176881	Benzovindiflupyr	9.74	Spike	P	0 - 30
2176881	Carbamazepine	4.60	Spike	P	0 - 30
2176881	Clothianidin	3.27	Spike	P	0 - 30
2176881	Dinotefuran	1.66	Spike	P	0 - 30
2176881	Diuron	4.60	Spike	P	0 - 30
2176881	Fenuron	5.65	Spike	P	0 - 30
2176881	Fluridone	13.6	Spike	P	0 - 30
2176881	Hydrocodone	3.83	Spike	P	0 - 30
2176881	Ibuprofen	9.06	Spike	P	0 - 30
2176881	Imazapyr	10.3	Spike	P	0 - 30
2176881	Imidacloprid	5.24	Spike	P	0 - 30
2176881	Linuron	7.95	Spike	P	0 - 30
2176881	Mandestrobin	9.88	Spike	P	0 - 30
2176881	MCPP	14.1	Spike	P	0 - 30
2176881	Naproxen	26.3	Spike	P	0 - 30
2176881	Primidone	4.11	Spike	P	0 - 30
2176881	Pyraclostrobin	11.6	Spike	P	0 - 30
2176881	Thiamethoxam	3.84	Spike	P	0 - 30
2176881	Tolfenpyrad	8.12	Spike	P	0 - 30
2176881	Triclopyr	16.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P383480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177768	Acesulfame K	6.58	Spike	P	0 - 30
2177768	AMPA	2.70	Spike	P	0 - 30
2177768	Endothall	10.1	Spike	P	0 - 30
2177768	Glufosinate	15.3	Spike	P	0 - 30
2177768	Glyphosate	1.42	Spike	P	0 - 30
2177768	Sucralose	2.51	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P383462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177688	Color (true)	0.0633	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P383463

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177752	Color (true)	1.78	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P383552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177783	Total Alkalinity	1.13	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P383858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177731	TDS	5.21	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P383556

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177783	Fluoride	0.965	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P383708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2177691	Organic Carbon	1.28	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2177768
Field Sample ID: G2NE1211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	88.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.2	P	30 - 160
EPA 8321B	Diuron-d6	51.5	P	30 - 160
EPA 8321B	Endothall-d6	146	P	50 - 160
EPA 8321B	Endothall-d6	146	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	52.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	52.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	71.5	P	30 - 160
EPA 8321B	Primidone-d5	64.5	P	30 - 160
EPA 8321B	Sucralose-d6	92.3	P	30 - 160
EPA 8321B	Sucralose-d6	92.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99430

Included Lab Sample IDs: 2177746, 2177749, 2177752, 2177753

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105
Turbidity	102	102	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A99431

Included Lab Sample IDs: 2177746, 2177749, 2177752, 2177753

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.5	P/P	90 - 115
Color (true)	99.5	100	P/P	90 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99435

Included Lab Sample IDs: 2177747, 2177750, 2177754, 2177755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	106	P/P	90 - 110
Ammonia-N	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99440

Included Lab Sample IDs: 2177748, 2177751, 2177756, 2177757

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	90.5	90.4	P/P	90 - 110
O-Phosphate-P	92.2	90.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99442

Included Lab Sample IDs: 2177747, 2177750, 2177754, 2177755

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

Reference Method: EPA 8321B

Run ID: A99453

Included Lab Sample IDs: 2177768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	112	110	P/P	60 - 160
Acetamiprid	107	107	P/P	50 - 150
Afidopyropen	126	110	P/P	50 - 150
Bentazon	108	107	P/P	50 - 160
Benzovindiflupyr	116	111	P/P	50 - 150
Carbamazepine	120	116	P/P	60 - 150
Clothianidin	105	103	P/P	60 - 150
Dinotefuran	113	112	P/P	50 - 150
Diuron	117	118	P/P	60 - 160
Fenuron	114	114	P/P	60 - 150
Fluridone	113	115	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A99453

Included Lab Sample IDs: 2177768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hydrocodone	115	117	P/P	60 - 150
Ibuprofen	86.7	86.2	P/P	50 - 160
Imazapyr	95.3	97.5	P/P	50 - 150
Imidacloprid	109	108	P/P	60 - 150
Linuron	112	115	P/P	60 - 150
Mandestrobin	117	116	P/P	50 - 150
MCPP	105	106	P/P	50 - 150
Naproxen	98.8	87.5	P/P	50 - 160
Primidone	106	105	P/P	60 - 150
Pyraclostrobin	114	109	P/P	60 - 150
Thiamethoxam	86.6	105	P/P	50 - 150
Tolfenpyrad	118	117	P/P	60 - 150
Triclopyr	107	98.6	P/P	50 - 150

Reference Method: SM 2320 B-2011

Run ID: A99462

Included Lab Sample IDs: 2177746, 2177749, 2177752, 2177753

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.2	97.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A99462

Included Lab Sample IDs: 2177746, 2177749, 2177752, 2177753

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99463

Included Lab Sample IDs: 2177747, 2177750, 2177754

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99483

Included Lab Sample IDs: 2177755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	93.8	93.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99488

Included Lab Sample IDs: 2177747, 2177750, 2177754, 2177755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.1	95.3	P/P	90 - 110
Kjeldahl Nitrogen	96.1	95.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A99495
Included Lab Sample IDs: 2177768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	104	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A99501
Included Lab Sample IDs: 2177768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	76.2	70.8	P/P	60 - 160
Endothall	76.5	79.4	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A99502
Included Lab Sample IDs: 2177768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.0	101	P/P	60 - 160
Glufosinate	100	102	P/P	60 - 160
Glyphosate	87.1	86.9	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A99503
Included Lab Sample IDs: 2177769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	100	101	P/P	90 - 110
Calcium	101	101	P/P	90 - 110
Iron	102	101	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	98.6	98.5	P/P	90 - 110
Sodium	102	101	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A99529
Included Lab Sample IDs: 2177768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	70.4	84.4	P/P	60 - 160

Reference Method: SM 5310 B-2011
Run ID: A99535
Included Lab Sample IDs: 2177747, 2177750, 2177754, 2177755

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	99.1	P/P	90 - 110
Organic Carbon	99.1	98.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99546

Included Lab Sample IDs: 2177746, 2177752, 2177753

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	100	P/P	90 - 110
Chloride	99.7	99.2	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99559

Included Lab Sample IDs: 2177769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.8	102	P/P	90 - 110
Antimony	100	101	P/P	90 - 110
Arsenic	101	100	P/P	90 - 110
Boron	99.6	103	P/P	90 - 110
Chromium	99.5	99.9	P/P	90 - 110
Copper	100	98.3	P/P	90 - 110
Nickel	100	99.0	P/P	90 - 110
Selenium	100	101	P/P	90 - 110
Silver	105	105	P/P	90 - 110
Thallium	99.5	97.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99659

Included Lab Sample IDs: 2177749

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.6	P/P	90 - 110
Sulfate	99.8	99.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A99666

Included Lab Sample IDs: 2177769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	100	101	P/P	90 - 110
Lead	103	105	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.23	
	Turbidity						16.9	
EPA 200.7 Rev. 4.4	Barium	102	105	104	103			0.658
	Calcium	105	102	108	107			0.157
	Iron	102	102	104	105			1.11
	Magnesium	103	103	104	106			1.38
	Potassium	99.1	98.6	105	105			0.489
	Sodium	103	100	103	103			0.142
	Zinc	103	105	105	106			0.525
EPA 200.8 Rev. 5.4	Aluminum	96.1	96.7	94.6	98.6			1.98
	Antimony	100	98.9	99.1	100			0.232
	Arsenic	101	99.8	99.0	101			0.718
	Boron	96.0	95.7	94.9	100			0.767
	Cadmium	101	103	105	101			2.52
	Chromium	100	98.9	100	103			1.17
	Copper	101	101	102	103			0.998
	Lead	104	107	110	106			2.20
	Nickel	100	98.3	98.8	99.0			0.536
	Selenium	98.5	95.7	95.6	99.8			0.171
	Silver	104	103	103	105			0.497
	Thallium	100	99.2	100	103			1.13
EPA 300.0 Rev. 2.1	Chloride	102	103	103			0.216	
	Chloride	101	98.3	101			0.406	
	Sulfate	103	103	102			0.110	
	Sulfate	99.7	96.8	99.4			0.149	
EPA 350.1 Rev. 2.0	Ammonia-N	104	104	104				0.168
	Ammonia-N	104	104	104				0.236
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	97.2	98.3				0.931
EPA 353.2 Rev. 2.0	NO2NO3-N	100	97.0	98.5				1.53
	NO2NO3-N	100	96.0					0.0
EPA 365.1 Rev. 2.0	Total-P	105	104	104				0.216
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	93.4	90.5	92.3				1.69
EPA 8321B	2,4-D	124	109	116				5.59
	Acesulfame K	97.0	44.0	47.0				6.58
	Acetaminophen	85.6	75.9	82.5				8.37
	Acetamiprid	82.4	39.5	42.6				7.51
	Afidopyropen	82.4	56.6	62.5				9.80
	AMPA	90.1	29.2	32.5				2.70
	Bentazon	64.0	32.1	31.2				2.68
	Benzovindiflupyr	75.2	65.7	72.4				9.74
	Carbamazepine	72.5	47.2	45.1				4.60
	Clothianidin	85.7	51.0	52.7				3.27
	Dinotefuran	89.4	70.2	71.4				1.66
	Diuron	58.7	37.7	39.4				4.60
	Endothall	73.7	58.2	64.4				10.1
	Fenuron	99.0	51.6	54.6				5.65
	Fluridone	90.1	73.0	83.7				13.6
	Glufosinate	102	50.3	58.6				15.3
	Glyphosate	79.9	54.7	62.4				1.42
	Hydrocodone	93.8	64.8	67.3				3.83
	Ibuprofen	64.0	76.3	69.7				9.06
	Imazapyr	78.9	74.9	86.7				10.3
	Imidacloprid	99.1	82.1	86.5				5.24
	Linuron	61.3	47.2	51.1				7.95

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Mandestrobin	79.9	69.2	76.4		9.88
	MCCP	126	119	137		14.1
	Naproxen	67.0	84.1	110		26.3
	Primidone	79.0	54.5	56.8		4.11
	Pyraclostrobin	75.8	70.8	79.5		11.6
	Sucralose	81.0	87.9	90.1		2.51
	Thiamethoxam	73.7	46.0	47.8		3.84
	Tolfenpyrad	50.8	54.0	58.5		8.12
	Triclopyr	107	114	134		16.1
SM 2120 B-2011	Color (true)	98.5			0.0633	
	Color (true)	98.8			1.78	
SM 2320 B-2011	Total Alkalinity	99.2			1.13	
SM 2540 C-2011	TDS				5.21	
SM 4500 F-C-2011	Fluoride	97.1	99.4	97.9		0.965
SM 5310 B-2011	Organic Carbon	96.1	96.0	98.1		1.28

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2177746, 2177749, 2177752, 2177753
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2177769
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2177769
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2177746, 2177749, 2177752, 2177753
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2177746, 2177749, 2177752, 2177753
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2177747, 2177750, 2177754, 2177755
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2177747, 2177750, 2177754, 2177755
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2177747, 2177750, 2177754, 2177755
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2177747, 2177750, 2177754, 2177755
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2177748, 2177751, 2177756, 2177757
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2177768
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2177768
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2177746, 2177749, 2177752, 2177753
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2177746, 2177749, 2177752, 2177753
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2177769
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2177746, 2177749, 2177752, 2177753
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2177746, 2177749, 2177752, 2177753
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2177746, 2177749, 2177752, 2177753
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2177747, 2177750, 2177754, 2177755

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	06/19/2020			06/19/2020 15:56	Yen Ta	2177746, 2177749, 2177752, 2177753
EPA 200.7 Rev. 4.4	06/19/2020	06/23/2020 14:45	Elliott D. Healy	06/24/2020 18:07	Betina Topolski	2177769
EPA 200.8 Rev. 5.4	06/19/2020	06/23/2020 14:45	Elliott D. Healy	06/27/2020 02:59	Alexander Thompson	2177769
	06/19/2020	06/30/2020 11:30	Alexander Thompson	07/02/2020 19:41	Alexander Thompson	2177769
EPA 300.0 Rev. 2.1	06/19/2020			06/24/2020 06:48	Elliott Rodriguez	2177746
	06/19/2020			06/24/2020 07:40	Elliott Rodriguez	2177752
	06/19/2020			06/24/2020 07:53	Elliott Rodriguez	2177753
	06/19/2020			07/03/2020 03:54	Jhamieka S. Greenwood	2177749
EPA 350.1 Rev. 2.0	06/19/2020			06/21/2020 12:08	Ping Hua	2177747
	06/19/2020			06/21/2020 12:09	Ping Hua	2177750
	06/19/2020			06/21/2020 12:26	Ping Hua	2177754
	06/19/2020			06/21/2020 12:27	Ping Hua	2177755
EPA 351.2 Rev. 2.0	06/19/2020	06/23/2020 10:10	Sima Feizi	06/24/2020 10:42	Jhamieka S. Greenwood	2177747
	06/19/2020	06/23/2020 10:10	Sima Feizi	06/24/2020 10:47	Jhamieka S. Greenwood	2177750
	06/19/2020	06/23/2020 10:10	Sima Feizi	06/24/2020 10:49	Jhamieka S. Greenwood	2177754
	06/19/2020	06/23/2020 10:10	Sima Feizi	06/24/2020 10:51	Jhamieka S. Greenwood	2177755
EPA 353.2 Rev. 2.0	06/19/2020			06/22/2020 09:15	Beverly Y. Sanders	2177747
	06/19/2020			06/22/2020 09:16	Beverly Y. Sanders	2177750
	06/19/2020			06/22/2020 09:23	Beverly Y. Sanders	2177754
	06/19/2020			06/22/2020 09:31	Beverly Y. Sanders	2177755
EPA 365.1 Rev. 2.0	06/19/2020	06/22/2020 14:35	Yen Ta	06/23/2020 09:47	Benjamin T. Nordmann	2177747
	06/19/2020	06/22/2020 14:35	Yen Ta	06/23/2020 09:48	Benjamin T. Nordmann	2177750
	06/19/2020	06/22/2020 14:35	Yen Ta	06/23/2020 09:49	Benjamin T. Nordmann	2177754
	06/19/2020	06/22/2020 14:35	Yen Ta	06/24/2020 08:28	Lipi Saha	2177755
EPA 365.1 Rev. 2.0 dissolved	06/19/2020			06/19/2020 17:30	Carlos Miranda	2177756
	06/19/2020			06/19/2020 17:31	Carlos Miranda	2177748
	06/19/2020			06/19/2020 17:32	Carlos Miranda	2177751
	06/19/2020			06/19/2020 17:39	Carlos Miranda	2177757
EPA 8321B	06/19/2020	06/22/2020 09:00	Hoor Shaik	06/23/2020 05:49	Juyoung Kim	2177768
	06/19/2020	06/22/2020 09:00	Hoor Shaik	06/24/2020 01:45	Juyoung Kim	2177768
	06/19/2020	06/24/2020 11:00	Mohammad Ghaffari	06/24/2020 14:02	Mohammad Ghaffari	2177768
	06/19/2020	06/24/2020 11:00	Mohammad Ghaffari	06/24/2020 19:40	Mohammad Ghaffari	2177768
	06/19/2020	06/24/2020 11:00	Mohammad Ghaffari	06/25/2020 13:23	Mohammad Ghaffari	2177768
SM 2120 B-2011	06/19/2020			06/19/2020 17:02	Benjamin T. Nordmann	2177746
	06/19/2020			06/19/2020 17:03	Benjamin T. Nordmann	2177749
	06/19/2020			06/19/2020 17:07	Benjamin T. Nordmann	2177752
	06/19/2020			06/19/2020 17:08	Benjamin T. Nordmann	2177753
SM 2320 B-2011	06/19/2020			06/23/2020 02:59	Dale L. Simmons	2177752
	06/19/2020			06/23/2020 03:13	Dale L. Simmons	2177753
	06/19/2020			06/23/2020 04:05	Dale L. Simmons	2177746

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	06/19/2020			06/23/2020 04:17	Dale L. Simmons	2177749
SM 2340B	06/19/2020			06/24/2020 18:07	Betina Topolski	2177769
SM 2540 C-2011	06/19/2020			06/24/2020 13:02	Yijie Li	2177746, 2177749, 2177752, 2177753
SM 2540 D-2011	06/19/2020			06/24/2020 13:02	Yijie Li	2177746, 2177749, 2177752, 2177753
SM 4500 F-C-2011	06/19/2020			06/23/2020 02:59	Dale L. Simmons	2177752
	06/19/2020			06/23/2020 03:13	Dale L. Simmons	2177753
	06/19/2020			06/23/2020 04:05	Dale L. Simmons	2177746
	06/19/2020			06/23/2020 04:17	Dale L. Simmons	2177749
	06/19/2020			06/25/2020 18:43	David Boose	2177747
SM 5310 B-2011	06/19/2020			06/25/2020 19:21	David Boose	2177750
	06/19/2020			06/25/2020 19:33	David Boose	2177754
	06/19/2020			06/25/2020 19:46	David Boose	2177755